Migrants as knowledge carriers: International mobility and the highly skilled in Serbia

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Declaration

I, Thomas Jackson, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This research is a study of knowledge transfer through international mobility in Serbia, focusing on the knowledge and skills that individuals acquire, generate and transfer through the migration experience. Grounded in the literatures on migration and development, globalisation, and knowledge management, the thesis measures the acquisition and transfer of formal skills, qualifications and tacit skills by mobile individuals. Integration of Eastern European countries into global and regional economic and political structures has reinvigorated the study of migration and this project is designed to plug a gap in empirical research on the micro-level experiences of knowledge transfer by return migrants. One of the key questions of this research is why knowledge transfer does not automatically follow return migration, often in spite of micro and macro level efforts targeting skilled migrants. The research argues that the workplace is a key site where reintegration can be observed and measured, and finds that highly skilled returnees carry a range of skills and competences that can benefit workplaces in economic transition. The research also demonstrates that domestic and international factors play a crucial role in the ability of return migrants to transfer knowledge to Serbia. While the workplace is the principal level of investigation, a multi-level analysis is required in recognition of the multiple factors that influence international mobility. As such, this research also analyses the role of the state, global processes, individual motivations, and different types of knowledge. The research approach is multi-method, comprising qualitative and quantitative analysis of unique survey and interview data, and documents produced by government departments, international bodies and NGOs. The methodology also uses qualitative comparative analysis (QCA) to identify the conditions that lead to knowledge sharing in the workplace.

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For my mother

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List of Abbreviations

BEEPS – Business Environment and Enterprise Performance Survey

BiH – Bosnia and Herzegovina

CEE – Central and Eastern Europe

CVT – Continuous Vocational Training

EIS – European Innovation Scoreboard

EPO – European Patent Office

EU - European Union

FDI – Foreign Direct Investment

FRY – Federal Republic of Yugoslavia

GATS – General Agreement on Trade in Services

GERD – Gross Domestic Investment in R&D

HDI – Human Development Index

ICT – Information and Communication Technology

ILO – International Labour Organisation

IOM – International Organisation for Migration

ISCED – International Standard Classification of Education

ISO – International Organisation for Standardisation

KAM – Knowledge Assessment Methodology

KEI – Knowledge Economy Index

KSC – Knowledge Sharing with Colleagues

KSO – Knowledge Sharing with the Organisation

MoD – Ministry of Diaspora

NAFTA – North American Free Trade Agreement

NELM – New Economics of Labour Migration

NES – National Employment Service

NGO – Non-Governmental Organisation

NIC – National Innovation Capacity

NIS – National Innovation System

OECD – Organisation for Economic Co-operation and Development

OSCE – Organisation for Security and Co-operation in Europe

PISA – Programme for International Student Assessment

QCA – Qualitative Comparative Analysis

R&D – Research and Development

S&E – Science and Engineering

SEE – South East Europe

SME – Small and Medium Enterprises

SSH – Social Sciences and Humanities

SUC – Serbian Unity Congress

UN – United Nations

UNCTAD – United Nations Conference on Trade and Development

UNDP – United Nations Development Programme

UNECE – United Nations Economic Commission for Europe

UNESCO – United Nations Educational Scientific and Cultural Organisation

USPTO – United States Patent and Trademark Office

VET - Vocational Education and Training

WEF – World Economic Forum

1 Research intent and justification

1.1 Introduction

This thesis bridges the topics of highly skilled return migration and knowledge transfer in the workplace. It focuses on the transfer of skills and knowledge by highly skilled individuals who have gained international experience before moving back to their home country. The thesis is designed to provide a better understanding of the knowledge that return migrants regard as important for their work and careers, and the conditions that facilitate - and the obstacles that hinder - knowledge transfer. It is argued that these questions are crucial to understanding the true potential of return migration for home country development. The research also examines the influence of economic development, including the lack of integration into international economic systems, upon highly skilled return migration and knowledge transfer.

There is a growing consensus that individuals who return with knowledge acquired abroad have potential to transfer skills, expertise and knowledge that sending countries lack, but in migration literature there are few studies that focus on the experiences of return migrants, especially on knowledge in the workplace. International mobility and knowledge is dealt with by other literatures; the management of knowledge and expertise is the subject of a substantial literature on mobility in organisations, with many studies concentrating on the ability of individuals who move between countries, either in transnational companies or across companies, to apply and transfer knowledge gained in other locations. The research analyses the experiences of a sample of largely self-initiated migrants, but the literature on intra-company migration is highly relevant because of its focus on the circulation of knowledge between locations and relations between colleagues in the workplace.

Serbia has received little attention in the literature on highly skilled migration. This is perhaps not surprising given that return is still a relatively unexplored field within migration studies, and as Conway and Potter (2009: 14-15) note, the lack of research on return migration means that each additional study provides a "useful starter set of empirical research on the adaptation of the adaptation experiences, successes and disappointments of today's cohorts of young and youthful returnees to global South homelands that should serve as a benchmark for others to draw upon." Serbia's migration experience can be used to test findings that are being generated by the nascent literature on return migration, of which there is a small but growing body of country case studies, including countries in Central and Eastern Europe (CEE), which are regional neighbours of Serbia. They have undergone similar post-communist transitions and have joined the EU – also a goal of the Serbian government. Highly skilled migration in several CEE countries has grown as a result of economic and political integration with the EU as people take advantage of free labour movement and opportunities in other countrties. These countries' experiences may point to Serbia's possible migration trajectory. Relevant studies on countries in other regions are also discussed since they provide diverse points of comparison.

The overarching question of this thesis is whether knowledge that migrants acquire abroad can be transferred to the homeland after return, with particular attention given to the factors that influence knowledge transfer in the workplace. The analysis in the following chapters draws from literature spanning highly skilled migration, return migration and knowledge management in workplaces. The main hypotheses described in this chapter concern the key conditions that facilitate or hinder knowledge transfer. Theoretical conditions have been outlined in knowledge management literature: willingness to share knowledge by the knowledge holder; willingness to receive knowledge by others; the culture of the organization where knowledge transfer takes place; and the type of knowledge that is being transferred. From the migration literature perspective, there are increasing calls for multi-level studies, based on the argument that interaction between different factors influences the migration experience. For instance, individuals make the decision to migrate but where they go and what they are able to do (i.e. which jobs are available) depends on the economic situation and policies in the receiving countries (such as immigration policies and recognition of qualifications). This is also the case for return migrants.

Globalisation has had an important impact in reducing the relevance of national borders by making migration cheaper and easier. In certain professions, such as finance, individuals find themselves part of a global market for the highly skilled. It is arguably changing migration, by making frequent back-and-forth movements between sending and receiving countries more prevalent than in previous decades. Many countries are aiming to become 'knowledge based economies', whereby economic growth is dependent on the level of knowledge in the workforce, but domestic education and training sectors are not always providing the right skills. Recent migration literature has argued that return migrants have the potential to supply countries with the type of skills that they cannot generate locally. This thesis asks whether this is case by collecting data from return migrants on their experiences in the homeland, and in the workplace.

The thesis covers a broad range of highly skilled - defined as tertiary level education (Salt 1997: 5) - return migrants, including return migrants on 'return of talent' programmes organised by bodies such as the International Organisation for Migration (IOM) and the United Nations (UN) that bring individuals living abroad (usually who have acquired citizenship of the receiving country) on long or short term missions to their home country, as well as children of first generation migrants who were born or have been raised abroad. Given the focus on knowledge transfer, the thesis also analyses types of knowledge, using key distinctions identified in the literature, that migrants acquire abroad and the relative ease of transferring these to workplaces.

According to international rankings, few countries are as adversely affected by highly skilled migration as Serbia. In 2009, it had one of the worst rankings for brain drain in the world (136 out of 139 countries) according to the World Economic Forum (WEF 2010: 451). The fields of science, industry and academia have been severely harmed by the economic and political instability of the past two decades (Vukovic 2005; Grecic 1996) and surveys show there are high levels of migration intention among university students and academics (Pavlov 2009). Since 2000, Serbia has begun to develop economic modernisation strategies and specified a goal of raising the level of skills and knowledge in the labour force to meet the needs of a knowledge-based economy, and these strategies include addressing the brain drain and encouraging the highly skilled to return (Ministry of Science and Technical Development 2010). Growing interest in migration partly derives from concerns over its impact upon human capital in sending and receiving countries (Kritz and Keely 1981: xxv). From a development perspective, there is also interest in how firms in countries undergoing economic transition, such as Serbia, can adopt new ways of thinking and working using return migrants who have gained knowledge and skills abroad (Berthoin Antal and Walker 2011). Yet, there are very few migration studies that focus on individual experiences of return in the workplace context, despite the critical influence that workplace dynamics have upon levels of satisfaction with life in the home country after return (Conway and Potter 2009) and knowledge transfer (Csedo 2008). Some migration studies have sought to link post return levels of satisfaction with experiences in the workplace; Lazarova and Tarique (2005: 369) for instance, examine the types of skills migrants acquire (beyond formal education and qualifications) and what happens to this knowledge once the individuals reintegrate in the labour market of the origin country. However, such studies are rare.

This introductory chapter sets out the main questions of the thesis, describing the relevant literature and related hypotheses that provide a 'road map' with which to analyse highly skilled return migration and knowledge transfer in the workplace. The rest of this chapter provides an overview of relevant discourses that cover highly skilled migration, return migration, return migrants in the workplace, and types of knowledge and knowledge transfer. It begins by providing comparative context to Serbia through a discussion of countries in Central and Eastern Europe (CEE), before shifting to the main disciplinary approaches to migration. An overview of studies on return migration including those in CEE provides context for Serbia. This servies to demonstrate how findings from this thesis on Serbia relate to other studies as well as the impact on potential future research.

1.2 Serbian highly skilled migration in context

In Europe, the study of migration has been energised by the political and economic integration of CEE countries and labour movements from these countries to 'old' EU states, as a result of freer labour movement. It was feared that a wave of highly skilled migration from CEE would undermine economic development in Eastern Europe (Salt 1992; Zimmermann 1996). It is predicted that CEE economies will become an increasingly important source of highly skilled immigration in Organisation for Economic Cooperation and Development (OECD) member states (Brucker 2011).[1] The problem is considered particularly acute among experts in technical and scientific fields. Surveys have found that for scientists and engineers, poor research opportunities, cutbacks in funding in research and development and low salaries in CEE countries have encouraged highly qualified people to move abroad (Vizi 1993: 103). This increasing

[1] The Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia are OECD members.

mobility is supported by a growing global demand for highly skilled labour in developed countries several of which have implemented policies to attract skilled workers (Mahroum 2001: 31-32), at the expense of sending countries (Meyr and Peri 2009: 2). In addition to the literature on outward migration from these countries to 'old' EU members, a small number of studies have started to look at return migration. In CEE, several country-specific studies have examined return migration, including Bulgaria (Sretenova 2003; Haug and Diehl 2004; Haug 2005), Poland (Kicinger 2005; Okolski 2006), and Slovakia (Balaz *et al.* 2004; Williams and Balaz 2005). Of some relevance to this thesis are studies looking at transnationalism in post conflict environments such as Bosnia and Herzegovina and Eritrea (Al-Ali *et al.* 2001), and the return of refugees to their home countries (Black and Gent 2004). Al Ali *et al.* (2001) look at the role of diasporas in homeland development and not specifically with return, while Black and Gent (2004) focus on the return of refugees to post-conflict Bosnia and Kosovo. The authors argue that returning refugees have the same potential to help with homeland development as other types of migrants, although the context of migration differs from Serbia, which is not 'post conflict' and outward migration has not comprised large numbers of refugees.[2] There is some overlap as, for refugees and other types of return migrant, sustainable return is contingent on socio-economic conditions in the homeland (Baraulina *et al*. 2007: 35). The refugee connection is less appropriate because all the returnees included in the thesis are what Berthoin Antal (2011) call 'self-initiated' migrants; apart from those who were born abroad or went as children with their families, the decision to migrate was voluntary. Instead, Serbia could be described as a 'post-isolation' economy and society as a legacy of the UN-imposed sanctions of the 1990s. The fall of Milosevic in 2000 started the transition process but isolation has had far-reaching impacts and an important part of Serbia's transition involves the re-establishment of international ties and re-integration with international economic and political systems that were severed during the 1990s.

1.3 Evolving approaches and comparative migration studies

Migration has no natural home in any single discipline or methodology. Neither has an over-arching theory of migration emerged. A single disciplinary approach cannot hope to cover the

[2] Kosovo is excluded as part of the research because it focuses on returnees' experiences in Serbia only. Between 2000 and 2008 Kosovo was administered under UN Security Council Resolution 1244 and in 2008 the government declared independence from Serbia.

vast potential that migration studies offers. So whilst some disciplines, i.e. economics, have developed several alternate theories, they often have little applicability outside the spatial and temporal parameters of their creation. But economic theories are still relevant for framing return migration, and this is where the discussion begins.

Alongside population studies, economics has led theoretical development by conceptualising migration as questions of resource allocation, wage differentials, and human capital investment. Questions of supply and demand, rational choice and utility maximisation naturally fall into economists' frame of reference (Gmelch 1980: 137). Economic theory predicts that individuals who go abroad are positively selected; more skilled, educated and ambitious than those who remain in the home country. The greater the wage differentials between the home and destination countries for high ability workers, the more positive the selection (Chiswick 2008: 69). Neoclassical economic theory treats migrants as rational and autonomous, seeking to maximise returns on their capabilities. Individuals migrate if the rate of return from the investment in migration is greater than any incurred costs (net home country earnings deducted from destination wages, plus relocation cost and foregone earnings) (Chiswick 2008: 65-66). These benefits can be pecuniary (wages) and non-financial (quality of life, climate). The costs include the foregone income in the source country, leaving a familiar environment and adjusting to a new one (Constant and Massey 2003: 633). Neoclassical theories are supplemented by other approaches. Dual labour market theory highlights how the relative costs of labour exert downward pressure upon wages in unskilled jobs in rich countries. Hence, rich countries encourage migration in order to reduce wage pressures in their economies. Also, the new economics of labour migration (NELM) locates agency away from the individual to the household level. The theory conceives migration as a risk-minimisation strategy made at the family, household or community level, necessarily supported by the creation of networks (Stark 1991).

Economic-based theories are criticised for underplaying the intricate set of social and structural factors that drive migration; individual decision-making processes, as well as the social and economic contexts that prevail in the sending and receiving countries. In recent years migration has become a topic of interest for other disciplines, including sociology, anthropology, human geography and political science, which reflects a shift to more qualitative research methods (Massey *et al.* 1993). People migrate for a variety of reasons, many of which are not economic, such as family reunion, or the opportunity to experience different lifestyles (Castles and Miller 2009: 221). Which factors are important and how they inter-relate has led to increasing exploration of other behavioural factors using sociological concepts of migration (Krieger 2004: 82). Such cross-disciplinary appeal reflects the reality that international mobility is both influenced by a diverse range of factors and has far-reaching impacts beyond labour markets.

There are few comparative studies of highly skilled migration due to data problems (Cohen and Soto 2007: 52; Brucker 2011). Cross-country comparisons often use proxies for the highly skilled and for migration, such as data on R&D capital stocks, years of education, and databases on international migration held by international bodies (International Labour Organisation, OECD, etc), as well as that held by countries (Le 2008). Comparison of return migration is also problematic due to differences in national legislation for identifying return migrants (OECD 2008c: 164). There is no agreed definition of return migration and data tends to measure stocks of migrants in a country and flows (people who arrived and left in a given year). This is a problem noted by Sardon (2001:56) who writes that the values of indicators "...often greatly differ from one source to the next (Council of Europe, Eurostat, etc), which makes the changing trends observed relatively uncertain." Further, official data cannot be used to trace movement of migrants over time (Wachter 2006: 56). Without this temporal data, it is difficult to determine the permanence or temporary nature of migration patterns; it is particularly challenging to get hold of longitudinal data on cognitive skills and earnings. As a result, many researchers criticise cross-national comparisons, and concentrate on observable processes in specific economic sectors where labour is especially mobile (such as Saxenian's 2005 study on migrants in Silicon Valley). Population surveys are also a common means of measuring the propensity to migrate among graduate students. Such research has found that the most highly educated are the most likely to demonstrate a propensity to migrate (Brandi 2003). However, a criticism of population opinion surveys is that they fail to capture levels of commitment to migration (Balaz *et al*. 2004: 8). A further issue is that researchers conducting population surveys cannot guarantee a reliable and representative cohort (Williams and Balaz 2008a).

There is increasing interest in highly skilled migration, for several reasons. First, many studies have noted that highly skilled migration is increasing (Docquier *et al*. 2005; Dumont and Lemaitre 2005; Findlay 2001; Kreiger 2004) and this has attracted attention from scholars and policy makers. Indeed governments and bureaucracies are often the drivers of research (Castles 2007: 362). A related development is that countries, particularly OECD members, are becoming more dependent on knowledge for fostering competitiveness (OECD 1996: 9; Lorenz and Lundvall 2006), which has focused many countries' attentions on identifying skills shortages and developing strategies to foster and attract highly skilled individuals. 'Brain drain', which implies a serious loss to the sending country of its most skilled individuals, is undergoing a 'renaissance as a field of study' (Gibson and McKenzie 2011: 108-109). Second, return is a neglected field of migration studies (King 2000; Ghosh 2000a; Conway and Potter 2009), which is an oversight because of the potential contribution returnees can make to homeland development (Koser and Salt 1999; OECD 2008b: 204; OECD 2008c: 162). Third, researchers are taking a broader approach to knowledge and skills gained through migration, beyond those measured by professional experience and formal qualifications. Although highly skilled migrants may work in unskilled jobs when they are in the receiving country, they can still acquire communication skills and self-confidence that can be commodified upon return to the home country and facilitate the knowledge transfer process (Williams and Balaz 2005; Gibson and McKenzie 2011). Knowledge distinctions are important because different types of knowledge are easier to transfer between locations than others. Finally, this research narrows its focus to the workplace as a crucial location for knowledge transfer. Research on the experiences of return migrants in the workplace, outside the substantial literature looking at intra-company mobility, is under-developed. Studies looking at the return migration, such as Conway and Potter (2009) on Caribbean and Pacific island countries, refer to satisfaction in the workplace as one factor influencing general levels of satisfaction with return, but they do not focus on knowledge transfer. Return involves adjustment to the home country work environment as well as with home country friends and colleagues (Adler 2008: 288). There is a substantial body of literature that considers how knowledge is managed in firms. This can be used to draw out the main conditions that influence return migrants' ability to transfer knowledge with colleagues and at the organisational level, such as highly skilled migrants who are part of the globalised operations of transnational companies (TNCs), intra-company mobility in 'elite' knowledge-intensive industries (Findlay 1990; Faulconbridge *et al.* 2009), and international professionals moving between global financial centres (Beaverstock 2005). There are few studies in migration literature that incorporate findings from such research.

1.4 Categorising highly skilled migrants and migration outcomes

The operations of TNCs and the global 'war for talent' have "transformed international migration in qualitative rather than quantitative ways" (Pellerin 2003: 177), and studies have generated typologies of mobility to reflect this transformation. In a study of UK-based aerospace and extractive industries, for instance, Millar and Salt (2008: 31-36) describe types of international mobility, with extremes of permanent recruitment on the international labour market and virtual mobility, with varying lengths of assignments inbetween, the use of which depend on the needs of the company and those of their employees. The terms used by this literature emphasise fluidity and circulation instead of binary outcomes of permanent and temporary migration (Ackers 2005: 110-111). This has led to calls for a re-conceptualisation of migration as a system of labour mobility located within global economic systems (OECD 2008b). Similarly, Faist (1997:187) calls for a theoretical shift away from permanent emigration towards individuals who shuttle back and forth between receiving and sending countries. Terms such as 'immigration' and 'emigration' are seen as no longer applicable in a conceptual migration system of labour mobility.

Several typologies have emerged to classify migrants and their motivations, such as those of migrants listed in Table 1.1 below.

Table 1.1 Classifications of migrations, push and pull factors and policies

Group	Type of push & pull factors	Type of policies
Managers and executives	- Benefits and remuneration	- Business-oriented
Engineers and technicians	- Economic factors (supply and demand mechanisms)	- Immigration legislation - Income tax
Academics and scientists	- Bottom-up developments in science - Nature and conditions of work - Institutional prestige	- Inter-institutional and inter-governmental policies
Entrepreneurs	- Government (visa, taxation, protection, etc.) policies - Financial facilities and bureaucratic efficiency	- Government and regional policies - Immigration legislation
Students	- Recognition of a global workplace - Accessibility problems at home - Inter-cultural experiences	- Inter-governmental and inter-institutional policies - Immigration legislation

Source: Mahroum (1999)

Mahroum's (1999) typology is useful because it includes highly skilled migrants beyond those working for transnational companies whose migration is driven by corporate strategising. It also includes students who, since they become increasingly well qualified as part of the migration experience, gaining social and cultural knowledge of the host country, help the sending country to "keep pace with technological developments abroad", in particular "in key economic sectors" (OECD 2001: 93). Whilst these categories are a useful reference point, this thesis does not focus on any one type of highly skilled migrants, since the overarching question refers the experiences of all highly skilled returned migrants in the workplace.

Terms have also emerged to describe the outcomes of highly skilled migration, such as 'brain waste,' 'brain overflow,' 'brain gain' and 'brain circulation' (Cohen 1997; Ghosh 2000a). These reflect the idea that migrants carry knowledge and skills between locations (Becker 1964) that is damaging and beneficial for sending and receiving countries respectively. These are summarised in Table 1.2 below.

Table 1.2: Outcomes of highly skilled migration

Brain exchange	Relatively balanced (mostly) temporary flows between core economies whereby, implicitly, effective use is made of human capital (such as professional and managerial workers – broadly defined to include intra- and extra- company transfers)
Brain drain	A (permanent) transfer of human capital from less to more developed countries
Brain overflow	The (permanent) transfer of human capital that is under-utilised in countries of origin
Brain waste	Ineffective utilisation in the destination (or origin) of human capital (permanently) transferred from the origin (such as skilled workers occupying unskilled jobs abroad)
Brain training	Human capital enhancement via mobility specifically for education or training purposes (such as students)
Brain circulation	Human capital enhancement via (temporary) mobility which, implicitly, is used more effectively upon return

Source: Williams and Balaz (2005: 441-442)

As outlined in Table 1.2, 'brain drain' is characterised by permanent loss of the highly skilled due to poor prospects and conditions in the home country. 'Brain circulation', on the other hand, occurs when countries reach a level of economic development that provides alternatives to permanent migration. In this model, thanks to economic growth, highly skilled individuals exploit the opportunities for them to pursue careers and utilise skills. One of the assumptions of migration theory is that benefits accrue to sending countries from returnees with newly-acquired skills (Ghosh 2000b: 187). The diaspora becomes more engaged and networks are established to facilitate the flow of knowledge, technology and people. Brain gain involves a net flow of highly skilled from origin to destination countries. ‘Brain circulation’ (Gaillard and Gaillard 1998; Johnson and Regets 1998) has been used to describe a cycle whereby individuals move abroad, acquire skills and subsequently return to the country of origin. This cycle is often used to describe student mobility (Mahroum 2000: 29). ‘Circular migration’, involves repeated movement between two locations, which in its most regular and short-term form is a type of commuting (King 1986: 10).

There are several problems with definitions and measurement of both the models and the terms outlined in Table 1.2. Wachter (2006: 64) criticises concepts such as ‘brain drain’ for being poorly developed (calling them metaphors), and lacking precise definitions on the minimum quantities involved in the terms. Beyond a discussion of the positive or negative outcomes of highly skilled mobility, an important question in migration studies concerns measurement of what is occurring, which, considering a lack of accurate data, is often difficult to assess. Terms that distinguish types of migration according to length of time scale (i.e. permanent, temporary) are problematic because they refer to longitudinal studies of the migration cycle. Wachter (2006: 54) asks how it is possible to know whether a country is experiencing ‘brain gain’ or ‘brain circulation’ if there is no record of the migrant individuals’ trajectory or career. Balaz *et al.* (2004) also raise this question, arguing that the distinction between temporary and permanent migration relates to different positions along the migration cycle. In principle we can observe individual examples or case studies where brain circulation is taking place, but it is difficult to establish the scale or to know whether temporary migration will become permanent or vice versa. Terms such as ‘brain drain’ (implying permanency) are being usurped by other terms such as ‘brain circulation’, that imply regular movements between locations. Conceptions have shifted from migration as a permanent one-off event to temporary and recurrent migration.

Having provided a brief summary of key theoretical approaches, terminology and contextual studies, the discussion now moves to the key areas of the research, described in a sequence that reflects a narrowing of the focus of the thesis: highly skilled migration; highly skilled *return* migration; highly skilled return migrants and *knowledge*; and knowledge transfer involving return migrants *in the workplace*.

1.5 Growth in highly skilled migration

Several studies have tried to assess highly skilled migration to developed economies (Docquier and Rapoport 2004; Abella 2006; OECD 2007; Brucker 2011) and many predict that highly skilled migration will grow (Cowell and Potter 2009; Brown 2001). A number of factors are regarded as encouraging the growth of highly skilled migration. Mobility among those professionals who meet the standards of entry to international labour markets, generally by holding a Western degree or training certificate is facilitated by bi-lateral and international agreements and organisations, such as the General Agreement on Trade in Services (GATS), the European Union (EU) and North American Free Trade Agreement (NAFTA) (Iredale 2001: 12). The information technology (IT) industry[3] especially is relatively fluid and free of national controls, mainly because of the fierce demand for professional workers in industrialised countries (Iredale 2001: 13). An additional aspect driving highly migration is the emphasis placed on knowledge as a driver of economic growth. Countries around the world are exploring different ways in which they can increase the stock of knowledge in the labour force, including through highly skilled migration. Although it is considered an over-used term by some (Williams and Balaz 2008b: 38-39), knowledge-based economies are said to require people with modern skills, the lack of which undermines economic growth (Arandarenko 2007: 9; OECD 1996; Barro 1991; Cohen and Soto 2007). The foundations of knowledge-based economies are research and development, knowledge-intensive industries and a highly skilled labour force. Knowledge takes centre stage as the most important resource for the modern economy (Lundvall 1992; Lorenz and Lundvall 2006). An educated and skilled workforce is considered more important for innovation and economic growth than physical inputs and natural resources (Powell and Shellman 2004: 201). A knowledge economy requires a national innovation system that combines a highly educated and skilled labour force with knowledge-intensive bodies such as

[3] Also frequently referred to as information and communications technology (ICT)

research institutes, universities, think tanks, and NGOs that are interconnected across different sectors, including industry (Radosevic 2006: 46). This has important implications for regions and countries that incorporate these notions into their development strategies. These countries must identify the types of skills and knowledge they require and implement policies within domestic education and training sectors. The most efficient means of knowledge creation is a contentious question. It can be generated domestically through education and training systems and knowledge management programmes. National policies of education and training can boost economic growth in several ways: by increasing aggregate human capital in the labour force; raising innovation in the economy; and facilitating the "diffusion and transmission of knowledge needed to understand and process new information and to implement successfully new technologies devised by others, which again promotes economic growth" (Hanushek and Woessman 2008: 627-28). However, not all countries are able to create a knowledge capital base, or even to identify scarce skills, resulting in shortages of the skills required to meet the needs of a modern economic and labour market structure. Many countries undergoing a shift towards market-oriented economic and social policies have inadequate training available for the workforce, and face core skills shortages for the needs of new industries and services (Wickramasekara 2003: 31). Brown (2001: 53) calls for more case studies on the process of skills formation, particularly how societies engineer their "social and economic institutions in ways that exploit the post-industrial possibilities for high skills". In former centrally-planned economies, there is concern that the broad range of competences required by modern labour markets are not catered for by existing approaches to teaching and learning (Arandarenko 2007: 23). In much of CEE the post-communist transition process disrupted knowledge linkages, crucially between research bodies and industry. As Gheorghui and Turlea (2006: 283) argue, this is a vicious circle whereby a deterioration of human and technical capital meets weak demand from industry. In these environments opportunities to acquire or upgrade a broad range of skills are limited, creating potential 'bottlenecks' of skills: "…the initial education and training system, which is based on out-dated principles and methods, does not adequately prepare young people for the shifting demands of a changing economic and labour market structure" (Paunovic *et al.* 2005: 4). An insufficiently trained cadre of young people entering the workforce acts as a drag on the development potential of the country. This requires a national strategy that can take a long time to research, formulate, implement and feed down to all relevant sectors.

The concept of knowledge economies is not new but the principal innovation of recent years has been radical improvements in access to sources of knowledge (Radosevic 2006: 32). The fact that individuals carry knowledge not just between jobs, but also between economies and societies highlights the link between migration literature and the rise of knowledge-based economies. As Willliams and Balaz (2008b: 11) write: "...if knowledge is the key driver of economic change, and much of that knowledge is transferable, then migration is an important, and in some respects unique, channel for knowledge transfer and application." Migrants are important for knowledge generation since they have the ability to draw on the knowledge they have acquired and make direct comparisons between locations (Williams 2007a: 367). National policies towards innovation and economic growth are increasingly incorporating highly skilled migration (Koser and Salt 1997). Firms, especially those with cross border activities, seek highly skilled individuals, which in turn creates a group of mobile individuals in certain professions such as IT and banking, allowing individuals to move easily between different firms, cultures and societies. This cohort of internationally mobile personnel is 'denationalised' due to their presence throughout the world, and has brought about a universal system of values in business management (Salt 1992: 500) and common "ways of doing things" (Skeldon 1997: 25). States are still important because they set immigration policies, economic development and innovation strategies, control over education and training sectors, and return migration outreach programmes. International migration should be contextualised within global processes and the continuing role of the state in maintaining control over territory (Kofman 2003: 22). Some also argue that globalisation will lead to a convergence in education, training and labour markets, in turn facilitating the transfer of skills as local systems of skills diffusion also converge (Lauder and Mehralizadeh 2001: 205). This thesis incorporates analysis of innovation strategies and education and training in Serbia in order to provide the context for highly skilled migration. The key areas where countries focus their reform agendas are in the education and training sectors and innovation at the enterprise level. The implications of a knowledge-based economy are far reaching in terms of migration and, as a component of national development policies (Mahroum 2001: 27), are one means of accumulating skills in the labour force.

The literature on trans-national corporations (TNCs) is relevant to this thesis since mobility in TNCs is said to have fostered a transnational elite of highly skilled professionals who act as "crucial mediators and translators of information, capital and skills and circulate between cities" (Beaverstock 2005: 246). Faulconbridge *et al*. (2009) note that knowledge-intensive industries and the global 'war of talent' has helped to create elite highly skilled labour markets. Firms use international mobility to plug skills gaps in receiving countries, to set up operations in new locations (Millar and Salt 2007: 45), to circulate knowledge between offices and for professional development of staff (Beaverstock 2004). Firms also value the skills and competences that come from the experience of working in other countries (Williams and Balaz 2008b: 154-155). Intra-company migration contributes to the circulation of knowledge and provides an opportunity for staff to acquire a variety of skills, including; "… knowledge of quality processes, better ethics and attitudes towards work, greater professionalism and transparency, better management practice, and familiarity with the latest technology" (Zweig 2006: 238). International assignments are common in transnational companies, particularly for managers, because through the experience of working in a new environment and with people from different backgrounds, they learn new skills and attributes, such as communication skills and adaptability (McCall 1997: 77). This helps to create a cohort of employees "who are able to think and act both globally and locally" (Millar and Salt 2008: 26). This combination of the global and the local resonates with David Wood's (2002: 64) work on business consultancy services; local knowledge is important, for instance, language skills, knowledge of the countries' business environment and practices for learning and knowledge transfer. International migration is also a strategy to deal with issues of employability, so that individuals with particular knowledge can move between workplaces with relative ease. There is greater turnover, flexibility and mobility in labour markets, meaning that workers and their knowledge are no longer integrally linked to firms. These careers are described as 'boundaryless' (Williams and Balaz 2008b: 189). The growth of business services – consultancy – is also seen as a reflection of internationalisation and tradability of expertise, particularly in knowledge-intensive services. Innovation requires flexible organisations that are open to change and learning, which, in the search for specialist skills leads organisations to engage outside expertise (Wood 2002: 24).

1.6 Return migration and development

Compared to highly skilled migration flows, there is relatively little research on return migration (Williams and Balaz 2005: 440; Ghosh 2000a). The lack of data is one reason why "no macroeconomic assessment of the impact of return migration exists" (OECD (2008c: 197). Williams and Balaz (2008b: 94) also attribute the lack of literature on return migration to data problems and to the issue of adjusting theories built around permanent migration to the notion of temporary migration. In terms of theory, for neoclassical economists return results from an inability (failure) to achieve high earnings and to integrate in the host country society. For NELM, return to the home country is classed as a success since it symbolises the realisation of a pre-decided income or skills target (Cassarino 2004: 256). We can consider students as fitting this model, since the period spent abroad in education is limited by the length of the course. From this literature, categories of return have emerged, such as those summarised in Table 1.3 below.

Table 1.3 Categories of return migration

Return of failure	Failure to integrate into the host society
Return of conservatism	Sole motivation is to earn money that satisfies personal needs
Return of retirement	Pension allows for more comfortable life in home country and they do not have family ties in receiving country
Return of innovation	Expectation of challenging vested interests and existing ways of thinking in the homeland

Source: Cerase (1974: 249-258)

The categories in Table 1.3 do not reflect changing conceptions of migration, and categories of migrants. Although still relevant for some return migrants, there are many additional reasons why people return beyond 'failure', 'conservatism', retirement' and 'innovation', from students who have completed their studies to personal motivations to be closer to friends and family (Parr and Bell 2009: 6).

Studies have looked at a range of return migrants; Williams and Balaz (2005) look at Slovakian return migrants and knowledge acquisition during their experience in the UK, while Tung and Lazarova (2006) focus on the challenges that overseas scholarship recipients face upon return to their home countries in Eastern Europe. There is crossover with the literature on highly skilled migration and TNCs, as illustrated by Tung and Lazarova (2006: 1854) who write that return migrants "represent a cadre of highly trained and qualified people who have acquired valuable Western-style managerial experience and entrepreneurial skills, and at the same time, possess knowledge of the local market..." Berthoin Antal and Walker (2011) address the contribution of 'self-initialised' Chinese migrants to firms' organisational learning once they have returned. As more country studies are conducted, theoretical generalisations about return migration are emerging (Conway and Potter 2009: 14). This literature is exploratory and there are recurrent calls for a research agenda that does not differentiate between types of return migration, arguing that in terms of migrants' potential impact upon development, a focus on different channels of migration are unimportant (Black and Gent 2004: 10).

An important reason for interest in return migration is the idea that newer generations of return migrants are "likely to be more skilled and better endowed with stocks of social and cultural capital than their more elderly returnee counterparts were in the past" (Conway and Potter (2009: 5). Studies have shown that a lack of economic development discourages highly skilled return (Wikramasekara 2003: 12). On the other hand, evidence from countries with large highly skilled populations living abroad have found that highly skilled returnees are attracted by increasing opportunities in the labour markets of upper- to middle-income countries (Potter 2005: 219). Access to productive employment is a key determinant of 'successful' return (Ghosh 2000b: 184). In India and China, professionals trained abroad are encouraged to return by the emergence of knowledge-intensive high technology professions that offer previously unavailable opportunities for career advancement in the homeland (Iredale *et al*. 2002; Chacko 2007; Ley and Kobayashi 2009: 121). Returnees' experiences are more positive where the economic situation is more favourable due to better education and higher levels of 'private sector vibrancy' (Conway and Potter (2009b: 230). As Lowell and Gerova (2004:13) write: "infrastructure, the business climate, and prevailing political and legal rights strongly condition the desirability of return and the possibility of success." The importance of the macroeconomic situation in the home country is noted by the OECD (2008c: 179), citing the examples of Turkish migrants who returned from Germany in response to economic growth in Turkey, and Portuguese return migration following the economic changes that came from Portugal's emergence from dictatorship in the 1970s. Other research has shown that bureaucracy and corruption are critical disincentives. Saxenian (1999) found that the heavy administrative burden of doing business in India discouraged Indian entrepreneurs from returning. Ratha (2003) argues that skilled workers are more likely to return if the investment and employment climates in their home country improve. While this may be true for certain individuals, factors such as lifestyle, unique opportunities for career advancement (particularly compared to opportunities available in the receiving country) and family and friends are often critical, not only for the decision-making process, but also for assessing individual levels of satisfaction. It is also due to changing conditions in the host country, where immigrant policies may change, such as the German freeze on recruitment of foreign workers during the 1970s (HWWI 2007: 15). Countries can influence the return of highly skilled labour, not least by setting migration policies. For instance, states both erect barriers to exit and entry, and facilitate migration. Studies show that countries in Western Africa, Eastern Africa and Central America are experiencing increasing rates of highly skilled emigration to rich countries (Docquier and Marfouk 2004), as immigration policies in developed countries encourage the highly skilled and discourage low-skilled workers. In addition, states can engineer return of highly skilled individuals, e.g. legal reform and diaspora outreach programmes. Cerny (2003: 216) argues that the state is the key agent because of its role in attracting investment and promoting the competitiveness of its industries abroad. For these reasons, this thesis also assesses economic development and opportunities in Serbia.

Changing labour market flexibility means that individuals are more responsible for maintaining their employability by learning, gaining marketable experience, qualifications and knowledge in preparation for 'boundaryless' careers that span firms and countries (Williams and Balaz 2008b: 182). Return migration can provide opportunities for career advancement that do not exist for individuals at their career stage in the receiving country; they are able to find better positions than might be available in the receiving country (Conway and Potter 2009). The authors (2008c: 198) found that in some countries, many return migrants find a more highly skilled job than "they could have hoped for at home" and that in countries such as Chile, Costa Rica and Brazil, return migrants are overrepresented in highly skilled occupations and underrepresented in low skilled ones. Macpherson and Macpherson (2009: 30) also write that in the case of Samoa, return migrants have opportunities for career advancement with greater responsibility than they would expect to find if they were pursuing their profession in higher wage countries abroad.

1.7 Knowledge

Few studies systematically examine the nature of migrant knowledge and whether, upon return, migrants are able to use their knowledge (Williams and Balaz 2008b: 11), which can encompass increased awareness the political, social economic and institutional environment of the receiving country (Phillips and Stahl 2000:13; OECD 2008c: 201). Millar and Salt (2008: 26) make a similar observation; "Few studies have examined the role of mobility in achieving knowledge transfer and learning and the management literature has paid scant attention to international migration as a potential transfer mechanism." The ability to apply knowledge is vital since if human capital gained abroad represents know-how that cannot be applied (e.g. because it is linked to a specific location), repatriation problems will arise (Bonache and Brewster (2001: 162). Despite the acknowledged lack of research, some pioneering work has been carried out, such as Balaz *et al's* (2004) study of return migrants to Slovakia from the UK. Using surveys and interviews, the authors ask respondents to assess their knowledge and status before, during and after migration. Balaz and Williams (2006) found a range of outcomes for how returnees commodified the knowledge they acquired in the UK that points to previously unobserved competences acquired by individuals while they are abroad, which are difficult to measure using quantitative methods. Another key study by Tung and Lazarova (2006) compared the migration experiences of a cohort of scholarship recipients. An important finding from these studies is that highly skilled migrants in low skilled employment in receiving countries are still able to perceive social advancement upon return to the home country. The authors also argue that the importance attributed by respondents to certain skills indicated the relative supply of these skills (Tung and Lazarova 2006), as respondents highlight the differences between their own competences and those of their local colleagues. The range of skills is measured by asking respondents to evaluate the importance of international experience for acquiring different skills.

This thesis echoes calls for a broader conceptualisation of knowledge focusing less on skills and more on competences, or 'total human capital' (Li *et al.* 1996). Other authors have also called for a refocus on the different types of knowledge that migrants acquire, rather than a narrow assessment based on technical skills and qualifications (Blackler *et al.* 1998; Williams and Balaz 2008). Again, the literature on transnational corporations has led this discourse. Knowledge has long been recognised by firms and researchers as important for productivity, and many have attempted to describe and codify it (see Nonaka *et al.* 2001). A substantial body of literature is devoted to understanding how knowledge circulates within firms, teams, units, between individuals and, for multinational firms that have offices in several countries, across locations. Knowledge is the most important source of firms' competitive advantage (Nonaka *et al.* 2000). Moving on from a simple 'information-processing paradigm" (Nonaka *et al*. 2001: 491), knowledge management is increasingly guided by a broad conception of skills that includes scientific and technical skills, know-how and so-called 'soft-skills', such as communication and creativity. McCall (1997), for instance, developed a typology of knowledge that managers acquire abroad through international migration: managerial skills; tolerance of ambiguity (taking decisions with little information); multiple perspectives (seeing things from others' points of view); and ability to work with others (tolerating different types of people). Beaverstock (2005) discusses elite cadres of management staff who can span boundaries with their generic knowledge. Reich (1992) talks about 'social skills' and Evans (2002) about 'social and interpersonal competences' and attitudes and values (responsibility and reliability). Social skills such as self-confidence, self-reliance and adaptability to changing circumstances are also critical. Payne (2000: 354) writes that "skill has expanded almost exponentially to include a veritable galaxy of 'soft', 'generic', 'transferable', 'social' and 'interactional' skills, frequently indistinguishable from personal characteristics, behaviours and attitudes which in the past would rarely have been conceived of as skills." Recent studies have argued that migrants acquire knowledge through the migration experience even if they are working in unskilled positions in receiving countries (Williams and Balaz 2005; Tung and Lazarova 2006). The importance of this knowledge becomes apparent upon return when competences such as self-confidence and social and communication skills are commodified (Balaz *et al*. 2004). This last point underlines the importance of surveying individuals at the return point of the migration cycle. The value of knowledge often only becomes apparent upon return to the home country when returnees enjoy improvements in status and wages, even if their position in the host country did not reflect the perceived identity or status (Balaz and Williams 2004). Ghosh writes (2000b: 188) that highly skilled migrants working in unskilled positions in receiving countries implies "downward occupational mobility and downgrading of skills" which is a loss to the country of origin because it "fails to benefit from improved skills of the workers should they return." This represents a broad approach to skills, rather than focusing on formal occupational skills and qualifications that are implicit in concepts such as 'brain waste' (Williams and Balaz 2005: 443-444). This mirrors to some extent the observation that most workplace learning is informal and thus requires a focus on interaction between colleagues, and the prevailing workplace culture (Evans and Rainbird 2002: 15).

Alongside their technical skills, in theory, the most valuable competences required for knowledge economies are the most difficult to transfer. Key distinctions have been identified in knowledge research, which refer to transferability, particularly according to two dimensions:

tacit versus explicit and generic versus specific. These in turn influence the extent to which knowledge is tied to individuals, teams, workplaces or environments. Polanyi (1958) established the distinction between explicit and intangible - or tacit – knowledge. Whereas explicit knowledge can be codified (expressed in words and numbers), and easily communicated and shared in the form of data and text, tacit knowledge is rooted in individual experience, and is only exposed through its application (Bonache and Brewster 2001: 149). Individuals acquire tacit knowledge through experience, and it exists in the minds and behaviours of people when they work individually or in teams (Boisot 1998). The majority of our knowledge is tacit (Bonache and Brewster 2001: 149) and is often shared in informal settings (Jones and Jordan 1998; Pan and Scarbrough 1999: Truran 1998). In its purest form, individuals are unaware of tacit knowledge in their work; they do not recall its use and cannot readily access or demonstrate it (Chilton and Bloodgood 2007: 2). Tacit knowledge is believed to be more valuable for companies than explicit knowledge, which can be easily codified and communicated to a wide number of constituents (Lazarova and Tarique 2005:364; Subramaniam and Venkatraman 2001). Talent can be generic (it can be acquired on the labour market) or specific (it can only be acquired within the company). These theories can be logically extended to all types of mobile individuals. For instance, students go abroad ostensibly to acquire qualifications but employers are also increasingly aware of the tacit benefits that international experience brings.

The transferability of knowledge is central to this thesis. Following Ipe (2003) this research defines knowledge sharing as "[...] a conscious act by an individual who participates in the knowledge exchange even though there is no compulsion to do so", which is different from the "exchange of information based on some routines or structured formats" (Ipe 2003: 342). Transferability can be understood according to the concept of 'stickiness' developed by Szulanski (2000: 10). Knowledge is 'sticky' if it is linked to a specific location (encultured and embedded knowledge). Tacit knowledge is especially hard to transfer and is more vulnerable to cultural and personal distance than explicit knowledge, which can be codified and is less dependent on personal interaction and relationships (Davenport and Prusak 1998: 90; Hau and Evangelista 2007: 1158). Formal learning channels facilitate knowledge sharing but they tend to favour explicit knowledge (Ipe 2003: 349). Tacit knowledge transfer is suited to international assignments and physical proximity whereas firms can use manuals, IT or annual meetings to spread explicit knowledge (Bonache and Brewster 2001: 160).

Blackler's (2002) typology of different types of knowledge are relevant for migration because, like the tacit and explicit distinction, they refer to knowledge that is intrinsic to individuals, which can be carried between locations, and knowledge which is more difficult to transfer through mobility, that which is developed through interpersonal interactions.

Table 1.4 Taxonomy of knowledge and transferability

Type of knowledge	More useful forms of engagement	Transferability	Differences between locals and migrants	Where encapsulated / situated
Embrained Conceptual skills and cognitive abilities	Observation and imitation	Fully exchangeable via corporeal mobility	Unlikely to be consistent differences	Encapsulated in the individual
Embodied Action oriented and only partially explicit. Results from experiences of physical presence	Observation and imitation. Acquired by doing.	Fully exchangeable via corporeal mobility. Necessarily devalorised by corporeal mobility	Unlikely to be consistent differences	Encapsulated in the individual
Encultured Process of achieving shared understanding. Processes of socialisation and acculturation	Discourse	Barrier to mobility – grounded in shared understanding between individuals. Can be eroded by migration. Devalorised by corporeal mobility	Different	Socially situated knowledge
Embedded Knowledge residing in systemic routines	Discourse	Barrier to mobility – grounded in shared understanding between individuals. Can be eroded by migration. Transferring embedded knowledge between organisations is problematic because it resides in an organisation's interrelated systems of physical, human and organisational relationships	Different	Socially situated knowledge
Encoded	Tangible. In printed form	Easiest to transfer – completely explicit	Unlikely to be consistent differences	Disembodied

Sources: Blackler (2002); Williams (2006); Williams (2007a): Williams (2007b); Williams and Balaz (2008b)

Embedded and cultured knowledge are useful because they facilitate comparison and critical reflection, allowing individuals to draw out similarities and differences, to adapt and translate knowledge and practices between locations (Williams and Balaz 2008b: 192-193). In Table 1.4 'Transferability' column describes the relationship of knowledge to the individuals and environment where it is located. Knowledge that is encapsulated within the individual - embodied and embrained – has the most transferability because it is stored within the individual, independent of others or external environmental factors. It is also described as generic knowledge because it exists in similar forms across a wide variety of locations (i.e. accounting or medicine). Conversely, embedded and encultured knowledge are relatively difficult to transfer. Within organisations, since they are moulded by the interaction between the individual and their colleagues operating in the same environment/culture, they have high internal value but offer little to third parties. Once this unique set up is broken, the knowledge begins to erode. They also require different forms of interaction for transfer to take place; "Arguably, in terms of engagement, observation and imitation may be relatively more important with respect to embrained and embodied knowledge, while discourse may be relatively more important for encultured and embedded knowledge" (Williams and Balaz 2008b: 162). Formal learning channels can include structured training and courses. Informal training and learning, on the other hand, involve observation of skilled colleagues. It is a process of trial and error, receiving feedback, advice and guidance.

The tacit / explicit knowledge distinction is also conceived as knowledge which is specific to a certain work environment and that which can be easily transferred across firms. Non-specific knowledge is generally viewed as more valuable to firms than specific knowledge because of its relative transferability. 'Specific' knowledge loses some of its relevance once a person leaves an organisation. Generic knowledge has wide applicability, while specific knowledge is primarily pertinent to critical areas of expertise within an organisation (Lazarova and Tarique 2005:364). However, while Backler's (2002) distinctions are important, it is not within the scope of this research to test knowledge categories in such detail. The thesis focuses on the tacit versus explicit, formal and 'soft' skills, and specific and generic distinctions.

1.8 Workplace

Due to its relevance as a setting where return migrants experience processes of adjustment to life in the homeland (Potter 2005: 217), and also a setting for knowledge transfer, it is at the workplace level that key hypotheses are derived. Knowledge management literature has long recognised the importance of the workplace as a site for knowledge circulation and generation and, as described above, mobility in TNCs often has the explicit objective of knowledge transfer. Knowledge management literature seeks to explain how firms encourage the generation, acquisition and transfer of knowledge. As Millar and Salt (2008: 26) write: "… the mere movement of expertise between institutions and countries is insufficient to ensure learning. Important also are the management mechanisms and resources available to mediate the transfer and assimilation of expertise and to support its synthesis with existing knowledge and integration with production in the receiving community [...]." In the literature on cross-border consultancy, there is recognition of the obstacles to the transfer of technology and expertise, such as inequalities of education and training, different business procedures, and regulations, all of which can hinder the access of firms in some countries to international expertise (Wood 2002: 63). Although this thesis does not focus on mobility from such a corporate standpoint, there is crossover in terms of motivation and outcome; people migrate to gain knowledge, experience, new attitudes and competences, and for career development (Szulanski 1996; Bonache and Brewster 2001; Tung and Lazarova 2006). In the context of repatriates, studies have identified different reactions of knowledge holders. Conway, Potter and St Bernard (2009) found that some return migrants to Trinidad and Tobago found their adjustment to the workplace more difficult than social adjustment. Often returnees have to adapt to local work practices that they are not used to. In a study of Samoa, Macpherson and Macpherson (2009: 31) found that returnees working in Samoan organisations noted that styles and standards of professional practice were at odds with what they were familiar with abroad. Poor re-integration of returnees compromises the knowledge transfer potential and creates tensions that can lead to re-migration (Thomas-Hope 1999). Adler (2008: 292-293) identifies three types of returnee: Some returning after expatriate assignments may not recognise or attempt to use internationally acquired knowledge, instead adopting the behaviour of the home country firm, thereby behaving as if they have never been abroad. In this sense, their foreign experience and knowledge is not transferred or used to change work practices. Other returnees may be 'proactive', combining aspects of their home and host country cultures, without rejecting either;

“they recognise and use their globally acquired skills and knowledge to contribute within the work environment and to modify their personal lifestyle” (Adler 2008: 293). A third type of returnees – ‘alienated’ - believe that the host culture is superior to the home country, and although they recognise the knowledge and experience they have acquired, they become isolated, believing that the have no contribution to make to the home country firm, since they cannot ‘fit in’. Such attitudes to reintegration can be found in the responses collected from returnees in Serbia as part of this research.

The research is guided by the question of what conditions facilitate or block knowledge transfer involving foreign-acquired knowledge held by the returnee. This section describes key hypotheses derived from the literature on workplace knowledge management and return migration. There is only limited existing research to guide hypotheses on return migration (Tung and Lazarova 2006: 1869). Most of the hypotheses listed focus on the workplace, where empirical and theoretical literature is most developed. Many studies also mention the exploratory nature of research into knowledge sharing in the workplace (Bonache & Brewster 2001; Williams 2006). The hypotheses described below are derived from the theoretical literature, but the research is designed not only to test and confirm (or reject) existing hypotheses, but also to generate new hypotheses through analysis of the collected data.

Following the example of existing scholarship on return migration and knowledge transfer (Conway and Potter 2009; Tung and Lazarova 2006; Williams 2006), the research acknowledges limitations relating to the data sample, collection method and analysis. Access to a reliable cohort of returnees is difficult since Serbia does not keep data on those who return, and as a result, return migrations were contacted through alumni organisations (for foreign university programmes) and a snowball method of asking individuals to suggest other people. But these restrictions are also opportunities to explore innovative methods and techniques. The research uses Quantitative Comparative Analysis (QCA), a method that has several benefits. First, it suits small- and intermediate-*N* of cases. Second, it encourages the researcher to move between the theoretical literature and data, allowing for a deep understanding of the cases, which qualitative methods could overlook. Third, from a theoretical perspective, there is no single condition that is sufficient for knowledge transfer in the workplace and QCA is designed to test configurations of conditions that lead to the same outcome (Marx 2010: 256). Fourth, QCA is designed to test existing hypotheses and generate new hypotheses, which is also an aim of the thesis. Fifth, QCA emphasises reflection on the research design at several stages, including theoretical justifications for the selection of conditions and interpretation of the cases (Schneider and Wagemann 2007: 2-3; Stokke 2007: 6).

The first hypothesis deals with an aspect that influences returnees level of satisfaction with life in the home country, namely the length of time spent abroad, since people who are abroad for long periods may find themselves alienated from the sending country society (King 1986 18-20). Newbold (2001: 37-8) talks about the links between age, motivations and human capital of returnees; young people may be more likely to return to experiment with employment in the home country, whereas there may not be opportunities for people at more developed stages of their careers. In boundaryless careers "great emphasis is placed on employability [...] – that is on the ability to demonstrate possession of particular knowledge, which makes it possible to change employers with relative ease" (Williams and Balaz 2008: 189). People who return could be more likely to do so if they know that this decision is not irreversible (Stepputat 2004; Castles and Miller 2009: 69), or it is seen as career enhancing. People who are abroad for a long period of time often find that the values and behaviours they encounter in workplaces in the homeland are at odds with those they experienced abroad (Feldman and Thomas 1992). The longer an individual is away from the home country, "the more he integrates into the host country society, and the more he disintegrates from his home country society" (Dustmann *et al.* 1996: 230). Cultural distance, such as differences in language, norms and values can cause friction between partners, and undermine trust, disrupting potential learning flows (Hau and Evangelista 2007: 1157). Cultural affinity generally facilitates relations between individuals, particularly since knowledge transfer takes place at a personal level through recurrent interactions (Szulanski 1996). Based on this literature, the thesis tests whether the levels of cultural disintegration from the home country can be observed in the levels of satisfaction given by returnees to the workplace, using the length of time spent abroad as a proxy indicator for cultural distance:

Hypothesis 1: Levels of dissatisfaction with aspects of the workplace in the homeland are positively related to longer periods spent abroad

The thesis is designed to generate a better understanding of workplace conditions that influence return migrants' ability to transfer knowledge to local colleagues without international experience and with the organisation. A starting point is the broad theoretical conditions that several researchers have identified. Ipe (2003: 351) lists four factors that influence knowledge sharing in workplaces: 1) nature of knowledge; 2) culture of the organisation; 3) motivation to share, and 4) opportunities for sharing. Similar conditions can be found in the work of other authors. Szulanski (1996) specified the source, the recipient, the transfer context and the type of knowledge. Upchurch and Cicmil (2004), in their analysis of a knowledge transfer programme involving a team of UK academics working in Serbia, found that context (workplace environment), people and organisations (social, organisational and individual aspects) and content (nature and content of knowledge to be shared) influence the transfer of knowledge. A knowledge-friendly environment is conceived as a combination of receptive workplace with absorptive capacity, and a willingness of individuals to share knowledge (Lazarova and Tarique 2005: 362). Further, Gupta and Govindarajan (2000: 475) conceptualise knowledge flows in multi-national companies as dependent on: the value of knowledge at the source; motivation of the source and recipient; the 'richness' of sharing transmission channels; and finally the absorptive capacity of the recipient (this last factor is measured by the existence of tools to internalise knowledge such as the creation of procedures or forums where individuals can share knowledge, i.e. contact databases). This is similar to Huber's (1991:90) definition of organisational memory: "the means by which knowledge is stored for future use." Based on these four conditions, hypotheses derived from the literature are described below.

1.9 Motivation to share: recognition of knowledge

An important hypothesis related to the potential benefit of return migration on the home country is that returnees must have acquired knowledge and skills that are unavailable in the homeland (Ghosh 2000b: 187). At the workplace level, unique knowledge can be lost or under-utilised if it is not recognised, nurtured and accessed. The generation of knowledge is conditioned by the interaction between individuals and the culture and organisational structure of their work environment. This in turn impacts on the migration cycle and outcome. Tensions arise when employment expectations do not match realities; if employees are unable to utilise their knowledge or managers and colleagues fail to recognise the value of what they bring to the organisation. Studies have shown that returnees with enhanced skills cannot apply them in the home country because they are irrelevant to the home country situation (Azam 1988; Pessar 1991), and this is often to do with differences in technology and work environments between the sending and receiving countries. Research has found that many employers in transition economies are unaware of the meaning (and therefore value) of the foreign acquired experiences and qualifications of their employees, reflecting a lack of familiarity with practices outside their own country (Chapman and Iredale 1993; Zulauf 2001). Both willingness to transfer knowledge and receptivity to receive knowledge can be conceptualised as having cognitive and motivational aspects. If the employers cannot recognise the competences that high ability return migrants possess, then they gain no extra productivity from migrant knowledge. This can be tested at the workplace level by analysing if there is a knowledge gap in the workplace, and if return migrants believe that colleagues and managers recognise they have competences that are unique and valuable. Knowledge acquires economic value when, or because, it is recognised by others (van der Heijden 2002: Williams and Balaz 2005: 460; Csedo 2008: 819). Recognition of knowledge also encourages participation and sharing (Thomas-Hunt *et al.* 2003: 466) of knowledge with colleagues. Kalling (2003) emphasises motivation for transferring knowledge. Knowledge transfer is less likely to occur if there is no recognition or desire to draw upon the experiences of individuals who have acquired unique knowledge abroad (Berthoin Antal 2001: 11). Based on this literature, the research tests the following hypothesis:

Hypothesis 2: Knowledge transfer depends on recognition of knowledge accumulated abroad by returnees

1.10 Opportunities to transfer knowledge

Knowledge management literature argues that firms' most important commodity is knowledge, and they are concerned with how it is "managed, mismanaged and unmanaged" (Davenport and Prusak 1998: xii). Consequently their competitive advantage is to a large extent dictated by how they manage knowledge and ensure that it flows between units of an organisation (Nonaka and Takeuchi 1995). What therefore is a 'successful' knowledge transfer and why is it important? Knowledge transfer is understood as bringing something new to an organisation. Huber (1991:89) writes that "an organization learns if any of its units acquires knowledge that it recognizes as potentially useful to the organization." Argote and Ingram (2000: 151) define knowledge transfer in organisations as the "process through which one unit (e.g. group, department, or division) is affected by the experience of another." Scarbrough *et al*. (2004: 1580) also note that for organisations to learn, individual projects must be put in the context of how they relate to "ongoing activities, norms and practices operating in the rest of the organization." Bartol and Srivastava (2002) identify four means by which knowledge is shared: formal interactions in and across teams; individual contributions to databases; knowledge sharing across work units; and informal interactions. The internalisation of knowledge is understood as a process where the knowledge held by individuals is recognised, amplified and incorporated into the organisational knowledge base (Inkpen and Dinur 1998: 456). This involves interaction between individual knowledge holders and others at various levels of the organisation (Ipe 2003: 340).

Firms use management strategies to encourage knowledge sharing, by exposing employees to different teams and locations that generate different interactions (Nonaka and Takeuchi 1995; Argote and Ingram 2000; Nonaka *et al*. 2001). Return migrants must be motivated to share the relevant knowledge and the receiving companies and countries should have the appropriate tools to harvest it. A lack of management support might suggest that their ability to contribute in an optimal fashion has been compromised (Tung and Lazarova 2006: 1869). Berthoin Antal (2001: 22-23) similarly writes that: "Irrespective of the job the expatriates take after returning, active processes to help them identify and share the knowledge they acquired during the foreign assignment are crucial to the learning process." Autonomy is a key condition recognised in management literature for its role in innovation, since knowledge generation can occur when individuals, teams and projects deviate from the organisational context. But autonomy generates problems for the integration of knowledge across the organisation (Scarbrough 2004: 1582). Autonomy can lead to practices that become increasingly divergent from those existing in other parts of the organisation, giving rise to 'learning barriers' (Scarbrough 2004: 1585). There is also an inverse relationship between autonomy that individual employees enjoy and organisational hierarchy. As Noorderhaven and Harzing (2009: 727) write: "Autonomy, to the extent that it indicates standalone activities, also makes social learning in the context of shared practices less likely." A lack of management support might suggest that the ability to contribute in an optimal fashion is compromised (Tung and Lazarova 2006: 1869). Companies that seek to maximise co-learning and knowledge transfer understand the importance of social identities, and seek 'to create an affirming work climate for an increasingly multicultural workforce' (Chrobot-

Mason and Thomas 2002: 323–4). Hypothesis 2 focuses on returnees' recognition of their own knowledge, which can be important for those returnees who appreciate the value of their foreign-acquired knowledge and want to share it with others. But knowledge transfer with the organization is associated with a higher degree of management support (Lazarova and Cerdin 2007). Based on the literature, the third hypothesis is designed to test the following hypothesis:

Hypothesis 3: Knowledge transfer depends on the level of management support in the workplace

A key condition in the literature on knowledge transfer is relations with colleagues. Some studies show that workers returning from expatriate assignments withhold knowledge from their co-workers: "...even when the skilled and enterprising returnees come with innovative ideas and new and better knowledge of doing things, they could fail to use them in their business activities or for the general advancement of the local community because of resistance from well-entrenched hierarchies and local jealousies" (Ghosh 2000b: 187). In addition, junior return migrants entering a workplace may have little responsibility and will not be recognised as valuable sources of knowledge. For returnees, a peripheral position as outsiders affects their status in terms of approachability and reliability (Williams 2007a: 369-370). Newcomers to an organisation may have to build trust with colleagues through interaction (Reiche 2004: 11) and the nature of this interaction determines the depth of knowledge sharing (Lazarova and Tarique 2005: 369). Trust helps to overcome inapproachability (for both sources and recipients of knowledge) and reduces the fear that their knowledge will be used to benefit others (Andrews and Delahaye 2000). As Szulanski (1996: 36) writes: "The quality of the relationship affects the recipient's ability to acquire knowledge when needed (i.e., the relationship serves as a conduit for knowledge)." Reiche (2004: 11) also found that workers entering a firm must build social capital with their colleagues. In relation to the reception of local colleagues to returnees and their centrality/peripherality in the workplace, the following hypotheses are generated from the above literature:

Hypothesis 4: Knowledge transfer depends on the degree of centrality/peripherality of a returnee in the workplace.

Hypothesis 5: Knowledge transfer depends on the degree of trust between returnees and local colleagues

Workplace culture has the greatest impact on knowledge sharing; it mediates the types of knowledge, the opportunities to share and the motivation to share (Ipe 2003: 351). Culture is reflected in organisational values and norms, which are observed in practices (De Long and Fahey 2000). Culture determines which knowledge is most favoured, and how 'expertise' is defined (Findlay *et al.* 1996). The most obvious consequence is that only knowledge considered valuable is shared (Szulanski 1996; De Long and Fahey 2000: Edwards and Ferner 2004). Similarly, aspects of the work environment, such as flexibility and creativity, are also significant factors (Lyles and Salk 1996: 14). The ideal environment for knowledge transfer and sharing is one where the values, objectives, expectations and methods of delivery are congruent (Upchurch and Cicmil 2004). An organisational culture that promotes shared norms and goals and creates a sense of inclusiveness among employees can facilitate knowledge flows (Reiche 2009: 518).

An important aspect that can effect the reception of returnees with foreign-acquired knowledge is the degree of international orientation, which influences the strategic importance of knowledge of international business. If the workplace is focused on the domestic market, there will be limited interest in knowledge of markets and practices abroad (Berthoin Antal and Bohling 1998: 230). In workplaces where foreign operations are important, the knowledge held by returnees will be recognised and relevant. Based on this idea, the following hypothesis is:

Hypothesis 6: Knowledge transfer between returnees and local colleagues depends on the degree of international orientation of the workplace

Turning to knowledge transfer mechanisms, firms use management strategies to create and harvest knowledge and the rationale for moving workers is to encourage adaptability and restructuring of knowledge through its application to new contexts (Argote and Ingram 2000: 157). This is based on the notion that interaction at the individual level is the primary source of knowledge generation and transfer (Argote and Ingram 2000: 156). Knowledge management is defined as "a set of procedures, infrastructures, technical and managerial tools, designed towards creating, circulating (sharing) and leveraging information and knowledge within and around organisations" (Bounfour 2003: 156). Jobs that entail increased interaction with host nationals are likely to create different opportunities for learning and knowledge transfer than those that require fewer contacts with locals (Lazarova and Tarique 2005: 364; Reiche 2004: 7). Co-presence is the key mechanism for knowledge transfer in knowledge intensive firms (Beaverstock 2004). Most learning is informal and unstructured. Formal channels, whilst creating the context and providing the tools for knowledge sharing, are also strongly oriented towards the flow of explicit knowledge (Ipe 2003: 349). Informal channels favour the establishment of trust and friendship, often built over time (Ipe 2003: 349). This resonates with Wood (1996) who writes that the impact of consultancy work depends on the level of staff-client acceptance. As Evans and Rainbird (2002: 15) write: "the majority of workplace learning is informal and is best understood through examining the relationship with practical work activities, the cultural and social relations of the workplace and social world of the participants." In spite of the problems of describing tacit knowledge, there are ways that its presence can be observed, specifically in the types of interactions between colleagues. The greater the frequency and intensity of contacts with host nationals and the broader host environment, the greater the opportunity to acquire tacit international knowledge (Lazarova and Tarique 2005:364; Black *et al.* 1999). Based on this literature, this thesis examines whether formal channels are used for the transfer of explicit knowledge and informal challenges for tacit knowledge:

Hypothesis 7a: Formal knowledge transfer channels in the workplace favour the transfer of explicit knowledge

Hypothesis 7b: Informal knowledge transfer channels in the workplace favour the transfer of tacit knowledge

1.11 Summary

The contribution of this thesis is to provide better understanding of migration's impact on development, and the perspective narrows down to the return stage of migration and returnees' experiences of knowledge transfer in the workplace. It focuses on a relatively under-researched phenomenon and adds to the small body of literature that is already acting as a comparative template for research. Return migration is an important part of the discussion on international migration, although understanding of the issue remains underdeveloped. Many studies discuss why people return, but not what happens to the knowledge they hold when they return and have the opportunity to share it in the workplace. The chapter began with a broad introduction to return migration before narrowing the focus to a specific focus on knowledge transfer during the return stage of the migration cycle.[4] From the literature, eight hypotheses have been described and will be tested in subsequent chapters using the survey results and interviews. There is also expectation of substantial hypothesis generation, which is a valuable element of the analytical process.

Equally relevant are the macro-level debates on the role of globalisation and knowledge-based economies, both of which are closely interwoven with the discussion on highly skilled migration (Hargreaves *et al.* 2007: 49; Yoruk and von Tunzelmann 2006). This thesis also includes the structural determinants of knowledge in the country at one level, and the interaction of the individual with their work environment at another level (Massey *et al.* 1993: 456). In terms of focus, when conceiving migration, the key actor is the individual, not only in terms of decision-making but also in transferring knowledge. The decision to migrate is complex, varies across countries and migrant groups, and is driven by diverse factors beyond the state and global processes. In addition to the economic motivations stressed in early theoretical literature, any research must acknowledge that the decision to relocate, whether as an individual or a family, is often as much an issue of social determinants, such as quality of life, as income maximisation. While the literatures on knowledge management and knowledge-based economies deal with issues concerning the nature of knowledge, its generation and transfer, migration research (particularly quantitative studies) has yet to incorporate the formers' conceptual innovations in defining the different types of knowledge. An approach that incorporates the role of governments and other actors in the recruitment of highly skilled migrants, i.e. in the setting of policies that guide restrictions, guidelines and standards of recruitment (Goss and Lindqvist 1995), provides stronger contextual basis for understanding the diversity of migration processes. As political scientists argue, in order to understand migration policy we must

[4] Or potential 'cycle'. The research is not longitudinal and so cannot assess future migration trajectories according the existing typologies, i.e. 'serial' migration.

acknowledge the divergent interest groups involved in the policy-making process (Hollifield 2008: 192). Markets are embedded in socio-political systems that determine the purpose and direction of the economy, as well as set the boundaries within which they operate. Likewise, the international economy is also embedded in international regimes and agreements. This chapter has specified the main question of the thesis, discussed linkages between relevant literatures and specified the hypotheses to be tested. The layout of the thesis follows the structure of this chapter. Firstly, the methodology and data collection are described before moving to a description of Serbian highly skilled migration in Chapter 3. Chapter 4 is a discussion of the national and global influences on migration, highlighting the relative isolation of the Serbian economy from international markets, which it is argued influences the reception and transfer of knowledge in the workplace. Subsequent chapters focus on the knowledge that return migrations acquire abroad and their motivations for returning. Two chapters (7 and 8) concentrate on the workplace, using the theoretical conditions for knowledge transfer to draw out key conditions from the interviews and surveys that are then tested using QCA.

Chapter 2 addresses the methodology of the research the as well as the design of the data collection protocol. It provides an overview of the most relevant disciplinary methodological approaches, drawing out theory and method as they relate to the research questions. The chapter describes the research design, the data collection methodology, and a description of the data sample (interviewees and survey participants).

Chapter 3 focuses on the migration from Serbia of highly skilled people since the 1990s, against the background of political, economic and social problems. Though statistics are difficult to come by, it evaluates available sources to construct a picture of migration in Serbia according to the dimensions used in migration literature. This chapter demonstrates that Serbia has experienced severe outward migration of the highly skilled.

Chapter 4 provides the structural context for knowledge acquisition and highly skilled migration, including the rise of knowledge-based economies, and deficiencies within the domestic education and training sectors to provide people with the competences required by labour markets in knowledge-based economies. The chapter is relevant because of the argument in migration literature that migration should be approached from a multi-level perspective and that national and global factors impact upon the experiences of return migrants in terms of knowledge recognition and transfer. The chapter uses a variety of sources to determine Serbia's economic integration with foreign markets, including reports on innovation, entrepreneurship, education, training and employment produced by the Serbian government.

Chapter 5 focuses on the individual and motivations to go abroad and to return and the interaction between 'push' and 'pull' factors. It explores disincentives for return and intentions to stay in Serbia and analyses whether aspects of the international experience affect individual perceptions of life and work in Serbia during the return period. It analyses push and pull factors for migration and return and tests Hypothesis 1 concerning the impact of length of time and post-return levels of satisfaction with life and work in Serbia. The chapter presents results on the aspects of life and work in Serbia that keep people abroad for longer periods.

Chapter 6 analyses the types of knowledge acquired by individuals over the migration period. It discusses knowledge in terms of uniqueness, transferability and applicability using data drawn from the interviews and surveys.

Chapter 7 focuses on the interaction of knowledge and organisations. The discussion centres on analysis of the survey and interviews with individuals working in Serbia. Respondents are asked about knowledge sharing and transfer in the workplace.

Chapter 8 follows on from the previous chapter in focusing on the workplace but uses qualitative comparative analysis (QCA) to explore the conditions that are associated with knowledge sharing at two levels; with colleagues and at the organisational level. The selection of factors is directed by the theoretical literature and elaborated upon by survey and interview responses.

Chapter 9 summarises the findings of the research, commenting on the contribution to the existing literature and evaluating the overall design and data. It also points out shortfalls and limitations of the research and recommends future avenues of work in this field.

2 Methodology and sample

2.1 Introduction

The two main approaches to migration research can be described as: 1) large-scale statistical comparisons (Beine, Docquier and Rapoport 2001; Docquier and Marfouk 2004; Docquier, Lohest and Marfouk 2005; OECD 2007); and 2) intense studies on a small number of case studies designed to provide context, detail and explain causal processes (Williams and Balaz 2005; Tung and Lazarova 2006). In terms of the former, beyond economics, for practical reasons (time and language constraints, for instance), systematic comparison between countries is often not possible. Despite some progress in harmonising international data, findings from large cross-national studies involving migration are undermined by questions of reliability and method. Structural factors and human agency interact in complex ways that are only thoroughly understood by incorporating a qualitative approach to measuring return migrants' experiences. As Benmayor and Skotnes write (1994: 15): "...few actual individual lives fully conform to the master narratives." It is important to balance the use of data and questionnaires with interviews: "It is vital to investigate human agency of the migrants and of sending and receiving countries, and the way this agency interacts with macro-social organisations and institutions" (Castles 2007: 366).

Following Goss and Lindqvist (1995: 335-337), it is argued that research on highly skilled mobility requires a multi-level approach combining analysis of the global economy, the state, the workplace and finally the individual. Goss and Lindquist (1995: 334) note the importance of the actions of individuals and on the rules and resource distribution controlled by institutions. The thesis includes a literature review, a quantitative survey, in-depth interviews, and qualitative comparative analysis. Two instruments are used to collect data from mobile individuals; questionnaires and in-depth interviews. This combination has been used in other studies working on return migration (Williams and Balaz 2006; Tung and Lazarova 2006).

In this thesis, qualitative data from return migrants is based on in-depth interviews and quantitative data is collected through a questionnaire devised from existing studies on mobility and knowledge, as well as insights gained from the theoretical literature. At the macro level, qualitative and quantitative information is collected on highly skilled migration, the education and training systems in Serbia, the labour market, the business sector, knowledge and skills and the impact of global processes. This chapter discusses the selection of these methods as well as elaborating on the theoretical and practical rationale behind the design of the methodology. It is organised in two parts. The first section describes the research design and provides justification according to theoretical and empirical reasoning. The second section provides a summary of the sample of individuals surveyed and interviewed.

Both the survey and interviews are used in order to increase the analytical potential of the data. In order to assess whether a knowledge transaction has occurred, Szulanski (1996) favours questionnaires and Kalling (2003) semi-structured interviews. Kalling (2003) uses a theoretical framework based on cognition (nature of knowledge, absorptive capacity of recipients), organisational context and motivation. An unsuccessful transfer is signalled by a failure of migrant knowledge to become evident in working practices of the firm. A further reason to use interviews it that the survey format is a flawed means of information collection on skills, due to subjective assessments based on a limited range of surrogate measures (Williams and Balaz 2008b: 26-27). Further, surveys do not allow for in-depth analysis of structure, organisational learning and dynamic capabilities within workplaces. In-depth interviews help to minimise these potential methodological drawbacks. As Berthoin Antal (2000) argues, interviews are effective for observing the obstacles to knowledge transfers. This approach is supported by Chilton and Bloodgood (2007) who argue that the use of knowledge must be made explicit to participants in order to assess the tacit / explicit dimensions. Interviews provided greater scope to explore the complexities of knowledge and learning (Goss and Lindqvist 1995: 96).

2.2 Data collection protocol

2.2.1 Workplace, individual and knowledge levels

Due to the focus on return migrants at the point of return in Serbia, no distinction is made between those who have lived in Serbia, been abroad and returned, and those who were born abroad and have come to Serbia. Studies have, however, found distinctions that are relevant for the types of knowledge that migrants acquire abroad and their experiences in the workplace upon return. Many studies have looked at student mobility and the student experience is likely to have different rationales and outcomes than, for instance, people who went abroad for business (Williams and Balaz 2005). There are different experiences between those who went abroad for education and those who went abroad for non-education reasons. Following Tung and Lazarova (2006), the responses are used to code workplaces according to the for-profit (FP) and not-for-profit (NFP) sectors distinction. This comparison highlights whether foreign-acquired knowledge and experience is valued more in one sector over the other.

The workplace is one of the most important sites for the generation, application and transfer of knowledge, and the bulk of the data collected from individuals refers to their workplace experiences. It is here that knowledge is recognised, valorised and transferred. Moreover, there is a substantial body of literature on knowledge management at the firm level that guides the selection of appropriate methods of observing and measuring different types of knowledge (tacit and explicit) transfer. In order to collect data on a variety of working environments, the sample includes individuals working in the following workplaces: government; engineering institutes; multinational; non-governmental; academic; privatised; state-owned and international, and companies set up by returnees in Serbia. The research includes workplaces that have similar characteristics to those typically found in ‘high skill’ or knowledge based economies, established firms that have incorporated new management techniques and those which have yet to align their organisational structure and procedures with the ‘new’ economy. The sample is also designed to reflect mobile individuals according to Mahroum’s (1999) typology (students, managers and executives, engineers and technicians; academics and scientists, and entrepreneurs). The survey questionnaire and interviews are based on a review of migration and knowledge management literature. We now provide an outline of the data collection protocol, starting with the survey before moving to the interviews.

2.2.2 Survey

Existing research on knowledge flows in the workplace as well as return migration has helped to structure the questionnaire. This has the advantage of allowing the results of this survey to be comparable to those produced by other researchers examining international mobility and knowledge flows, focussing on the individual’s experience in the workplace (Williams and Balaz 2005; Tung and Lazarova 2006). On the other hand, since some aspects of the research are not suited to a multiple question format (and bearing in mind the need to keep the questionnaire as short and clear as possible), the interviews are a crucial element of the research. The following section sets out the structure of the survey, highlighting the theoretical reasoning and analytical potential behind the questions (see Annex 6 for the questionnaire).

Individual data (questions 1 – 8)

The first section of the survey (eight questions) asks respondents to provide personal information including age, gender and length of time spent abroad. To provide context to international experience, questions 4 to 6 enquire about pre-mobility occupation, what the respondents did abroad, and level of education. Questions 7 and 8 cover the year of going abroad and length of time. Question 8 asks about the length of time spent abroad in order to test Hypothesis 1 concerning cultural disassociation and levels of satisfaction with life and work in the home country.

The thesis also compares returnees according to age to see if there are any differences in motivations for return, satisfaction with experiences in the workplace and ability to share knowledge. Levels of satisfaction with experiences in the workplace can influence re-migration potential (Thomas-Hope 1999; Bonache and Brewster (2001).

Based on research conducted on experiences of people working in the for-profit (FP) and not-for-profit (NFP) sectors in influencing return motivations and levels of satisfaction in the home country, this thesis analyses whether returnees are looking for personal career advancement or to contribute to homeland development. Tung and Lazarova (2006) found a number of differences according to the FP and NFP sectors. The authors found greater dissatisfaction with aspects of work such as wages, outdated infrastructure, inadequate administrative and management support and career development in the not-for-profit sector (Tung and Lazarova 2006).

Reasons for going abroad (questions 9 and 10)

Two questions cover a range of push and pull factors most commonly found to motivate people to go abroad. There is a rich literature on migration motives (although empirical studies are less common), including typologies such as Faist's (1997:188) three levels of analysis:

1. Structural (political-economic-cultural factors in the sending countries and receiving countries)
2. Relational (social ties of movers and stayers)
3. Individual (degrees of freedom of potential movers)

Faist's approach is also adopted in this research, and the survey includes economic and political conditions, as well as social and cultural reasons, framed as push and pull factors.

Motivations for going abroad are diverse and often the literature has trouble recognising or constructing theories based on all the different reasons why people choose to migrate. One should avoid undue generalisations about mobility at the level of individuals (Williams and Balaz 2008b: 178). A theoretical explanation for migration is to maximise returns on education and skills. Economic theory especially considers individuals like other forms of capital behaving as autonomous and rational units, moving between environments according to demand and supply. The propensity to migrate and actual movement, however, is more complicated. The questionnaire is designed to capture different motivational factors, including structural (economic, social and political); professional (career development and academic qualifications), and personal. The interviewees were additionally probed about why they chose to go abroad and come back, with the intention of understanding influential factors, from "individuals at one end, through families, groups, sub-national organisations, nations, supra-national organisations and the entire international system at the other end" (Hammar *et al.* 1997: 14). The push and pull factors are based on those used in surveys developed by other authors (Williams and Balaz 2005; Tung and Lazarova 2006). In terms of 'push' factors, the survey incorporates the influence of Serbia's recent political and economic problems. In the past three decades in China, it has been argued that financial incentives must be matched with improvements in human rights before return is considered (Huang 1988; Biao 2005:12). On the other hand, others argue that politics has little effect, and instead other aspects such as the prospect of self-realisation and professionalism in the workplace are key (Biao 2005: 13). Indeed, Grecic's

(1995) survey on Serbia highlighted the importance of personal self-improvement, as well as policies attracting scientists and highly-skilled personnel.

Employment, migration and other activities since graduation (questions 11 – 17)

These questions concern occupation and tendency to migrate. The responses are used to test for peripherality within the workplace (Hypothesis 4), international orientation of the workplace, and whether people are currently looking for work abroad. Question 15 asks about length of time worked in the current job in order to contrast the responses of newcomers and non-newcomers. Newcomer status is a proxy for peripherality although of course people also enter workplaces in senior positions where they have responsibility and are thus from the outset central to the operations of the workplace. In the analysis, this is called non-peripherality. Question 16 asks if the workplace is Serbian or foreign. This is a proxy used to see whether the workplace has any international connections or dimension to its operations. The two types of workplace are compared throughout the research.

Question 17 asks whether people are currently looking for work abroad. Those looking for work abroad therefore have high re-migration potential and through a comparison of the two groups (looking for work abroad and those not) the research will shed light on the significant factors contributing to dissatisfaction with the post-return experience.

Knowledge and competences gained abroad and their role in obtaining employment (questions 18 and 19)

Question 18 deals with the aspects of international experience that are considered instrumental in gaining employment in Serbia. The statements, related to Hypothesis 2, are designed to measure knowledge recognition as well as point to the potential for successful knowledge transfer, which is dependent on the demand for these skills in the home country (Tung and Lazarova 2006). Serbia has experienced large-scale highly skilled migration, and the responses could highlight scarce and abundant knowledge in the labour force. Alternatively, the results could show that in Serbia internationally convergent business practices and ways of doing things have yet to diffuse in the economy, and as a result there is little demand at the workplace level for the knowledge that mobile individuals carry. Question 19 focuses on the factors that discourage return. The range of factors is based on other studies of Serbian migrantion (Grecic 1995), and includes economic and political, crime and corruption, bureaucracy and infrastructure.

Views on and retrospective evaluation of time abroad (questions 20 – 24)

This section asks respondents to rate the value of types of knowledge acquired abroad, covering a range of skills that studies show migrants acquire abroad (Bolino and Feldman 2000; Balaz and Williams 2004; Williams and Balaz 2005). The factors that respondents are asked to rate are divided broadly into two; the first half covers formal qualifications and explicit knowledge, whereas the latter is concerned with more intangible personal development. Balaz and William's (2004: 228) found that many returnee Slovak students from the UK valued professional or technical skills less than the opportunity to study and work in a different cultural environment. Specific questions also ask about knowledge distinctions identified by Blackler (2002), based on the format used by Williams and Balaz (2008a). Questions 20 – 22 also ask respondents to state whether they believe skills can be acquired in Serbia as well as abroad, in order to gauge which skills are considered scarce in Serbia.

Using knowledge and skills in the workplace (questions 25 – 36)

Many of these questions deal with knowledge transfer and satisfaction in the workplace. They are designed to correlate with the theoretical conditions of knowledge sharing: the nature of the knowledge, motivations for sharing, opportunities for sharing and the culture of the work environment. Question 25 approaches the tacit/explicit knowledge distinction by asking respondents how easy it is for them to transfer their knowledge. Question 26 asks respondents about levels of satisfaction with aspects of work before and after the migration experience.

Question 27 asks about knowledge transfer mechanisms and learning channels and management oversight in the workplace (Hypotheses 3 and 7). Further probing of management oversight is also included in questions 27 and 29 (and question 32). Questions 25 – 33 are based on corporate theories of workplace knowledge transfer. Responses are also compared according to for-profit and not-for-profit sectors, and whether people are looking for work abroad, which are also relevant for hypotheses 2, 3 and 4. Questions dealing with management oversight and autonomy in the workplace are used to test hypotheses 6, 7a and 7b.

Question 30 probes about the respondents' ability to transfer their knowledge to colleagues according to the tacit/explicit and specific/general distinctions. The statements are designed to test for tacitness by asking respondents to assess their ability to transfer knowledge through methods such as observation, teamwork and participation. This channel presupposes tacitness. Interviewees are also asked about the application of knowledge and the channels through which their knowledge can be transferred, which helps to identify the tacit/explicit dimension (Bonache and Brewster 2001; Ipe 2003). By also asking about learning from colleagues through observation, the responses point to the importance of tacit knowledge in the workplace more generally. Specificity and generality are assessed by asking whether respondents believe their skills are applicable to different work environments.

Questions 31 - 33 measure respondents' perception of their own career trajectory. Respondents are asked if their acquired work standards are in conflict with the prevalent work culture of their colleagues. Questions 30 and 32 ask about relations with work colleagues, which can influence knowledge transfer (Hypothesis 5). Studies have found that individuals assume opinions and preferences that are similar to (socially) connected group members and emphasise or create differences to unconnected members in order to gain acceptance (Phillips *et al.* 2004). Individuals with similar outlooks will converge in opinion and perspective and exaggerate differences with others. This process leads to an 'othering' of colleagues who do not share the experience and perceived values and goals of the socially connected group. Social work bonds encourage connected members to focus on commonly-held knowledge. As Thomas-Hunt *et al.* (2003: 475) write: "Socially connected members may become so focused on maintaining their social connections that they focus more on contributing the knowledge possessed in common with those to whom they are socially connected rather than focusing on or sharing the knowledge they uniquely possess." Both data collection instruments ask if returnees interpret the reaction of their colleagues to them as envy, due to their international experience and knowledge, which can inhibit the sharing of knowledge. Knowledge that contradicts or challenges current work practices is not shared by individuals in peripheral positions: "Despite the possibility that socially isolated group members in heterogeneous groups may both be preoccupied with social acceptance, the mechanism used to gain or maintain this acceptance is likely to differ" (Thomas-Hunt *et al.* 2003: 467). In some cases, returnees believe their knowledge makes their position in the firm 'dangerous' for colleagues and managers without the same knowledge, and consequently they find that they are not utilised as much as local recruits (Berthoin Antal and Walker 2011: 11). Question 32 also assesses interaction challenges that also touch upon knowledge recognition, management oversight and conflicts with colleagues. Question 33 concerns general challenges, including job insecurity, country readjustment issues and family and personal problems.

At the interview stage respondents are asked to comment on the overall level of their skill utilisation in Serbian work environments (Hypothesis 2), the obstacles they face in fully utilising their skills, and how they cope with situations of mis-utilisation or under-utilisation of their knowledge (see Annex 7). The interviewees were probed about their position in the workplace and relationships with colleagues (Hypotheses 4 and 5). Obstacles to knowledge transfer need to be negotiated as employees move along the continuum from peripheral to within-group member, or from stranger to friend (Williams 2007a: 370; Nagel 2005). Studies have shown that some returnees are aware of the need to avoid behavior that could be interpreted by local colleagues as arrogant, and acting as though their knowledge is superior to local knowledge (Berthoin Antal and Walker 2011: 17). Depending on the work environment, returnees could encounter resistance from colleagues, particularly those who resent the attitude and status of returnees.

The interviewees were asked about knowledge management techniques to circulate knowledge (Hypotheses 3 and 7). For instance, one method is to rotate employees between jobs so they gain different skills. In this way, no one set of skills and responsibilities is limited to one person, and if someone leaves or is absent, other employees can cover them (Ashton *et al*. 2008). Following Szulanski (1996) and Ipe (2003) the participants are asked about knowledge transfer: motivation to share; opportunities to share and context of the transfer. This is a structure on which many studies of knowledge transfer are based (Hau and Evangelista 2007: Lyles and Salk 1996).

The complete data collection protocol is summarised below in Table 2.1:

Table 2.1 Summary of data collection protocol

Survey data	Interview data
Pre-migration status and experience: education and employment	
- Gender and age - Pre-mobility occupational status - Education level - Host country(ies) - Year of migration(s)	- Factors that influenced the migrants' choice of country / education / employment abroad - Past migration experience. Countries and periods, work places
Motivations and determinants for migration abroad	
- Pull factors for moving abroad - Push factors for moving abroad	- Opinions on the social / economic / political situation in Serbia prior to their departure - Factors influencing the decision to choose a particular migration channel and destination
Experience upon return to Serbia	
- Return motivations - First occupational status in Serbia - Migration after initial return to Serbia - Country of residence at time of survey - Occupational status at time of survey - Intentions to migrate again - Opinions regarding measures to foster return and diaspora investment in Serbia - Opinions regarding the lack of return to Serbia - Career advancement	- Occupational profile since return to Serbia - Validation of migrants degrees and qualifications (nostrification) - Use of language skills - Opinions regarding facilitating measures to foster return and diaspora investment in Serbia - Opinions regarding brain drain in Serbia - Intentions to stay in Serbia - Levels of satisfaction with post-return life in Serbia - Difficulties encountered by returnees since their return to Serbia: (e.g. housing, reintegration, re-adaptation, employment; low salaries; administrative and bureaucratic problems) - Changes in occupation, income, and status
Experience abroad	
- Opinion regarding importance of experience abroad in career - Opinion regarding factors that	- Full occupational profile of migrant while abroad - Language skills - Problems encountered with the host society

discourage return migration to Serbia - Education and qualifications picked up abroad - Professional training abroad - First occupational status abroad - Last occupational status abroad before returning to Serbia	- Unless arranged beforehand, length of time needed to gain employment in host country - Differences between work environments in Serbia and the respondent's host country - Role of networks in the flow of information, goods, money, services and people - Tensions with local population
Skills development and utilisation	
- Opinion regarding relative importance of foreign work experience	- Acquired knowledge and competences - Examples where these skills have been used - Confidence and other tacit skills - Explicit skills
Acculturation	
- Opinion regarding integration in host society	- Discussion of the problems returnees encounter in Serbia
Workplace	
- International experience versus that of colleagues - Work experience before and after migration - Ability to use skills and knowledge in work environment - Firm management and colleagues - Remuneration - Levels of autonomy and responsibility - Interaction with colleagues	- Characteristics of knowledge: Competences (content related and practical / attitudes and values / learning / methodological / social and interpersonal) - Aspects of the individual (motivation to share, etc) - Aspects of the recipient of the knowledge (motivation to learn, etc) - Context of knowledge transfer (organisational structure, etc) - Instances where knowledge transfer has been observed - Importance for skills and knowledge utilisation for job attitudes
Knowledge	
- Tacit / explicit and specific / general - Reception and recognition by colleagues and managers - Ability to transfer knowledge easily -	- Characteristics of the knowledge: Tacit / explicit continuum; Specific / non specific knowledge - The source of the knowledge (individual); recognition of knowledge; motivation to share; trust; capacity to share - The recipient of the knowledge: Recognition of knowledge:

motivation to learn: absorptive capacity / learning capability
- Context of the transfer: Organisational culture: interaction between workers: management oversight, strategies and procedures: type of tasks (routine, etc)

2.3 Sample description

The threshold for inclusion in the survey was a minimum of three months spent abroad, though in a few cases, participants' international experience was gained over several trips. The three-month period is also used by Williams and Balaz (2005) as a minimum time needed for people to realise the potential benefits of being abroad. During this initial intense period, the learning curve is at its steepest (Williams and Balaz 2005: 463; Li *et al.* 1996). In addition, following Salt (1997: 5), this research defines highly skilled as tertiary educated or having professional experience. All the survey participants and interviewees had returned to Serbia since 2000. The sample is diverse, including the five types of migrants described by Mahroum (1999). Following Bonache and Brewster (2001: 150-51) the sample reflects individuals in a variety of workplaces in contrast to an exclusive sample of workplaces that could be more narrowly defined as 'knowledge-based organisations' (Bonache and Brewster 2001: 151) or 'knowledge-intensive' (Millar and Salt 2007).

The majority of data collection work took place during a fieldwork period between June and December 2009. Further questionnaires were also collected after December 2009, as respondents were re-contacted and reminded to return questionnaires. The method of locating appropriate respondents for the questionnaire was mainly through contacting a) alumni organisations representing people who have been abroad as part of educational or internship programmes, b) universities and research institutes; c) foreign-owned firms; d) government ministries; e) Serbian-owned companies in innovative sectors such as IT and electrical engineering; f) NGOs and g) international organisations operating in Serbia. Links made through these enquiries led to a 'snowball' data collection method, taking advantage of both the speed and coverage of modern technology, such as the internet, as well as individuals' personal networks and relationships, as other authors have done when building a sample of return migrants (Berthoin Antal and Walker 2011: 5). In addition, a pilot survey to test the questionnaire was conducted in March 2009 involving the alumni of a US academic scholarship programme. The pilot survey was used to test readability and phrasing of the questions. Feedback showed some repetition in the questions and that some questions were too long or too complicated. In response, the language of the questions was made as simple as possible and some questions were dropped to avoid repetition and confusion of the participants.

As with the survey, interview participants were contacted by targeting alumni organisations, government ministries, foreign firms, research and academic institutions and Serbian firms. In some cases where survey respondents' contact details were known, an interview was requested. Similarly, interviewees were also asked if they would complete the survey. In total 43 interviewees completed the survey. The snowball method was also employed by asking people if they knew others whose profiles met the criteria of the sample. The majority of interviews took place in Belgrade, but a significant number of respondents were also found in the city of Novi Sad. Other potential sites for return migrants, such as the cities of Nis and Kragujevac, were also explored but there was minimal participation from these locations. In-depth semi-structured interviews with returnees provide the bulk of the data and are used as a basis for the qualitative comparative analysis (QCA) described in Chapter 8.

The for-profit (FP) sector includes private companies, foreign and domestic as well as multi-nationals. The not-for-profit (NFP) sector includes NGOs, universities, government agencies and departments and international bodies. Certain differences are associated with the sectors. For instance, cost cutting is assumed to be more stringent in the FP sector, as well as performance related pay and bonuses (Tung and Lazarova 2006: 1858). The FP sector is more likely to recognise the value of foreign business practices (Tung and Lazarova 2006) and to recognise the value of foreign-acquired knowledge, which should mean that workplaces in this sector present more promising environment for individuals with international experience.

Given the nature of migration as a topic, and the chosen data collection methods, this research cannot make a claim of representativeness or replicability. However, this research follows Winchester (1996), Findlay and Li (1997) and Goss and Lindqvist (1995) in advocating for an interview approach because it provides more in-depth autobiographical data with which to test existing theories as well as hypothesis generation. By complementing the interviews with survey data the process of theory testing and building is more robust (Williams and Balaz 2005; Tung and Lazarova 2006). Although the research took place in the absence of reliable population frames, it does cover a broad base of mobile individuals, including students, professionals, entrepreneurs and scientists. In this way, it follows in the steps of Williams and Balaz (2005) who similarly lacked a reliable population frame in the case of Slovakia but who were nonetheless confident that the sample had 'purposive' value. This must be considered a symptom of the exploratory nature of the research. These are issues recognised by other studies on international mobility (Tung and Lazarova 2006). It is also important to point that not all the questions in the surveys were completed. These missing values explain why the responses for different segments of the survey total less than 164.

2.3.1 Sample of survey participants

The survey respondents are summarised in Table 2.2 and the interviewees in Table 2.3. Additional information on the dates and times of interviews can be found in Annex 1. When they could be identified and contacted, surveyed individuals were asked if they would be willing to be interviewed. Hence, there is some overlap between the survey and interview participants (43 interviewees completed the questionnaire). The survey participants were contacted initially through alumni associations of international education programmes funded by foreign governments including the Ron Brown Alumni Association (US) and the Chevening Alumni Association (UK). Further substantial groups of participants were found through the Zoran Djindjic Fund, the World University Service 'Brain Gain Programme', the 'Euraxess Serbia Researchers in Motion' internet portal and the Serbian Ministry of Diaspora. In all cases, for reasons of data privacy, the questionnaires were circulated by database managers themselves. Consequently it is not possible to know the response rates. In addition, through attendance at various conferences in Serbia on brain gain, entrepreneurship and European integration, further contacts were made. Finally, recommendations were requested from participants and more respondents were located through this snowball method. The interviews were conducted in English, although requests for participation were sent out in English and Serbian. The questionnaire was available in English and Serbian. The majority of interviews were conducted face-to-face and recorded. Some, however, were conducted by telephone. The interviews were transcribed and responses were grouped and compared according to thematic analysis, based around the data collection protocol described in Table 2.1. Apart from the four individuals who returned as part of short-term knowledge transfer programmes, the research does not discuss the experiences of individuals who are currently abroad and have decided not to return. Given the thesis's focus on individuals' experiences of return in Serbia, particularly in the workplace, this is not a significant limitation.

Table 2.2 Profile of survey participants

Questionnaires returned	164
Gender	
Male	88 (54%)
Female	75 (46%)
Total	*163*
Age	
20 - 30 years	69 (42.1%)
30 - 40 years	78 (47.6%)
40 - 50 years	16 (9.8%)
> 50 years	1 (0.6%)
Total	*164*
Activity abroad	
Working in a privately owned company	42 (27.1%)
Working in an academic institution	28 (18.1%)
Working in a government institution	2 (1.3%)
Working in a not-for-profit organisation	5 (3.2%)
Working for a state owned company	1 (0.6%)
Working for an international NGO/diplomatic	4 (2.6%)
Pursued a course of education	72 (46.4%)
Was unemployed	1 (0.6%)
(Education)	72 (46.4%)
(Non-education)	83 (53.5%)
Total	*155*
Sectors	
For-profit	47 (30.7%)
Not-for-profit	106 (69.3%)
Total	*153*
Length of time abroad	
3 months	12 (7.8%)
6 months	26 (15.8%)
1 year	36 (21.9%)
2 years	40 (24.4%)
3 years	6 (3.6%)
5 years	14 (8.5%)
>10 years	30 (18.3%)
(<1 year)	74 (45.1%)
(>1 year)	90 (54.9%)
Total	*164*
Type of work in Serbia	
Working in a privately owned company	42(28.6%)
Working in an academic institution / research institute	32(17.7%)
Working in a government institution	15(10.2%)
Working in a not-for-profit organisation	22(12.4%)
Working for a state owned company	3 (2%)

Working for an international NGO/diplomatic	9 (6.1%)
Other	24(16.3%)
Total	*147*
FP sector	45 (30.6%)
NFP Sector	102 (69.3%)
Total	*147*
Tenure with current employer	
< 1 year	33 (24.6%)
1 - 3 years	17 (12.7%)
3 - 5 years	39 (29.1%)
5 years or more	45 (33.6%)
(< 1 year)	33 (24.6%)
(> 1 year)	101 (75.4%)
Total	*134*
Currently looking for work abroad	
Yes	39 (29.3%)
No	94 (70.7%)
Total	*133*

The time spent abroad varied from the minimum of three months to individuals who had been born and raised abroad. 45.1 per cent were abroad for a year or less and 54.9 per cent for over a year, including 30 (18 per cent) who were abroad for over ten years. Almost half, 46.4 per cent went abroad for educational reasons (as part of scholarships or school exchanges). For the purposes of the research, the remaining cohort (53.6 per cent) are considered have gone abroad for 'non-education' reasons. The majority, 69.3 per cent, work for the not-for-profit sector. Newcomers (in the job for less than one year) comprised 24.6 per cent of the sample, while 33.6 per cent had been with their current employer for over five years. Of those who responded, 70.7 per cent remarked that they were not currently looking for work abroad. The survey respondents and interviews had experience of over twenty countries, the majority in North America, Europe, Australia and New Zealand. Almost 54 per cent of the survey respondents were male. Three countries are highly represented in the sample; many went to Germany and Austria as part of the Zoran Djindjic Fund programme and the US as part of US-funded scholarship programmes.

2.3.2 Sample of interviewees

Sixty-one interviews were undertaken during the same fieldwork period. Of these 53 are classed as Serbian individuals with international experience currently working in Serbia. An additional four interviews were conducted with Serbian individuals currently living abroad but who returned on short-term knowledge transfer programmes sponsored by international organizations, and four interviews were conducted with foreign managers working in Serbia. This group represents a separate category of interviewees and provides a useful perspective on employers views on the differences between local staff and those with international experience, and whether this makes a valuable or unique contribution to the firm. The sample, minus the foreign managers (57), is analysed in Chapter 5 (International mobility and the individual), Chapter 6 (Knowledge), Chapter 7 (The workplace – interviews and survey data) and is used during the qualitative comparative analysis (QCA) section of the research described in Chapter 8. As with the survey respondents, the interviewees comprise a broad base of experiences. A summary of the interviewees is presented in Annex 1. They include a range of time spent abroad from those born abroad, to university students who spent a semester at a foreign university. The sample, described in Table 2.3, includes people working for government bodies, universities, research institutes, state-owned companies, private companies and transnational companies.

The survey sample includes only return migrants. Due to limitations of time and resources it was not possible to include local colleagues of returnees or managers, although this would have been valuable for giving an additional perspective of knowledge transactions. As other studies on this subject have also argued (Berthoin Antal and Walker 2011), future research could study returnees and their colleagues. Incorporating all related actors in addition to the returnees themselves would have required a different research design (such as participant observation), which would have been difficult to administer, would have likely reduced the sample of returnees and, by extension, the number workplaces where they were employed. Given the focus on returnees' perspectives, the analysis is based on respondents' personal interpretation of their experiences in the workplace. The perspective of colleagues and managers would of course be useful to compare to those of the returnees, but this thesis focuses on returnees' own experiences and perceptions, which influences their personal levels of satisfaction with life and work in Serbia and their motivation to share knowledge.

Table 2.3 Profile of Serbian interviewees

Total	57
Number living in Serbia at time of interview	53
Number of interviewees who also returned completed surveys	43
Gender	
Male	34 (59.6%)
Female	23 (40.4%)
Total	*57*
Age	
20 - 30 years	26 (45.6%)
30 - 40 years	16(28.1%)
40 - 50 years	10 (17.5%)
> 50 years	5 (8.8%)
Total	*57*
Activity prior to coming to Serbia	
Working in a privately owned company	23 (40.3%)
Working in an academic institution	8 (14%)
Working in a government institution	0 (0%)
Working in a not-for-profit organisation	1 (1.7%)
Working for a state owned company	0 (0%)
Working for an international NGO/diplomatic	4 (7.1%)
Pursuing a course of education	20 (35.1%)
(Education)	20 (35.1%)
(Non-education)	37 (64.9%)
Total	*57*
Length of time abroad	
3 - 6 months	9 (15.8%)
6 – 12 months	6 (10.5%)
1-2 years	6 (10.5%)
2-5 years	11 (19.3%)
5-10 years	11 (19.3%)
>10 years	13 (22.8%)
Born abroad	1 (1.7%)
(<1 year)	15 (26.3%)
(>1 year)	42 (73.7%)
Total	
Type of employer in Serbia	
Working in a Serbian privately owned company	12 (21%)
Working for a foreign privately owned company	3 (5.3%)
Working for TNC	4 (7%)
Working in an academic institution / research institute	18 (31.6%)
Working in a government institution	6 (10.5%)
Working in a not-for-profit organisation	9 (15.8%)
Working for an international NGO/diplomatic	4 (7%)
Self-employed	1 (1.7%)
Total	*57*
FP sector	20 (35.1%)
NFP Sector	37 (64.9%)

Tenure with current employer	
< 1 year	30 (52.6%)
1 - 3 years	4 (7%)
3 - 5 years	9 (15.8%)
5 years or more	14 (24.6%)
(< 1 year)	30 (52.6%)
(> 1 year)	27 (47.4%)
Total	*57*
Currently looking for work abroad (out of 53 currently in Serbia)	
Yes	9 (17%)
No	44 (83%)
Total	*53*

The majority of interviews (51) took place in Belgrade, six in Novi Sad and four by telephone. The telephone interviews involved participants of an international temporary return programme for Serbian nationals living abroad. Permanently living outside Serbia, the four participants spent less than a month in academic and research institutes in Belgrade, Nis and Kragujevac. Although these people are not currently living in Serbia, they are still relevant as they returned for temporary knowledge transfer reasons, and therefore their experiences are particularly valid. In terms of their work in Serbia at the time of the interviews, 14 individuals were employed in the university sector as professors or teaching assistants, four for research institutes (physics, electrical engineering, chemistry), 12 in private Serbian-owned companies (including architects, engineering companies, marketing, design and IT), nine for Serbian NGOs, six were working for government agencies and departments, four for multinational firms, four for international bodies (such as the EU and OSCE), three for foreign-owned firms and one was self-employed.

3 Migration and brain drain in Serbia

The chapter discusses the parameters that can be used to assess brain drain and brain circulation, before analysing available data and information (according to the identified parameters) on the migration situation in Serbia. The term brain drain implies the sustained outflow of a substantial number of highly skilled people from one country to another, whereas brain circulation is used to describe scenarios when countries experience equilibrium in emigration and immigration of the highly skilled (Wachter 2006: 51-53). Data and surveys (although limited) show the scale of highly skilled migration and levels of migration intent. Second, analogies with countries undergoing similar processes of economic and political integration (notably recent EU accession countries in Central and Eastern Europe) provide context to the Serbian example. This is an approach used by other researchers (Williams and Balaz 2005). Further, government policies can be seen as attempts to create alternatives to highly skilled migration by providing incentives for people to remain in the country and to encourage those who leave to return regularly. Analysis of Serbian government policies indicates a desire to encourage 'brain circulation' similar to the experience of other countries. The chapter then discusses the concomitant factors that are required for these policies to be successful, including economic growth. The chapter concludes that Serbia is largely a country of 'brain drain' that has yet to develop a model of circular migration on a significant scale, as shown by high levels of outward migration, despite government policies directed at this model and nascent efforts to establish links with scientists and researchers living abroad.

Studies have found that return migrants' perception of their experience abroad and recognition of competencies varies according to the level of development of the homeland. Tung and Lazarova (2006: 1863) found significant differences in the importance accorded by respondents to factors influencing employability related to the level of development of the country. Those from medium human development index (HDI) countries stressed the importance of 'previous professional accomplishments', 'knowledge of local culture', and 'business network at home', which might reflect the relative shortage of local talent in medium HDI countries and hence the premium placed on these attributes. Those from high HDI countries assigned marginally significant higher importance to their 'cosmopolitan outlook'. This might suggest a greater abundance of local talent in high HDI countries and might explain the edge that a ‘cosmopolitan outlook’ can play in affecting the probability of securing a desirable job. Serbia has experienced large-scale highly skilled migration, and the responses could similarly point to the knowledge that is scarce in the labour force and that which is relatively abundant. Analysis of the participants’ reponses in this thesis show that in Serbia internationally convergent business practices and ways of doing things have yet to diffuse in the economy, and there is little demand for the knowledge that these individuals carry. In 2010, Serbia’s HDI of 0.735 is above the regional average for Europe and Central Asia of 0.717 but below Croatia (0.767) and Bulgaria (0.743)[5], two countries which Tung and Lazarova (2006: 1857-1858) regard as ‘medium’ HDI countries.

3.1 Migration models: Theory and measurement

In the next section we examine the indicators used to assess whether Serbia is experiencing ‘brain drain’ or ‘brain circulation’. This chapter follows the approach adopted by Balaz *et al.* (2004) that combines data, surveys and comparisons of countries that have similar economic and political trajectories. In addition, it looks at government policies dealing with highly skilled migration. Table 3.1 summarises the four main indicators found in the literature as well as the indicators that show either ‘brain drain’ or ‘brain circulation’. As we shall see below there are several problems associated with measurement, which also serve to highlight the need for a variety of indicators.

Table 3.1 Assessing ‘brain drain’ and ‘brain circulation’

Indicator	Indicates ‘brain drain’	Indicates ‘brain circulation’
Data and surveys	- Data showing permanent highly skilled migration rates - Loss of personal affecting R&D - High migration intentions among professionals and graduates	- Highly skilled emigration exists alongside (regular) temporary return - Low intentions among graduates to migrate permanently
Political and economic transition	- Low GDP per capita and GDP growth rates - Political and economic isolation	- High levels of economic growth - Opportunities provided by economic development

[5]http://hdrstats.undp.org/en/countries/profiles/SRB.html [accessed 1 July 2011]

		- Regional and global political and economic integration
Diaspora and networks	- Low diaspora engagement; low willingness to engage - Lack of developed networks	- High diaspora engagement; networks; strong willingness to engage - Inclusion of diaspora and highly skilled (HS) individuals living abroad in government strategies and action plans; including National Innovation System (NIS)
Government policies	- Directed at discouraging people from going abroad/ providing incentives to remain - Policies targeting key individuals in the diaspora for financial investment, but no further engagement	- Pursues economic and political integration - Establishes databases of individuals living abroad - Policies to raise wages and work standards for key experts - Incorporation of diaspora engagement and return migration in national innovation strategies

Data and surveys

A starting point for measuring migration is to look at official data on the numbers of high skilled who are leaving and entering the country. Sending states rarely keep accurate records of those who leave, and information on educational status is even harder to obtain. The majority of quantitative research into migration uses receiving country data, usually limited to OECD and EU countries (Carrington and Detragiache 1998; Docquier and Marfouk 2004; Beine *et al.* 2001).[6] Using these datasets, researchers attempt to calculate stocks of foreign-born emigrants and the proportions of educational levels within them. It is common practice to apply ratios for all countries based on data from one country. Adams (2003: 9), for instance, assumes that the distribution of education among migrants in the United States is the same for all OECD countries. However, the assumption of identical ratios of skill composition across all countries is also the biggest drawback of the method. In terms of return migration, the OECD (2008c: 164) notes

[6] Even in the EU, there is a lack of data to measure the scale of migration from the ten new accession countries to the EU15 (Kahanec and Zimmermann 2009: 9).

that "there is little in the way of internationally comparable statistical information available on return migration." Attempts to measure the phenomenon, in effect, are hampered by problems of definition of return migration and data availability.

Political and economic transition

Examples of migration experiences in other countries point to potential outcomes in countries at different stages of economic development. In migration literature, economic growth is considered a pre-requisite for large-scale return migration (Lowell and Gerova 2004). China, India and South Korea were early victims of brain drain and also early practitioners of policies to attract return, with relative success; reverse flows took place in these countries during the 1980s and 1990s as economic development offered opportunities for entrepreneurs (Zweig *et al.* 2008: 3). Further, recent research on migration has also argued that economic convergence is the most effective policy to stem highly skilled emigration (Balaz *et al.* 2004: 24). As economic differences between sending countries are reduced, so does the tendency for the highly skilled to seek better wages and career opportunities abroad. As countries become wealthier, the gap between work conditions and quality of life between sending and receiving countries closes, which both mitigates the desire among the highly educated to go abroad and increases the likelihood that individuals from the diaspora will return. As countries become wealthier they can address some of the main push factors. Scientists and professionals, for instance, are attracted by better conditions and wages abroad. The result is that – in extreme cases - in science and other fields, countries lose a generation of highly skilled individuals.[7] The problem is exacerbated if countries are unable to stop temporary migration becoming permanent.

In the EU, the accession of former Communist bloc countries has led to a flurry of academic and policy-driven research. Some have concluded that free mobility of workers is beneficial for both sending and receiving countries and should thus not be restricted (Favell 2008: 703). Existing research points to the potential for migration upon accession to the EU based on other countries' experience. Okolski (2007: 22) predicts that the new EU members will see the same

[7] Wilen (2006) found that the average age of scientists in Bulgaria was much higher than in Germany and the UK, as a consequence of youthful migration.

migration pressures as southern European countries following EU membership in the 1980s, whereby the existence of low wages and over-employment in these economies evolved through the restructuring process to rising unemployment, low wages, adjustment shocks and 'self-perpetuating migration chains' (Okolski 2007: 22). Several countries in Eastern Europe are examining the impact of emigration in light of regional and global integration and some studies suggest that migration is likely to be temporary. Iglicka (2005), for instance, argues that Polish migration to Germany and the UK is short-term. Receiving countries have also carried out research on the nature of immigration from Eastern Europe. The UK Home Office (2008) describes how 60 per cent of applicants in March 2008 planned to stay in the UK for less than three months. Research has tended to conclude that east-west migration is economic, and individuals are driven by dissatisfaction with "economic opportunities in the new states and attracted by better labour market opportunities in the old member states" (Kahanec and Zimmermann 2009: 13). Blanchflower *et al.* (2007) found that the principal determinants of new member migration to the EU15 were correlated to unemployment, quality of life and income per capita. As the economies of EU accession countries improve, their migration profiles are likely to change. Straubhaar (2000) argues that growing economic convergence between EU and CEE countries will reduce migration potential. It is important to acknowledge reservations about the effects of circular migration. Balaz *et al.* (2004:24) argue that rather than being an alternative to permanent migration, temporary migration sows the seeds of permanent migration further along the migration cycle. Overall, the above highlights several critical questions surrounding the determinants and outcomes of migration that remain unanswered due to a lack of data and a too short time frame in which to assess the evolving characteristics of migrant motivations.

Diaspora and networks

China, South Korea and India are countries that pioneered the 'diaspora option' as a means of "storing brainpower overseas" (Biao 2005: 24). They witnessed highly skilled return, both temporary and permanent, by targeting the diaspora and strengthening the channels of temporary migration. Even individuals who choose to remain abroad are still able to participate in development of the home country through business, academic and scientific exchanges (Zweig *et al.* 2008: 4). The 'diaspora option' requires co-ordinated action by the home country, such as academic and scientific networks (Song 2003). Informal connections between individuals are also crucial. Links were established, for instance, between Silicon Valley in California and India and Taiwan thanks to emigrants from these countries (Saxenian *et al*. 2002). The same is argued for industries in the homeland. As Balaz *et al.* (2004:36) write, return migration is "more likely to be innovative where there was critical mass in the level of return [...], migration has been of medium-length, the migrants are well-educated, economic differences between the origin and destination were relatively small, and return was organized in the context of national or regional economic policies." In sum, there are four types of contributions that individuals can make to the homeland (Kuznetsov 2006: 226):

1. Non-commercial financial (private transfers)
2. Commercial financial (investment in commercial enterprises)
3. Provision of critical skills (provision of political leadership: filling of public sector positions).
4. Knowledge transfer (documentation of knowledge and experience, especially in the home country language)

This research concentrates on the third and fourth types – the provision of critical skills and knowledge transfer– since they require physical presence in the country (although all can benefit from partial physical presence).

Government policies

Governments can influence migration patterns in several ways. This is most stark when countries restrict entry to their labour markets. For instance, prior to the 1990s migration between Mexico and the US was characterised as circular but stricter border controls have made it more difficult for people to go back and forth (Newland *et al*. 2008: 4). In the EU, only the UK, Ireland and Sweden initially opened their labour markets to workers from the ten accession countries in 2004, and these countries witnessed large labour influxes from new EU member states (Barrell *et al.* 2007). Countries can also include the diaspora in development strategies, and encourage temporary and circular mobility of the highly skilled. One of the most often cited examples is China, which is said to have been relatively successful in stemming 'brain drain'.

Between 1979 and 2006, one million scholars left China, of which 300,000 returned (Zweig *et al.* 2008: 2). As recently as 1999, one in three postgraduates was emigrating in part because of poor standards of education, resources and teachers compared to the West, and during the 1990s China's policy evolved to the 'diaspora option' and the government enacted policies to encourage the diaspora to help the homeland (Zweig *et al.* 2008). Other countries including South Africa, Colombia and South Korea have established networks to help scholars abroad find employment at home. South Korea and Taiwan are also viewed as countries that 'pioneered' return migration networks and policies during the 1970s. They gave government support to research institutes charged with finding the most talented individuals within the diaspora. Identified individuals were then lured back (with incentives) to accept positions in these institutes or to return on temporary 'testing the waters' trips. The establishment of migrant associations and databases was crucial to these efforts (Wade 2001: 15-16). Balaz *et al.* (2004: 24) argue that governments need co-ordinated policies, covering a range of connected aspects including regulation, trade and investment, remittances, and human capital.

3.2 Serbian migration – 'brain drain' or 'brain circulation'?

Having outlined the indicators, the discussion now uses these to analyse highly skilled migration in Serbia. The structure of the analysis follows that outlined in the previous section.

Data and surveys

Research on migration and return in Serbia is hampered by a lack of formal data, a problem that is compounded by economic turbulence and geo-political changes. No organisations systematically monitor highly skilled migration flows in Serbia. International bodies such as UNESCO, the World Economic Forum, the World Bank and the OSCE have some data but this tends to be incomplete and unusable for assessing longitudinal trends.[8] A second problem with the data is the timeframe (the 1990s and 2000s), which though short, covers a period of radical socio-economic change and in some cases acute material hardship.

[8] One issue is that official statistics conflate Serbia with Montenegro and with Kosovo.

Despite a lack of data, there have been several attempts to estimate the scale of the brain drain in Serbia. The government claims that up to 17,000 tertiary educated graduates left the country during the 1990s (Blic 2010). Vukovic (2005: 143) cites a figure of 40,000 highly skilled (people with tertiary education) since the mid-1970s, of which more than fifty could be described as leaders in their profession. Grecic (2002: 256-257) estimates that between 1990-2000, around 73,000 citizens of Serbia and Montenegro migrated abroad, of which 17,000 had tertiary education. The largest number went to Germany (34 per cent), Switzerland (12 per cent) and Italy (6 per cent) (Vukovic 2005: 141). Research at the Belgrade Institute for International Politics and Economics during 1993, 1994 and 1995 found that almost 1300 researchers (mostly graduated students and PhD researchers from the natural sciences) went abroad in the period 1979-1994. The Minister of Science and Technology, Bozidar Djelic, claimed in 2010 that 2000 graduates have migrated since 2000, of which the majority had been educated in the natural sciences and IT (Blic 2010).

A certain number chose to migrate outside Europe at a time when several countries had relaxed controls in order to attract highly skilled workers (particularly for those with university degrees and scientific research backgrounds). In 1993, Canada, Australia and the US issued 7000, 3000 and 1100 visas respectively for Federal Republic of Yugoslavia (FRY) citizens, more than twice the previous year's number. In the case of Canada, one fourth of issued visas related to highly skilled individuals (Vukovic 2005: 142). In 2001, 6240 people migrated to the US, of which 110 were scientific and engineering experts (Vukovic 2005:144). During the 2003-2004 fiscal year, out of a total of 3330, the United States issued immigration visas to 205 citizens of Serbia and Montenegro who were classed as experts of technical and similar sciences and 75 to managers and other executives (Petronijevic 2007: 94).

The impact of highly skilled migration can also be witnessed in knowledge intensive institutions. Research institutes have particularly suffered. Significant numbers of scientists, academics and managers left the country in the past two decades. As Vukovic (2005: 143) writes:

> The 'brain drain' varies in its intensity; however, the greater number of highly-skilled people from Serbia went abroad in the period from 1990 to 1994, from the Institute of

Nuclear Sciences 'Vinca' and the Institute 'Mihajlo Pupin'; then from the Medical, Mechanical, Technical-Technological and other faculties of the University of Belgrade.

In 2005, 7.3 per cent of physicians (or 1794 individuals) went abroad (IOM 2007:14). At the Nuclear Research Institute a third of senior staff left in 1993 alone - some 70 scientists. As a result of this massive 'brain drain' the former Minister of Science and Technology, Vlastimir Matejic, talked of the country's retreat into a 'pre-industrial era' (Kinser 1993). Finally, to underline the significance of highly skilled emigration, in 2008 the World Economic Forum (WEF) ranked Serbia 132 for brain drain out of 133 countries (WEF 2008: 295),[9] and 136 out of 139 countries in 2009 (WEF 2010). Given this ranking Serbian migration is clearly still a large-scale phenomenon.

Intentions to migrate increase with education. A survey conducted among Serbian students found that 33 per cent of interviewed master and doctoral students and 24 per cent of graduates were considering migration (Pavlov 2009: 21). The research concluded that the most likely potential migrant would be aged between 15-24, either male or female, yet to start a family, and from an urban environment (Pavlov 2009: 28). According to the same research, 56 per cent of Serbian citizens have friends or family living abroad. This percentage rises for people intending to move abroad (Pavlov 2009: 42).

As with outward migration, there is little data on return. Studies on countries for which there is data estimate that between a quarter and a third of migrants end up returning to their country of origin (Meyr and Peri 2009: 5; Lalonde and Topel 1993). In the UK between 1992 and 2002, up to 50 per cent of immigrants left within ten years of arriving (Dustmann and Weiss 2007). In Ireland 60 per cent of immigrants re-migrate within five years of arriving, while in the United States the rate is 19 per cent (OECD 2008c: 171). However, these figures do not differentiate between return migration (to the country of birth) and secondary migration (to a third country). Very few countries keep data on the country of re-migration. Nekby (2006) found that for the period 1991-2000 in Sweden, of those immigrants leaving the country, the return migration

[9] Serbia scores 1.9 on a scale of 1-7. The WEF survey asks: "Does your country retain and attract talented people (1 = no, the brightest normally leave to pursue opportunities in other countries; 7 = yes, there are many opportunities for talented people within the country)."

rate was 72 per cent, and secondary migration 28 per cent. In Serbia, there is little evidence to show that people are returning in significant numbers.

Political and economic transition

Though transition began later than in other countries, since 2000 the Serbian economy has stabilised and opened up to international trade. Serbia is similar to other former centrally-run economies in that labour markets have required radical restructuring, and legacies from this period, such as labour hoarding, bureaucracy and corruption are all obstacles to entrepreneurship that need to be addressed (Mickiewicz 2005: 92). A further general issue for aspiring knowledge-based economies is the quality of the education and training sectors. In many Eastern European countries these systems are poorly adapted to the needs of a modern economy, and Serbia is no exception.

Since Serbia embarked on a process of economic modernisation in 2000, GDP per capita has increased (from US$ 3,391 in 2005 to US$6,647 in 2008).[10] Alongside economic reform, the government has also made efforts towards regional political integration; EU membership is predicted for 2015 or 2016.[11] In April 2008, the government signed a Stabilisation and Association Agreement related to trade issues (European Commission 2009: 4) which obliges Serbia to co-operate on a diverse range of political and economic issues. A crucial development was the lifting of visa obligations for citizens of Serbia (excluding Kosovo) in the Schengen zone from 1 January 2010. Such steps show that Serbia is moving away from the relative isolation of the 1990s. However, Vukovic (2005: 148) predicts that migration is likely to increase as a result of the lifting of visa restrictions and as international connections are re-established in scientific and technical co-operation. It was predicted that with EU accession in 2004, the eight CEE countries would follow the same migration path as previous EU accession countries, by becoming countries of immigration (IOM 2004: iii). Data from CEE countries (whose experience is arguably most analogous to countries in South East Europe that want to join the EU) indicate that integration into Western labour markets increases highly skilled migration in the short term. Previous reports by the IOM (1998) predicted high migration potential among CEE countries.

[10] Source: World Bank data http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?page=1
[11] http://balkans.com/open-news.php?uniquenumber=73333 [accessed 1 September 2010]

The migration potential in CEE countries after accession was a big concern for governments, particularly as research indicated that in some countries, such as Slovakia, typical migrants to old EU states were likely to be highly educated (IOM 2004). As is documented in the case of Poland (Iglicka 2010), EU accession facilitated labour movements in the European space. As it becomes easier to move above, the highly skilled may be lured abroad by better wages and conditions. Despite measures in EU countries to impose limits on workers from the east (in the case of Bulgaria and Romania), the need for plentiful cheap labour in Western economies is likely to win out in the argument for resisting immigration restrictions in Europe. At the same time, experience from countries undergoing rapid economic growth shows that this brain drain model can be transformed into a circular model, although Serbia has not yet reached a level of economic growth that offers the types of jobs that could attract highly skilled from abroad (Pavlov 2009).

The government has expressed a commitment to economic growth based on innovation and "the ability of an economy to translate acquired theoretical knowledge into inventions and new technologies" (Ministry of Economy 2007: 18). In its 2007 *National Sustainable Development Strategy* (NSSD), the government also pledges Serbia to international and regional integration, without which the country "will be marginalised in the long-term, excluded from the flows of information and knowledge" (Ministry of Economy 2007: 19). The government has called for a set of values based on knowledge and education, where growth and innovation are led by the private sector against a background of equal opportunities and an efficient, effective and fair state (Ministry of Economy 2007: 25). As part of a process to restructure the R&D system, the government has initiated support for innovation through technology incubators and science and technology parks (Radosevic 2010: 195). In terms of accessing international knowledge networks, Serbia has been active in the Seventh EC Research Framework Programme (FP7), although evaluations note there is capacity for greater involvement of small and medium enterprises and greater mobility of scientists (European Commission 2009: 40).

The diaspora and networks

The Serbian Ministry of Diaspora estimates that 3.5 million Serbs live abroad (not including in former Yugoslav republics).[12] According to Eurostat, there are 750,067 citizens from Serbia and Montenegro living in EU15 countries, second in size only to the Turkish diaspora (IOM 2007: 6), while figures show a total of 818,612 citizens of Serbia and Montenegro living in OECD states, shown in Table 3.2 below:

Table 3.2 Most recent figures for stocks of Serbia and Montenegro citizens in selected OECD countries

Country	Number
Australia	52,527
Austria	131,492
Canada	58,580
Hungary	25,428
Italy	45,163
Germany	297,004* (2005)
Switzerland	132,826
Netherlands*	53,544
Sweden	66,620
United Kingdom	25, 895
United States	107,284
Total OECD	818,612

Source: OECD (2011)
http://stats.oecd.org/Index.aspx?DataSetCode=MIG [accessed 27August 2011]
* Stock of foreign born by nationality

The official figures in Table 3.2 are most likely underestimates. For instance, HWWI (2007:15) estimated the Serbian population in German to number around 500,000, with a further 200,000 'naturalised migrants'. A further problem in using official data is that Serbia is conflated with Montenegro, and statistics also often include Kosovo. In terms of skills levels, Swiss data shows that 71 per cent of Serbs living in Switzerland are educated to at least secondary education and 15 per cent tertiary[13] (Lerch *et al.* 2007: 20). However, there are some reservations about generating conclusions from the education levels found in diasporas. There are many causal processes involved in migration and return influencing the type of migrant in a country. Balan (1988) argues that these factors of selection can be linked to social structures and opportunities in the sending and receiving countries. In the case of Yugoslav guest workers in

[12] www.mzd.gov.rs/Eng/Contents/ContentPictAboutNumb.aspx?id=48 [accessed 27 August 2011]
[13] Lerch *et al.* (2007) do not specify if they are educated in Switzerland or Serbia.

Germany, the majority of those who returned after the 1973 recruitment freeze in Western Europe were those with low skills and consequently poor prospects for employment. Thus, the average qualifications of the remaining migrants rose (Baraulina *et al.* 2007:15). However, the study also points to a relatively low student enrolment rate in Germany for school leavers of Serbian origin within German universities compared with other minority populations (Baraulina *et al.* 2007:16).

The internal political structure in Serbia had a strong impact upon the level of diaspora involvement (Baraulina *et al.* 2007). During the Milosevic era, Serbian nationalism was exploited as much within the diaspora as it was in Serbia, and the government managed to raise substantial funds abroad. The post-2000 government ignored the diaspora, seeing it as largely pro-Milosevic (Hockenos 2003). According to Vukovic (2005:141) the conflicts in Yugoslavia led to a 'homogenisation' of ethnic identity, but as with many large diasporas, the Serbian overseas population should not be conceived as a homogeneous community (Spoerri 2009). Generations of migrants left under quite different economic and political circumstances that helped to shape their attitude to the homeland. Research conducted on the Serbian population in Switzerland shows that motivations have evolved over time (Table 3.3 below). From the vast majority citing economic hardship before 1990, there is a marked increase in people joining relatives in the last two decades. This also partly reflects more restrictive labour policies introduced during the 1990s that increased family reunification as a migration channel vis-à-vis other economic channels (Petree and Baruah 2007: 20).

Table 3.3 Serbian migration to Switzerland – motivations across decades

	1968-1990	1990 - 2000	2000-2005
Economic hardship	78	63	55
Join relative	16	31	36
New opportunities	7	3	4.5
War and other	1	3	4.5
Total	100	100	100

Source: Petree and Baruah (2007: 20)

Research on the opinions of the diaspora indicates a complex picture of diaspora engagement (SMMRI 2007). A survey found that 81 per cent are satisfied with their life abroad (see Annex 1, Table 2e). Nevertheless 40 per cent indicated that they would probably or definitely return

(Table 2f). Of those considering return, the most important reason cited was personal and family reasons, followed by improvements in the economic environment (Table 2g). Only 15 per cent thought that temporary return was a possibility (Table 2h). However, permanent return is more popular with 35 per cent of those considering this a possibility (Table 2i).

Turning to Kuznetsov's (2006: 226) typology outlined in section 3.2 above, non-commercial finance (remittances) are the most observable contributions made by the diaspora. Serbia is ranked by the World Bank 11th in the world according to the value of remittances, the highest of all SEE countries. The majority of remittances is sent informally and is used for consumption purposes (IOM 2007: 8). Commercial investment by the diaspora is negligible. In 2006, data showed that American companies were the largest investors in Serbia but this is not driven by the diaspora; "although one or two million people of Serbian descent live in the US, émigré ties to the 'homeland' have played little role in driving this investment" (Slipac 2006). Survey results show that only 20 per cent of respondents in the diaspora are satisfied with economic co-operation between the diaspora and Serbia and only 20 per cent signalled that they would be interested in investment in Serbia (SMMRI 2007 – see Annex 2, Table 2j). In terms of political leadership, there are some cases of return migrants occupying senior government posts, such as Bozidar Djelic (Deputy Prime Minister for EU Integration and Minister of Science and Technological Development) who returned to Serbia with degrees from France and the US; and Jasna Matic (Minister of Telecommunications and Information Society) who worked for the World Bank in Washington, D.C.

Examples of networks can be found in Serbia, although there has been little research to assess their effectiveness and impact. First, there are alumni associations of foreign scholarship recipients (Chevening Society, Ron Brown Scholar Alumni Association, Fulbright Alumni Association), of foreign internship programmes (Zoran Djindjic Alumni Network), and international networks of Serbian researchers and scientists (Euraxess – Researchers in Motion). In addition, the Ministry of Science and Technology has a website listing registered Serbian scientists abroad.[14] One benefit of Serbian scientific mobility is collaboration with expatriates in North America and Europe based on individual connections: "Often these former staff members of Serbian research organisations keep in contact with their former institutes and act as contact

[14] http://nasiusvetu.nauka.gov.rs/?lang=eng

points for international research projects, including access to external funding" (IT STAR 2006: 12). Networks have also been set up with external support. The EU-funded Euraxess 'Researchers in motion' web portal allows academics to keep in contact across 35 countries. In 2006 the IOM organised a 'Temporary Return of Qualified Nationals' (TRQN) programme involving 25 Dutch citizens of Serbian ethnicity. The Austria-based World University Service (WUS) has brought hundreds of scholars to Serbia on temporary knowledge transfer trips as part of its 'Brain Gain Programme'. The Zoran Djindjic Fund, founded in 2003, sends between 60 and 70 students and young professionals on internships in German and Austrian companies each year. In contrast to the experiences of countries such as India and China, there is no critical mass of Serbian migrants in any industry or sector abroad. Home-grown outreach efforts to connect key professions with experts in the diaspora, in addition to those initiated by international organisations, are undeveloped and their impact has not been assessed.

Finally, student mobility has gained added importance during the past decades. Because of visa and financial restrictions, student mobility – though limited - became one of few ways through which young people from Serbia could live abroad. Foreign governments and international bodies offer scholarships for Serbian students and professionals, such as the UK's Chevening and the US Fulbright scholarships. Serbia also participates in the EU's Erasmus Mundus and Tempus programmes. Tempus III has enabled Serbian academics to visit universities in Germany, Austria. Italy, France, Portugal, Greece and the UK.[15] A number of other initiatives have been launched to foster co-operation between researchers in Serbia and abroad. This approach has precedents in other countries. For instance, when China first explored the 'diaspora option' in the 1990s, the government initially set up a databank of Chinese students abroad (Zweig *et al.* 2008).

In sum, the diaspora has so far shown muted enthusiasm for engagement with the home country, and it is not leading on investment or establishing networks. The conditions that would generate the environment for this engagement are not in place. For instance, economic development is not perceived as ready for large-scale return. Moreover, networks through which knowledge and expertise can flow are nascent and uncoordinated. The government, however, is starting to implement policies associated with circular migration. These are discussed below.

[15] http://www.tempus.ac.rs/uploads/documents/Tempus%20III%20statistics.pdf [accessed 30 Aug 2010]

Government policies towards migration and the diaspora

A combination of factors is influencing Serbia's approach to the diaspora. A goal of becoming a knowledge-based economy is motivating the government to explore options to slow the brain drain and encourage highly skilled return. These pressures are acknowledged by the government, notably that economic modernisation requires a highly skilled workforce. There is evidence from government policies that, contrary to the situation in the early 2000s, the government is adopting policies found in other countries to explore the 'diaspora option'. From passive indifference and suspicion, there is a shift towards encouraging mobility and engagement, at the same time accepting that permanent return in the short term is unlikely.

Since 2000, there has been an evolution in the government's attitude towards the diaspora. Post-Milosevic governments were initially slow to deal with the problem of highly skilled emigration. According to Vukovic (2005:145), after 2000 migration was "...not now seen as important, and there are no discussions at the national level about it." Martin (2002: 66-77) surveyed the migration policies of the Yugoslav authorities following the fall of Milosevic and identified a paucity of understanding in how to best utilise the diaspora:

> There is general recognition that the expatriate community is a source of both human and financial capital for the economic development of the FRY. The government would like to stimulate the return of qualified nationals who would bring capital back to invest in productive enterprises. Their model appears very ambitious, however, focusing on a few wealthy expatriates who could buy entire companies. They do not appear to be looking at models used in other countries that permit large numbers of expatriates to contribute small amounts to infrastructure or business development.

Serbia's approach towards brain drain and diaspora has been influenced by the political climate in Serbia. Under pressure from the US-based Serbian Unity Congress (SUC), the government established the Ministry of Diaspora (MoD) in 2004. However, the MoD has attracted criticism. Government policies towards diaspora communities are frequently dependent on political machinations, rather than ethnic identity (King and Melvin 1999). The party in charge of the Ministry of Diaspora is often the smallest party in government and is rewarded with the least significant ministry (Spoerri 2009: 16). Its work to date has included a draft (2010) *Law on Diaspora* containing provisions to give voting rights to Serbs abroad and an *Action Plan* describing a number of projects designed to develop economic, political and cultural links with the diaspora.

The *Law on Diaspora* is designed to create a normative base for relations with the diaspora that is not influenced by political machinations: "The Law permanently regulated the policy towards Diaspora, which cannot depend on daily political circumstances or party structures of the Government" (Ministry of Diaspora website).[16] This is an important move to end the discontinuity that follows a change of personnel when new governments are elected. Ministries in Serbia are known to undergo complete staff changes when new parties gain power. The *Action Plan*[17] contains measures relating to research and data collection on the numbers and profile of Serbian diaspora; cultural and social events involving diaspora, legislative issues relating to the diaspora, promotion of investment, business co-operation and tourism, and policy dialogue with the diaspora.

Much of the MoD's work is directed at outreach and symbolic actions to help rebuild confidence and trust: "They contribute to the establishment of political relationships, with important repercussions for the economic activities of the diaspora in Serbia (Baraulina *et al.* 2007: 47). A common way of encouraging co-ethnics to maintain links with the homeland is through cultural engagement. As Smith (1993) has argued, states "can reach out to their ethnic diasporas in low-key ways, such as sponsoring cultural exchanges or lobbying for increased opportunities for bilingual education among co-ethnic immigrants in the host state." The government's draft *Law on Diaspora* includes provisions for educational programmes to promote the Serbian language, as well as the establishment of cultural centres abroad. In response to the draft legislation, the Serbian Unity Congress recommended that the government reverse the decision of the former communist government to revoke citizenship of those judged to represent political threats (Serbian Unity Congress 2009: 2). Clearly political issues are still problematic for the diaspora. The SUC also criticised the lack of a body in Serbia to represent the diaspora, other than government institutions, and recommended that the Ministry of Diaspora be run by members

[16] www.mzd.gov.rs/Eng/News/NewsDetail.aspx?id=45&cid=590 [accessed 27 August 2010]
[17] www.mzd.sr.gov.yu/_eng/docs/action_plan_mfd.doc [accessed 30 August 2010]

from the diaspora (Serbian Unity Congress 2009: 3). The SUC also commented that the proposed legislation had an "unrealistic and guaranteed to fail" infrastructure composed of representatives abroad, congresses and programme councils. The problem is an infrastructure that is sustained by volunteers, which the SUC believes should be replaced by permanent professionals (Serbian Unity Congress 2009: 3).

Since 2000 the government has been more vocal and explicit in its desire to involve the diaspora in its science and technology policies. These moves are led by ministries, notably the Ministry of Science and Technological Development, which is embarking on a multi-million-euro science investment programme partly aimed at the scientific community abroad. For instance, as part of a €200m loan from the European Investment Bank for science and technology, the government has allocated €20m to the return of scientists living in the diaspora and wants to attract the return of 400 highly skilled scientists by 2015 (Blic 2010).

Deterioration in working conditions can cause temporary migration to become permanent. By improving conditions and wages, the government hopes to prevent further large-scale losses from the scientific community. The government has launched a scientific and technological development strategy intended to stem the brain drain by providing better work conditions for researchers, including better infrastructure, accommodation and co-operation with foreign scientific institutions (Ministry of Science and Technological Development 2009). The strategy envisions a scenario when scientists from the diaspora return on short and long-term exchanges. Similarly, the government has organised events such as the International Diaspora Youth Leadership Conference in July 2010 in Belgrade, attended by several individuals from the diaspora who had demonstrated their success in sport, business and education.

Government policies are influenced by economic motivations and a desire to emulate countries that have successfully managed to attract the highly skilled to return, such as China, India and Ireland. The efforts to encourage young people to participate in exchanges and visits has precedents in China, where visits were organised by the government for overseas students so they could see how the country had changed (Zweig *et al.* 2008: 6). Other policies in China include allowing scholars to come and go, and offering high salaries for visitors (Zweig *et al.* 2008:6-7). The Irish example is also used as a role model for homeland-diaspora relations

(Tanjug 2010). Many of the most ambitious engagement outreach policies and objectives with the diaspora should be put in context of the government's wish to boost the country's R&D standing. As such, Serbia has identified national R&D priorities, designed to emulate the specialisations that other countries have (i.e. the *Strategy* identifies the UK's specialisations in the areas of energy, e-sciences, genomics, stem cell research, brain research and land usage as defined national priorities). Serbia's priorities are:

- Biomedicine and human health
- New materials and nano-sciences
- Environmental protection and climate change
- Agriculture and food
- Energy and energy efficiency
- Information and communication technologies

It is clear that policies are designed to address some of the key challenges of retaining the highly skilled, such as accommodation and job shortages. In New Belgrade's Block 32, housing units have been built especially for researchers. The Ministry of Science and Technological Development has established a database of experts in the diaspora (www.nauka.gov.rs). The Ministry of Diaspora and the employment service 'Infostud' have also launched a job-search website (www.poslovi.infostud.com) aimed at young people.

Although in the short term brain drain is potentially damaging, many foresee that through co-operation, education reform and economic development, in the long term the possibility for brain gain will improve (Pavlov 2009). Indeed, many of the initiatives that encourage individual mobility show increasing acceptance of the benefits of focusing on temporary return and knowledge exchange recognises the diaspora as "storing brainpower overseas" (Biao 2009: 24).

Return migration in CEE

Several surveys have been carried out on migration potential in CEE countries. Comparisons with countries in CEE that have experienced similar economic and migration patterns suggest potential mobility trajectories. Youth intentions to migrate, particularly university students, point to the likelihood for future highly skilled migration (Balaz and Williams 2004: 235). Experience from other countries in CEE indicates that migration is likely to be young and highly skilled. Straubhaar and Wolburg (1999) found this to be the case for Czech and Hungarian migrants to Germany. Kreiger's (2004) report on the attitudes of EU accession states found that ten per cent of young people in Bulgaria and Romania showed a firm commitment to leave. A UNDP review of youth surveys in 2002-03 found a high tendency to emigrate: 62 per cent in Bosnia, 85 per cent in Macedonia, and 54 per cent in Serbia (La Cava, Lytle & Kolev 2004; Mungiu-Pippidi 2005). This relatively low migration intent among Serbian youth could be explained by the country's relative isolation experienced during the past 20 years, which makes emigration a more daunting prospect. Also, when analysing these figures we must bear in mind criticisms made against opinion-based surveys for not distinguishing between actual migration and intent to migrate (Balaz *et al.* 2004: 8).

Table 3.4 Willingness to migrate in the Western Balkan region

Country	Year	Would like to move to another country (%)	Want to continue living in our country (%)	DK / NA (%)*	Annual GDP growth (%)**	GDP per capita, Current US$**
Albania	2006	32	46	22	5	2,914
	2008	32	48	22	6.5	3,911
Macedonia	2006	25	58	9	4.7	3,127
	2008	22	69	7	4.8	4,664
Serbia	2006	25	63	11	5.2	4,119
	2008	22	75	3	5.5	6,811
BiH	2006	25	61	14	6.2	3,241
	2008	21	74	5	5.4	4,906
Montenegro	2006	39	44	17	8.6	4,339
	2008	20	73	7	6.9	7,859
Kosovo	2006	27	60	13	3.8	Not available
	2008	15	71	13	5.4	Not available
Croatia	2006	12	84	4	4.7	11,045
	2008	7	88	4	2.4	15,637

Source: Gallup Balkan Monitor (2009:3)
* Don't know / no answer
** Source: World Bank data centre http://worldbank.org/indicator/NY.GNP.PCAP.CD/countries

Table 3.4 shows a cross-country survey of migration tendencies and two key indicators of economic transition: annual GDP growth and GDP per capita. The results indicate reduced willingness to migrate in all the countries of the Western Balkans in 2008 compared to 2006, except Albania. Despite high growth GDP rates in Albania (which could inspire optimism about the economic prospects among potential migrants), it appears that GDP per capita rates are more important. Croatia has the lowest proportion of people (7 per cent in 2008) in both years demonstrating a willingness to move abroad, as well as the highest GDP per capita among all the countries (although the lowest GDP growth rates). Albania, at the other end of the scale, has the highest proportion of people (32 per cent) who would like to leave, and the lowest GDP per capita.[18] Similarly, 69 per cent of surveyed Macedonians want to remain living in the country, the second lowest figure of all the countries. Macedonia, also one of the poorest countries in Europe (second lowest GDP per capita in the table), has experienced a significant brain drain. The number of well-educated youth who have migrated since the 1990s is between 12,000 and 15,000, including 15 per cent of the country's degree-holders (Horvat 2005: 84-85). Serbia has the second highest (after Croatia) proportion of people who want to continue living in the country (75 per cent). Further, in Serbia 49 per cent of people surveyed replied 'yes, certainly' to the question "In one year's time, do you think you will still live in Serbia?" (Gallup Balkan Monitor 2009: 3). The response was the highest for all the Western Balkan countries. There are two possible explanations. This may reflect improvements in the economic situation, as shown by the relatively high GDP per capita. It could also be a consequence of the fact that Serbia has been relatively isolated during the past two decades as a result of sanctions and visa regimes. In addition, many people cannot afford to go abroad. The legacy of this reduced ability to travel is that only 15 per cent of young people (under 30) regularly go abroad and 49 per cent have not been abroad in the last five years (Official Gazette 2008: 10). As a result, Serbian youth may be more reluctant and less confident about migration. As theory suggests, temporary migration can lead to circular migration, but since, as it appears in Serbia, few young people have had the chance to go abroad, they have less experience and confidence that would make migration a plausible option (Balaz *et al.* 2004: 12). In terms of wanting to move to another country, 22 per cent responded yes in 2008, compared to 25 per cent in 2006. This ranks Serbia joint second highest (after Albania and the same as Macedonia). The results for Serbia are somewhat contradictory and may be due to data collection issues (the NA/DK column fluctuates between years and countries).

3.3 Conclusion

This chapter has analysed migration according to theoretical models, and provided a descriptive picture of Serbian migration and government policies towards it. Serbia wants to emulate the

[18] Other data also shows high migration from Albania. Up to a sixth of the Albanian population is living abroad, including 40 per cent of academics (Horvat 2004: 79).

‘brain circulation’ model but evidence points to a present situation that closely resembles ‘brain drain’. Studies looking at migration profiles of potential migrations show that almost a quarter of the highly skilled, rising to a third of those with postgraduate education are actively considering leaving Serbia. The chapter shows a significant shift in policy and approach to the diaspora and to international mobility. The government’s position towards the diaspora and towards return migration has evolved from attempts to attract key figures in the diaspora to invest, to a more comprehensive policy of engagement and co-operation. There are attempts to raise wages and provide better conditions for scientific-technical experts. Engagement with the diaspora is becoming more organised and regular. Lastly, international organisations have initiated networks of experts in the diaspora to encourage temporary exchange.

From available evidence, Serbia has not reached the point on its migration cycle seen in India and China. At a certain point of the cycle there should be greater diaspora engagement and more circular mobility. Available data points to substantial and sustained highly skilled migration during the past two decades, including many experts in their fields. Most estimates indicate a large scale ‘brain drain’, a finding underlined by the significant number of visas issued to highly skilled individuals by receiving countries. There are also no figures on return migration. However, surveys show that inclinations to migrate, particularly among youth, are falling. European integration will bring political convergence before economic growth can match that found in migrant destination countries. Therefore, it is likely that Serbia will follow the examples of recent EU accession countries in experiencing highly skilled emigration to the European labour market.

4 Serbia’s transition - international integration, the knowledge economy and the demand for highly skilled migrants

4.1 Introduction

The chapter assesses Serbia’s post-2000[19] (post-Milosevic era) economic ’catch-up’, as it moves from relative isolation to international re-integration, and aspires to become a knowledge-based economy. It follows on from the previous discussion of Serbia’s migration experience and argues that ‘brain drain’ reflects the country’s nascent liberalisation, global integration, and innovation and technological modernisation, since the environment is not yet conducive to attract internationally mobile individuals and the knowledge they carry. The chapter focuses on the national and international processes that influence the reception of knowledge carried by mobile individuals. It argues that the incentives for highly skilled individuals with international experience to work in Serbia, as well as their ability to transfer knowledge, is influenced by levels of international economic integration, the quality of domestic education and training sectors and innovation capacity. This thesis is a multi-level study, and following Williams (2007) it is argued that in order to analyse the impact of knowledge transfer at the return migration stage, it is important to look at the national and global levels, to see the opportunities that are emerging in the Serbian economy for return migrants. Several international comparative data collection projects have generated useful frameworks comprised of diverse indicators, several of which are used here. One means of measuring this capacity is exposure to international trade, and by extension, cross-border business practices, and many of the indicators cited in this chapter are useful for assessing global integration.

The chapter uses conceptual frameworks of composite indicators, including the World Bank Knowledge Assessment Methodology (KAM), which selects key indicators to measure and rank countries according to innovative capacity and preparedness for the requirements of a knowledge-based economy. The KAM uses variables grouped into four ‘pillars’; education, innovation, information and communication technology (ICT), and the economic and institutional regime. Using this framework, the chapter uses additional complementary data and information

[19] For much of the 1990s Serbia was effectively under sanctions and thus isolated. Economic data from the 1990s is largely missing or unreliable.

to show that extensive re-orientation is needed for these 'pillars' to match the needs of a modern economy. In terms of international integration, the chapter analyses trade data and levels of foreign direct investment. The analysis highlights two issues related to knowledge in Serbia. First, the main channels through which globalisation occurs (i.e. foreign direct investment, multi-national companies, trade and regional economic integration) are relatively undeveloped. Consequently, there is little demand for internationally-convergent knowledge in Serbian firms, which are still mainly oriented towards the local market. Second, the diffusion of knowledge is constrained by unreformed teaching and training sectors, which force individuals to go abroad to gain qualifications and knowledge of, for instance, international business practices. A weak knowledge base (underlined by weak demand from employers) and an economy oriented to the local (uncompetitive) market, does not create an environment to encourage return migration, or one that will seek out the knowledge potential of internationally-mobile individuals. If there is low demand for such knowledge among Serbian firms, one factor is the lack of international integration.

4.2 International integration and knowledge

There are two international trends that impact upon how knowledge is conceived and recognised as a transferable commodity. The first refers to international integration, which is a process that can accelerate the international convergence of business practices and standards among firms, rendering knowledge and the acquisition of knowledge increasingly marketable and transferable between locations. Integration occurs through a number of channels including the exposure of local firms to international markets and work practices such as foreign firms entering the domestic market, merging with or acquiring local firms. Knowledge is diffused in this way if foreign firms bring new technologies, management techniques and entrepreneurial skills. They influence the types of knowledge that are deemed valuable. Local firms may also receive export orders from other countries, import technology and make investments abroad (Broadman 2005: 188-189). In contrast, weak international integration of the economy undermines the diffusion of new knowledge, in turn reducing the opportunities and demand for highly skilled individuals who have acquired this knowledge, i.e. individuals with international experience. The second international trend relates to national innovation systems and national aspirations to emphasise the role of knowledge in the economy. The literature on this subject has, in recent years, been dominated by the idea that economic growth is contingent upon the innovative potential contained within stocks of knowledge held in the labour force (OECD 1996; Williams and Balaz 2008b: 38). These two developments are connected since countries want to confront the causes of 'brain drain' and attract highly skilled migrants from abroad to fill identified skills gaps. The knowledge-based economy, and frameworks of measurement are discussed later in the chapter.

In order to assess international economic integration, this chapter uses indicators such as export levels and foreign direct investment levels (FDI). FDI is one channel of integration and is linked with migration since "skilled migration tends to be viewed as engineered by the demands of transnational capital" (Williams and Balaz 2005: 440); the demand for mobile individuals to feed the growth in multinational firms. This is only one aspect, however, and migration is also contingent on economic growth and innovative capacity, among other factors. FDI inflows, as well as the introduction of domestic companies into the production chains of international firms, represent an "important type of integration of the domestic into [the] world economy" (Ministry of Economy 2006: 18). Evidence from other countries highlights the knowledge transfer potential that FDI brings. For instance, Ireland and Costa Rica attracted FDI in strategic sectors that were used to transfer knowledge and know-how to local firms (ILO 2008: 116). At the same time, research on CEE has found that technology and knowledge spillovers resulting from FDI are contingent on absorptive capacity, size and productivity levels within firms (Damijan *et al.* 2008), which are discussed in more detail below. Serbia has reasonable levels of FDI but not in 'greenfield' businesses, suggesting a poor level of innovative and entrepreneurial investment. Large inflows of FDI entered the country during the period 2003-2007, with a high of US$5.6bn in 2006 (Economist Intelligence Unit 2007: 27). Net FDI in 2008 totalled €1.9bn, bringing a total of €13.3bn since 2000, of which 50 per cent has come from four countries: Norway, Austria, Germany and Greece (European Commission 2009: 29). The bulk of foreign investment has come from the sale of state enterprises, notably the large investments by Philip Morris (US) in Nis Tobacco, Telenor (Norway) in the telecoms industry, and others in banking, brewing, petrol and steel. There are signs that Serbia's relative progress on this front is stalling and significant privatisation projects have been put on hold due to the financial crisis (EBRD 2009: 216). 'Greenfield' investments are particularly rare, with the US$95m investment by US company Ball Packaging in an aluminium can factory near Belgrade the only significant example of its type (Economist Intelligence Unit 2007: 29).

Export levels can also be taken as indicators of international economic integration. Data suggests that Serbia is the least integrated among SEE countries. As Table 4.1 shows, Serbia has the lowest proportion of sales revenues accounted for by export receipts, at 6.8 per cent, well below the average for SEE countries of 12.5 per cent (Broadman *et al.* 2004: 110).

Table 4.1 Export density by country in 2002

Country	Export receipts as a % of sales revenue
Bulgaria	15.7
Moldova	15.5
Albania	14.8
Macedonia, FYR	14.1
Croatia	12.4
BiH	10.6
Romania	11.8
Serbia and Montenegro	6.8
SEE average	12.5

Source: Broadman *et al.* (2004: 110); EBRD and World Bank (2002) *Business Environment and Enterprise Performance Survey* (BEEPS2) London and Washington, D.C.
Data available at: http://info.worldbank.org/governance/beeps2002

Compared to other transition countries in the region, Serbia has the lowest percentage of GDP accounted for by exports (see Table 4.2 below). During the 1990s the export share of manufactured goods declined and those of raw materials and goods with limited processing increased, resulting in exports that are dominated by agriculture and raw materials (Broadman *et al*. 2004: 13). According to UN Comtrade, Serbia's top ten export commodities in 2007 comprised metals, food, live animals, beverages and tobacco.[20]

Table 4.2 Exports as a percentage of GDP in 2008

Country	Exports as % of GDP
Bulgaria	50
Macedonia, FYR	41
Croatia	41
Montenegro	34
Romania	33
Bosnia and Herzegovina	32
Albania	29

[20] UN Data http://data.un.org/CountryProfile.aspx?crName=Serbia [accessed 8 October 2010]

Serbia	27
Austria	59
Germany	47

Source: World Bank (2010)[21]

Taking export data from tables 4.1 and 4.2 together, the Serbian economy appears to be poorly integrated into international markets. Table 4.2 also includes data for Austria and Germany, two countries with large populations of people of Serbian origin, and also the destination of many participants in this thesis. The comparison illustrates, on one level, the level of international integration of destination countries for Serbian highly skilled migrations in comparison to Serbia. The impact of Serbian firms' relative isolation from international competition is further demonstrated by employer surveys of barriers to company success. Table 4.3 below shows the results of a survey of small and medium enterprises (SMEs) in which employers were asked to identify the greatest obstacles to business success in their sector.

Table 4.3 Most important barriers to company success (first mentioned)

Rank	Barriers	%
1	Policies, laws and regulations inadequate/lacking/ignored	19
2	Weak economy, inadequate funding/payments/credit, expensive	19
3	Unfair competition	15
4	Bad country, bad political situation, isolation	9
5	Unstable/undeveloped market, low demand	6
6	Out-dated technology, bad infrastructure, lack of material	5
7	Low living standard and purchasing power	5
8	Lack of workforce, lack of skilled, professional workforce	5
9	Bad business practices/products, lack of market information	3
10	Foreign competition	3

None 2%; Other 8%; DK/NA 4%.
Source: SMMRI (2007: 22)

The figures in Table 4.3 indicate that the weak economy and the regulatory and legislative market are considered the most important barriers to business success, and not the threat of foreign competition. This would suggest that local firms are not experiencing pressure from

[21] http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS [accessed 9 October 2010]

foreign firms. In eighth place, with only 5 per cent of respondents mentioning it first, is 'Lack of workforce, lack of skilled professional workforce.' The figures should be seen within the context of the poorly integrated economy since international economic integration exerts pressure on local firms to address skills shortages. Mobile individuals represent a channel of knowledge integration, combining knowledge of local and foreign markets, through the spread of FDI and subcontracting. The relative isolation of the Serbian economy to international influences highlighted above in turn generates weak demand for the type of knowledge that mobile individuals carry. The ICT sector is an exporter of IT services, through outsourcing, and is therefore exposed to international business and trends in the global ICT sector (Stolz 2011). The same survey cited in Table 4.3, when broken down by profession, found that in the ICT and engineering sectors, 'Lack of skilled professional workforce' was the third most important barrier to greater success, behind policies and laws and weak economy. This was the highest scored of all company sectors for this barrier (SMMRI 2007: 25). The ICT industry is an expanding sector in the Western Balkans and is one of the most internationalised in Serbia thanks to foreign clients.[22] In a more explicit question on skills shortages, the survey asked whether employers felt that their workers had the necessary education and skills. Overall, 17 per cent answered at the negative end of the scale (which measures the degrees to which skills were lacking) and 78 per cent positively (degrees to which skills are present) (SMMRI 2007:47). When combined with the low response for 'Lack of workforce, lack of skilled, professional workforce' as an obstacle to company success, such results point to employers' satisfaction with current skills levels. But this should not be read as indicating that Serbia is a knowledge-intensive economy. Instead, it indicates weak demand for globalised skills in local firms. As we shall see below, examination of the education and training sectors suggests that globally-relevant knowledge is not being generated domestically. This result chimes with findings of the World Economic Forum's *Global Competitiveness Report 2008-2009* (World Economic Forum 2008) project in which Serbian employers stated that they had not experienced significant difficulties in recruiting engineers and scientists whilst at the same time recognising that the most talented have left the country (USAID 2008a: 18). While Serbian firms accept that they are not recruiting the best, they nonetheless have employees with sufficient skills for their needs since the economy is still not

[22] ICT companies are specialised in services such as human resources, accounting, payroll and software development (OECD 2009: 146).

fully integrated into regional and international structures, and knowledge of the local economy and local business practices still dominate.

It is difficult to identify a comprehensive list of skills shortages in Serbia given that there is little research into professions and sectors in the country. As other studies have recognised (USAID 2008a; USAID 2008b; Arandarenko and Krstic 2008), the absence of data on Serbia requires a qualitative approach of reform assessment. The lack of cohesive information on the labour market was identified by USAID's 'Compete' project: "Essentially, if one would want to know how many computer programmers, or pattern makers, or digital animators, or film producers in Serbia are employed, or unemployed, what are the wages, and the specific requirements for these occupations, demand and supply at the labour market, future forecast, etc, this would not be possible" (USAID 2008b: 6). There is hence patchy information on the labour market that could be used to assess the skills needed for a knowledge economy. Nevertheless, by most existing measures, Serbia scores badly in stocks of human capital and the provision of soft skills in the national education and vocational training systems. For instance, in the ICT industry, there is a shortage of experienced managers, who have foreign experience in project management (USAID 2008b: 19). The ICT industry is a useful example as one of the most globally integrated sectors in the economy (since most Serbian companies have foreign clients). This recognition that skills shortages exist in the ICT industry reflects the globalised nature of this sector, something that is lacking in large areas of the economy.

4.3 The knowledge economy

Despite a general consensus that technological innovation is necessary for long-term growth, there is no agreement on the best way to measure the knowledge economy or innovation potential and outputs (Grupp and Mogee 2004; Radosevic 2004: 642). This is evident from the emergence of various composite indicators designed to measure innovation. Composite indicators are aggregations of different indicators designed to summarise complex phenomena in a simpler construct (Grupp and Mogee 2004: 1377). This chapter looks at several indicators – the Knowledge Assessment Methodology, the Talent Index, the National Innovation Capacity index, and the European Innovation Scoreboard. Each is designed to measure not just stocks of knowledge (most often through data on enrolment in tertiary education) but also the capacity of the economy to benefit from innovative potential. The use of composite indicators to compare and rank countries according to measurements of innovation, globalisation, international integration and transition is a useful but methodologically flawed approach. They are useful because they condense large amounts of information in easily understandable formats, but missing data, weighting and aggregation techniques, and the potential for data manipulation to support certain arguments are important issues (Freudenberg 2003: 5). The main question is whether composite indicators reflect the reality that they seek to assess and rank countries in a meaningful and accurate manner; in this case do the variables reflect the national innovation system or knowledge-based economy? To minimise these issues, the composite indicators should have a sound conceptual basis, detailed justification of the selected variables and weighting (Freudenberg 2003: 29). The section below discusses the four composite indicators included in this research, highlighting their advantages and possible limitations.

We first turn to the World Bank's Knowledge Assessment Methodology (KAM), which is a composite indicator designed to measure a country's (or region's) development as a knowledge economy. The conceptual framework is described in Box 1.

Box: 1 Conceptual framework of the KAM

The KAM comprises four thematic indicators (called ‘pillars’) of the knowledge economy. As all composite indicators should do, the KAM provides a conceptual framework that explains the phenomenon to be observed and the selection criteria behind the individual variables. The choice of indicators in the KAM is underpinned by the assumptions that successful transition to a knowledge economy involves investment in education and training, ICT, innovation capability, and an economic environment that promotes market activity. The KAM menu contains 80 individual variables, although the basic scorecard cited in this chapter uses only 14 variables (see Table 4.4) subdivided into the four thematic ‘pillars’, which are described below:

1. “An economic incentive and institutional regime that provides good economic policies and institutions that permit efficient mobilization and allocation of resources and stimulate creativity and incentives for the efficient creation, dissemination, and use of existing knowledge.”

The KAM argues that the economic and institutional regime must provide incentives for the creation and use of knowledge, based on effective competition and regulatory policies, which involves rule of law, protection of rights and the absence of corruption.

2. “Educated and skilled workers who can continuously upgrade and adapt their skills to efficiently create and use knowledge.”

The variables under this thematic indicator include adult literacy rates and enrolment in secondary and tertiary education. The KAM argues that education at all levels is important for the generation of innovation as well as the translation of foreign technologies for local use.

3. “An effective innovation system of firms, research centres, universities, consultants, and other organizations that can keep up with the knowledge revolution and tap into the growing stock of global knowledge and assimilate and adapt it to local needs.”

The KAM cites studies (Lederman and Maloney 2003; Guellec and van

Pottelsberghe 2001) showing that increases in R&D expenditure lead to increases in GDP growth and productivity rates. Further, they use the publication of academic scientific papers to proxy for the stock of knowledge, based on a study by Adams (1990) which found that technical knowledge contributed to total factor productivity growth between 1952-1980 in the USA. To indicate the level of innovation, the KAM uses the number of patents granted per capita, receipts from royalty and licence fees per capita and the number of science and engineering (S&E) articles published per million. These are also used by the United Nation's Technology Achievement Index (TAI) for the same purposes (UN 2001; OECD 2008b). Academic scientific papers published per capita, royalty payments and receipts, and US patents obtained per capita) are useful for showing the size of R&D systems, the technological level of industry, and indicate the degree to which the country is integrated into international scientific communities (Radosevic 2010: 187-188).

4. "A modern and adequate information infrastructure that can facilitate the effective communication, dissemination, and processing of information and knowledge."

The KAM argues that ICT has been instrumental in global knowledge transfer and also an important factor in realising productivity gains. This is measured by data on ownership per capita of telephones and computers and internet usage.

Sources: Chen and Dahlman (2005: 4-9); Radosevic (2010: 187-188)

The KAM can be criticised for the relevance of selected variables in reflecting the complexity of the knowledge-based economy. In particular, the indicators used for the education and human resources thematic indicator measure quantity of education rather than quality. As Freudenberg (2003: 9) writes: "Many indicators of performance (*e.g.* innovation, ICT-readiness) may be simple reflections of the level of development of a country or per capita income and highlight problems of causality." A further issue is that comparing countries over time may reflect improvements in data and methodology rather than reflections in the country's performance.

Finally, it could be argued that the pillars outlined in the KAM basic scorecard are too narrow to measure a knowledge economy. The KAM also uses the Human Development Index, which has itself been criticised for methodological flaws and inconsistencies (Freudenberg 2003: 8-9). Despite these reservations, the KAM is a still a useful framework for analysis and country comparisons, which indicate the general direction that a country is heading over time. It provides a valuable assessment for the level of development of incentives and opportunities for those highly skilled individuals who carry the requisite in-demand knowledge, and an environment that is likely to encourage the circulation and transfer of knowledge.

The KAM includes two indexes – the KAM Knowledge Index (which measures potential of knowledge generation) and the Knowledge Economic Index (which assesses the conduciveness of the environment for knowledge to be used effectively). The KAM uses the Knowledge Economy Framework comprising four 'pillars' associated with successful transition to a knowledge-based economy. The World Bank argues that progress in the four 'pillars', summarised in the following way, "are necessary for sustained creation, adoption, adaptation and use of knowledge in domestic economic production..." (Chen and Dahlman 2005: 4):

- Investment in education
- Development of innovation capacity
- Modernisation of the information infrastructure
- Creation of an economic environment conducive to market transactions

The most commonly-used mode of KAM is the 'basic scorecard'. This provides an assessment on a scale from 1-10 of the four pillars using 14 variables, including two performance and 12 knowledge variables (the scorecard uses three variables for each pillar). The first pillar (economic incentive and institutional regime) is designed to take into account whether the environment is conducive to use knowledge effectively for economic development, while the remaining three pillars measure the potential for knowledge development according to a country's "ability to generate, adopt and diffuse knowledge" (World Bank KAM – www.worldbank.org/kam).

Table 4.4 World Bank KAM Knowledge Economy Index for Serbia

Variables		Normalised score[23]
Performance variables		
	Annual GDP growth (%), 2003-2007	6.28
	Human Development Index, 2005	n/a
Four pillars		
Economic incentive and institutional regime	Tariff and non-tariff barriers, 2009	4.76
	Regulatory quality, 2007	3.63
	Rule of Law, 2007	3.63
Innovation system	Royalty Payments and receipts (US$/pop.), 2007	N/a
	S&E* Journal articles / Mil. People, 2005	7.57
	Patents granted by USPTO* / Mil. People, avg 2003-2007	4.73
Education and human resources	Adult literacy rate (% age 15 and above), 2007	5.96
	Gross secondary enrolment rate, 2007	5.69
	Gross tertiary enrolment rate, 2007	n/a
Information and communication technology	Total telephones per 1000 people, 2007	8.36
	Computers per 1000 people, 2007	7.61
	Internet users per 1000 people, 2007	5.00

Source: World Bank KAM
*USPTO = US Patent and Trademark Office
S&E = Science and engineering

Taken together, Tables 4.4 and 4.5 show that Serbia is particularly weak in providing an environment to nurture and benefit from knowledge (economic incentive and institutional regime). Regulatory control and rule of law are low (both 3.63). Innovation has fallen since 1995, while education and ICT have seen small improvements. 'Economic incentive and institutional regime' saw a near four-fold increase from 1.04 to 4.01, though this significant improvement represents a low starting point and the process of 'catch-up' since 2000. In terms of regional comparisons, as Table 4.5 below shows, Serbia's overall score is average among SEE 8 countries. The situation in education is below the regional average. In other areas, it performs

[23] Normalisation is carried out on the data to allow comparison between countries through ranking. The KAM contains raw data from 128 countries, which are ranked according to absolute values for the variables. Subsequently, countries receive a score between 0-10 that reflects their position vis-à-vis other countries (10 being the top score and 0 the lowest). The top 10 per cent of countries receive a score between 9 and 10, the next 10 per cent between 8 and 9, and so on (Chen and Dahlman 2005: 17).

better than the SEE average, although the country lags behind regional leaders.

Table 4.5 Knowledge assessment methodology basic scorecard

Country	Knowledge Economy Index		Economic Incentive and Institutional Regime		Innovation		Education		ICT	
	most recent	1995	most recent	1995	most recent	1995	most recent	1995	most recent	1995
Croatia	7.28	6.72	7.26	4.98	7.67	7.49	6.56	7.05	7.62	7.36
Bulgaria	6.99	6.84	7.14	5.84	6.43	7.17	7.65	7.30	6.74	7.04
Romania	6.43	5.79	6.98	5.83	5.74	4.89	6.47	6.26	6.55	6.16
Serbia	5.74	5.26	4.01	1.04	6.15	7.79	5.83	5.33	6.99	6.88
Macedonia, FYR	5.58	5.17	5.34	4.02	4.67	4.43	5.42	5.23	6.88	7.00
Moldova	5.07	5.11	4.38	3.47	4.79	4.43	6.05	7.00	5.08	5.55
Bosnia and Herzegovina	4.58	4.37	4.26	3.67	3.11	2.93	5.70	4.95	5.24	5.93
Albania	3.96	3.97	4.09	4.67	2.82	3.38	4.97	3.33	3.96	4.50
SEE avg	5.7	5.4	5.44	4.19	5.17	5.31	6.08	5.81	6.13	6.3

Source: World Bank KAM, January 2011

The KAM scorecard shows that Serbia trails SEE countries in many areas, particularly the quality of its regulatory and economic environment and the quality of the education and innovation system. There has been some improvement but Serbia has some of the lowest scores in SEE. Weakness in these areas is likely to act as a hindrance on the country's ability to attract the highly skilled and utilise the knowledge they bring. The next sections focus on thematic aspects of the KAM in greater detail, incorporating further composite indicators that draw attention to the economic and institutional environment, the innovation system and the education sectors.

4.4 Economic incentives and institutional regime

The economic incentive and institutional regime of the economy is important for potential knowledge carriers since it indicates the likelihood that they will find a receptive environment for their skills and competences, and whether or not the country is able to encourage the efficient creation and use of knowledge. As the KAM framework states, the economic incentive and institutional regime includes regulatory quality and rule of law. While these cannot ensure success on international markets, strong domestic competition, adequate regulation and legislation, strong governance and institutions, and low corruption are associated with environments in which firms can grow more competitive (USAID 2008a: 3). Domestic or 'behind-the-border' reforms provide a basis from which to increase competitiveness by instilling the norms and values of international business practices that in turn raise the potential for private sector firms to operate in international markets. From a corruption and weak governance angle, international integration through membership of legally-binding trade agreements (World Trade Organisation, European Union, etc) also facilitates trade by reducing "opportunities for discretionary behaviour and corruption" (Broadman 2005: 204-205). As Table 4.5 shows, Serbia's latest overall KAM score (5.74) is an improvement on 1995 (5.26) but is far behind the leaders in SEE, Croatia (7.28) and Bulgaria (6.99). Other data confirms that Serbia needs to enact reform in regulatory areas and the rule of law. The latest assessments of corruption are not promising. The Transparency International *Corruption Perceptions Index 2010* awarded Serbia a score of 3.5 out of 10,[24] ranking the country 78 out of 178 (Transparency International 2010). Further, according to the EBRD's *Corruption Policy Development and Implementation* report, Serbia had some of the poorest legislation in 2004. However, in 2010 the EBRD noted harmonisation of competition legislation with EU regulations and more powers for the competition commission (EBRD 2010: 4).

There is further evidence to support the KAM's poor assessment of Serbia's economic incentive and institutional regime. Among SEE countries, for instance, Serbia's court system is trusted the least (by surveyed firms) for resolving business disputes and protecting property rights (Broadman *et al.* 2004: 79). The KAM scorecard is also backed up by data from employer surveys. In Table 4.3, the top three ranked barriers to company success reflect the domestic environment within which Serbian firms operate. Competition is seen as unfair, the economy is not strong, and the legislative and regulatory framework inadequate. The most frequently mentioned barriers to company success were related to the quality of policies, laws and regulations. The third most highly ranked barrier was 'unfair competition'. In sum, assessments paint an unpromising picture of the current environment in Serbia. There has been some progress since 2000, but the quality of regulation and the competitive environment are not

[24] Other countries' corruption scores (and rankings): BiH – 3.2 (rank 91); Bulgaria – 3.6 (73); Croatia – 4.1 (62); Kosovo – 2.8 (110); Macedonia – 4.1 (62); Montenegro – 3.7 (69); Romania – 3.7 (69); Slovenia – 6.4 (27).

encouraging, and hence the generation of opportunities for attracting mobile knowledge-holders is likely to be low.

4.5 The innovation system

An effective innovation system encourages the generation and use of knowledge to produce economic growth. The institutions that have direct impact over knowledge are universities, research institutes and other research organisations, such as NGOs and think tanks. Further, a substantial private sector is regarded as a prerequisite for a competitive domestic sector (Broadman *et al.* 2004: 91). This is crucial since the private sector is a driver of reform: “the principal role in the construction of such an economic system is played by private companies, which create new models of doing business and invest in them” (Jelincic 2008: 43). In Eastern Europe, state ownership and control of firms during socialist times was incompatible with innovation and entrepreneurship. The old sector is characterised by inefficiency and labour hoarding (Arandarenko 2007: 28-29). Privately owned small and medium enterprises (SMEs) are now regarded as ‘spearheads’ of technological change and entrepreneurship (Pfirrmann and Walter 2002: 2-5). In this regard Serbia faces significant problems. As Table 4.6 below shows, in 2002 and 2009, along with Bosnia and Herzegovina, Serbia had the smallest private sector share of GDP among SEE countries (Broadman *et al.* 2004: 92). In 2009, the share had increased to 60 per cent, although Serbia is still well below other countries in SEE and the SEE8 average.

Table 4.6 Private sector as % of GDP

Country	2002	2009
Albania	75	75
Bulgaria	75	75
Romania	65	70
Croatia	60	70
Macedonia, FYR	60	70
Moldova	50	65
Serbia and Montenegro	45	60*
Bosnia and Herzegovina	45	60
SEE8 average	59.4	68.1

Sources: Broadman *et al*. (2004: 92); EBRD (2010)
*Serbia only

In addition to the KAM, it is relevant to include other composite indicators with different conceptual frameworks and indicators, which also show that Serbia's current potential to create, attract and benefit from knowledge and skills is poor. Table 4.7 shows that Serbia is ranked last in the 2007 Central and Eastern Europe (CEE) 'Talent Index' comparing 13 countries, achieving a score of 30.9 (out of 100) (Heidrick and Struggles 2009: 5-6). The methodology and conceptual framework underpinning the Talent Index is explained in Box 2.

Table 4.7 Central and Eastern Europe Talent Index 2007

Country	Overall score	Quality of compulsory education	Quality of universities and business schools	Quality of the environment to nurture talent	Mobility and relative openness of the labour market	Stock and flow of FDI	Proclivity to attracting talent
Austria	58.4	77.3	60.2	86.7	63.6	25.3	67
Russian Fed.	54.7	72.8	69.7	52.8	45.1	2.9	57.4
Poland	48.3	68.9	53.1	56.7	48.8	26.7	51.7
Hungary	47.5	77	42.5	56.4	51.2	54.3	34.7
Czech Rep.	50.5	79.3	35.3	68.6	51.9	50.2	51.5
Slovenia	45.2	80.6	48.8	64.4	40.2	13.1	55.8
Bulgaria	44	54.1	15.4	51.7	54.7	87.9	37
Slovakia	45.7	67.8	17.1	59.4	56.7	51.4	51.7
Ukraine	40	72	43.4	36.4	43.5	20.2	31.3
Turkey	34.4	12.5	40.7	47.4	44.3	2.8	27
Romania	36.8	41.6	26.3	42.3	49.6	33.6	39.5
Croatia	36.2	55.8	21.1	49.5	37.8	41.7	36.2
Serbia	30.9	37	6.6	42.8	34.5	39.5	43

Source: Heidrick and Struggles (2009)

Box 2: The Talent Index

The Talent Index is a collaborate project between Heidrick and Struggles and the Economist Intelligence Unit to map and quantify talent in Central and Eastern Europe. The index covers four groups of countries. First, Austria and the Russian Federation are considered the strongest economically because of the former's high GDP per capita and the latter due to its size as an emerging market. The second group comprises recent EU accession countries the Czech Republic, Hungary, Poland, Slovakia and Slovenia. The third group consists of countries that joined the EU at a later stage (Romania and Bulgaria) and those which are working towards membership (Bulgaria, Croatia, Romania and Ukraine). The fourth group consists of Serbia and Turkey, two countries that intend to join the EU but have serious economic and social issues.

Like the KAM, the Talent Index is a composite indicator designed to aggregate different types of data, and to simplify a complex phenomenon. It comprises 46 individual indicators, divided into seven thematic indicators. As with other composite indicators examined in this chapter, the Talent Index includes several measurements of education due to its importance in the domestic development of talent and for attracting talented individuals from abroad. In addition, the Index is designed to not only measure countries' stocks of talent but also their ability to realise potential. The conceptual framework hence incorporates demographics, quality of education (at all levels), the environment to nurture talent, mobility and openness of the labour market, FDI and the ability to attract talent. Under each thematic indicator, individual indicators are weighted according to their importance. This process requires the specialist judgment and input of the project team. The indicators and weighting scheme can be found in Annex 3.

Source: Heidrick and Struggles (2009)

As with all composite indicators, in the Talent Index the scores for the thematic categories can be more revealing that the final score, demonstrating that countries have different strengths and weaknesses. For instance, Serbia performs relatively well (rank 7) in terms of its proclivity to attract talent, an indicator based on the technical skills of the workforce, GDP growth, employment growth and personal disposable income, among others, whilst in quality of education, quality of universities, mobility and openness of the labour market, it receives the lowest or next-to-lowest scores.

A further indicator focusing on innovation is the National Innovation Capacity index, which takes a holistic approach compared to the KAM by measuring innovation according to four dimensions.

The methodology and conceptual framework for the tool measuring national innovation capacity are described in Box 3.

Box 3: National Innovation Capacity index

The National Innovation Capacity (NIC) index measures and compares innovation capacity in Central and East Europe against levels found in EU countries. The innovation of the NIC is its focus on countries' capacity to absorb and gain economic value from R&D, rather than focussing on pools of knowledge. The framework is multi-dimensional, incorporating a range of variables deemed important for determining innovation capacity beyond stocks of knowledge and R&D labour pools. The NIC uses 25 individual indicators grouped according to four themes. The first – 'absorptive capacity' – seeks to measure a country's ability to absorb and adapt new knowledge, which is deemed essential for growth and innovation. Second, 'R&D capacity' is included due to its role in the generation of new knowledge and the mechanisms needed for absorption. The third thematic indicator – 'diffusion of innovation' – measures outputs. Diffusion is the principal means of realising economic benefits from R&D investment. Finally, the demand for innovation is measured using indicators for competition, stock market capitalisation, FDI, unemployment and inflation (macroeconomic stability). This thematic indicator is important because demand is a step towards the generation of value creation. It is assumed that the demand for innovation is contingent on the financial system, the level of competition and macro-stability.

It is argued that the National Innovation Capacity index provides a better assessment of innovation than other indicators, such as the European Innovation Scoreboard (EIS) because of the latter's benchmarking of European economies to the United States, which "has a built-in bias towards technology effort that takes place at the world technological frontier." Since SEE countries are operating "behind the technological frontier" with growth dependent on the adoption and adaptation of imported technology, the authors of the National Innovation Capacity index argue that their composite indicator is a more accurate reflection of technological efforts in the region. A full list of the individual and thematic indicators, and their weightings, are found in Annex 4.

Sources: Radosevic (2004); Kutlaca and Radosevic (2011)

As Table 4.8 below shows, in most areas, SEE lacks an advantage compared to the EU average. Serbia also lags behind neighbouring countries according to many indicators of innovation. Under absorptive capacity, Serbia scores the lowest of all countries in 'participation in life-long learning' (13 per cent of EU average). Serbia has high levels of employment in high tech service industries, probably reflecting growth in the ICT industry. The ICT sector has been one of the fastest growing sectors in Serbia, growing by 36.6 per cent in 2007 and 18.7 per cent in 2008, and it employs around 60-70,000 people (Stolz 2011: 11-23). However, as shown in section 4.2, the sector is also experiencing skills shortages. Studies on the sector have shown that although technical skills (i.e. software development) are strong in the labour market, Serbian universities are not producing enough graduates with the right practical skills and knowledge (Stolz 2011: 23).[25] There is a particular shortage of people with marketing and sales skills that are recognised by companies in the industry as crucial for future development and growth (Stolz 2011: 23; USAID 2008b). A 2008 survey conducted by USAID on skills shortages in Serbian ICT companies identified that nearly two-thirds (64 per cent) of employees lacked soft skills (negotiation skills, communication, time management); 24 per cent technology skills; and 12 per cent basic skills related to appearance and attitude (USAID 2008b).

In all indicators of R&D supply, Serbia's performance is weak, in line with most SEE countries, notably in patent applications and grants. In terms of diffusion of R&D, gaps between the EU average and SEE countries is marginally less pronounced and Serbia performs well in the number of internet users (second highest in the region). Finally, the demand for innovation shows that unemployment is well above the EU average in all countries, including Serbia (fourth highest in the region), and the consumer price index in Serbia is the highest in the region. These indicators point to poor macroeconomic stability. In all countries, FDI levels are relatively high, although

[25] Stolz (2011: 23-24) highlights that there is a contradiction between the demand and supply situation in Serbia for programmers: "On the one hand there is a significant demand for programmers, at the same time there is quite a number of unemployed programmers. The explanation for this lays in the fact that the programmers currently looking for jobs often do not have characteristic or specific knowledge and expertise needed in IT companies."

Serbia is the second lowest, after Albania. In summary, in many areas, Serbia performs not only worse than the EU average, but also in relation to other SEE countries.

Table 4.8 National Innovation Capacity (as % of EU average)

Thematic and Individual indicators	Alb.	BiH	Bul.	Cro.	Mac.	Rom.	Ser.
Absorptive capacity							
Expenditure on education, % of GDP	57.8	-	83.3	82.1	94.8	85.7	82.3
Science and Engineering graduates (% of 20-29 population)	-	-	85.2	56.7	-	118.3	85.2
Population with tertiary education	83.4	56.9	93.7	68.4	60.1	52.9	51.3
Participation in life-long learning (% of working age population)	-	-	14.6	22.9	-	15.6	13
Employment in high-tech manufacturing industries	-	-	77.8	70.1	-	84.9	58.7
Employment in high-tech service industries	-	-	56	65.3	-	37.9	226.7
R&D supply							
Public R&D expenditure (% of GDP)	-	-	49.3	74.6	7	61.2	64.2
Business R&D expenditures (% of GDP)	-	-	12.4	33.1	3.3	14.9	5.4
R&D personnel per labour force	-	-	46.6	53.4	67.1	30.1	57.4
EPO patent applications (per million population)	0	0.2	1.5	4.3	0	0.6	0.4
USPTO* patent grants (per million population)	0	0.5	4.4	7.5	0.9	1	1
Resident patents per capita	-	6.8	14.2	34	7.3	20.1	22.9
Diffusion							
Training enterprises as % of all enterprises	33.2	110.8	48.3	143.3	31.6	66.7	60.9
CVT* in % of labour costs of all enterprises	-	-	68.8	81.3	-	68.8	-
ISO* 9000 certifications per capita	1.7	26.3	85.1	66.5	16.2	60.9	34.7
Internet users per 10,000 inhabitants	38.1	55.4	55.5	80.6	66.3	46	71.7

Fixed broadband Internet subscribers (per 100 people)	8.5	20.8	46.2	49.4	37	48.6	25.6
ICT expenditures (% of GDP)	-	-	120.1	-	-	93.6	-
Demand							
Stock market capitalisation in % of GDP	-	-	46.8	101.9	22.8	26.3	64.1
Domestic credit provided by banking sector (% of GDP)	47.3	41	46.8	52.6	29.9	28.7	26.9
Share of FDI stock in GDP	58.8	123.2	261.1	144.8	135.4	106.8	95
Share of trade in GDP	111.7	90.8	177.3	113.8	161.8	86.7	101.3
Index of patent rights	-	-	104.1	98.4	98.2	95.6	98.2
Registered unemployment	185.7	334.3	80	120	482.9	82.9	194.3
Consumer price index	100.3	106.6	120.3	103.7	104.9	111	121.9

Sources: Kutlaca and Radosevic (2011); World Bank Development Indicators database (2009); UNCTAD; Pact (2008); UNECE; Eurostat; ISO; EIS 2009; ITU; Trendchart; WIPO; USPTO
*CVT = continuous vocational training; EPO = European Patent Office; ISO= International Organisation for Standardisation; EIS = European Innovation Scoreboard
Data from Moldova is not available

The NIC index above shows that Serbia and many countries in SEE still have a long way to go before they reach levels of innovation found in the EU. Serbia is particularly weak in terms of participation in lifelong learning, business R&D expenditure and patent applications and grants. Table 4.9 shows that gross domestic investment in R&D (GERD) fell dramatically as a percentage of GDP between 2002 and 2007, thereby bucking the trend in other SEE countries that have either increased GERD levels or kept them relatively static. Spending on R&D is also dominated by the higher education sector, with only 10 per cent of R&D spending taking place in the corporate sector compared to 60-65 per cent in EU15 countries (Radosevic 2010: 182). In the region, Serbia is average for expenditure on education but low in terms of the proportion of the working population with tertiary education. Many countries in SEE have low demand for R&D and skilled employees, mainly because local firms are not exploiting new technologies. This feature is most severe in Serbia, as Radosevic (2010: 184) writes: “Serbia easily has the biggest demand-supply gap, both because of unsophisticated industries and the inability of local demand for R&D and for skilled employees is relatively weak...”

Table 4.9 Gross domestic expenditure on R&D (GERD) as % of GDP in SEE, 2002 - 2008

Country	2002	2003	2004	2005	2006	2007	2008
Croatia	0.96	0.97	1.05	0.87	0.76	0.81	0.9
Albania	-	-	-	-	-	-	-
Romania	0.38	0.38	0.39	0.41	0.45	0.53	0.59
Bulgaria	0.49	0.5	0.5	0.49	0.48	0.48	0.48
Serbia	0.69	0.54	0.31	0.42	0.47	0.35	-
FYR Macedonia	0.26	0.22	0.24	0.24	0.21	-	-
Moldova	-	0.32	0.35	0.4	0.41	0.54	-
Bosnia and Herzegovina	-	0.02	0.02	0.03	0.02	0.03	-

Source: UNESCO Institute for Statistics database, February 2011
Data for Serbia excludes data from some regions / provinces / states

The final composite indicator, the 2009 European Innovation Scoreboard (EIS), is described in Box 4. The EIS regards Serbia as a 'catch up' country, alongside Bulgaria, Croatia, Latvia, Romania and Turkey. Serbia's innovative performance is well below the EU27 average and the lowest among the 'catch up' countries (European Commission 2007: 12). The performance of Serbia and regional neighbours Bulgaria, Croatia and Romania in the EIS is summarised in Table 4.10 below, alongside the average for EU27 member countries.

Table 4.10 European Innovation Scoreboard, 2009

	Bulgaria	Croatia	Romania	Serbia	EU27
Summary Information Index[26]	0.231	0.286	0.294	0.227	0.478
ENABLERS					
Human resources					
S&E and SSH graduates per 1000 population aged 20-29 (first stage of tertiary education)	34.5	23	47.9	34.5	40.5
S&E and SSH doctorate graduates per 1000 population aged 25-34 (second stage of tertiary education)	0.4	0.52	0.53	0.32	1.03
Population with tertiary education per 100 aged 25-64	22.8	16.6	12.8	16.5	24.3
Participation in life-long learning per 100 aged 25-64	1.4	2.2	1.5	1.3	9.6
Finance and support					
Public R&D expenditures (% of GDP)	0.33	0.5	0.41	0.35	0.67
Venture capital (% of GDP)	-	-	0.051	-	0.118
Private credit (relative to GDP)	0.74	0.65	0.39	0.24	1.27

[26]The Summary Information Index is the composite indicator for the EIS. Scores are given in a range 0-1, with 0 being the lowest. Each country's score is re-calculated within this range relative to the highest and lowest scores found for countries within the core EIS group of countries. See European Commission (2010: 56-57) for a technical explanation.

Broadband access by firms (% of firms)	62	-	44	69.4	81
FIRM ACTIVITIES					
Firm investments					
Business R&D expenditures (% of GDP)	0.15	0.4	0.18	0.15	1.21
IT expenditures (% of GDP)	2	-	2.1	-	2.7
Non-R&D innovation expenditures (% of turnover)	0.79	0.12	1.08	0.8	1.03
Linkages & entrepreneurship					
SMEs innovating in-house (% of SMEs)	15.1	24.4	17.9	27.8	30
Innovative SMEs collaborating with others (% of SMEs)	3.8	9.6	2.9	3.5	9.5
Firm renewal (SME entries plus exits) (% of SMEs)	-	-	8.3	0.1	4.9
Public-private co-publications per million population	1.3	13.3	4.1	2	36.1
Throughputs					
EPO patents per million population	3.5	7.1	1.6	4	114.9
Community trademarks per million population	36.2	5.6	12.4	3.3	122.4
Community designs per million population	12.5	8.8	2	0	120.3
Technology Balance of Payments flows (% of GDP)	0.21	0.43	0.24	0.81	1
OUTPUTS					
Innovators					
SMEs introducing product or process innovations (% of SMEs)	15.7	28.3	19.4	18.3	33.7
SMEs introducing marketing or organisational innovations (% of SMEs)	-	38.1	35.4	18.1	40
Resource efficiency innovators – reduced labour costs	15.9	19.9	18.3	7.5	18.0
Resource efficiency innovators – reduced use of materials and energy	13.2	15.1	14.8	6.7	9.6
Economic effects					
Employment in medium-high & high-tech manufacturing (% of workforce)	5.13	4.62	5.6	3.87	6.59
Employment in knowledge-intensive services (% of workforce)	8.35	9.74	5.66	33.81	14.92
Medium and high-tech manufacturing exports (% of total exports)	24.2	45	44.1	28	47.4
Knowledge-intensive service exports (% of total services exports)	19.1	17	51.8	38.3	48.8
New-to-market sales (% of turnover)	6.7	4.58	4.85	3.02	8.6
New-to-firm sales (% of turnover)	3.59	8.45	13.69	6.99	6.28

Source: European Commission (2010)
S&E = Science and engineering; SSH = Social sciences and humanities; SMEs = Small and medium enterprises

According to the EIS Summary Information Index (the composite indicator value for the EIS), Serbia's relative strengths are in 'Economic effects', particularly in the percentage of workforce employment in knowledge intensive services, where it has over double the EU average. Elsewhere, Serbia's performance is weak, notably in terms of 'Throughputs' and 'Innovators' where the country lags behind both the EU average and regional neighbours. These two thematic indicators are important because they attempt to capture firms' ability to realise the potential of innovation.

Box 4: The European Innovation Survey framework

The European Innovation Scoreboard (EIS) is a composite indicator comprising 29 individual indicators measuring innovation in firms. The EIS is grouped into three thematic indicators. The first – Enablers – measures drivers of innovation that are external to firms, including human resources (stocks of highly skilled and tertiary educated people) and the availability of finance and government support for innovation activities. Second, 'Firm Activities' includes firm investments (that are used to generate innovation); linkages and entrepreneurship (collaboration among firms and in the public sector) and 'Throughputs' (intellectual property rights). The final thematic block – Outputs – comprises 'Innovators' (the number of firms that introduce innovations to the market) and 'Economic effects' (measuring the economic impact of innovation in employment, exports and sales).

Source: European Commission (2010)

The composite indicators and data presented above, though varying in approach and indicators used, highlight that Serbia lacks relative advantage in its capacity to generate, absorb, adapt and realise the economic value of innovation. According to the line of argument presented in the chapter, it therefore follows that Serbia is not yet providing the opportunities and environment to attract individuals with international knowledge, and neither has it the capacity to absorb and utilise this knowledge for growth.

4.6 Education and training

Studies have shown a link between human capital and growth, and countries need to assess the quality and content of education; Hanushek and Kimko (2000) found that quality of education exerts a positive effect upon economic growth. Quality, in this sense, can be understood as the generation of human capital that matches the needs of a modern, globally integrated economy.

This is relevant at different levels. Technological innovation is associated more with higher-level teaching and research but other levels of education and training are important for the reception and adaptation of knowledge from abroad, for monitoring technological developments, and for assessing which types of knowledge are important for firms (Chen and Dahlman 2005: 5). This highlights the degree of overlap between the education and training sectors with the innovation system, since the university sector (tertiary) is the location of scientists and academics where new knowledge is generated, and local researchers who are plugged into global networks so that knowledge is adapted to local use (World Bank 2002).

Countries in SEE started their reform processes with relatively low levels of productivity, and have had to enact reforms in the education and training systems as well as invest in new skills to meet the needs of a market economy (ILO 2008: 32). But the survey results can be interpreted as indicating low demand for globalised skills in Serbian firms. Firms operating in the transition period are still oriented to the local market and for this employers consider existing labour market skills sufficient. Significant reform is needed to address failures evident in the education sectors. As Hargreaves *et al*. (2007: 6) write, it is important to close the "...yawning gap between these preferred futures of knowledge economies and knowledge societies and the current realities of most developing countries, where industrialism, unemployment, subsistence living and vast informal economies define day to day life for most of the population." As a pillar of the knowledge economy, the education and training sectors in Serbia are relevant for mobility and knowledge transfer because of their role in the country's ability to absorb, adapt and diffuse knowledge. The national education system is the principal means that a country has for generating a qualified and well-trained labour force. Investment in education represents an expectation of benefits in the future (Vukasovic 2009: 37). Growth in tertiary education does not necessarily lead to an increase in quality of education. Comparative studies tend to use the percentage of GDP allocated to education but qualitative assessments of education suggest that the systems require extensive reform. Table 4.11 presents data on the Serbian education system.

Table 4.11 Basic data on Serbian higher education sector

% allocation of GDP to education (all levels)	4.74 (UIS 2008)
Number of universities and free-standing faculties	19

Non-university higher education institutions	48
Private higher education institutions	34
Public higher education institutions	33
Students in ISCED 5a programmes[27]	185,778 (2009)
Students in ISCED 6 programmes	2,924 (2009)
Students in public and private higher education institutions	235,940 (2009)

Sources: Vukasovic *et al.* (2009: 70-76), UNESCO Institute for Statistics (UIS), February 2011

The government has committed itself to raising the proportion of GDP allocated to education to EU levels, but latest figures show that there is some way to go. Higher education in SEE has witnessed a massive expansion over the past decades. As Table 4.12 below shows, between 2002 and 2008 the number of undergraduates in Serbia increased by 94.8 per cent, and by 36.5 per cent for postgraduates. Expansion in student numbers does not necessarily mean that students are receiving a high quality education. Tertiary education in developing countries is characterised by conservatism of teaching staff, attachment to tradition, summative rather than formative assessment procedures, all of which are out of step with the needs of a knowledge-based economy (Hargreaves *et al.* 2007: 14). Alongside international integration, this chapter argues that education is a key structural factor impacting upon Serbia's ability to nurture and adapt knowledge.

Table 4.12 Growth in tertiary education in SEE countries 2002-2008

	ISCLED 5A (Undergraduate) % increase 2002-2008	ISCLED 6 (Postgraduate) % increase 2002-2008
Albania	-	-
Bosnia and Herzegovina	-	-
Bulgaria	7.2	56.1
Croatia	79.3	93.7
FYR Macedonia	209.5	70.6
Moldova	57.8	54.3
Romania	287	22.1
Serbia	94.8	36.5

Source: Radosevic (2010); UNESCO Institute for Statistics Database
Note: ISCLED 5A for Romania covers period 2004-2008

[27] International Standard Classification of Education (ISCED-97) defines fields and levels of education. ISCED levels 5 and 6 concern higher education. ISCED 5 is divided into ISCED 5a and ISCED 5b. The former includes university degree programmes and also MA programmes. ISCED 5b refers to programmes which are vocational, practical, technical and occupation. They are designed to provide a direct link to the labour market/ ISCED 6 concerns advanced research qualifications (Vukasovic *et al.* 2009: 25).

Serbia faces a range of challenges in adapting its education and training sector. Although the education system was well respected during socialist times, it suffered during the 1990s from funding cuts and sanctions that affected foreign financial backing, stifled technological development and excluded the country from international scientific exchange programmes (Economist Intelligence Unit 2008: 13). Tables 4.5 and 4.7 show that a) Serbia's most recent KAM score for education (5.88) is relatively low, especially compared to the highest scoring country in SEE (Bulgaria with 7.65); and b) that the quality of its universities and business schools is extremely poor. Other composite indicators (the EIS and NIC) also show the resources devoted to education and the proportion of the population with tertiary education fall far short of EU averages. Assessed according to the needs of a knowledge-based economy, the quality of education from primary to tertiary level is generally regarded as deficient. According to the Talent Index summarised in Table 4.7, Serbia is scored second lowest in terms of the quality of compulsory education, lowest for the quality of universities and business schools (Serbia received a score of 6.6 out of 100 in 2007), based on gross enrolment ratios, expenditure per student and global rankings of its educational institutions (Heidrick and Struggles 2009: 9-12). Other studies show that Serbia's PISA (programme for international student assessment) results are below OECD averages, as well as regional neighbours Croatia and Slovenia (ETF 2009: 8). Expenditure on education in Serbia in 2006 was 3.5 per cent of GDP, well below the OECD basement recommendation of 6 per cent (Ministry of Economy 2007: 33). The Serbian education system is out-dated, rigid and inefficient, with poor assessment standards, lack of quality assurance, and a lack of necessary skills of students (Ministry of Economy 2007: 34).

These problems are compounded by a deficient adult education sector. Data and information on adult education and lifelong learning is sketchy, though it is clear that provisions for adult education and lifelong learning have deteriorated over the past decades. A UNESCO report (2008: 2) outlined the key issues for the adult education sector, including: insufficient funding, 'undefined status of teachers in state administration' and a lack of systematic evaluation and monitoring of standards and participation in the sector. There is a range of institutions and organisations that provide formal and informal adult training and education but no data is kept on all the different types (UNESCO 2008: 25-26). However, existing data shows that there are schools for basic adult education (in 2005/06 there were 19 schools with places for 2653 people); secondary schools as providers of adult education (where adults are treated as part time students); higher education institutions (universities); and workers and open universities (these numbered 200 in Yugoslavia in 1990 and 20-25 in Serbia today). A range of adult training is available in principle from the National Employment Service (NES), universities, within companies, private training agencies and NGOs, though the quality of this training is not considered high (Harasty *et al.* 2007: 29). In terms of human capital development VET schools play a marginal role in retraining and continual education (ETF 2009:2).

Another key issue is the role of enterprises in the training process. Entrepreneurship is a new concept in the Serbian VET sectors and the 2009 *National Action Plan* provides for its inclusion (Ministry of Education 2009: 13). The *National Action Plan* also commits itself to the "Development of a new model of socio-private partnership among the state, educational institutions, science and economy" (Ministry of Education 2009: 21). Although the concept of lifelong learning is gaining acceptance in Serbia, the capacity of companies, the majority of which are medium to small enterprises, to give this to employees puts a further question mark over this aspect of skills upgrades. In Yugoslav times, a system of on-the-job training was well developed. In the transition period, training in firms has fallen considerably (Harasty *et al.* 2007:29). In 2003, the proportion of companies offering employees formal (as opposed to on-the-job) training to their employees was only 31 per cent (World Bank 2004: 67).

An important first step in the reform process is a national dialogue on education and training (ILO 2008: 33). *The National Action Plan for the implementation of the strategy for the development of the vocational education and training in the Republic of Serbia 2009-2015* (Ministry of Education 2009) recognises the need for greater communication between the VET sector and the needs of the economy. To these ends, the action plan foresees improvement in: Legislation and regulation and integration of stakeholders; a system of quality assurance and assessment; a system of standards to ensure quality; policies directed at youth and national minorities; and modernisation of training in secondary and tertiary education in line with international processes (Ministry of Education 2009: 4-5).

Most teachers already employed will need upgrading in subject and pedagogical skills and the *National Action Plan* contains clear guidelines for a strategy of teacher professionalisation based on continuous professional development. As part of the EU integration process, Serbia pledged in its *National Programme for Integration with the European Union* (2008) to raise the quality of education, through the creation of teaching standards and the establishment of a National Qualifications Framework. The most important shift in the education sector's approach to knowledge is away from the absorption and repetition of facts (Jelincic 2008: 50). In the current system, practical application using case studies is poor and few teachers are able to teach 'soft skills' such as communication skills (USAID 2008b: 16-17). As Arandarenko (2007: 23) writes: "... as in many other formerly planned economies, the predominant approach to teaching and learning in Serbian educational institutions is based on memorization, which only builds strength in the acquisition of facts or just solving familiar problems." There are some concrete signs that reform is being implemented. Reform of the education system has seen new curricula in high schools designed to meet the needs of the changing economy. New VET pilot programmes have been enacted since 2002 although only seven per cent of individuals in the VET sector are covered (Maksimovic 2009: 8).

Although there has been some progress, several reports have highlighted the problems Serbia faces in raising levels of human capital. The 2009 European Commission progress report on Serbia's EU accession strategy notes little progress in relation to human and physical capital, particularly in terms of the education sector's ability to meet the needs of the labour market: "The gap between demand and supply of skilled employees continues to be an obstacle to increasing foreign direct investment and developing new branches of the economy" (European Commission 2009: 29). In terms of education, the report found that Serbia had made no progress in lifelong learning (LLL) since 2001 (European Commission 2009: 39). More broadly, the problem of LLL rests at the societal level: "There is no general acceptance of LLL concept or its recognition by society, which defines it as a desirable social objective, although declarative acceptance of education and learning as values exists" (UNESCO 2008: 17).

4.7 Conclusion

Taken as whole, the composite indicators for innovative capacity, national data and cross-country comparisons highlight the poor economic starting point for Serbia's transition process and the economy's relative isolation from international markets. Each dimension assessed in this chapter is relevant from the perspective of migration and knowledge transfer. Export and FDI data indicate the level of international economic integration, which is important for diffusing globally transferable business norms, values and skills that highly skilled mobile individuals have acquired. Analysis of this data, as well as surveys of firms, highlights Serbia's lack of international integration. The World Bank KAM provides a framework for assessing Serbia's readiness for a knowledge-based economy. Comparative data shows that Serbia is uncompetitive and relatively isolated from the global economy. At the same time, surveys show that employers are not signalling a shortage of skills. This indicates that there is low demand for internationally convergent skills due to an orientation of firms to the local, rather than global, market. Enterprises exposed to international markets, such as those in the ICT sector, are more likely to have difficulty in finding employees with appropriate skills.

Analysis of the education and training sectors confirms that these skills are not being generated domestically. While many of the problems facing Serbia are generic to transition countries, a specific problem in Serbia is its late transition starting point, and the weaker position from which it began this process. Serbia has some of the most serious economic and social challenges in the region. Despite respectable levels of FDI (which help to accelerate global convergence in business practices and create a demand for certain types of knowledge), there is a low demand in Serbian firms for the kinds of knowledge that would reflect economic integration with foreign markets. It should be noted that the weak demand for innovation is not unique to Serbia; the weakest feature of most CEE countries' national innovation capacity is their ability to generate demand for innovation (Radosevic 2004: 655).

Openness to international influences and trade can exert pressures that lead to greater competitiveness in domestic firms, greater demand for the knowledge carried by mobile individuals, and to reform of the education and training sectors. In Serbia the education and training sectors are still suffering from decades of under funding and remain well below European standards. The composite indicators show that Serbia's education is poorly prepared for a knowledge-based economy. This assessment, based on basic data of adult literacy rates and educational indictors, is backed up by qualitative studies suggesting that profound reform is required. Qualitative assessments conclude that the quality of education and training does not meet the standards required of a knowledge-based economy.

The previous chapter argued that Serbian migration was characterised by 'brain drain' but that government policies were aimed at a 'brain circulation' model. In this chapter we find that government policy is aimed at the creation of a knowledge-based economy but that in reality there has been little progress in creating a conducive environment. 'Brain drain' and 'brain circulation' are relevant in terms of raising the quality of human capital, but government strategies only refer to knowledge transfer through mobility in marginal ways. Despite a lack of data on labour force skills by type and level, this chapter has also found that the education and training sectors are also not providing the skills needed in a knowledge-based economy. Further, Serbian enterprises are not providing the scope and quality of training needed in a modern economy.

A further dimension focuses on the national innovation system, which in theory should nurture entrepreneurship and shape the relationship between the VET and research sector, government and business. Government strategies have addressed the need for a national innovation system but these rarely recognise the role of brain circulation as a potential driver of innovation. This is an oversight since circular and return migration have important roles in innovation systems. Mobile individuals are key carriers of entrepreneurship and dynamism, alongside foreign business. The latter, as a more tangible and measurable goal, has unsurprisingly attracted attention: "…it is important to ensure that foreign companies establish as many links as possible with the domestic economy by connecting with local suppliers, local software developers and other service providers" (Jelincic 2008: 43). Brain circulation is increasingly considered an optimal model for countries undergoing transition that are not yet in the position to generate the skills needed in a knowledge economy domestically, but countries cannot gain economic value from this knowledge unless they have absorptive capacity.

In summary, certain prerequisites must be in place before a country can attract highly skilled migrants to assist in the development process. First, the country must be in a position to make use of human capital; and second, it must be able to provide an attractive social and political system (Fisher *et al*. 1997: 122). According to the dimensions covered in this chapter, Serbia's capacity and preparedness for the knowledge-based economy is weak. It is also argued that this directly influences the demand for knowledge held by individuals with international experience, which impacts not only upon the 'brain drain' but also upon knowledge transfer.

5 International mobility and the individual

5.1 Introduction

Previous chapters highlighted ‘brain drain’ and macro-level relative isolation from international markets and trade. This chapter presents analysis of the interviews and survey data showing that individuals want to experience life in other countries, and to a lesser degree to gain qualifications and to acquire skills that are relevant for international careers. In terms of reasons for returning, friends and family are frequently mentioned in contrast to economic motivations because, for many people, the economic justification for return is not yet salient. Nevertheless strong personal connections facilitate return for those looking to explore career possibilities in Serbia and represent a positive lifestyle counterpoint to any frustrations experienced in the workplace.

In order to test and generate hypotheses, the survey group is divided according to key distinctions, including age and length of time spent abroad. There is a general agreement that younger people have a higher inclination to migrate due to “higher levels of aspiration” and are more willing to tolerate frustrations, such as low paid jobs, and have fewer ties (children or financial commitments) in the host country (Krieger 2004: 19). King (1986) argues that the length of time abroad matters since people need to be abroad long enough to gain knowledge but not so long that they lose cultural connections. Analysis of the survey results is used to test Hypothesis 1 concerning accumulated cultural distance related to the length of time spent abroad.

Since a substantial proportion of the survey recipients went abroad to pursue education courses, the sample is also divided according to education and mobility for other reasons. Education is a very specific reason to go abroad, one that most often has a defined time limit, and is associated with particular experiences. Finally, the intention to remain in Serbia is measured using the proxy question in the survey that asks whether the respondents are currently looking for work abroad.

5.2 Motivations to go abroad

The first set of survey questions sought to determine the push and pull factors that contribute to the decision to go abroad. Eight pull and nine push factors are listed, derived from theoretical literature on migration and existing studies described in Chapter 2. In addition to personal and professional reasons, the survey includes socio-economic and political issues that may contribute to the decision making process. It attempts to capture, as far as possible, the diverse range of factors mentioned in the literature that influence the decision to go abroad, combining personal, professional, financial and structural reasons, and Faist's (1998) levels of analysis cited in section 2.4. These include questions on the relative quality of research and quality of life abroad compared to Serbia. It asks whether participants gain a good impression of living abroad from others (given that sizeable Serbian communities exist around the world), and whether there is a strategic plan for increasing employment prospects (which points to a desire to maximise chances of employability on the labour market). The survey also asks about the political and economic situation in Serbia and abroad, about the employment market, crime and corruption, and the uncertainty of a future in Serbia. The results for 'pull' factors are shown in Table 5.1 and those for 'push' factors in Table 5.2.

Table 5.1 How would you rate the following as 'pull' factors influencing your decision to move abroad? (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
A new professional and personal experience		114	32	3	4	1	0.71	154	4.65
	%	74	20.8	1.9	2.6	0.6			
A good academic and professional reference		99	41	9	2	3	0.83	154	4.5
	%	64.3	26.6	5.8	1.3	1.9			
Positive impression of living / working / studying abroad from others		47	45	33	16	11	1.22	152	3.66
	%	30.9	29.6	21.7	10.5	7.2			
High standards of research abroad		55	41	24	11	20	1.38	151	3.66
	%	36.4	27.1	15.9	7.3	13.2			
Prospects of getting well-paid permanent job after graduating		33	41	42	20	19	1.28	155	3.32
	%	21.3	26.5	27.1	12.9	12.2			
Better living standards in general abroad		30	37	46	22	16	1.24	151	3.28
	%	19.9	24.5	30.5	14.6	10.6			
Economic / political stability abroad		22	33	43	17	35	1.36	150	2.93
	%	14.7	22	28.7	11.3	23.3			

Opportunity to earn additional income	31	21	39	28	35	1.43	154	2.9
	20.1	13.6	25.3	18.2	22.7			

5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important

As with other studies on return migration (Williams and Balaz 2005), potential welfare gains rank highly as motivational factors. When asked about their decision-making process to migrate, the vast majority (114, or 74 per cent) rated 'a new professional and personal experience' as 'fundamentally important'. This proved to be the most important pull factor, followed by 'good academic and professional reference' (mean 4.5). This concurs with previous surveys showing that self-improvement is a critical factor in influencing migrations in Serbia (Grecic *et al.* 1996). Structural factors related to quality of life, economic and political stability proved to be less significant incentives.

One of the four highest ranked motivations is a positive impression of being abroad gained from people with international experience who the respondents know (mean 3.66). Although the survey was not able to measure the strength of network connections, the interviews also confirmed that people consult contacts to get advice and to hear about life in other countries. Networks that lead to outward migration may contain people living abroad or those who have returned, whilst networks that influence return migration usually involve family and friends living in the home country. This was elaborated in the interviews and is described in greater detail below.

The opportunity to earn extra income was ranked lowest. Long-term career development was also ranked lower than the opportunity to experience life and work abroad. Finally, relative economic and political stability was ranked second lowest. The lowest scores were given for economic and political stability. This probably reflects the temporary nature of the migration experience, particularly for those whose time abroad was limited by visa-related or financial restrictions.

In order to compare the scores according to whether the respondents went abroad for education reasons or otherwise, two groups were generated, dividing the sample according to those who went abroad to pursue a course of education and those went for other, non-education reasons (all other categories).[28] According to the new variable, 46.4 per cent of respondents reported that they went abroad to pursue a course of education, and 53.6 per cent for a variety of other reasons, including work, trainings and internships. The results were also analysed according to comparisons of groups based on age; people 30 years of age and over in one group and the under 30s in the other (42.2 per cent were under 30 at the time of the survey compared to 57.8 per cent who were 30 and over). The motivations of respondents who went abroad for education and those for other reasons were compared and significant differences were found.

Table 5.2 How would you rate the following as 'pull' factors influencing your decision to move abroad? (comparison of means)

	Age versus youth			Abroad for education			Time spent abroad		
	<30	>30	t	Edu	Non-edu	t	<1 yr	>1 yr	t
Prospects of getting well-paid permanent job after graduating	3.37 (1.22)	3.28 (1.33)	ns	3.39 (1.24)	3.18 (1.31)	ns	3.91 (1.4)	3.4 (1.16)	ns
Positive impression of living / working / studying abroad from others	3.97 (1.02)	3.44 (1.31)	2.67 ***	3.39 (1.17)	3.94 (1.17)	2.78***	3.77 (1.28)	3.56 (1.18)	ns
A new professional and personal experience	4.83 (0.38)	4.52 (0.85)	2.69 ***	4.57 (0.65)	4.72 (0.71)	ns	4.85 (.39)	4.47 (0.88)	3.38***
A good academic and professional reference	4.6 (0.68)	4.43 (0.91)	ns	4.44 (0.87)	4.58 (0.74)	ns	4.57 (0.68)	4.42 (0.94)	ns
Opportunity to earn additional income	2.75 (1.24)	3.01 (1.55)	ns	2.85 (1.27)	2.98 (1.58)	ns	2.73 (1.37)	3.04 (1.47)	ns
High standards of research abroad	3.53 (1.46)	3.76 (1.32)	ns	3.54 (1.39)	3.76 (1.34)	ns	3.41 (1.46)	3.87 (1.27)	-2.08**
Better living standards in general abroad	3.33 (1.14)	3.25 (1.31)	ns	3.36 (1.28)	3.21 (1.35)	ns	3.11 (1.26)	3.42 (1.2)	ns
Economic / political stability abroad	3.16 (1.35)	2.77 (1.36)	ns	3.11 (1.33)	2.71 (1.37)	ns	2.8 (1.39)	3.02 (1.32)	ns

*** p< 0.01; ** p<0.05; * p<0.10, ns = not significant at p<0.10 level

The results in Table 5.2 show that two significant differences exist between those who spent less than a year abroad and those more than a year abroad. Those who went abroad for less than a year attributed greater importance to the acquisition of a new professional and personal experience (t=3.38, df=151, p=<0.01) and those who spent more than a year abroad rated better standards of research higher (t=-2.08, df=148, p<0.05). These findings suggest that

[28] Such as working for a private firm, NGO, and in academia.

people who are away for longer value better work- and education-related conditions more than shorter-term migrants. The results may also reflect a bias in the sample, namely scholarship holders and internship awardees, whose length of time abroad is often a year or less. Significant differences were also found between respondents pursuing education and those who went for other reasons. People who went for education reasons were less likely to rate the importance of a good impression of abroad from others. The non-education cohort ranked this factor third, compared to joint fourth for the education group. This is probably a reflection of the relative prevalence of information sources for institutionalised education opportunities, for instance web-based sources or literature provided by local universities and educational exchange programmes. Conversely, the respondents who went abroad for other reasons rely more on personal advice and recommendations, in the absence of institutionalised mobility channels. Finally, the under 30s group rate a positive impression of life abroad from others ($t=2.67$, $df=150$, $p<0.01$) more - third in importance compared to fourth place among the over 30s cohort. A significant difference was also found for the opportunity to gain a new professional and personal experience abroad ($t=2.69$, $df=152$, $p<0.01$); the under 30s group rated this pull factor higher. This difference (though it should be remembered that both groups score this factor highly) could be explained by the fewer opportunities for foreign travel for younger people, most starkly evidenced by the fact that 70 per cent of Belgrade University students have never left the country (International Crisis Group 2005: 8).

The respondents were next asked to rate a series of ‘push’ factors. As with the ‘pull’ factors, Table 5.3 lists a range of structural, professional and personal influences on the decision-making process.

Table 5.3 How would you rate the following as ‘push’ factors influencing your decision to move abroad? (absolute numbers)

	5	4	3	2	1	SD	Total	Mean
Political uncertainty	51	46	23	10	24	1.41	154	3.58
%	33.1	29.9	14.9	6.5	15.6			
Your standard of living in Serbia	42	43	25	14	28	1.44	152	3.37
%	27.6	28.3	16.4	9.2	18.4			
Housing problems	27	39	37	18	32	1.39	153	3.07
%	17.6	25.4	24.2	11.8	20.9			
Lack of possibilities for the realisation of own ideas	25	34	43	20	30	1.35	152	3.03

	%	16.4	22.4	28.3	13.1	19.7			
Unavailability of jobs in your profession		23	33	42	26	28	1.32	152	2.98
	%	15.1	21.7	27.6	17.1	18.4			
Economic instability		24	31	40	23	31	1.36	149	2.96
	%	16.1	20.8	26.8	15.4	20.8			
Corruption		23	26	46	22	35	1.35	152	2.87
	%	15.1	17.1	30.3	14.5	23			
Crime		10	24	38	26	51	1.29	149	2.44
	%	6.7	16.1	25.5	17.4	34.2			
Uncertain future		14	17	26	24	71	1.37	152	2.2
	%	9.2	11.2	17.1	15.7	46.7			

5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important

Comparing the results in tables 5.1 and 5.3, it is clear that, overall, the respondents gave much higher scores for ‘pull’ factors. The highest ranked ‘push’ factor - political uncertainty - received a mean score of 3.58, followed by the standard of living (3.37). Respondents were largely indifferent to economic and career related issues; a majority - 98 (64.4 per cent) - awarded ‘unavailability of jobs in specialism’ a score of 3 (the neutral value) or below. A significant proportion of the sample comprises young people who enrolled at university abroad or took part in international exchange programmes. Hence, they have not developed a professional orientation. Youthful optimism is potentially also captured by ‘uncertain future’ which was ranked the least important push factor. Issues concerning corruption and crime were also ranked low. Taking the results in tables 5.1 and 5.3 together, the results indicate that personal development through experiences of another country, combined with formal qualifications are the most important pull factors, whilst political uncertainty is the most important disincentive to staying in Serbia. Standards of living as push and pull factors attracted similar scores and socio-economic issues are generally considered unimportant. Differences according to age, whether respondents went abroad for education or other reasons, and according to length of time spent abroad were also tested.

Table 5.4 How would you rate the following as ‘push’ factors influencing your decision to move abroad? (comparison of means)

	Age versus youth			Abroad for education			Time spent abroad		
	<30	>30	t	Non edu	Edu	t	<1 yr	>1 yr	t

Lack of possibilities for the realisation of own ideas	2.87 (1.34)	3.13 (1.35)	ns	3.04 (1.33)	3.06 (1.33)	ns	2.75 (1.38)	3.25 (1.27)	ns
Your standard of living in Serbia	3.36 (1.41)	3.39 (1.48)	ns	3.42 (1.48)	3.37 (1.42)	ns	3.07 (1.45)	3.62 (1.39)	-2.39***
Uncertain future	2.05 (1.42)	2.32 (1.33)	ns	2.32 (1.44)	2.09 (1.31)	ns	2.06 (1.38)	2.31 (1.35)	ns
Housing problems	3.01 (1.31)	3.11 (1.45)	ns	3.01 (1.3)	3.11)	ns	2.76 (1.35)	3.33 (1.37)	-2.58***
Economic instability	3.19 (1.43)	2.79 (1.28)	ns	3.1 (1.39)	2.84 (1.29	ns	2.95 (1.53)	2.96 (1.19)	ns
Unavailability of jobs in your profession	2.83 (1.33)	3.09 (1.31)	ns	2.97 (1.31)	3.05 (1.32)	ns	2.63 (1.35)	3.27 (1.22)	-3.06***
Political uncertainty	3.55 (1.42)	3.61 (1.4)	ns	3.65 (1.33)	3.58 (1.45)	ns	3.36 (1.56)	3.76 (1.24)	ns
Corruption	2.97 (1.39)	2.79 (1.33)	ns	2.92 (1.34)	2.81 (1.32)	ns	2.7 (1.46)	2.99 (1.24)	ns
Crime	2.37 (1.25)	2.48 (1.32)	ns	2.52 (1.34)	2.38 (1.24)	ns	2.16 (1.3)	2.67 (1.23)	-2.44***

*** p< 0.01; ** p<0.05; * p<0.10, ns = not significant at p<0.10 level

No significant differences were found according to age or by education/other reasons for going abroad. The results, however, indicate that standard of living frustrations were higher for people who spent more than a year abroad (t=-2.39, df=149, p<0.01). Hence, it appears that poor living standards in the home country spur people to look for opportunities that involve longer periods abroad (longer education courses, for instance) or they seek to extend their time abroad in other ways. Housing problems were also more likely to keep people abroad for longer (t=-2.58, df=150, p<0.01). A lack of jobs in your profession is more likely to keep people abroad for longer (t=-3.06, df=149, p<0.01). Finally, crime is important for people who spent over a year abroad (t=-2.44, df=146, p<0.01). Overall, the results show that dissatisfaction with a range of aspects of life in Serbia are likely to lengthen the period of time spent abroad.

The interviews allowed for more exploration of individuals' desires for career advancement. For instance, Serbia's relative isolation has made migration desirable because it offers new personal experiences. Like many people, Zarko R's (six months working in a physics research institute in Germany, funded by an international exchange programme) decision was based on a combination of motivations, but it is clear that Zarko relished the opportunity to experience life in another country:

> I wanted to test myself. [...] That was one motivation. Second was, that programme I participated in was 44 people from Balkans go together to Germany in different cities, you already have some network of people and it's very easy to travel. You just have to call somebody or email somebody and make some agreement [...] that was for me unique opportunity. I think our country is still a bit isolated and we cannot travel so easily. And it's still a little hard to get a visa, and you have to pay for a visa and the economic situation here is not so good that you can travel as you like. And this was a great opportunity to see how other people work and live. I am really happy that I managed to pass this selection and to go abroad. [...] third reason for applying for that programme was of course I wanted to learn something for my field.

Combined with new experiences, many see mobility as a chance to gain skills needed for the job market. Dejan V (four-year university scholarship in the US) summarised his reasons for going abroad in three ways: for the high educational standards abroad; to get to know another culture; and to boost subsequent job prospects:

> Well, I was a good student throughout my school years and I like studying and I wanted to learn more, and at that time, just as now, the US graduate studies were and still are the best in the world. And also the background issue was to see other cultures. So any kind of trip abroad, not for trip or vacation, to stay a little longer, was interesting for me. So I merged nice and useful combination. So I thought at the time that it was the best combination for me. And it has become more competitive in the job market. Several reasons but the three most important were: willing to learn; to see other cultures; and to have better opportunities for jobs later.

Dissatisfaction with the education system in Serbia was a common feature in the interviews, as noted by Darko K (one-year scholarship at a German university): "And I decided to go somewhere abroad to have better knowledge and more valuable diploma than I received here in Belgrade…" A similar point was made by Helena J (one year scholarship at a UK university):

> I was dissatisfied because the quality of service that was provided; the lectures were irregular, you couldn't get the list of literature in advance, no access to professors. So I

> even paid the tuition and since I was full time working, that was a too much of the lack of service for the amount of money I was giving.

The difficulty and expense of going abroad due to the visa regime has raised the premium of experiencing life in other countries. A number of foreign scholarships and exchange programmes (internships) exist, ostensibly to give recipients the opportunity to gain academic and professional experience, but also to address the consequences of Serbia's isolation. This point was commented upon by Miodrag T (over two years spent in Germany at university and on an internship):

> Unity in diversity. Let's say that this is the European form at the moment and one guy who lives in Serbia for let's say 25 years; it is not the same for this guy if he lives 25 years here. He doesn't have a chance to see anything different. He only lives with his Serbian myths and legends and everything. It's different when this guy gets a chance to travel abroad, to see that all the other nations' communities have their own myths and legends and traditions and then have a chance to compare all those experiences. And I think that this is [the] main purpose of these mobility schemes and programmes. It doesn't have to do so much with knowledge but with the experience because I think the experience makes your life in this way or another way. It makes you somehow rich and of course you get some knowledge.

The impact of the general perception that Serbia is a country in transition cannot be underestimated. It influences people's desire to return, for instance, to make a contribution to development (as well as providing specific opportunities in areas that are undergoing reform). Further, it influences the timing of going abroad, as Marina L (one year scholarship at a US university) demonstrated:

> I would like to do my MA abroad because I believe that the other education system would offer me a better chance to articulate my ideas and to become aware with what I want to do with my Masters. Whereas here I don't think that the educational system is very much developed. Especially because the Bologna process which has been implemented for 2-3 years is not very well developed yet. So maybe it would be better

to do some masters and PhD here in maybe five years time here when Bologna works better, but right now we are in a transition process and that's why I want to do my Masters somewhere else.

The above quote highlights the belief that the transition process will integrate Serbia into the European and global economic, political and academic systems, with a concomitant impact upon standards. However, there is also an acceptance that this process will take time to reach fruition.

The results from this section show that pull factors are more important than push factors. This can be put in the context of Serbia's relative isolation in recent decades, as well as reduced living standards, which have rendered foreign travel more difficult. This was confirmed both in the survey and in the interviews. A further finding was that respondents who spent a longer period abroad showed higher levels of frustration with living standards in Serbia.

5.3 Reasons for returning

The survey asked respondents to rate a list of eleven factors that discourage return to Serbia. These covered economic, political and social aspects. The results are presented in Table 5.5.

Table 5.5 Factors discouraging return to Serbia (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
Poor economic situation		81	47	11	4	5	0.97	148	4.32
	%	54.7	31.7	7.4	2.7	3.4			
Poor rule of law		60	53	23	5	4	0.98	145	4.10
	%	41.3	36.5	15.9	3.4	2.7			
Corruption		53	51	28	12	4	1.06	148	3.92
	%	35.8	34.4	18.9	8.1	2.7			
Unprofessionalism in Serbia		56	45	31	9	7	1.12	148	3.9
	%	37.8	30.4	20.9	6.1	4.7			
Unstable political situation		39	60	34	8	5	1	146	3.82
	%	26.7	41.1	23.3	5.5	3.4			
Complicated administrative procedures		32	58	39	11	8	1.07	148	3.64
	%	21.6	39.2	26.3	7.4	5.4			
Poor infrastructure		24	47	39	28	9	1.14	147	3.33
	%	16.4	32.2	26.7	19.2	6.2			
Crime		20	35	51	31	11	1.13	148	3.15
	%	13.5	23.6	34.4	20.9	7.4			

Unstable security situation		27	34	34	36	16	1.28	147	3.14
	%	18.5	23.3	23.2	24.6	10.9			
High Taxes		7	23	56	32	29	1.11	147	2.64
	%	4.8	15.7	38.3	21.9	19.9			
Bad image of Serbia in the world		11	21	40	34	41	1.25	147	2.5
	%	7.5	14.4	27.4	23.3	28.1			

5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important

The results, which give a snapshot of how people perceive challenges in Serbia, have important implications for brain gain, particularly considering the results of similar surveys conducted among the diaspora. The three most highly rated reasons discouraging return are poor economic situation (mean 4.32), poor rule of law (4.10) and corruption (3.92). These results echo a survey conducted for the Serbian Ministry of Diaspora in 2007 on the opinions of Serbs living abroad regarding factors that discourage return (SMMRI 2007). In the Ministry's poll, 73 per cent of respondents cited the difficult economic situation, 73 per cent the lack of employment possibilities, 32 per cent the difficult political security situation and 29 per cent corruption. In contrast to the push and pull factors, Table 5.5 shows that structural factors such as the economic situation, poor rule of law and unstable political situation are rated highly. Corruption and unprofessionalism were also rated relatively high. Serbia's bad image in the world and high taxes received relatively low scores.

Compared to the low score given to economic instability as a 'push' factor (Table 5.3), it is surprising that 'poor economic situation' receives the highest score as a disincentive to return in Table 5.5. Similarly, 'corruption' is rated a low 'push' factor (mean 2.87) in Table 5.3, but is the third most important factor in Table 5.5. Clearly there is a dichotomy between push factors and factors discouraging return. Taking the results at face value, it seems that once abroad, migrants appreciate the better economic situation compared to the homeland. The experience abroad also appears to highlight the differences between the host countries and Serbia, making issues such as poor rule or law and corruption more salient. As the interviewees indicated, with poor knowledge of life abroad, many migrants lack concrete experiences to contrast life in Serbia with that abroad. An alternative explanation for this dichotomy is that the responses in Table 5.5 may also reflect a non-personal perspective to the question of disincentives; the respondents could be rating the factors as general problems in Serbia, and not according to personal experience. Support for this explanation can be found in the similar scores in surveys conducted among the diaspora (see SMMRI 2007 above). The interviews provide some clarification. There is general consensus about the poor economic situation in Serbia, which reflects a general belief that return migration is limited; return migrants have the impression that that they are moving against the tide of outward migration, underscored by the reception of locals to returnees. At one extreme, there is disbelief that anyone would choose Serbia over a country in the West, as Marija Dz commented: “I think a lot of people are intrigued by the fact that I am from overseas and want to come back here. Like I said, the usual question is: ‘Are you mad? Are you crazy? Do you want to swap situations? Here’s my passport, give me yours’.” These reactions show that return is still considered unusual in Serbia. Jasna Z, an academic, commented on her discomfort at the assumptions made by other people that she was forced to return to Serbia: “At the beginning, I was embarrassed. People assume that I must have done something terribly wrong to be kicked out.” Many discussed how people in Serbia associate return with failure, with an inability to find employment or to adapt to a different social and cultural environment.

On one level, success in Serbia is not considered as impressive as achievements abroad because of the greater competition. The interviewees were asked whether in Serbia the idea of professional ‘success’ was defined by achievements abroad. Often, the perception that locals have of people who return is different from the motivations and experiences of returnees. Professional and academic success in Serbia is also undermined by the constant suspicion of corruption or use of contacts. Milan K contrasted Serbia with the US in this respect: “[…] in the States, […] you can evaluate a person or the prestige of their school and you’re more or less certain how difficult it is to get in, or how strong certain institutions are. Here there’s absolutely no way of telling.” A similar point was made by Sasha B about the business environment: “A lot of things here happen through connections. These personal networks. And if you are young, and you suddenly start a business and you’re very quickly successful in that business, there is always a suspicion that this is not because of your abilities but because somebody has made it possible for you to do so.” Many also commented on the small size of the Serbian market, of which local businessmen can be protective in the face of people coming from abroad, as Dragan D commented: “The envy comes, because it’s such a small market in variation to other countries in Western Europe and people who have succeeded internally here, they don’t want to throw it all away because somebody came from somewhere abroad […].”

The isolation of the last two decades has had far-reaching implications on how people conceive the rest of the world. A common narrative is that the attitude of the local population towards migration is a direct consequence of recent history, particularly the belief that Serbia has fallen economically and politically behind the rest of Europe. As a result, professional and academic accomplishments abroad are venerated as signs of success. This idea was expressed by Dusan M (one-year spent in the UK at university): "Yes, it's related to our culture maybe and especially to the things that happened to us in the last 20 years because, you know, if you go somewhere abroad, it's already success if you cross the border." Petar Z (extensive academic and professional experience abroad) argued, conversely, that people who succeed in Serbia deserve as much, if not more, credit for their achievements. However, Petar attributes the reverence given to foreign accomplishments to the loss of confidence in the value system in Serbia: "Very often people who obtain their degrees in Serbia or achieve success in Serbia have much more credit for what they did than people outside, but people lost their hope in the system of values here which simply disappeared." A stark indication of the impact of isolation upon Serbia is the curiosity of family, friends and acquaintances. Dusan M considers that the issue of success being defined abroad is cultural. It is a result of the problems of the last two decades that Serbia has become less open-minded than other countries: "We're not that open-minded like other people. And you go abroad, and you work something and you know they say: 'you were studying there, it's a hard life there, foreign people, foreign language. What did you eat there?' But it's not that hard. You can adapt easily. So they respect, especially older people. Younger people can understand, they travelled abroad." Similarly, Zeljko K remarked positively on the interest displayed by his friends. He describes his foreign experience as a "window for them on the world." Dusan M commented that despite the perception that things are radically different abroad, he did not find it difficult to adapt to live abroad.

Table 5.6: Factors discouraging return to Serbia (comparison of means)

	Age			Length of time abroad			Education versus other reasons		
	<30	>30	t	<1yr	>1yr	t	Non edu	Edu	t
Poor economic situation	4.41 (0.92)	4.24 (1)	ns	4.27 (1.13)	4.35 (0.8)	ns	4.4 (0.93)	4.21 (1.04)	ns
Poor rule of law	4.05 (0.94)	4.15 (1.01)	ns	3.91 (1.13)	4.27 (0.78)	-2.19**	4.13 (0.94)	4.05 (1.04)	ns
Unstable political situation	3.67 (1.04)	3.94 (0.96)	ns	3.56 (1.12)	4.05 (0.83)	-2.99***	3.72 (1.01)	3.9 (0.99)	ns

Complicated administrative procedures	3.83 (0.93)	3.49 (1.15)	ns	3.74 (1.05)	3.54 (1.08)	ns	3.81 (0.99)	3.42 (1.09)	2.23 **
Corruption	3.98 (1.07)	3.88 (1.05)	ns	3.78 (1.22)	4.09 (0.87)	ns	3.91 (1.08)	3.89 (1.02)	ns
Crime	3.15 (1.13)	3.14 (1.13)	ns	3.06 (1.61)	3.2 (1.08)	ns	3.18 (1.17)	3.15 (1.04)	ns
Unstable security situation	3.2 (1.24)	3.08 (1.32)	ns	3.01 (1.31)	3.23 (1.25)	ns	3.13 (1.29)	3.17 (1.3)	ns
Unprofessionalism in Serbia	3.98 (1.15)	3.84 (1.09)	ns	3.77 (1.21)	4.01 (1.02)	ns	3.89 (1.08)	3.94 (1.18)	ns
High Taxes	2.68 (1.16)	2.61 (1.07)	ns	2.62 (1.12)	2.62 (1.08)	ns	2.74 (1.16)	2.47 (1.02)	ns
Poor infrastructure	3.44 (1.1)	3.24 (1.17)	ns	3.38 (1.19)	3.27 (1.09)	ns	3.4 (1.1)	3.2 (1.19)	ns
Bad image of Serbia in the world	2.48 (1.23)	2.52 (1.27)	ns	2.56 (1.32)	2.41 (1.15)	ns	2.57 (1.27)	2.45 (1.21)	ns

*** $p< 0.01$; ** $p<0.05$; * $p<0.10$, ns = not significant at $p<0.10$ level

As with the push and pull factors, the survey results were also analysed according to age, education and non-education cohorts, and time spent abroad. None of the factors vary in importance according to age difference. Significant differences, however, were found for the two other distinctions. Poor rule of law ($t=-2.19$, $df=142$, $p<0.05$) and the unstable political situation ($t=-2.99$, $df=143$, $p<0.01$) were rated significantly higher for those who were abroad for longer than a year. Corruption was also scored higher for this group, though the difference is not significant. The results suggest that these factors keep people away for longer. For the cohort who went abroad for non-education reasons, the only significant difference was for complicated administrative procedures ($t=2.23$, $df=138$, $p<0.05$). This could be explained by the fact that a proportion of the people who went abroad took part in organised programmes for which bureaucratic elements were dealt with for them, whereas people who went abroad outside such programmes had to deal with bureaucratic hurdles themselves.

Over half (35) the interviewees indicated that their decision to return was partly influenced by the stage of their careers that allowed them greater freedom due to a lack of family or financial ties to a particular location. Milan K, who spent most of his life abroad, summarised this attitude:

> And it was also, at this period in my life when other things are less important. Now is the time when I can do it and be risk-free so to speak. Some of things that would probably

> keep me from coming back here, were I a bit older, were I to have a family, were I to be in a huge amount of debt, then that would be a deal-breaker.

Branislav P (who also grew up abroad) had similar motivations:

> I always liked to come here but it was always like being a tourist. I know the language but everybody recognises that I am not from Serbia or Yugoslavia. It was like a challenge for me to spend more time in Serbia not as a tourist, to live, to work, to see, to get to know the Serbian mentality a little bit more […].

Most often, the return decision derives from a combination of factors. All the interviewees mentioned more than one motivation for going abroad. Bogdan B (four year scholarship in the US) was typical of those who expressed an initial motivation to go abroad for the opportunity to experience a different culture and meet new people: "After finishing and studying over there I was thinking of staying there because I already have in-depth developed relationships with American students and some friendships […]." However, Bogdan returned to Serbia even though he could have found a job and settled in the US:

> But I knew that I didn't want to stay there. I saw that as a first step in my career; to get educated, to boost up my knowledge in English language. And I was thinking would I want to stay? And the next steps are usually: get some real estate property where I will be living, a car and loans will be taken and I will have much less time to devote to visiting family and friends over here. So I was working for 4 or 5 months within the university. […] After that, […] let's go see what's happening, what's changed in the Balkans and let's try to settle down over there for a little bit.

As alluded to above by Bogdan B, the return decision was, at least in part, motivated by a desire to help Serbia's development and integration into global and regional structures. Zeljko K, working for the Serbian office of an international institution, was one such person: "I always knew that eventually I would want to come back and sort of do what I've been writing in my motivation letters; help Serbia on its path towards EU." A similar point was mentioned by Vlada B, manager of a Serbian consultancy firm (two years professional experience in London): "My point from the very beginning was this is my country. We don't have any other country. The aim of the game is to learn as many things as you can, meet as many people as you can, and come back and do your best. First for yourself and then for your country." Further, Mihailo E (raised from an early age in Canada) became interested in Serbia as a result of the political situation during the 1990s:

> That sprung these emotions in me that I wanted to come back to Serbia and be in whatever way possible to be part of that movement to carry on with the stalled reforms and the stalled moves towards European integration. I didn't have much idea what I would do when I came back. I thought: come back and see what's available when I am here.

The findings resonate with Williams (2007a: 40) who writes that: "The decision to migrate is based on diverse motivations, including economic, cultural and lifestyle objectives." Individuals return for a combination of personal and economic reasons, the relative importance of each depending on the individual. This was highlighted by Milan K:

> I decided to come back [...] for professional and personal reasons. Professional because of the kind of work at the organisation I'm at now. I studied a little bit about it while in school and I thought to myself that it was absolutely fascinating. I thought that if I could secure a job here before turning up here then I would. And secondly for personal reasons I'd come back to Serbia four or five times since emigrating to the US and I always enjoyed it when I came here. But I would only come back two or three weeks at a time. So, get into it a little bit, start to reacquaint myself with people, and then I'd have to leave. So it was kind of a combination of both.

In Milan's case, youth, innovative potential and securing a job before coming to Serbia created a set of incentives for return. A similar point was mentioned by Zeljko K, who went to school abroad and continued his further education in the UK. Zeljko found it difficult to describe his motivation for returning, which was partly a desire to help Serbia on its way to the EU, but also personal. The political changes following the end of the Milosevic regime also marked a break with the recent past, as Zoran J (long periods of education and work in Western Europe and

Asia) remarked: “But then the situation, that was the time of the crisis, my thoughts were go abroad for sure and then situation changed, I mean there was, well, Milosevic was out of power and things were getting better. And then, you have some hope that it will go better and better so then I decided to stay.” For young people especially, Serbia is not associated with the problems of the 1990s, as noted by Zeljko K:

> I think that those people who left after 1999 after the bombings and all other experiences, once they leave they don’t come back because their experiences were so bad that I think that it’s difficult for them to make the decision to come back. For me I left when I was in high school. My family was doing reasonably well. I didn’t have those memories of a bad time. I mean but then I was 28 and could still rationalise and see what the situation was. It wasn’t an emotional decision. It was a rational decision. I said: look 28, I’m going to come back, see if I am going to make my life work in Serbia.

This is important for brain gain since motivations to engage with the home country are driven by the emigration experience. This chimes with Wei and Balasubramanyan (2006: 600) who explained the difference between Scottish and Irish diaspora involvement with the homeland in terms of forced migration due to poverty and persecution versus voluntary emigration.

Return is also motivated by a continued orientation towards the home country, which remains stronger than that formed with the host country, even if the individual has lived abroad for a long time. In the interview sample, seven were born abroad or taken as children by their parents. The remaining went voluntarily (50 interviewees). As noted by Wei and Balasubramanyan (2006: 600), this impacts upon the desire to return. The chance to go abroad for its own sake, to be acquainted with a different culture and meet new people, is a strong incentive. Despite life and work drawbacks and frustrations, there are positive aspects. Dusan T, for instance, came back after six years in a secure well-paid tenured position in an American university because of the lifestyle in Serbia: “[…] simply to say that I prefer the way of life here. Professionally here it’s much better to be professor [in the US] but emotionally, culturally I preferred to live in Belgrade […].”A similar motivation was mentioned by Zorica D, who also spent several years working in the US. Although Zorica commented that she was happy professionally, she did not completely adjust culturally: “[…] we have some different family values, like I want my son to grow up among grandparents, aunts, uncles, you know." This resonates with Alberts and Hazen (2005: 146), who highlight the importance of cultural and societal issues: "For example, while family ties were mentioned by all nationalities, the importance accorded to them was heavily influenced by broader cultural attitudes toward family and notions of obligations toward family and community." Similarly, Milos A (two years spent in the Middle East working for a private design company) remarked on his experiences of nostalgia and homesickness: "So the return was a joyful return - I really missed home. I experienced one thing and that's nostalgia. [...]. I feel at home. It's mine. That's something that I will never experience anywhere else, after all the problems and the standstill."

The fact that the poor economic situation was rated the highest disincentive to return in Tables 5.5 and 5.6 has important implications for reversing the brain drain. Although a relatively insignificant 'push' factor, economic prospects in Serbia are generally perceived as weak. This issue was also a recurrent feature of the interviews, in particular the problems of finding jobs in your profession. Poor rule of law, also highly ranked (mean 4.05), and poor infrastructure (mean 3.33) were also mentioned in the interviews. However, the interviewees tend to focus on personal motivations rather than disincentives. The responses showed a surprising emphasis on non-economic reasons. Indeed, personal factors were frequently mentioned. The fact that personal motivations feature so highly is a telling reflection of the on-going economic transition; return cannot be justified from an economic perspective because the opportunities do not yet exist, and personal reasons thus become relatively more important. As the Ministry of Diaspora's survey of Serbs abroad showed, people are discouraged from returning for economic reasons, whereas those interviewed in this research – actual returnees – have highlighted the importance of personal connections to Serbia. As we saw above, networks are important for outward migration, and they are also relevant for return. Faist (1997:214) argues that strength of commitment of the migrant to social networks in the home country is more likely to lead to successful return. As shown above, the interviewees spoke of the importance of networks that they had before migration as important, and the relevance of these connections for their future plans. Family, friends and lifestyle preferences generate a strong desire to return. The key reasons for return can be summarised as the following ways:

- Speculative interest, youthful innovation, self-development and enrichment

- The rise of boundaryless careers
- Desire to contribute to Serbia's transition
- Return of 'conservatism' (Cerase 1974), i.e. homesickness, nostalgia and lifestyle preference

5.4 Experiences of return and incentives to stay

The respondents were asked finally to rate general challenges in Serbia, related to job insecurity, acculturation and personal issues. Given the low mean scores, the results, summarised in Table 5.7, appear to suggest that a majority of respondents have not experienced challenges in these areas. On closer inspection, however, the results show that the challenges are still perceptible for a significant proportion of the sample. For instance, job security affected 81 individuals (58 per cent) at least "to some extent." To the same degree, 62 (44 per cent) found that their country was different from what they anticipated, and in the same way 87 (63 per cent) reported that the return experience was affected because of family related and personal reasons.

Table 5.7 To what extent was your own experience of return affected by the following general challenges? (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
Worried over job insecurity		16	28	37	26	32	1.32	139	2.78
	%	11.5	20.1	26.6	18.7	23			
My native country is very different from what I anticipated before returning from abroad		6	19	37	30	48	1.2	140	2.32
	%	4.3	13.6	26.4	21.4	34.3			
Family related and/or personal reasons		26	33	28	16	35	1.46	138	2.99
	%	18.6	23.6	20	11.4	25			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

Comparisons of groups resulted in several significant differences (Table 5.8). Firstly, respondents who spent more than a year abroad had significantly less worries over job insecurity than those who were abroad for less than a year ($t=3.31$, $df=136$, $p<0.01$). In addition, those who spent more than a year abroad rated challenges connected to family and personal reasons higher, although the difference was not significant. Turning to age, worries over job insecurity were significantly higher for the under 30s cohort. Finally, all the listed challenges were scored significantly higher by those currently looking for work abroad.

Frustrations with life and work increase the likelihood that people will look for work abroad. This is particularly evident for mobile individuals who already have confidence gained from previous international experience. The survey asked respondents whether they were looking for work abroad. A total of 39 respondents (29.5 per cent) to this question answered that they wanted to re-migrate. The results in Tables 5.7 and 5.8 suggest implications for brain gain. Although the research cannot compare the results with a sample of people who returned to Serbia and subsequently went abroad again, the desire to look for work abroad can be used as a proxy. The highest ranked challenge for people wanting to leave Serbia is related to family and personal reasons. Next, job insecurity is a significant motivational factor to look for work outside the country. Nevertheless, the relatively low scores suggest a positive picture for the majority of respondents. Age and time spent abroad have little impact on how people readjust to Serbia, showing little support for Hypothesis 1, although the mean score for the home country being different from expectations is also significantly higher for those looking for work abroad. The results show that professional and personal challenges are greater issues than reverse culture shock and worries over job security were significantly lower for people who had been abroad for over a year and who were over 30 years of age. This could reflect a culmination of skills and experience which has increased their employability compared to the younger cohort with less international experience.

Table 5.8 To what extent is your experience of return affected by the following challenges?

	Time spent abroad			Youth versus age			Looking for work abroad		
	<1 year	>1 year	t	<30	>30	t	Yes	No	t
Worries over job insecurity	3.13 (1.31)	2.41 (1.22)	3.31 ***	3.31 (1.43)	2.36 (1.05)	4.47 ***	3.37 (1.34)	2.45 (1.17)	3.85 ***
My native country is very different from what I anticipated before returning from abroad	2.28 (1.17)	2.33 (1.23)	ns	2.45 (1.24)	2.22 (1.17)	ns	2.76 (1.26)	2.1 (1.14)	2.87 ***
Family related and/or personal reasons	2.88 (1.49)	3.13 (1.41)	ns	3.14 (1.54)	2.87 (1.39)	ns	3.61 (1.29)	2.73 (2.42)	3.15 ***

The results show that acculturation issues do not vary according to length of time abroad. One likely explanation (as discerned from the interviews) is that when abroad, people regularly return to Serbia to visit family and friends. Indeed, even those raised abroad spoke of regular trips. The results, however, showed that the desire to move abroad depends on levels of dissatisfaction with life and work in Serbia; concerns over job security and family/personal problems were higher for those looking for work abroad.

As we have seen, social aspects, such as family, friends and lifestyle are powerful incentives to return to Serbia. Family and friends especially provide helps returnees to manage the stress and frustration of readjustment to the home country and reverse culture shock. For Zeljko K, personal networks are a safety net: “If I lose my job, whereas I’d end up on a bench in Hyde Park if I was in London, here I could stay with my aunt or crash at my friend’s place. You have a lifeline [...].” Zeljko did not have such a network when he lived abroad.

People with jobs that involve travel and personal development displayed an enthusiastic attitude towards their life in Serbia and the opportunity to make a contribution to the development of the country. Helena J, who spent a year abroad on an MA course (and also worked for several years prior to that in the Serbian office of an international institution), remarked on her work in these terms: “[...] this is very important for my personal motivation, having that opportunity to go back and forth but to be based in Belgrade and Serbia. In perspective I wouldn’t mind working abroad for two or three years but not for the sake of being abroad, but more for the job, professional reasons.” A similar point was made by Boris O, who spent several years abroad in different locations as part of job working for an international institution:

> I would love to stay here. And I decided to stay here a couple of years ago. But it’s easy for me to say that because my job is really flexible. I can live in China and do my job. I do my job outside of the country. But on the other hand I was offered a couple of times the opportunity to move away, I decided to stay because I decided my work is more important here than anywhere else. And that knowledge I transfer and some people I help, either just transferring some of my knowledge of just giving them the opportunity to work which I did for a number of friends, this is the decision that I made and I would definitely try to stay here. I am a proper urban nomad at the moment. So it’s easy to say from that position but on the other hand if I was supposed to build a career from here I would rather move. But just because of myself, not because of the country. Although I wouldn’t say no to Tokyo.

The majority, 44 interviewees (out of 53 currently living in Serbia), indicated that they were not looking for work abroad. Further questioning elaborated that this did not mean they would not move abroad again in the future. Asked about intentions to stay in Serbia, all the respondents under 30 answered that they could not rule anything out (compared to 14 out of 31 in the over 30s cohort who said that they would not consider moving abroad again). Nine interviewees indicated that they were currently looking for work abroad. One such person was Biljana S, who studied and worked for several years in the Netherlands. Despite a desire to contribute to development, Biljana found that, professionally, Serbia could not offer the same opportunities that exist abroad:

> I have to be honest. Really, I would love to do my best in what I do here and help things improve but I would love to be somewhere else. That's related to Serbia as a country that cannot do enough for me. So always think in terms of developing like your own development and what you can achieve. […] but thinking about your own development and career I think that there is no doubt, I would love to leave Serbia […]. It's not the place where I can see my development really.

Some people, such as Liljana Lj (one year spent at a British university) expressed an aversion to remaining in one country:

> I never wanted to live in Serbia my entire life. That was never the idea. I didn't have a strict idea to [...] go somewhere else. But the idea of spending one's life in one place is completely foreign to me. So definitely not, and I have a number of different reasons in that respect […]. Returning to Serbia immediately is definitely not something that I would see as a preferred option.

It is important to note that of the interviewees who signalled high levels of satisfaction with life in Serbia, only two people were either not at an early career stage, did not have a job that involved either frequent travel, or were not making a contribution to Serbia's development (i.e. NGOs working on an area of political reform). Serbia provides opportunities at the moment but interviewees also acknowledge that career considerations could involve future international mobility. This resonates with the association of international mobility with boundaryless careers, where individuals follow trajectories characterised by continual learning, adaptability and flexibility. Individuals with boundaryless careers see employment as a chance to acquire skills and competences that maintain employability rather than provide a structured career path (Lazarova and Tarique 2005: 367). This type of career is associated with ‘occupational labour markets’, whereby knowledge is primarily held by individuals and is directed by individuals’ professional strategies, in contrast to ‘internal labour markets’ where firms themselves have more control in setting definitions of expertise (Lam and Lundvall 2006). In the latter, employees pursue their career in one firm, moving up the hierarchy.

Finally, despite an awareness of Serbia’s relative isolation, the younger generation do not associate Serbia with the 1990s, which is encouraging for policies to attract a youthful cohort of highly educated individuals, although it suggests that older people with more experience, and potentially more impact, are less likely to return, at least permanently. Economic development is broadly considered a disincentive to return and the perception that travel abroad represents success in itself demonstrates the lack of opportunities for many to experience life in other countries.

The role of emotional and cultural connections to Serbia described above was also evident in the intentions to stay or go abroad again. Bogdan B remarked that he would ultimately like to settle in Serbia, although professional considerations would make him consider going abroad again: “I cannot tell you where I would like to go. Whether I will live in Serbia or the US. Maybe I will go to China. It depends on things [...]. Personally I would like to settle down and live in the area. Because of the mentality of people and because I originate from here and I like it. If career takes me somewhere else, that’s...” A similar outlook was expressed by Marko G (over ten years professional experience in Western Europe): “If I put it in an emotional way I can say that my decision to come here, to come get back, come here, I got fond of the company and I binded my future to this company. Of course you can’t possible know what comes in the future but as far as I can see now at this moment that is what I would like to do now until the end of my professional life.”

The results of this section reiterate the importance of family-related and personal, over purely economic, motivations for migration and return. It is likely that the poor economic opportunities available in Serbia increase the relative importance of personal motivations. Job insecurity affects people who are younger and have been abroad for shorter periods, most probably because they have acquired less experience to give them a secure footing on the career ladder. The impact of Serbia's isolation is also clear. Many respondents talk of the ease of adapting to life abroad, indicating that the differences between Serbia and other countries are to an extent issues of perception. In sum, the interviews supported the survey results in highlighting the importance of personal over economic motivations, and underlining the impact that political and economic isolation has had on perceptions of Serbia in relation to other countries. Further, the interviews show a willingness to pursue non-linear careers. Although they are in Serbia now, 38 out of 53 interviewees living in Serbia indicated that they would be prepared to follow jobs in different locations. At the same time, many people still demonstrated a preference for the Serbian lifestyle, and thus the willingness to go abroad for career reasons could reflect the lack of opportunities in Serbia.

5.5 Conclusion

The chapter showed that the respondents rated pull factors more highly than push factors which, from the perspective of Serbia's attempts to transform the brain drain into brain circulation, points to the maintenance of emotional connections to the country. Interviewee discourse is often heavily skewed towards family, friendship circles and emotional connections with Serbia. Family and friends provide strong incentives to return, from a lifestyle point of view and also for people planning to start families surrounded by an extended family. Moreover, for people who have spent their formative years abroad, relations and connections in Serbia provide a ready-formed network that ease the adjustment of moving back. Finally, social and family relations exert a strong pull on remaining in Serbia. This is not to say that such factors are sufficient to keep the highly skilled in Serbia. Some display career ambitions and indicate that they would re-locate accordingly for professional advancement.

The interviews and surveys point to the impact that Serbia's isolation has had on the 'pull' of experiencing life abroad. In terms of Hypothesis 1 regarding length of time abroad and cultural distance, the results from the data analysis and interviews were valuable for generating hypotheses. Survey analysis indicated that the length of the period abroad before return depends on the importance attributed to certain ‘push’ factors, which can be summarised in the following way:

Hypothesis 1a: Better work and education resources abroad compared to the home country are associated with longer periods spent abroad.

Hypothesis 1b: Higher levels of frustration with housing problems in the home country are associated with longer periods spent abroad.

Hypothesis 1c: The length of time abroad depends on availability of jobs in one’s profession in the homeland.

Hypothesis 1d: Higher levels of frustration with crime are associated with longer periods spent abroad.

Hypothesis 1e: Higher levels of frustration with poor rule of law are associated with longer periods spent abroad.

Hypothesis 1f: Higher levels of frustration with the unstable political situation are associated with longer periods spent abroad.

Finally, the importance of recommendations from personal connections as a ‘pull’ factor depends on the migration channel; i.e. migrants who are part of formalised channels, such as overseas scholarships, are less likely to look for personal advice and help:

Hypothesis 1g: The role of personal recommendations is more important for migrants who are not on organised migration programmes.

Young people are more likely to emphasise the challenge of living abroad, meeting new people and adapting to another way of life. On the other hand, people who are older or with more work experience are more likely to mention career motivations. Younger people do not base decisions to go abroad on narrow economic or career-related reasoning. They are less likely to have dependents and more willing to tolerate personal and professional frustrations. Many young people see mobility as a challenge that will give them useful professional and social skills. Many are conscious of the impact they can have on development. They have a connection to the country and want to make a contribution during the transition period.

Work and life abroad frequently does not match expectations. Yet, despite setbacks and frustrations, for instance, experienced by people who went abroad for professional reasons but subsequently found that the work was not as rewarding as they hoped, the additional benefits, such as the acquisition of inter-personal skills, are also important. Individuals also emphasise the opportunity to travel because of strict visa restrictions. The people who returned on knowledge transfer programmes for short periods did so ostensibly to help Serbia but there are also personal reasons, such as to spend time with family and friends, to see whether the environment for permanent return is suitable. It is rare for individuals to be motivated by a single defining factor. Indeed, we cannot reduce motivations to a parsimonious formula. The results show that pull factors are more important in decisions to go abroad but that push factors are important in decisions about the length of stay abroad. Push and pull factors do operate in a dynamic process whereby pull factors drive people abroad but then push factor determine the length of their stay.

6 Knowledge acquired abroad by return migrants

6.1 Introduction

This chapter finds that individuals acquire a range of competences during their international experience, and generates hypotheses concerning the reception and transferability of different types of knowledge according to key distinctions, namely the for-profit and not-for-profit sectors, foreign ownership versus Serbian ownership, and newcomer status. These distinctions have been shown by existing research to influence the recognition, adaptation and adoption of foreign-acquired knowledge (Tung and Lazarova 2006). Variables are generated to compare types of knowledge-sharing mechanisms in the workplaces, as well as the prevalence of knowledge according to the generic/specific and tacit/explicit distinctions. Different channels of learning are emphasised in Serbian and foreign firms, the former valuing specific skills developed over time and acquired on-the-job, whereas foreign firms favour individuals with a set of generic skills.

The results indicate that individuals acquire different types of knowledge abroad, even if this is not initially evident in everyday work. When probed about skills, individuals emphasise competences that they actively use in the workplace. This emphasis can depend on levels of responsibility or seniority. Particular weight is attached to tacit skills and the value of international experience in terms of personal confidence beyond the acquisition of technical skills and formal qualifications. There is a high level of recognition of encultured and embedded skills, which are more difficult to transfer between locations as they depend on interactions with colleagues and workplace cultures (embrained and embodied are most transferable since they are encapsulated within the individual). Tacit knowledge ranges from embedded knowledge (awareness of management and organisation aspects of workplaces abroad) to encultured knowledge that helps to facilitate communication with people from other countries. There was also an emphasis on generic skills linked to non-linear career trajectories, suggesting that individuals are prepared to move between firms and locations. In addition, many value embedded knowledge of foreign workplace cultures. Return migrants also gain a different perspective of their own country. The findings resonate with studies on mobile individuals (Williams and Balaz 2008a).

The knowledge and skills that people emphasise and are able to transfer reflect the nature of the workplace, as well as structural factors related to the scarcity of certain skills in the Serbian economy, a legacy that bestows an element of uniqueness upon those with foreign experience in the labour market; those with international experience are better able to locate their skills within the global market place. The interviews are also used to identify examples of acquired knowledge according to Blackler's (2002) categories, presented in Chapter 1. But identifying knowledge is complex and some aspects of knowledge are difficult to isolate and attribute to international experience. For instance, embrained and embodied knowledge and attributes such as increased personal confidence are often associated with age and experience.

The chapter begins with a discussion of the types of knowledge that individuals acquire during their foreign experience, highlighting the range of competences and skills gained abroad. It moves on to discuss key knowledge distinctions of specificity and tacitness, followed by analysis of knowledge that is deemed scarce in Serbia, and that which the respondents believe does not require international experience.

6.2 Skills and knowledge acquired through international experience

The interviews indicate that individuals acquire a range of knowledge and competences during their experience abroad, even if in some cases it is difficult to link these skills to any practical application of knowledge or sharing in the workplace. It is common for people who have been abroad to conceive knowledge and experience in terms of access to the global labour market and, by extension, employment in modern, internationally-integrated economies. There were significant differences in the scores attributed to certain skills. On the one hand, certain skills and knowledge are valued because they cannot be easily acquired in Serbia, whereas in some cases, the scarcity of knowledge goes hand-in-hand with a lack of demand among employers. This was most evident in the relatively low score given to knowledge of international business, which is not as relevant for Serbian firms oriented towards the domestic market. To measure the relevance of skills and knowledge for Serbian workplaces, the survey asked the respondents to score skills according to their importance for work in Serbia. The results in Table 6.1 show positive assessments for the range of tacit and explicit skills cited. 'Communication skills' were rated the most important (mean 4.04), followed by 'cross-cultural' and 'decision-making' skills (with means of 3.86 and 3.85 respectively). ‘Knowledge of international business’, ‘supervisory/leadership’ and ‘technical/functional’ skills received the lowest scores. The value of communication and cross cultural skills can be explained by the importance of interpersonal interaction for making contact with and understanding people from different backgrounds, for articulating knowledge to a variety of audiences and for accessing international networks. ‘Knowledge of international business’ received the lowest score, reflecting the proportion of students in the sample (who have yet to develop careers for which this knowledge would be required), and also the continuing importance of local business knowledge. Technical and functional skills, alongside supervisory and leadership skills, received the next lowest scores, perhaps also a reflection of the proportion of respondents at the early stages of their careers. The relatively low score for technical and functional skills could also be a reflection of the ready availability of theoretical and technical knowledge in Serbia (which is easy to transfer between locations through codified sources). Subsequent questions asked the respondents to note which skills and knowledge they believed could be acquired in Serbia as well as abroad. The results, summarised later in the chapter in Table 6.8, show that a large proportion of survey respondents – 45 per cent – consider it possible to gain technical and theoretical knowledge in Serbia. An even higher result was found for supervisory and leadership skills (over 50 per cent). Although supervisory and leadership skills are still relatively important (mean 3.71), the interviewees observed that such skills can only derive from work experience, and some even consider these skills an intrinsic personal attribute that cannot be taught (embrained knowledge).

Table 6.1 How would you rate the following competences acquired abroad, according to their importance for your work in Serbia? (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
Communication skills		56	65	32	4	3	0.91	160	4.04
	%	35	40.6	20	2.5	1.9			
Cross cultural skills		58	60	20	8	15	1.23	161	3.86
	%	36	37.3	12.4	5	9.3			
Decision-making skills		48	54	45	7	4	.99	158	3.85
	%	30.4	34.2	28.5	4.4	2.5			
Administrative skills		12	17	62	17	12	1.03	160	3.75
	%	7.5	10.6	38.7	10.6	7.5			

Negotiation skills		39	59	45	9	6	1.02	158	3.73
	%	24.7	37.3	28.5	3.8	3.8			
Technical / functional skills		40	60	44	8	9	1.07	161	3.71
	%	24.8	37.3	27.3	3.1	5.6			
Supervisory / leadership skills		34	72	39	6	10	1.04	161	3.71
	%	21.1	44.7	24.2	3.7	6.2			
Knowledge of international business		46	47	41	12	15	1.24	161	3.60
	%	28.6	29.2	25.5	7.4	9.3			

5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important

The results for comparisons between groups, shown in Table 6.2, found no significant differences between respondents in Serbian and foreign firms, or between respondents in firms in the for-profit and not-for-profit sectors. Surprisingly, the mean scores for ‘cross-cultural’ skills are almost the same in Serbian and foreign firms. Although not significant, the importance of all the skills (except ‘administrative skills’) was rated higher in Serbian workplaces. This may also reflect the fact that some Serbian firms have international-orientation through foreign clients, partners, or funders. However, there is a significant difference between newcomers and non-newcomers concerning the importance of ‘communication skills’ ($t=-2.52$, $df=130$, $p<0.01$) and ‘decision-making skills’ ($t=-2.2$, $df=128$, $p<0.05$). As existing research has identified, foreign experience is very valuable in terms of language acquisition. The emphasis on ‘communication skills’ could reflect the importance attributed to language abilities by those in peripheral positions who are unable to utilise and develop other skills. The lack of significant differences between Serbian and foreign firms with regard to ‘communication skills’ may also reflect the role of informality in Serbian workplaces. Informality helps to nurture close interpersonal relations between colleagues, builds trust and facilitates knowledge sharing. In contrast, workplaces that have a high use of formal channels also value communication skills because of the ability to communicate knowledge and ideas to other levels and units of the organisation. Thus, ‘communication skills’ are vital for most workplaces, irrespective of nationality or knowledge-sharing channels.

Table 6.2 How would you rate the following competences acquired abroad, according to their importance for your work in Serbia? (comparison of means)

	Firm type			Sector			Newcomer status		
	Serbian	**Foreign**	**t**	**FP**	**NFP**	**t**	**Non NC**	**NC**	**t**
Supervisory / leadership skills	3.79 (0.99)	3.54 (1.16)	ns	3.67 (1.19)	3.74 (0.96)	ns	3.67 (1.1)	3.84 (3.84)	ns
Administrative skills	3.24 (1.06)	3.27 (1.01)	ns	3.4 (1.01)	3.15 (1.07)	ns	3.18 (0.99)	3.48 (0.99)	ns
Cross cultural skills	3.88 (1.22)	3.84 (1.17)	ns	3.86 (1.13)	4 (1.19)	ns	3.81 (1.25)	4.2 (0.93)	ns
Technical / functional skills	3.72 (1.12)	3.58 (1.03)	ns	3.61 (1.11)	3.81 (0.99)	ns	3.65 (1.18)	3.77 (0.8)	ns
Knowledge of international business	3.59 (1.72)	3.48 (3.48)	ns	3.72 (1.19)	3.52 (1.31)	ns	3.47 (1.31)	3.88 (1.08)	ns
Communication skills	4.13 (0.91)	3.86 (0.86)	ns	4.01 (1.04)	4.09 (0.77)	ns	3.89 (0.93)	4.29 (0.76)	-2.52***
Negotiation skills	3.79 (1.05)	3.67 (1.02)	ns	3.78 (1.84)	3.75 (1.02)	ns	3.69 (1.01)	3.84 (1.05)	ns
Decision-making skills	3.92 (0.98)	3.7 (1.02)	ns	3.83 (1.78)	3.86 (0.95)	ns	3.68 (1.02)	4.09 (0.93)	-2.2**

*** p< 0.01; ** p<0.05; * p<0.10, ns = not significant at p<0.10 level

As the statements in Table 6.3 indicate, the survey is designed to collect information not just about technical skills and qualifications. ‘Soft’ skills (new attitudes, ways of doing things and self-confidence) are equally important in shaping experiences of international mobility. This resonates with Williams (2005: 457) who also found that return migrants stressed the importance of the experience of being abroad more than the acquisition of professional knowledge and academic qualifications. Hence, the statements in Table 6.3 ask the respondents to assess their foreign experience in terms of skills ranging from qualifications and language abilities to new ideas, and are not solely linked to employment since the research recognises that through international experience individuals have the opportunity to gain a range of competences, skills and knowledge that all contribute to ‘total’ human capital; additional competences that are not occupation-specific (Williams 2005: 440).

The results in Table 6.3 show that the importance of foreign experience goes beyond the acquisition of qualifications or language abilities. The acquisition of ‘new ideas’ was rated the most worthwhile. Qualifications were predictably high considering the profiles of the respondents, many of whom went abroad on scholarships to foreign universities. Given the visa regime at the time of the survey, for many highly-educated people, educational scholarships are one of the few opportunities to go abroad for an extended period to work or study. In contrast to the importance of technical and functional skills for work (see Table 6.1), the acquisition of qualifications is rated much higher (4.39 compared to 3.71). This could be explained in three ways. First, the respondents are dissatisfied with their ability to use technical and functional skills in the workplace. This could reflect the recognition that better conditions and resources exist abroad. Indeed, interviews with scientists showed that poor access to modern technology is an obstacle to effective knowledge sharing. Second, foreign qualifications are valued because they represent a recognised standard of entry to the global labour market, including foreign enterprises operating in Serbia. Third, the responses could reflect bias in the survey due to the proportion of respondents who went abroad for education.

Table 6.3 To what extent do you consider your period abroad to be worthwhile with respect to the following? (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
Acquired new ideas		95	39	10	1	3	0.82	148	4.5
	%	64.2	26.3	6.7	0.7	2			
Acquiring qualifications		88	37	16	3	3	0.91	147	4.39
	%	59.9	25.2	10.9	2	2			
Learning new skills (e.g. technical competences related to work)		72	55	17	2	2	0.83	148	4.3
	%	48.6	37.2	11.5	1.3	1.3			
Foreign language ability		84	33	21	4	5	1.03	147	4.27
	%	57.1	22.4	14.3	2.7	3.4			

(5=extremely worthwhile 4= somewhat worthwhile, 3= neither worthwhile nor not worthwhile, 2= not particularly worthwhile, 1= not at all worthwhile)

The results shown in Table 6.4 provide evidence that foreign workplaces have a higher regard for foreign qualifications. A significant difference was found between those working for Serbian firms and those in foreign workplaces, with the latter assessing the acquisition of qualifications abroad significantly higher ($t=-2.15$, $df=131$, $p<0.05$). At the same time, the high mean for Serbian firms (4.22) confirms that only a minority of respondents experience a lack of recognition of their foreign qualifications from employers. In fact, Table 6.3 shows that only 22 (14.9 per cent) responded 3 (the neutral value) or below. There was also a significant difference between those working in the for-profit and not-for-profit sectors in terms of language ability. In the latter, this competence was assessed significantly higher ($t=-2.60$, $df=134$, $p<0.01$). The sample included many people from the NFP sector who work for NGOs or academic and research institutions that tend to be relatively more exposed to international influence, due to foreign funders or partners, and are more connected with global networks.

Such interaction with international sources of information and contacts might explain the greater importance of (English) language skills in this sector. Finally, newcomers in the workplace rate the acquisition of qualifications significantly higher than non-newcomers in the workplace ($t=-2.65$, $df=123$, $p<0.01$). As with the results in Table 6.2, it is probable that junior newcomers rate their formal qualifications (particularly in terms of uniqueness) over other skills as they have not yet had the opportunity to develop or apply their knowledge in the workplace. We might expect therefore the importance of other attributes to overtake qualifications over time as newcomers (who do not enter the workplace in a senior position) move from peripheral positions.[29] Based on the above results, two hypotheses are generated. Hypothesis 6.1 reflects the recognition of foreign-acquired experience and knowledge in foreign workplaces than in Serbian workplaces, that could be due to the weak integration of Serbian companies into foreign markets, as discussed in Chapter 4, and hence their relative unfamiliarity with international business practices. Hypothesis 6.2 reflects another outcome of the relative isolation of Serbian workplaces. Organisations in the not-for-profit sector often have connections with foreign partner organisations, including funders, and they may be working on issues related to Serbia's transition, which could require a higher degree of connection to international networks than is the case in the for-profit sector, which is oriented to the local market.

Hypothesis 6.1: Internationally-relevant knowledge is more important for return migrants' work in foreign workplaces than in Serbian-owned workplaces

Hypothesis 6.2: The degree of recognition of language ability depends on whether the workplace is in the for-profit or the not-profit sector

Table 6.4: To what extent do you consider your period abroad to be worthwhile with respect to the following? (means)

	Ownership			Sector			Newcomer status		
	Serbian	Foreign	T	FP	NFP	t	Non NC	NC	t
Acquiring qualifications	4.22 (1)	4.59 (0.88)	-2.15**	4.37 (0.94)	4.36 (0.92)	ns	4.19 (1.02)	4.65 (0.65)	-2.65***
Learning new skills (e.g. technical competences related to work)	4.21 (0.91)	4.42 (0.66)	ns	4.2 (0.88)	4.32 (0.8)	ns	4.26 (0.91)	4.25 (0.73)	ns

[29] Newcomer status is measured according to length of time in the workplace (i.e. less than one year versus more than a year). It is recognised that this is a flawed proxy since newcomers are not necessarily peripheral; i.e. a newcomer could enter at a senior level. In the next chapter based on interviewees' responses, peripherality is not measured solely according to length of time in a workplace.

Acquired new ideas	4.49 (0.89)	4.52 (0.72)	ns	4.35 (0.97)	4.58 (0.69)	ns	4.44 (0.89)	4.51 (0.79)	ns
Language ability	4.33 (0.95)	4.02 (1.22)	ns	4 (1.16)	4.46 (0.9)	-2.6***	4.19 (1.07)	4.25 (0.97)	ns

*** p< 0.01; ** p<0.05; * p<0.10, ns = not significant at p<0.10 level

Table 6.5 also lists statements relating to both occupational and non-occupational skills and knowledge. The statements were rated highly, with ‘knowledge and understanding of another country’ receiving the highest score (mean 4.54). ‘Enhanced confidence in my abilities’ was also assessed highly (mean 4.27), which supports the assertion that international mobility has broader advantages beyond skills for work. Confidence in one’s abilities implies personal recognition of skills and knowledge acquisition, which is a factor that influences knowledge transfer (van der Heijden 2002; Williams and Balaz 2005). International experience is valued beyond the skills that individuals can bring to the workplace. This resonates with findings from other studies showing that returning migrants associate personal development with a mixture of attributes, including increased confidence, as well as with changes in status and salary (Williams and Balaz 2005: 458).

Table 6.5: To what extent do you consider your period abroad to be worthwhile with respect to the following informal skills (absolute numbers)?

		5	4	3	2	1	SD	Total	Mean
Knowledge and understanding of another country		97	37	10	1	2	0.77	147	4.54
	%	66	25.2	6.8	0.7	1.4			
Enhanced confidence in my abilities		80	40	17	3	6	1.02	146	4.27
	%	54.8	27.4	11.6	2	4.1			
Learned new approaches to work		60	63	15	3	5	0.94	146	4.16
	%	41.1	43.1	10.3	2	3.4			
New perspectives on my home country		53	50	33	5	5	1.02	1.46	3.96
	%	36.3	34.2	22.6	3.4	3.4			
Better able to deal with new challenges and stressful situations in the workplace		44	56	32	5	5	0.99	142	3.91
	%	31	39.4	22.5	3.5	3.5			

(5=extremely worthwhile 4= somewhat worthwhile, 3=neither worthwhile nor not worthwhile, 2= not particularly worthwhile, 1= not at all worthwhile)

In some cases, individuals cannot isolate the value of knowledge gained through international experience from skills acquired through work experience. Jovana M (Serbian office of an NFP international organisation) considers her skills and knowledge to be personal attributes. This suggests that the majority of Jovana's knowledge is embrained; knowledge that is tied to cognitive abilities and conceptual skills (Williams and Balaz 2008a: 1925). When probed further about where these competences can be acquired, Jovana found it difficult to distinguish between skills resulting from international experience and those accumulated as part of work experience and maturity: "It's difficult to separate, to isolate and to say. Also by the time I was also getting older and wiser [...]." This resonates with Ipe's (2003: 344) description of tacit knowledge as know-how acquired through personal experience. However, Jovana has worked in Serbia exclusively for international organisations and internationally-funded projects. Hence the knowledge gap in these environments is perhaps not as discernable as it would be if the post-return employment had been in Serbian workplaces (without international orientation). Indeed, Jovana commented that the most important aspects of foreign experience that impacted upon work were communication skills and confidence: "Language was probably the biggest asset. I became more confident. I was suddenly able to communicate very clearly in a foreign language. And those were the skills - language skills - that were used very much."

The respondents indicated acquisition of a range of skills. There is also evidence that certain conditions highlight different skills. People at the early stages of their career are more likely to highlight the importance of generic knowledge and formal qualifications. There were also skills that could be linked directly to international experience; of particular note was the importance attributed to communication skills and cross-cultural skills. These skills facilitate knowledge sharing since they reflect the ability of employees to articulate knowledge and explain complex ideas to colleagues. The interviews showed that the ability to communicate is particularly important for internationally-oriented work. This is similar to Williams and Balaz's (2005: 465) observation that the "shift to knowledge-based economies also means that a higher premium is placed by employers on interpersonal communication skills." Generic and transferable skills such as communication, negotiation and problem-solving skills represent the requisite attributes for international business.

6.3 Specificity and tacitness

The survey respondents were asked to rate statements that deal directly with different dimensions of knowledge, and significant differences emerged when comparing sectors, international orientation and newcomer status. Tacitness of knowledge can be measured by focusing on knowledge transfer experiences. The ease with which individuals share knowledge with colleagues is based on the assumption that tacit knowledge is more difficult to transfer than explicit knowledge. The first statement in Table 6.6 points to tacit knowledge since this is more difficult to transfer without physical co-presence, while the second statement reflects the theoretical assumption that explicit knowledge is easier to share. The third statement concerns generic knowledge applicable across organisations and locations, and statement four workplace-specific knowledge.

Table 6.6: To what extent would you agree with the following statements regarding your personal experience of working in Serbia? (absolute numbers)

	5	4	3	2	1	SD	Total	Mean
Tacit and explicit knowledge								
1. The knowledge and skills I have acquired can only be transferred though observation	3	16	23	28	63	1.16	133	2.01
%	2.2	12	17.3	21	47.4			
2. It is easy for me to pass on my knowledge and skills to my colleagues	17	58	46	12	4	0.92	137	3.52
%	12.4	42.3	33.6	8.7	2.9			
Generic and specific knowledge								
3. My acquired skills have wide applicability to a number of different work environments	39	52	34	8	3	0.98	136	3.85
%	28.7	38.2	25	5.9	2.2			
4. My skills are specific to my area of specialisation and have little value outside of my workplace	2	17	25	48	41	1.06	133	2.18
%	1.5	12.8	18.8	36.1	30.8			
Knowledge sharing channels								
5. The most valuable means of transferring knowledge is through observation: watching, learning and repeating*	37	69	27	12	1	0.90	146	3.88
%	25.3	47.3	18.5	8.2	0.7			
6. The knowledge that I have acquired can be easily codified (expressed in words and numbers), and easily communicated and shared in the form of hard data, manuals, codified procedures or universal procedures*	15	50	35	31	12	1.15	144	3.15
%	10.4	34.7	24.3	21.5	8.3			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent
*5= strongly agree 4= slightly agree, 3=neither agree nor disagree, 2= slightly disagree, 1= strongly disagree

Specificity refers to the limited applicability of knowledge across contexts (i.e. primarily applicable to critical areas of expertise within an organisation, specific professions, or locations). In relation to transferability, Blackler's (2002) distinctions are also important. Embodied and embrained knowledge are tied to individuals and can therefore be shared through mobility. On the other hand, encultured and embedded knowledge are socially situated and more dependent on shared experiences and mutual understanding (Williams 2007b: 34). As Ipe (2003: 344) writes about embedded knowledge: "Embedded knowledge [...] is context dependent, narrowly applicable, personalized, and may be personally or professionally sensitive. Therefore, explicit knowledge that is embedded in nature is not likely to be easily shared among individuals." Table 6.6 indicates that a majority of respondents consider that their skills are generic rather than specific. Only 19 (14.3 per cent) consider "to a great extent" or more that they have workplace-specific skills. A majority (91 or 66.9 per cent) believe they are able to apply skills in a variety of workplaces. This further supports the idea that return migrants have expectations of non-linear career trajectories that are not tied to a single firm (Williams 2005: 457).

In Table 6.6 statements 5 and 6 are further measures of the tacit and explicit dimension, focusing on knowledge sharing channels. The results in Table 6.6 indicate that many survey respondents consider it easy to pass on knowledge to others – 75 (54.7 per cent) agreed with this statement "to a great extent" and above (mean 3.52). This suggests that although a significant proportion of knowledge is relatively explicit, the tacit dimension is also substantial. In contrast, only 14.9 per cent (19 individuals) responded similarly that their knowledge could only be transferred by observation. Statement 5 (corresponding with tacit knowledge sharing channels) has a higher mean (3.88) than statement 6 (3.15), referring to explicit knowledge sharing. As with the statements referring to tacit and explicit knowledge, the results indicate that no single knowledge-sharing channel is sufficient. It follows that organisations should use different knowledge sharing channels if they want to maximise the range of tacit and explicit knowledge held by employees.

Table 6.7: To what extent would you agree with the following statements regarding your personal experience of working in Serbia? (means)

	Common to work in teams			Use of informal knowledge-sharing mechanisms		
	Uncommon	**Common**	**t**	**Low**	**High**	**t**
Tacit and explicit knowledge						

1. The knowledge and skills I have acquired can only be transferred though observation	2.54 (0.79)	2.41 (0.9)	ns	2.5 (0.92)	2.47 (0.83)	ns
2. It is easy for me to pass on my knowledge and skills to my colleagues	3.4 (1)	3.65 (0.85)	ns	3.74 (0.79)	3.37 (0.98)	2.29**
Generic and specific knowledge						
3. My acquired skills have wide applicability to a number of different work environments	3.86 (0.95)	3.88 (0.98)	ns	4.04 (0.84)	3.67 (1.03)	2.11**
4. My skills are specific to my area of specialisation and have little value outside of my workplace	2.05 (1.01)	2.28 (1.11)	ns	2.10 (1.01)	2.27 (1.08)	ns
Knowledge sharing channels						
5. The most valuable means of transferring knowledge is through observation: watching, learning and repeating	3.78 (0.95)	3.96 (0.85)	ns	3.81 (0.97)	3.87 (0.87)	ns
6. The knowledge that I have acquired can be easily codified (expressed in words and numbers), and easily communicated and shared in the form of hard data, manuals, codified procedures or universal procedures	3.08 (1.24)	3.17 (1.13)	ns	3.39 (1.05)	3.01 (1.2)	ns

*** p< 0.01; ** p<0.05; * p<0.10, ns = not significant at p<0.10 level

The ability to share knowledge is dependent on the nature of available knowledge sharing channels. Lazarova and Tarique (2005: 365) argue that knowledge transfer tools with low intensity favour generic and explicit knowledge, while teamwork and other intensive tools favour specific and tacit knowledge. Low intensity knowledge sharing tools include presentations, lectures, and internet tools (Lazarova and Tarique (2005: 366). The link between intensive knowledge transfer tools and knowledge sharing between individuals was tested by creating variables for the statement 'In my workplace it is common to work in teams', dividing the respondents into two groups - 'common' and 'uncommon' - based on 4 and 5 of the Likert scale (common), and 3 and below (uncommon). The two groups were compared using the statements referring to knowledge and knowledge sharing (see Table 6.7). The results were not significant, failing to support Hypotheses 7a and 7b regarding tacit and explicit knowledge. Although the mean score for 'It is easy for me to pass on my knowledge' was higher (3.65) for people working in teams compared to those in workplaces where teamwork was uncommon (3.4), the difference was not significant. This may reflect the blurring of the distinction between formal and informal channels of knowledge transfer in workplaces in Serbia or undeveloped systems of formal knowledge transfer mechanisms. A further variable was generated for 'low' and 'high' use of informal channels of knowledge exchange in the work place. The results show that it is easier to share knowledge with colleagues in workplaces with 'low' usage of informal knowledge sharing mechanisms ($t=2.29$, $df=120$, $p<0.05$). In other words, generic knowledge is easier to share in workplaces with formal channels for knowledge sharing. Further, the results indicate that individuals in workplaces where the use of informal knowledge-sharing mechanisms is low are significantly more likely to have generic skills ($t=2.11$, $df=129$, $p<0.05$). This generates a revised Hypothesis 7: Generic knowledge transfer is associated with formal knowledge sharing channels. This result may point to a link between the prevalence of generic, transferable skills and workplaces that have established more formalised knowledge management practices.

There is evidence that the combination of informality in Serbian workplaces and the focus on inter-personal interactions may aid the sharing of tacit knowledge, that the hierarchy and rigid structures of foreign organisations hinder. Many respondents reported that their workplaces were relatively small (less than 50 employees), creating an environment that nurtures more intense working relations and avoids the problems associated with ensuring that knowledge circulates between different units and teams that can exist in complex organisational structures. Tacit knowledge sharing benefits from rich information exchange channels and Serbian firms have the potential to offer high frequency of communication channels in terms of person-to-person contact. The stress on long term learning through observation and participation, which is a characteristic of Serbian firms highlighted by interviewees, is also similar to the channels that favour tacit knowledge exchange. Dusan M (private foreign firm) mentioned that the difference between foreign and Serbian companies is the formers' ability to capture knowledge in procedures and thereby prevent the loss of knowledge when people leave. Dusan considers this a problem of Serbian companies:

> That's true the procedures are different in local and international companies because they don't care in local companies. They either think that you will be there for ages or they just think that someone else will easily incorporate this new system. And here we take care of the situation. We like that everybody can learn but we also like that this knowledge stays in the company. So you should, there are systematic procedures for that; [...] you should name this data in this way and this way, final version, working version, dates, etc, so if someone leaves the company, somebody else can easily continue.

For many working in foreign firms in Serbia, especially large multi-nationals, the skills acquired are generic and routine in nature, and the employees feel that staff members are easily replaceable. Formal mechanisms encourage the sharing of knowledge and the knowledge to be incorporated into the organisational knowledge base. In this way, individuals' monopoly over knowledge is reduced and their departure from the firm will have minimal impact in terms of knowledge loss. Zelimir J (Serbian government agency) described the formal knowing sharing mechanisms that he experienced in the multinational company in Serbia:

> When you do projects [...] you have timetables for your meetings, what you did, steps, lessons learned, all these important things for knowledge transfer you have formally because you cannot proceed if you don't do this, this, this, then you must you put all that data, information and knowledge in this computer programme and in really complex knowledge management system which really we were filling that system every day.

In contrast, in many workplaces it is assumed that people will be there for a long time. This was noted by foreign employers operating in Serbia, particularly smaller companies. Peter S (foreign private firm), for instance, observed the limitations of formal training and knowledge sharing mechanisms in the workplace. As a result employees in his company are expected to learn on-the-job through participation and observation. Peter remarked that people only become proficient at their job through experience. Peter's comments are based on the belief that formal training cannot provide the range of skills that the company needs. In other words, they need employees with both explicit and tacit skills.

The results showed that formal channels of knowledge sharing favour generic knowledge. It is easier for people to share knowledge in workplaces where the use of formal knowledge sharing mechanisms is common. At the same time, interviewees spoke of the advantages of informal mechanisms, and against this background communication skills are valued for facilitating contact and interaction with people from a broad range of backgrounds, especially for people whose work brings them into contact with people from abroad. Serbian workplaces eschew formal learning channels in favour of long-term on-the-job learning. The onus is placed upon individual motivations to share and receive knowledge and upon trusting relations with colleagues. It also undermines, however, the organisational knowledge base, highlighting specific knowledge over internationally-convergent generic business practices.

6.4 Scarcity of skills in Serbia

Serbia's relative international political and economic isolation has made it more difficult to acquire a range of skills and knowledge that are available in other countries where global business practices are more widespread and accepted. To test for skills shortages in Serbia the survey asked respondents to indicate if the knowledge and skills acquired abroad could also be found in Serbia. As Table 6.8 shows, the respondents considered that 'foreign language ability', 'knowledge and understanding of other countries', 'knowledge of international business', 'cross cultural skills' and 'new perspectives on the home country' are easier to acquire abroad.

Table 6.8: Is it possible to acquire the following skills in Serbia? (absolute numbers)

	Yes (%)	No (%)	Total
Knowledge and understanding of another country	5 (3.4)	142 (96.6)	147
Foreign language ability	8 (5)	152 (95)	160
New perspectives on my home country	11 (7.48)	136 (92.52)	147
Knowledge of international business	18 (11.39)	140 (88.61)	159
Cross cultural skills	25 (15.72)	84.28 (84.28)	159
New approaches to work	28 (19.05)	119 (80.95)	147
New ideas	31 (19.38)	129 (80.63)	160
Acquiring qualifications	46 (28.75)	114 (71.25)	160
Learning new skills (e.g. technical competences related to work)	46 (28.75)	114 (71.25)	160
Enhanced confidence in my abilities	46 (31.29)	101 (68.71)	147
Ability to deal with new challenges and stressful situations in the workplace	56 (38.1)	91 (61.9)	147
Communication skills	62 (38.99)	97 (61.01)	159
Technical / functional skills	66 (41.51)	93 (58.49)	159
Negotiation skills	68 (42.77)	91 (57.33)	159
Administrative skills	73 (45.91)	86 (54.09)	159
Decision-making skills	75 (47.17)	84 (52.83)	159
Supervisory / leadership skills	82 (51.57)	77 (48.43)	159

All but eight respondents thought it impossible to acquire foreign language competences in Serbia. Cultural immersion is an effective way to gain language proficiency, as well as to learn about different social norms and working practices. Language proficiency also has both tacit and explicit elements. On the one hand, English language, as a 'ground floor' language (van Parijs 2000), is required for attendance at conferences and access to international networks. Zorica D (academic) observed that many people in Serbia have poor language skills because of limited opportunities to travel. This has an impact on professional development: "And I always had very easy communication with foreigners, but the problem is [...] people within our administration are not so proficient in languages and then have difficulties to follow the documents [...]." Sasha B (private Serbian company) made a similar point about the benefits of being in a corporate culture:

> You go into a company that has a certain corporate culture and you are from somewhere else. You are forced to adapt to that corporate culture very quickly or you're gone and your assimilation of knowledge methodologies practices is much faster. I'd say, 40 years of college here is equivalent to one year of college abroad in terms of learning how to learn, adapting - not the pure knowledge, we're not talking about the subject matter. I'm talking about everything else. Learning how to socialise, how to share, how to teamwork. All of those things, work by immersion.

It is only possible to access a certain degree of knowledge from reading codified sources such as articles and presentations. Moreover, co-presence is often necessary for the exchange of tacit knowledge, though it may be realised through electronic communication (Williams 2007b: 34). Language skills are particularly important in respect to country-specific skills (Dustmann *et al.* 2003). Mladen M (private Serbian firm) observed the importance of language proficiency from a cultural perspective:

> English, and not just English on the level of now we can talk in a pub or something, but [...] subtle differences in phrasing sentences [...] that can make problems or sort out things in email correspondence, especially if you have customers, which is the case for a lot of software companies here. [...] especially if your customer is from England or

> Ireland or the States where English is the native language. Then it can be really tricky understanding some of the points that they are conveying between the lines [...].

Interviewees whose work involves a high level of international interaction unsurprisingly drew attention to the importance of language and cultural understanding. Being able to interact with a diverse range of people is frequently considered as important as language skills themselves. It is easier to establish trust with people if you have a shared perspective and understanding of the values that are important for work. As Zoran J (foreign multi-national firm) observed: “[...] when you take away all the formalities and the professional things, at the end of the day people are people...” Another important element of language competences was made by Dejan V (Serbian engineering institute) in relation to colleagues working at his research institute: “Like technical writing for instance, it’s one of the difficulties of my younger colleagues here. Although they speak English, let’s say, and they can write English, but it’s different if you intend to write documentation in English in Serbia [...].” Dejan V considered language proficiency and application-writing skills to be the most important competences he acquired abroad.

The only skills that most survey respondents (51.6 per cent) consider can be acquired in Serbia as well as abroad are supervisory and leadership skills. Although many interviewees disparage the lack of procedures and formal knowledge management structures in Serbia, 16 remarked that the lack of management skills on the part of superiors is not a problem limited to Serbia. As Sasha B (private Serbian company) observed: “[...] I think a similar thing exists in countries like Germany, Austria - the Germanic countries - and lots of Eastern European countries are like that, management positions are given to the people who are good at the core business of the company, not necessarily to the people who are good at management.” The interviewees hence consider supervisory and leadership competences to be embodied skills, unrelated to international experience. In some cases, foreign exposure highlights the relevance of existing skills. At university, eight interviewees had been members of international associations involving foreign travel and access to global student networks. Zoran J (foreign multi-national firm) reflected that following the training provided by his (foreign) firm in management theories, he realised that he had applied these theories when president of a student organisation. Zoran discussed his tenure as president of a student association in Serbia in terms of enhanced confidence in his abilities: “In my opinion I did very well. And even people who were not in the organisation, now in a way respect my opinion. [...]. I feel really respected. They call me for advice [...]. It's not connected to working abroad; it's being connected to the student organisation for many years." This correlates with the survey finding above that leadership skills can also be acquired in Serbia. A similar point was made by Liljana Lj about her experience as a student representative. Equally, Liljana noted that it was mainly through NGO work in Serbia that she gained the skills she needs in her current job, such as project management skills.

A majority of survey respondents (68.7 per cent) consider that going abroad is the only means of generating greater confidence in personal abilities. A key aspect of confidence derives from the ability to interact in an international environment. People who have spent time abroad also learn how to deal with people from other countries. This point was made by Srdjan S (Serbian electrical engineering firm) about the limited applicability of certain skills and knowledge to Serbia because the market is not developed: "[...] the social thing is very important and that's the most valuable thing that you learn when you go outside because you want to work for those people [...] and once when you're there you can learn a lot about them, their behaviour, their business skills and everything." Conversely Petar Z, working in academia, commented that the benefits of international exposure could be acquired without going abroad, emphasising personal attitudes: "The international experience is what you make of it. And I know some people who travel and who spend 4-5, ten years abroad and it seems to me that they do not benefit, they stayed at home in their minds." There are people who spend time abroad and remain closed to the host society, and at the same time it is possible to remain in Serbia and be open to learning about different practices, cultures and ideas.

Practical application of technical knowledge is also a problem in Serbia. One of the main obstacles to transferring engineering knowledge to Serbia is the lack of finance, particularly in industries that require expensive equipment. Nenad D (Serbian science institute), for instance, who took part in several short-term knowledge transfer programmes, criticised the lack of reciprocal exchange of Serbian scientists to Western countries. By bringing highly educated co-ethnics living abroad to Serbia, Nenad argued that these programmes fail to address deep-rooted impediments to research in Serbia. In research-intensive industries, it is frequently not possible to transfer certain forms of knowledge to Serbia because the equipment and laboratories are unsuitable. In this case Serbian scientists would benefit from periods abroad where they could observe different techniques, have access to state of the art equipment and work with experts in their field. Srdjan S also remarked on this issue, observing that Serbian graduates have good theoretical knowledge, equal to that provided by any university in the world. Like IT, engineering is a profession where the skills are highly transferable across countries. However, in Serbia graduates enter the labour market without any practical experience. They have to be trained in the company or sent abroad. A similar point was made by Dejan V, mentioned previously, about the gap between formal education and the labour market:

> [...] in Serbia it may be that you learn something at school and when you work you do not apply these skills although you have them. So in that sense I have this feeling [...] that it's better to go abroad for building such skills, acquiring and building such skills.

Further, the advantage of interaction with people from other countries is the opportunity to contrast knowledge and views. To some extent, this represents encultured and embedded knowledge; knowledge that is place-specific and grounded in interpersonal relations and socialisation processes (Williams and Balaz 2008a: 1925). As Zeljko K (international not-for-profit institution) observed, interaction with people from different countries is important for gaining new perspectives and ideas:

> It definitely makes you more confident when you are in a classroom or an office with 20 different nationalities and you can see where you are compared to them, be that above or below. You know where you stand, the way people think, some mainstream opinions. You realise how different you are from them or how similar. Similar, and if you are similar it's OK and you can improve on that and if you are very different you know where your gaps are and approach that from different angles and work on that. So definitely it makes you a lot more confident and it gives you this depth as a person and makes you think wider as well. It makes you realise how you can incorporate your own interests into a wider scope of knowledge and ideas.

In a similar way, Liljana Lj (Serbian NGO) remarked that international exposure changes personal attitudes to what can be achieved outside the culture in which you are raised: "international experience tends to make people more self-assured in my opinion, tends to convince them that almost anything is possible because, if nothing else, most people experience less obstacles on everyday level especially when it comes to work, when working in international context than when working exclusively in Serbian context." Liljana put this in context by describing how her generation was brought up in a state that was "supposed to take care of you." In contrast, international exposure "makes people more flexible and entrepreneurial." Another interviewee, Zeljko J, working for an international institution, discussed international experience in terms of interaction with people from other countries and the "better worldview" that could be gained through contrasting different attitudes and knowledge. As a result, knowledge becomes a construct of multiple perspectives, generated through interactions between individuals and what they bring to an organisation.

A high percentage of survey respondents (71.2 per cent) also reported that it was not possible to gain equivalent qualifications in Serbia. Again, this may reflect the proportion of people in the survey who went abroad on scholarships and university exchange programmes. The result was equal to that for acquiring technical and functional skills. The interviewees demonstrated that in their professions they learn a combination of tacit and explicit knowledge. It is not simply that certain skills cannot be acquired from codified sources. Physical presence (embodied knowledge), observation, participation, and the application of knowledge are crucial forms of learning, but the gap between theory and application, codified explicit knowledge and tacit knowledge gained by actual doing, is stark. Aleksandar D (academic) remarked that people who are engaged internationally are more open to knowledge and knowledge sharing. Aleksandar also observed that whilst it is not necessary to go abroad, physical presence makes knowledge sharing easier.

The process of global integration can be seen in perceptions that, compared to previous generations, more opportunities exist in Serbia to gain international experience. It was common for interviewees to note that Serbia's relative isolation during the past decades has been influential for accentuating the unique value of international exposure. As noted by Mihailo D (Serbian NGO), people should take the opportunity to travel:

> [...] it's not completely necessary to have international experience, especially for younger generation which are able to gain more of that in Serbia but especially for the older generation most definitely yes, they need to go abroad to experience how things

are done differently there. Even for a couple of weeks to go somewhere. It gives them that different perspective. And then they are able to look at both where they were abroad and Serbia and make a decision on what is better to tackle the problem they are dealing with.

As foreign firms enter the Serbian market, there are increasing opportunities to gain international exposure without going abroad. As Zelimir J (Serbian government agency) remarked of his experience working for a multi-national firm in Serbia:

> I think that's really good if you're [working for] an international company. You can get not just ideas; that mobility, that working all around Europe, or even the world, is a good thing. But also after these ten years when we were closed, sanctions, we lost that sense for exchange [of] cultures and also to meet new cultures.

Employers recognise that living abroad has advantages beyond qualifications and education in the form of motivation and confidence. The four foreign managers interviewed also discussed the importance of international experience in similar ways. Linda D (owner of a private foreign firm) talked about the confidence and creativity that is associated with international experience, which she noted was in short supply in Serbia. Linda's firm encourages employees to spend time abroad and supports their applications to attend foreign universities. Linda remarked that employees acquire embodied and encultured knowledge abroad, particularly in terms of confidence and a 'Western' attitude to self-promotion. Marika Dz discussed this point in reference to the experience of communicating competences during job interviews in Serbia: "…in Australia, when you go to an interview you talk yourself up, whereas here, when I went to the interview, I said, 'look, I am a quick learner' and they said to me, 'that we will see'; like don't talk yourself up." Hence, international experience is important for changing encultured attitudes towards the identification and perception of individual skills and knowledge.

The ability to see your own country in perspective is an important aspect of foreign experience, and one that facilitates return because people do not automatically assume that everything is better abroad. As 19 interviewees observed, people who have not been abroad associate return with failure and do not understand why anyone would return to Serbia. People with international experience, in contrast, are able to compare aspects of life and work, noting differences and similarities. For instance, Liljana Lj observed, in reference to the organisational aspects of foreign universities, that “the way that they supervise things and the way they managed things were as dysfunctional as the way people manage or mismanage things in Serbia.” An important consequence of these observations is the transfer of embedded knowledge in the form of new approaches to working. This point was repeatedly stressed in the interviews. For example, Darko K (Serbian NGO) noted the different approaches to teaching in the education sector between Serbia and abroad, commenting: “Styles of teaching are very much different. Accessibility to professors is something which here almost doesn’t exist.” Interviewees commented on different types of teaching experienced abroad, as observed by Petar Z (academic and Serbian NGO): “At the faculty I made the difference based on what I learned abroad, based on what I saw [abroad]: how faculties function, how lecturers are organised, [...] different forms of communication between teacher and students, different forms of organisations of student themselves [...].” Petar, like other academics, chose to adapt the style of teaching he observed abroad to Serbia.

In summary, the results show that skills have tacit and explicit dimensions. For instance, language skills are embedded and embodied but also to an extent encultured. This relates to the importance not just of technical and functional skills, but ‘know how’; experience of foreign work practices that is contingent on physical presence, observation and participation. Some knowledge can only be valorised or transferred in truncated form, depending on conditions in the workplace, such as organisational culture and individuals’ position (peripherality) and the intensity of knowledge sharing mechanisms.

6.5 Conclusion

The chapter presents analysis of knowledge and skills among the survey participants and interviewees. Using Blackler’s (2002) knowledge distinctions, analysis of the data points to the acquisition and use of both tacit and explicit, as well as generic and specific knowledge in the workplace. International experience is valued for formal qualifications and professional experience, as well as more tacit attributes such as increased confidence and an ability to communicate with people from different backgrounds. Respondents also appreciate that international knowledge is transferable and generic, giving them access to the global market. There was also evidence that certain factors at the firm and structural levels influence which skills were valued most. For instance, interviewees working in internationally-oriented work drew attention to their language and communication skills. Other respondents indicated that some skills are less dependent on international exposure and integration than others; supervisory and leadership, technical and functional, negotiation, administrative and decision-making skills. There was a link between the skills that could be acquired in Serbia and those considered personal attributes, which correlate to the concept of 'embrained' skills. In terms of leadership skills in particular, the survey and interviews highlighted how management problems are considered similar in every country and not a problem specific to transition countries. Language abilities, cross-cultural skills, knowledge of other countries and international business, and new approaches to work were conversely considered harder to acquire in Serbia. Other skills such as increased confidence in one's abilities, communication skills and the ability to react to new challenges in the work place lie between these extremes. 'Encultured' and 'embedded' skills relate to understanding of work cultures and foreign societies, which are both harder to acquire in Serbia and to transfer between locations.

The chapter also sought to analyse the reasons (work sector, Serbian versus foreign firms and peripheral workplace positions) why certain skills were emphasised over others. The results generated hypotheses: Internationally-relevant skills are rated more important for work in foreign workplaces than Serbian-owned workplaces (Hypothesis 6.1); and the degree of recognition of language ability depends on whether the workplace is in the for-profit or the not-profit sector (Hypothesis 6.2). Hypothesis 7 was revised to reflect the results that showed generic knowledge is more commonly shared in workplaces with a high use of formal knowledge transfer channels.

There were divergent opinions regarding the availability (and accessibility) of competences in Serbia. At one end of the scale, 96.9 per cent of survey respondents think that language skills, knowledge of other countries and new perspectives on the home country, are best acquired abroad. Likewise, 88.6 per cent think that it is necessary to go abroad to acquire knowledge of international business in Serbia. But at the same time, the importance of this knowledge was scored lowest, in reflection of the continued orientation of firms to the domestic market. Conversely, a majority of survey recipients believe that supervisory and leadership skills could be acquired in Serbia as well as abroad. The interviewees helped to explain this result, noting that these skills were difficult to learn and often dependent on personal attributes (embodied knowledge).

The interviewees qualified the role of international experience, observing that it is possible to acquire many elements of embrained knowledge in Serbia. They added that the learning process is dependent on personal attributes; on personal motivations to acquire knowledge and openness to alternative ideas and perspectives. The desire to share knowledge is equally dependent on the willingness of the knowledge-holder. International working environments in Serbia can provide comparable skills as those acquired abroad. In fact, some respondents commented that their most valuable experience and knowledge acquisition had occurred in Serbia, for instance working in international workplaces or as part of extra-curricula activities at university.

7 The workplace - interview and survey data

7.1 Introduction

The chapter analyses individuals' satisfaction with the working environment, perceptions of their own knowledge and contributions to the workplace. It tests Hypothesis 3 presented in Chapter 1 related to the role of management in knowledge transfer. There is also hypothesis generation from the data dealing with satisfaction with workplaces. Responses are cross tabulated according to groups distinguished in existing research as well as conditions identified in this research as important in influencing knowledge sharing and satisfaction in the workplace. As far as possible the analysis follows the approaches used in the small pool of empirical studies (Tung and Lazarova 2006; Williams and Balaz 2005). Statistical tests for significant differences across groups are conducted where appropriate. First, differences between foreign and Serbian workplaces (the closest proxy for international orientation) are tested (Hypothesis 6). This is different from the next chapter where the interview approach elicited greater detail on the elements of workplace international orientation, compared to the proxy of foreign ownership, which is used in the survey. Workplaces are divided into for-profit and the not-for-profit sectors, motivated by the same distinction used by Tung and Lazarova (2006).

The analysis highlights globalisation's limited penetration and the relatively poor integration of Serbia into the global economy. The results show that in Serbian firms, the respondents find it more difficult to transfer knowledge than in foreign firms. Knowledge of Serbian culture is considered more important than knowledge of international networks, pointing to the continued focus of Serbian firms towards the local market. Whilst the survey shows that many people believe their knowledge to be relevant to the workplace, the interviews elaborate on deeper issues relating to interaction challenges and the absence of management oversight. A lack of recognition of professional and educational expertise in the labour market is more common among those looking for work abroad.

7.2 Recognition of skills and their role in finding employment

Section 5 of the survey asks about recognition of unique knowledge. It also points to the skills that are considered scarce in Serbia. Respondents assess the role of various competences and skills for gaining employment in Serbia. Table 7.1 shows that all the competences and knowledge factors are rated highly, although "cosmopolitan outlook" and "knowledge of (contact with) foreign networks" are marginally less important. Tung and Lazarova (2006: 1863) argue that high values attributed to factors that contribute to securing a job indicate the importance of these skills and competences to the employment market. They suggest that employers put a premium on scarce skills. Following this logic, lower scores indicate a relative abundance of local talent with "cosmopolitan outlook" and knowledge of foreign networks. On the other hand, it could reflect a lack of demand within Serbian companies for these attributes. Analysis from previous chapters supports the latter interpretation. The results show that professional accomplishments (mean 4.22) were considered the most important in securing a job in Serbia upon return from abroad. Technical qualifications and education experience were also relatively high (both with a mean of 3.86). Knowledge of business networks at home (mean 3.89) was rated higher than knowledge of foreign networks (mean 3.58). Similarly, the respondents rated "cosmopolitan outlook" the lowest of all the attributes (mean 3.17). These low scores suggest that international knowledge is not as relevant to Serbia as knowledge of the domestic market and business practices.

The importance of professional accomplishments is much higher than educational experience, a finding confirmed by several interviewees who noted that most of their day-to-day work is conditioned by professional experience and not the education they received. Drenka R (foreign company) commented that work experience is just as (if not more) important than qualifications. Consequently, some interviewees downplayed the relevance of their education abroad, claiming that work experience is more important. Moreover, this finding points to the relatively unreformed education system in Serbia, as discussed in Chapter 4, which is not equipping students with the skills required in a globally integrated, knowledge economy.

Table 7.1 How important are the following in securing a job in Serbia after returning?

		5	4	3	2	1	SD	Total	Mean
Previous professional accomplishments		69	57	6	12	2	0.96	146	4.22
	%	47.2	39	4.1	8.2	1.4			
Business network at home		55	40	32	13	4	1.01	144	3.89
	%	38.2	27.8	22.2	9	2.8			

Education experience from another country		46	53	33	9	5	1.04	146	3.86
	%	31.5	36.3	22.6	6.2	3.4			
Technical qualifications		40	56	33	9	3	0.97	141	3.86
	%	28.4	39.7	23.4	6.4	2.1			
Knowledge of (contact with) foreign networks		29	55	38	12	9	1.09	143	3.58
	%	20.3	38.5	26.6	8.4	6.3			
Knowledge of local culture (in Serbia)		30	46	39	18	9	1.14	142	3.49
	%	21.1	32.4	27.5	12.7	6.3			
"Cosmopolitan outlook"		21	38	45	28	13	1.17	145	3.17
	%	14.5	26.2	31	19.3	9			

5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important

Table 7.2 shows the results for comparisons between foreign companies and Serbian-owned firms and the for-profit and not-for-profit sectors. None was significant.

Table 7.2 Importance of competences in gaining employment (means)

	Workplace			Sector		
	Serbian	Foreign	t	FP	NFP	t
Previous professional accomplishments	4.24 (0.94)	4.37 (0.84)	ns	4.15 (1.14)	4.28 (0.81)	ns
Education experience from another country	3.88 (0.99)	3.88 (1.16)	ns	3.97 (0.96)	3.85 (1.04)	ns
Technical qualifications	3.87 (0.98)	3.88 (0.98)	ns	3.89 (0.94)	3.91 (0.92)	ns
Knowledge of local culture (in Serbia)	3.47 (1.22)	3.46 (1.08)	ns	3.51 (1.07)	3.46 (1.19)	ns
Business network at home	3.79 (1.10)	4.04 (1.13)	ns	3.87 (1.17)	3.88 (1.09)	ns
"Cosmopolitan outlook"	3.19 (1.22)	3.13 (2.77)	ns	3 (1.26)	3.25 (1.12)	ns
Knowledge of (contact with) foreign networks	3.61 (1.44)	3.55 (1.07)	ns	3.49 (1.12)	3.59 (1.09)	ns

*** p< 0.01; ** p<0.05; * p<0.10

There were, however, significant differences recorded according to a key indicator of satisfaction with life and work in Serbia; the survey asked respondents whether they were currently looking for work abroad. Of the 132 responses to this question, 39 (29.5 per cent) commented that they were looking for employment abroad, whilst 93 (70.4 per cent) said that they were not. All relevant statements were analysed accordingly and summarised in Table 7.3 below:

Table 7.3 Responses to survey questions according to distinction: 1) Looking for work abroad, and 2) not looking for work abroad

	Looking for work abroad	Not looking for work abroad	t
Previous professional accomplishments	3.87 (1.28)	4.39 (0.77)	-2.87***
Education experience from another country	3.46 (1.19)	4.02 (0.96)	-2.82***
Technical qualifications	3.77 (0.96)	3.90 (1.02)	ns
Knowledge of local culture (in Serbia)	3.51 (1.17)	3.32 (1.12)	ns
Business network at home	4.02 (1.09)	3.8 (1.13)	ns
"Cosmopolitan outlook"	3.15 (1.25)	3.13 (1.15)	ns
Knowledge of (contact with) foreign networks	3.63 (1.1)	3.49 (3.25)	ns
Inadequate understanding by others whom I interact with in a business setting of what my international experience brings to the organisation	3.27 (1.23)	2.67 (1.23)	2.29**
My employers recognise that I have acquired skills and knowledge that can benefit the organisation	3.08 (1.38)	4.03 (0.99)	-4.33***
Inadequate compensation for my skills and knowledge	3.51 (1.35)	2.89 (1.24)	2.47***
Lack of adequate support from top management of the organisation	3.66 (1.21)	2.93 (1.32)	2.95***
Outdated infrastructure (including technology)	3.44 (1.18)	2.96 (1.36)	ns
Inadequate administrative support	3.26 (1.27)	2.87 (1.35)	ns
Inadequate management skills on the part of my local superiors	3.62 (1.19)	2.92 (1.39)	2.67***
Lack of opportunities to use my knowledge and expertise to the fullest	4.11 (1.07)	2.90 (1.17)	5.33***
Lack of opportunities to advance my career	3.86 (1.11)	2.56 (1.25)	5.49***
Lack of opportunities to work in another international location	3.59 (1.19)	2.49 (1.22)	4.61***
Inadequate level of responsibility	3.46 (1.07)	2.27 (1.15)	5.36***
Lack of opportunities to network	2.91 (1.31)	2.89 (1.11)	2.64***
Envy from my compatriots (including clients, subordinates, superiors, peers)	2.89 (1.35)	2.36 (1.22)	2.12**
Working with colleagues whose views about the way I should do my work are very different from mine	2.94 (1.2)	2.52 (1.12)	1.9**
Satisfaction with people I work with (including clients, subordinates, superiors and peers)*	3.42 (1.03)	3.89 (3.69)	ns
My employers have a management strategy for encouraging employees to share knowledge	2.4 (1.16)	3.17 (1.25)	-3.19***
The skills and knowledge I acquired abroad cannot easily be transferred to Serbia	2.42 (1.28)	1.87 (1.63)	2.4***
It is easy for me to pass on my knowledge and skills to my colleagues	3.29 (0.98)	3.58 (0.89)	ns
My acquired skills have wide applicability to a number of different work environments	3.76 (1.02)	3.88 (0.92)	ns

My skills are specific to my area of specialisation and have little value outside of my workplace	2.11 (1.01)	2.17 (1.10)	ns

*** p< 0.01; ** p<0.05; * p<0.10; ns=not significant

The results show that the intention to re-migrate depends on the degree of dissatisfaction with the life and work in Serbia. There were statistically significant differences between those looking for work abroad and those not; professional accomplishments were considered more important in gaining employment in Serbia for those not looking for work abroad ($t=-2.87$, $df=125$, $p<0.01$). A similar significant difference was found for the role of educational experiences from another country ($t=-2.82$, $df=125$, $p<0.01$). The motivation to look for work abroad is partly related to a lack of recognition of professional and educational expertise in Serbia. By making this distinction we find evidence to support both of Balaz *et al.*'s (2004: 12) hypothesised relationships between temporary and permanent migration. For a proportion of those not looking for work abroad, foreign experience has replaced permanent migration by satisfying migration desires. In contrast, some of those looking for work abroad have gained in self-confidence and knowledge, which facilitates permanent or circular migration.

A majority (65.7 per cent) felt "to a great extent" and above that their employer recognised the skills and knowledge they possessed could benefit the organisation. Only 19 individuals responded "to a small extent" or "to no extent", suggesting that a majority work for organisations that appreciate the value of their skills.

Table 7.4: Recognition of knowledge

	5	4	3	2	1	SD	Total	Mean
a) Inadequate understanding by others whom I interact with in a business setting of what my international experience brings to the organisation	17	28	36	23	29	1.32	133	2.86
%	12.8	21	27.1	17.3	21.8			
High	45		Low	88				
%	33.8			66.2				
b) My employers recognise that I have acquired skills and knowledge that can benefit the organisation	45	43	27	9	10	1.19	134	3.78
%	33.6	32.1	20.1	6.7	7.5			
High	88		Low	46				

%	65.7	34.3	

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

Nevertheless, there is some evidence of tensions due to a lack of recognition by others regarding the value that their international knowledge brings to the workplace; 45 (33.8 per cent) responded that they had experienced this from others they interact with at least “to a great extent”. Similarly, just over a third (34.3 per cent) reported that their employers recognised their skills only “to some extent” or less. Using the results, variables based on ‘high’ and ‘low’ recognition of knowledge were created, with all responses including “to a great extent” and above recoded as ‘high’ and those “to some extent” and below recoded as ‘low’. Despite the inverse scales for the two statements shown in Table 7.4, the results show almost exactly the same result; about a third of respondents signal frustration with knowledge recognition in the workplace.

Table 7.5 highlights that knowledge recognition is greater in foreign workplaces. In Serbian firms the mean was significantly higher (3.03) compared to those working in foreign owned firms ($t=2.85$, $df=121$, $p<0.01$) for the statement “Inadequate understanding by others whom I interact with in a business setting of what my international experience brings to the organisation.” Although the means are still relatively low, the results confirm that knowledge is recognised more in foreign workplaces. This was elaborated upon by interviewees who spoke of Serbian employers’ failure to decipher CVs and distinguish foreign-acquired qualifications and experience. Recognition from employers of skills and knowledge was significantly higher in the not-for-profit (NFP) sector ($t=-2.16$, $df=129$, $p<0.05$). This may reflect the concentration of people working in knowledge-intensive industries such as academia, research institutes and NGOs. Inadequate understanding by others of what international experience brings to the organisation (see Table 7.17) was significantly higher for those looking for work abroad ($t=2.29$, $df=120$, $p<0.05$). The results for employers’ recognition of knowledge were even more significant ($t=-4.33$, $df=122$, $p<0.01$). The results found no statistically significant differences according to newcomer status.

Table 7.5: Recognition of knowledge (means)

	Workplace			**Sector**			**Newcomer**		
	Serbian	Foreign	t	FP	NFP	t	Non-NC	NC	t

Inadequate understanding by others whom I interact with in a business setting of what my international experience brings to the organisation	3.30 (1.24)	2.33 (1.34)	2.85 ***	3.09 (1.35)	2.76 (1.31)	ns	2.79 (1.31)	2.77 (1.29)	ns
My employers recognise that I have acquired skills and knowledge that can benefit the organisation	3.78	4.09	ns	3.41 (1.39)	3.92 (1.08)	-2.16**	3.93 (1.06)	3.82 (1.13)	ns

*** p< 0.01; ** p<0.05; * p<0.10

In the interviews, respondents discussed a variety of reactions from others to their foreign experience. Many reported that foreign experience is not recognised and therefore unimportant when looking for employment in Serbia. Many expected to find their foreign experience 'in-demand' by Serbian employers, and were surprised that this was not the case. Non-recognition of skills and qualifications has an impact beyond knowledge sharing; it also undermines confidence. This matters because the incentive to re-migrate increases when individuals feel undervalued and unable to achieve their potential (as confirmed by the higher frustrations experienced by those looking for work abroad shown in Table 7.3). When the respondents were asked whether people treated them differently or sought their advice on the basis of their foreign experience, the majority reported that people tended to ask about personal experiences of foreign countries and not about technical or work-related competences. In contrast, Liljana Lj (Serbian NGO) commented that she did not receive feedback on her work because colleagues were intimidated by her degrees and professional standing. This suggests that the reaction to qualifications and experiences influences how people recognise their own skills, as well as affecting knowledge flows in the workplace. In this case, colleagues considered their experience and knowledge inferior. Recognition of the value of knowledge is intrinsically linked to motivation to receive knowledge. In turn, recognition by others makes individuals more aware of the skills they have acquired.

7.3 Organisational challenges

In Table 7.6, the highest results were recorded for "inadequate management skills on the part of my local superiors" (mean 3.15) and "lack of adequate support from top management of the organisation" (mean 3.11). This indicates that a substantial proportion of respondents consider their work affected by deficiencies in workplace management capacity. In addition, "outdated infrastructure (including technology)" affects the workplace experience "to a great extent" of almost half (49.3 per cent) the respondents, signifying the problems faced by many Serbian workplaces as a result of a failure to invest, particularly in scientific, research and academic environments.

Table 7.6: Workplace challenges (absolute numbers)

		5	4	3	2	1	SD	Mean	Total
Inadequate compensation for my skills and knowledge		18	39	38	16	24	1.29	3.08	135
	%	13.3	28.9	28.1	11.8	17.8			
Lack of adequate support from top management of the organisation		22	35	40	17	23	1.3	3.11	137
	%	16	25.5	29.2	12.4	16.8			
Outdated infrastructure (including technology)		23	38	32	21	24	1.34	3.10	138
	%	16.7	27.5	23.1	15.2	17.4			
Inadequate administrative support		17	41	32	15	32	1.36	2.97	137
	%	12.4	29.9	23.3	10.9	23.3			
Inadequate management skills on the part of my local superiors		25	36	30	18	24	1.37	3.15	133
	%	18.8	27.1	22.5	13.5	18			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

Table 7.7 summarises comparison tests on different groups. There was no significant difference between employees in the NFP and FP sectors. We would expect to see better infrastructure, administrative support and compensation in the private sector (Tung and Lazarova 2006: 1869) and many of the respondents are employed in academia, government departments and NGOs where pay is relatively low. Similarly, there were no significant differences between the sectors when testing for "outdated infrastructure". Again, we would expect NFP organisations to have less funding available for investment than the FP sector. Two factors proved to be highly significant according to whether the employer was Serbian or foreign; "outdated infrastructure" with a mean of 3.32 for Serbian firms and 2.71 for foreign organisations ($t=2.47$, $df=124$, $p<0.01$); and "inadequate administrative support" ($t=3.2$, $df=123$, $p<0.01$). This result generates the hypothesis that frustrations with administrative support and outdated infrastructure are greater in Serbian firms than foreign-owned firms. One interviewee helped to explain the common sentiment that Serbian organisations are bureaucratic with bloated administrations (labour hoarding). Natalija C, who came to work temporarily for a Serbian research institute, remarked on the size and power of the administration: "These institutions are still too bureaucratic. The hangover from the period of collective society which means that every staff member has a right to question everything." When outdated infrastructure was compared according to newcomer status, the results showed that newcomers' level of dissatisfaction was significantly lower than non-newcomers (t=2.95, df=117, p<0.01). This suggests that over time people become more frustrated by outdated infrastructure inhibiting their ability to carry out work. Finally, the organisational challenges were more likely to affect those looking for work abroad (see Table 7.3), in particular inadequate compensation (t=2.47, df=118, p<0.01), lack of adequate support from top management (t=2.95, df=120, p<0.01) and inadequate management support from local supervisors (t=2.67, df=120, p<0.01).

Table 7.7: Organisational challenges in the workplace (means)

	Workplace			Sector			Newcomer		
	Serbian	Foreign	t	FP	NFP	t	Non-NC	NC	t
Inadequate compensation for my skills and knowledge	3.15 (1.29)	2.92 (1.29)	ns	3.22 (1.46)	3.04 (1.22)	ns	2.85 (1.74)	3.5 (1.36)	ns
Lack of adequate support from top management of the organisation	3.24 (1.24)	2.88 (1.38)	ns	3.17 (1.46)	3.08 (1.24)	ns	3.12 (1.33)	3.09 (1.2)	ns
Outdated infrastructure (including technology)	3.32 (1.29)	2.71 (1.31)	2.47***	3.08 (1.34)	3.1 (1.33)	ns	3.33 (1.24)	2.61 (1.32)	2.95***
Inadequate administrative support	3.24 (1.28)	2.45 (1.32)	3.2***	3.11 (1.41)	2.91 (1.33)	ns	3.12 (1.29)	2.66 (1.37)	ns
Inadequate management skills on the part of my local superiors	3.28 (1.29)	2.87 (1.43)	ns	3.39 (1.32)	3.01 (1.36)	ns	3.23 (1.34)	2.97 (2.54)	ns

*** p< 0.01; ** p<0.05; * p<0.10

7.4 Responsibility, autonomy and management oversight

Table 7.8 summarises attitudes concerning levels of responsibility and autonomy in the workplace before and after going abroad. The low response rate for this question is a reflection of the proportion of respondents who had not worked in Serbia before going abroad. Respondents indicated higher levels of satisfaction after return for all the statements, with prospects for career advancement jumping from a mean of 3.02 before return to 4.26 after.

Such a leap confirms that international experience is strongly linked to increased confidence. Moreover, the respondents' positive assessment of their career advancement potential, higher than current work satisfaction levels (80.9 per cent signalled a 'high' or 'very high' satisfaction), also suggests that individuals are willing to tolerate some frustrations at work (such as low wages) in the expectation of future career success. The results also demonstrate a relatively high level of satisfaction in terms of responsibility and autonomy. Overall satisfaction with work (mean 3.82) was lower than the means for autonomy (3.96) and responsibility (4.26). The lowest level of satisfaction was for financial remuneration (3.45). This indicates the importance accrued to autonomy and responsibility, conditions that appear to increase overall satisfaction with work.

Table 7.8: Satisfaction with experiences at work before and after being abroad (absolute numbers)

	5	4	3	2	1	SD	Total	Mean
Autonomy in decision making before	9	31	57	17	7	0.95	121	3.15
%	7.4	25.6	47.1	14	5.8			
Autonomy in decision making after	44	47	25	6	4	1.01	126	3.96
%	34.9	37.3	19.8	4.8	3.2			
Ability to assume wider responsibility in my work before	6	33	62	14	4	0.84	119	3.19
%	5	27.7	52	11.8	3.4			
Ability to assume wider responsibility in my work after	54	43	22	5	2	0.94	126	4.12
%	42.8	34.1	17.5	4	1.6			
Prospects for career advancement either in my native country or elsewhere before	4	30	61	19	8	.89	122	3.02
%	3.3	24.6	50	15.6	6.5			
Prospects for career advancement either in my native country or elsewhere after	68	34	14	9	1	0.93	126	4.26
%	54	27	11.1	7.1	0.8			
Financial remuneration before	1	20	54	35	10	0.87	120	2.75
%	0.8	16.7	54	29.2	8.3			
Financial remuneration after	24	55	30	9	7	1.05	125	3.64
%	19.2	44	24	7.2	5.6			
Overall satisfaction with job before	10	34	44	26	5	0.99	119	3.15
%	8.4	28.6	37	21.8	4.2			

Overall satisfaction with job after		36	49	22	12	4	1.06	123	3.82
	%	29.3	39.8	17.9	9.7	3.2			

5=very high, 4=high, 3=average, 2=low, 1=very low

Potential differences between respondents working for foreign and Serbian employers and in not-for-profit and for-profit workplaces were tested, and according to newcomer status. Though not included in Table 7.9, tests were also conducted for differences using the variable high and low recognition of knowledge (see Table 7.4). The results showed that higher recognition of knowledge strongly is linked to higher levels of satisfaction in the workplace. For instance, those reporting high recognition of knowledge cited higher satisfaction with "Autonomy in decision-making" ($t=-3.55$, $df=122$, $p<0.01$). When testing the difference between different groups, "Prospects for career advancement either in my native country or elsewhere" was significantly higher in the NFP sector ($t=-2.37$, $df=122$, $p<0.01$). As noted, many respondents work in NGOs, academia and for government agencies. This result indicates that individuals in the NFP sector are gaining a more marketable range of skills and knowledge than those working in the FP sector. Only 'Autonomy in decision making' ($t=2.13$, $df=112$, $p=<0.05$) was significantly lower for newcomers. This finding suggests that employees who have worked longer in an organisation are more confident and satisfied in their ability to make decisions without managerial oversight, an aspect that peripheral newcomers may be more wary of doing. At the same time, as we shall see below, other aspects of workplace experience also seem to raise satisfaction levels, even for those in peripheral positions.

Table 7.9: Satisfaction with organisational aspects after returning to Serbia from abroad (means)

	Workplace			Sector			Newcomer		
	Serbian	**Foreign**	**t**	**FP**	**NFP**	**t**	**Non-NC**	**NC**	**t**
Autonomy in decision making	4.02 (0.99)	3.94 (1.02)	ns	3.74 (1.12)	4.01 (0.97)	ns	4.17 (0.10)	3.75 (0.18)	2.13**
Ability to assume wider responsibility in my work	4.12 (0.89)	4.27 (0.96)	ns	3.9 (1.07)	4.19 (0.89)	ns	4.22 (0.1)	4.19 (0.15)	ns
Prospects for career advancement either in my native country or elsewhere	4.25 (0.92)	4.37 (1.01)	ns	3.90 (0.22	4.38 (0.09)	-2.37***	4.27 (0.11)	4.47 (0.13)	ns
Financial remuneration	3.57 (1.07)	3.92 (0.98)	ns	3.58 (1.28)	3.70 (0.92)	ns	3.71 (0.12)	3.72 (0.17)	ns
Overall satisfaction with job	3.74 (1.05)	4.08 (1.04)	ns	3.76 (1.18)	3.86 (0.99)	ns	3.85 (1.05)	3.97 (0.94)	ns

*** p< 0.01; ** p<0.05; * p<0.10; ns = not significant

7.5 Differences between Serbian and foreign workplaces – interviewee perspectives

An interviewee working for a multinational company in Novi Sad – Zoran J – contrasted foreign firms in terms of the power they have vis-à-vis local companies. The size of the firm is an advantage when dealing with local partners but Zoran's responsibilities are limited and he has no influence over operational aspects. In this sense, foreign workplaces can offer fewer opportunities to develop skills since employees' responsibilities are clearly demarcated. The crucial aspect here is autonomy in the workplace. This is associated with more tacit knowledge generation and circulation, which is restricted by procedures, strict hierarchies and defined work responsibilities. The distinction between formal and informal interactions also dictates which types of knowledge are relevant. Formal interactions are primarily used for exchanging explicit knowledge. Autonomy, in this sense is vital since it "will be particularly important to realise knowledge flows that are not dictated by the needs of day-to-day business" (Nooderhaven and Harzing 2009: 727). The autonomy and responsibility that certain Serbian workplaces offer appeal to individuals, especially those in the early stages of their career and those with experience of foreign work environments where junior employees have little responsibility. But it also highlights poor knowledge management. Milan K (government agency) summed up the appeal of working in Serbia by comparing it to his experience working abroad:

> So there it's very clearly designated; there you're in your little box and that's what you're going to get and if you try to step outside of that box, reach outside of it, and what happens in most cases is that someone will slap your hand away and say: "ok you just focus on what you do." You do that usually for a long time and you might be able to do something you really like. Here, for a number of reasons, there's a ton of interesting work to be had and no one's going to stand in your way, which, on the one hand, is fantastic. On the other hand, which I think is better for the individual, to the organisation it is worse. I think that a team, if well organised, can be greater than the sum of its parts. We are clearly just the sum of our parts and sometimes I think that people need more oversight than what we have here.

The above quote shows that autonomy, while exciting from a personal development perspective, also signals a lack of procedures and the absence of efforts to internalise knowledge.

The prospect of greater responsibility is an important motivational factor in encouraging return migration. Crucially, Marko G's (private Serbian company) decision to return to Serbia after a decade abroad was provoked by a desire for more challenging work. Marko returned to a job in Serbia with a high level of responsibility. In contrast, jobs that involve less responsibility than experienced abroad can create tensions and frustrations. Jasmina B (private Serbian company) remarked that the aspect she appreciated most about her work abroad was the level of responsibility.

Table 7.10 below summarises responses to further questions dealing with frustrations and challenges in the workplace. In particular, they concern workplace learning and application of knowledge. The questions also touch upon issues of recognition of knowledge and frustration with levels of responsibility. A majority (64 per cent) responded "to some extent" and above that they had experienced constraints on using their knowledge and expertise to its fullest potential. In general, career challenges were rated relatively low.

Table 7.10: Career challenges (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
Lack of opportunities to use my knowledge and expertise to the fullest		27	35	31	27	14	1.28	143	3.25
	%	18.9	24.5	21.7	18.9	9.8			
Lack of opportunities to advance my career		22	29	32	27	25	1.35	135	2.97
	%	16.3	21.5	23.7	20	18.5			
Lack of opportunities to work in another international location		17	28	31	32	26	1.31	134	2.34
	%	12.7	20.9	23.1	23.9	19.4			
Lack of opportunities to learn new things		22	17	35	29	32	1.38	135	2.76
	%	16.3	12.6	25.9	21.5	23.7			
Inadequate level of responsibility		10	29	34	29	32	1.19	134	2.67
	%	7.5	21.6	25.4	21.6	23.9			
Lack of opportunities to network		6	21	39	27	38	1.19	130	2.48
	%	4.6	16.1	30	20.8	29.2			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

As shown in Table 7.11, no statistical differences were found between the comparison groups, except between individuals looking for work abroad and those not looking for work abroad (see Table 7.3). For the challenges in Table 7.10, all the differences between the two groups were highly significant, indicating the potential for career tensions to encourage remigration. If the labour market (employers) does not distinguish between the abilities of return migrants and non-migrants then the incentives for remaining in the country are reduced.

Table 7.11: Career challenges (means)

	Workplace			Sector			Newcomer		
	Serbian	Foreign	t	FP	NFP	t	Non-NC	NC	t
Lack of opportunities to use my knowledge and expertise to the fullest	3.28 (1.22)	3.1 (1.35)	ns	3.47 (1.39)	3.18 (1.22)	ns	3.08 (1.23)	3.46 (1.21)	ns
Lack of opportunities to advance my career	3.02 (1.34)	2.74 (1.31)	ns	3.2 (1.53)	2.89 (2.64)	ns	2.82 (1.27)	3.98 (1.42)	ns
Lack of opportunities to work in another international location	2.82 (1.32)	2.64 (1.16)	ns	3 (1.43)	2.77 (1.25)	ns	2.65 (1.14)	2.97 (1.44)	ns
Inadequate level of responsibility	2.69 (1.29)	2.67 (1.30)	ns	3 (1.34)	2.58 (1.21)	ns	2.59 (1.26)	2.84 (0.80)	ns
Lack of opportunities to network	2.49 (1.15)	2.53 (1.29)	ns	2,45 (1.22)	2.49 (1.19)	ns	2.49 (1.13)	2.58 (1.14)	ns

*** $p < 0.01$; ** $p<0.05$; * $p<0.10$; ns=not significant

7.6 Interaction challenges

The results in Table 7.12 point to a substantial proportion of return students experiencing problems in their work environment due to relations with colleagues. In terms of envy from compatriots (mean 2.48), 70.7 per cent had experienced at least “to a small extent”, although only ten people (7.7 per cent) found this “to a very great extent.”

Table 7.12: Interaction challenges (absolute numbers)

	5	4	3	2	1	SD	Total	Mean
Envy from my compatriots (including clients, subordinates, superiors, peers)	10	18	34	30	38	1.26	130	2.48
%	7.7	13.8	26.1	23.1	29.2			
Working with colleagues whose views about the way I should do my work are very different from mine	5	30	37	33	38	1.16	133	2.63
%	3.7	22.5	27.8	24.8	28.6			

Satisfaction with people I work with (including clients, subordinates, superiors and peers)*	30	52	29	14	1	0.97	126	3.76
%	23.8	41.3	23	11.1	0.8			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent*5=very high, 4=high, 3=average, 2=low, 1=very low

Trust takes time to establish and newcomers to a workplace may find it more difficult to transfer knowledge. Individuals may fear that knowledge sharing decreases their value to the organisation, jeopardising their position vis-à-vis colleagues. They may not have the resources or inclination to devote time to knowledge sharing. Further, colleagues may not consider them trustworthy sources or the knowledge they hold as reliable (Szulanski 1996: 31). Good interpersonal relations based on trust and friendship can facilitate knowledge sharing. Several interviewees had been in their jobs for less than a year and considered themselves 'peripheral' to the operations of the firm. They are not yet in positions to influence change and are not expected to. Other studies have highlighted the reaction of senior staff to newcomers and junior employees. Williams and Balaz (2008a: 1931) found that the relative junior position of returning doctors to Slovakia mitigated their potential influence. Many doctors spoke about the suspicion in which returnees were held by more senior colleagues. Senior colleagues may be wary of the knowledge and experience that people in their profession bring from outside, particularly if it challenges their authority and highlights a knowledge gap between the practices in the local environment and those abroad.

Table 7.13: Interaction challenges (means)

	Workplace			Sector			Newcomer		
	Serbian	**Foreign**	**t**	**FP**	**NFP**	**t**	**Non NC**	**NC**	**t**
Envy from my compatriots (including clients, subordinates, superiors, peers)	2.58 (1.27)	2.31 (1.28)	ns	2.59 (1.24)	2.44 (1.28)	ns	2.66 (1.31)	2.13 (1.12)	2.14**
Working with colleagues whose views about the way I should do my work are very different from mine	2.72 (1.17)	2.46 (1.12)	ns	2.67 (1.08)	2.61 (1.19)	ns	2.58 (1.07)	2.62 (1.27)	ns
Satisfaction with people I work with (including clients, subordinates, superiors and peers)*	3.76 (0.96)	3.81 (0.97)	ns	3.87 (1.18)	3.75 (0.90)	ns	3.75 (0.91)	3.86 (1.07)	ns

*** p< 0.01; ** p<0.05; * p<0.10; ns=not significant

Newcomer status and frustrations with workplace conditions were tested (Table 7.13). The results showed that newcomers reported less experiences of envy (mean 2.13) than those who had been in employment for more than a year (mean 2.66). Although this might appear counter-intuitive since we expect newcomer status to subside over time (as trust is built and individuals gain more responsibility), the interviewees provided some valuable insights, particularly that newcomers attenuate their knowledge in order to build trusting relations with colleagues. Indeed, individuals withhold knowledge in order to avoid generating envy from colleagues. Jasmina B, for instance, remarked that she took care not to talk too much about her foreign experience for fear of damaging relations with colleagues: “if you say something about your experience they can become jealous and then interrupt your professional and private life.” Luisa M (Serbian private company) similarly commented on the need to avoid discussing how workplaces operate abroad. Logan (2009:120) writes about the potential for colleagues to view individuals with international experience negatively: “At the workplace, the returnee may have to adjust to hostility from compatriots who believe that they stayed home under difficult conditions and now have to put up with someone (often placed in a senior position) who they consider to be a traitor for abandoning ship.” Ana P (Serbian NGO) discussed a further obstacle to sharing knowledge in the form of resistance from colleagues who had worked longer for the organisation. Ana accepted that there was recognition of her foreign experience, but noted that reception was not wholly positive; colleagues would refuse to give assistance, claiming that Ana’s international experience meant that she "should know what to do." A similar point was mentioned by Dragan D (Serbian NGO), who commented that upon return from abroad he learned to be careful when presenting himself to others who could interpret his international experience negatively. These results and findings support Hypothesis 4 regarding the impact of returnees’ central/peripheral position in the workplace upon knowledge transfer. It is also relevant for Hypothesis 5 since returnees may withhold knowledge in order not to provoke negative reactions from colleagues, or until trust is established. Peripherality in this case refers to relations with colleagues and does not refer to returnees who enter workplaces in senior positions where they have less need to withhold knowledge in order to build trust with colleagues.

International experience often marks people as outsiders and they can be stereotyped according to the country where they have been living. One participant, Branislav P, an intern with a multinational company (the internship was organised through the Ministry of Diaspora) had grown up in Germany. His manager commented on the qualities that Branislav could transfer to other staff members, such as professionalism and his 'German work ethic'. Such comments highlight perceived differences between German and Serbian work practices. Language competences reinforce this distinction, especially for people who have been raised abroad and lack fluent (or colloquial) Serbian. Although Williams (2007a: 371) writes that return migrants are unlikely to face many or any cultural difficulties associated with language, body language and encultured knowledge, Mihailo E, working for a Serbian NGO, remarked that his opinions and attitudes immediately marked him out as an outsider; as someone who had come from abroad. Such experiences indicate that many 'newcomers' are wary of antagonising colleagues by applying their foreign-acquired knowledge.

7.7 Learning and knowledge sharing

Tables 7.14 and 7.15 summarise the use of knowledge and skills in the workplace. The prominent means of knowledge transfer in the workplace was also assessed by asking recipients to rate the importance of different knowledge transfer mechanisms both abroad and in Serbia. Table 7.14 shows that the use of structured work teams and formal training are used consistently more abroad than in Serbia. The means for informal channel knowledge transfer mechanisms were higher in Serbia (3.77) than abroad (3.69). Comparing knowledge transfer mechanisms in Serbia according to different comparison groups, none was significant according to levels of recognition of knowledge, by Serbian or foreign ownership or FP versus NFP sectors.

Table 7.14: Means of knowledge generation and transfer, abroad and in Serbia: In your experience, how much do the following feature in the workplace? (absolute numbers)

		5	4	3	2	1	SD	Total	Mean
Formal training programmes (Serbia)		16	49	44	24	4	0.99	137	3.36
	%	11.7	35.8	32.1	17.5	2.9			
Formal training programmes (Abroad)		42	67	23	7	1	0.86	140	4.01
	%	30	47.8	16.4	5	0.7			
Structured work teams (Serbia)		17	42	54	21	5	0.99	139	3.32
	%	12.2	30.2	38.8	15.1	3.6			
Structured work teams (Abroad)		46	62	26	4	3	0.91	141	4.02
	%	32.6	44	18.4	2.8	2.1			
Informal channels (Serbia)		42	43	37	14	3	1.05	139	3.77
	%	30.2	30.9	26.6	10.1	2.1			

Informal channels (Abroad)	33	50	45	11	3	0.98	142	3.69
%	23.2	35.2	31.7	7.7	2.1			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to little extent, 1=not at all

Table 7.15 shows how respondents rated, according to their own experiences, a series of statements concerning the acquisition of competences. The questions attempt to measure the ways in which individuals transfer knowledge at work, and identify any obstacles that might exist.

Table 7.15: Knowledge transfer (absolute numbers)

	5	4	3	2	1	SD	Total	Mean
My employers have a management strategy for encouraging employees to share knowledge	17	29	39	24	24	1.28	133	2.93
%	12.8	21.8	29.3	18	18			
In our workplace, it is common to work individually	30	35	35	24	11	1.24	135	3.36
%	22.2	25.9	25.9	17.8	8.1			
In my workplace, it is common to work in teams	26	40	38	19	11	1.88	134	3.38
%	19.4	29.8	28.3	14.2	8.2			
The skills and knowledge I acquired abroad cannot easily be transferred to Serbia	3	16	23	28	68	0.88	133	2.47
%	2.2	12	17.3	21	51.1			
The knowledge and skills I have acquired can only be transferred though observation	0	12	60	37	22	0.88	131	2.01
%	0	9.2	45.8	28.2	16.8			
It is easy for me to pass on my knowledge and skills to my colleagues	17	58	46	12	4	0.92	137	3.53
%	12.4	42.3	33.6	8.7	2.9			
I have learned a lot from observing the work practices of my colleagues	25	14	32	63	3	0.96	137	3.68
%	18.2	10.2	23.3	46	2.2			
My acquired skills have wide applicability to a number of different work environments	39	52	34	8	3	0.98	136	3.85
%	28.7	38.2	25	5.9	2.2			
My skills are specific to my area of specialisation and have little value outside of my workplace	2	17	25	48	41	1.05	133	2.18
%	1.5	12.8	18.8	36.1	30.8			

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

Table 7.15 shows that a relatively low proportion of respondents consider their employers have a knowledge management strategy (mean 2.93). Nevertheless the respondents signalled that they find it easy to pass knowledge to colleagues in Serbia. The lowest score (2.01) was recorded for assessing the importance of observation in knowledge sharing. Clearly, the respondents' knowledge is not strictly tacit in nature and can be codified (which is easier to share and capture than tacit knowledge). This result reiterates that the respondents acquired both tacit and explicit skills, as confirmed by a relatively high mean (3.68) recorded for the statement "I have learned a lot from observing the work practices of my colleagues" – highlighting transfer mechanisms that favour tacit knowledge. The emphasis on this channel of knowledge transfer could imply that job-specific skills in the workplace are tacit (due to a lack of codified procedures and formal training channels). It also suggests that a lot of learning takes place informally between colleagues. A mean of 3.85 points to the acquisition of generic and transferable skills. Similarly, the majority of respondents did not consider their skills to be job specific to their area of specialisation. This was echoed in the previous statement regarding applicability of skills to a number of different work environments. The majority of respondents also believe that it is easy for them to transfer knowledge from abroad to Serbia (mean 2.47), a finding that suggests at least some elements of their knowledge are transferable. The results probably point to the ease with which explicit, codified elements of knowledge can be transferred.

Organisational challenges in Table 7.15 were analysed by comparing the different groups. The results presented in Table 7.16 show some significant differences. In terms of working individually, the mean for those working in Serbian workplaces was significantly higher than in foreign firms ($t=2.06$; $df=124$; $p<0.05$), pointing to greater autonomy. The mean was also significantly higher in Serbian workplaces to the statement "the skills and knowledge I acquired abroad cannot easily be transferred to Serbia" ($t=2.05$; $df=122$; $p=0.02$). Finally, highly significant differences were found according to whether the respondents were looking for work abroad. Those looking for work abroad were less likely to think managers have a strategy for encouraging employees to share knowledge ($t=-3.19$, $df=121$, $p<0.01$). Moreover, those not looking for work abroad are more likely to state that their skills and knowledge cannot be transferred to Serbia ($t=2.4$, $df=120$, $p<0.01$).

Table 7.16: Knowledge transfer (means)

	Workplace			Sector			Newcomer		
	Serbian	Foreign	t	FP	NFP	t	Non-NC	NC	t
My employers have a management strategy for encouraging employees to share knowledge	2.89 (1.25)	3.27 (1.22)	ns	2.62 (1.18)	3.07 (1.29)	ns	3.06 (1.28)	2.9 (1.17)	ns

In our workplace, it is common to work individually	3.62 (1.17)	3.17 (1.11)	2.06**	3.25 (1.29)	3.39 (1.20)	ns	3.5 (1.47)	3.42 (1.19)	ns
In my workplace, it is common to work in teams	3.31 (1.12)	3.71 (1.21)	ns	3.06 (1.13)	3.52 (1.18)	ns	3.35 (1.16)	3.67 (1.12)	ns
The skills and knowledge I acquired abroad cannot easily be transferred to Serbia	2.18 (1.24)	1.73 (0.92)	2.05**	2.16 (1.27)	1.96 (1.11)	ns	1.96 (1.18)	2.23 (1.11)	ns
The knowledge and skills I have acquired can only be transferred though observation	2.53 (0.86)	2.39 (2.06)	ns	2.33 (0.85)	2.54 (0.88)	ns	2.59 (0.87)	2.43 (0.88)	ns
It is easy for me to pass on my knowledge and skills to my colleagues	3.5 (0.99)	3.62 (0.74)	ns	3.35 (1.01)	3.59 (0.9)	ns	3.54 (3.36)	3.57 (0.98)	ns
I have learned a lot from observing the work practices of my colleagues	3.67 (0.96)	3.75 (0.81)	ns	3.79 (1.15)	3.65 (0.93)	ns	3.66 (0.87)	3.87 (0.85)	ns
My acquired skills have wide applicability to a number of different work environments	3.87 (0.95)	3.87 (1.04)	ns	3.79 (1.01)	3.85 (0.97)	ns	3.83 (0.95)	4.05 (0.82)	ns
My skills are specific to my area of specialisation and have little value outside of my workplace	2.22 (1.09)	2.23 (1.04)	ns	2.15 (0.94)	2.23 (1.09)	ns	2.19 (1.11)	2.18 (1.02)	ns

*** p< 0.01; ** p<0.05; * p<0.10; ns=not significant

The presence of autonomy indicates a lack of management oversight. This assertion is based on the idea that structures, hierarchies and defined responsibilities are associated with co-ordinated information flows (Noorderhaven and Harzing 2009: 727).

International orientation is not sufficient on its own to ensure that more effective knowledge sharing channels exist. A workplace culture that promotes a shared interest in knowledge sharing must also be in place. Two examples of workplaces described by interviewees illustrate the impact of utilising formal and informal mechanisms. Firstly, in Bogdan B's workplace (Serbian government agency) there is an emphasis on informal knowledge circulation. Despite monthly meetings for employees to communicate developments in their work to other teams and units, Bogdan commented that management oversight of projects was minimal. As Bogdan noted, employees enjoy a high degree of autonomy and use their own expertise (such as geographical specialisations and language abilities) to direct projects. Employees work with minimal interference from management, and knowledge sharing occurs between colleagues thanks to strong inter-personal relations and trust. This way of working, directed by individual employees and not from above, does not encourage the development of procedures and formal knowledge transfer. Several employees remarked on the need for more procedures and managerial oversight, in part to respond to the business practices of foreign partners and clients. In contrast, at Dejan V's work (research institute) there are more efforts to manage knowledge. Dejan commented that employees use a central database to store information, which is a means of codifying knowledge described by Bartol and Srivastava (2002). However, while accepting the benefits of codifying and storing knowledge, many workplaces lack resources and capacity. Ivana K and Mladen M (Serbian IT company) commented that time restrictions are an obstacle to the development of procedures in the workplace and codification of knowledge held by individual employees. Zorica D (academic) also mentioned resource shortages as a hindrance to bringing new curricula and teaching methods - widespread abroad - to Serbia. Many courses require student access to computers, which Serbian universities lack. In general, the poor funding of Serbian universities is an obstacle, not least because students are unable to test or put into practice theoretical knowledge (i.e. computer software or modern technical equipment is lacking). As a further consequence, students also lack computer skills, particularly knowledge of specific software programmes used in, for instance, engineering or architecture. Nevertheless, academic staff members exhibit a desire to bring knowledge from abroad. The education sector in Serbia, although a relatively unreformed institution with outdated teaching methods and resource shortages, is also the key site where individuals can share knowledge. One notable means is through the style of teaching observed abroad. By altering their approach to teaching and personal interaction with students, they spread knowledge of foreign methods, curricula and resources.

An important obstacle to capturing knowledge at the organisational level is the lack of written communication as a business practice in Serbia (for instance, taking notes after speaking to clients). This is also relevant for accessing information sources when looking for employment. For instance, many people commented that company websites are not developed or updated. The absence of written communication and procedures is an obstacle to institutional learning since these are associated with the codification of knowledge. Helena J (Serbian NGO) remarked on the emphasis in Serbia on verbal communication, which ties in with the reliance on connections. Helena also noted that foreign organisations place more emphasis upon written communication and procedures. This is one means of codifying knowledge and contributing to the stock of organisational knowledge. Helena added that in Serbia work practices have a strong verbal element which means: 1) more emphasis on connections; 2) fewer procedures, and 3) knowledge held by the individual and not internalised within the organisation. The lack of written communication can therefore be seen as an obstacle to knowledge sharing at the organisational level.

7.8 Differences between Serbian and foreign firms

For the purpose of the analysis in this chapter the responses were divided according to foreign and Serbian companies. Based on the analysis above, it is possible to draw out the key advantages and disadvantages of Serbian and foreign workplaces. These are summarised below in Table 7.17.

Table 7.17: Differences between Serbian and foreign workplaces

Serbian workplaces		Foreign workplaces	
Advantages	*Disadvantages*	*Advantages*	*Disadvantages*
Less hierarchy	No professionalism	Cutting edge work	Rigid hierarchy
More relaxed workplace	Resource shortages	Recognition of knowledge	Strictly defined responsibilities
Greater autonomy	Smaller	Professionalism	Long hours
More responsibility	Resistance to foreign knowledge from colleagues without foreign experience	Management oversight and procedures	Formality
Opportunities to gain skills	Advancement based on tenure and connections	Merit based career advancement	Relations with colleagues less personal
Close relations with colleagues	Blurred distinction between personal and professional relations	Globally convergent skills	
Opportunity to contribute to country's development	Lack of management	More complex organisational structures that provide generic skills	Employees can be replaced easily
	Colleagues do not have international experience	Colleagues have international experience	

Source: Tables 7.1- 7.16

There is a level of contradiction in Table 7.17. For instance, less rigid hierarchy is considered an advantage in Serbian firms whilst lack of management is a disadvantage. The table reflects the responses from the survey respondents and interviewees and, as such, is a reflection of individual perspectives of what constitutes an appealing work environment. This is deliberate consideration of the research findings. Crucially, as we have seen throughout the workplace analysis, different configurations of conditions have varying, sometimes surprising, outcomes. Turning to the role of hierarchy, for instance, some respondents consider its absence beneficial because it means more flexibility, autonomy and informality. On the other hand, others also associate hierarchy with management oversight, recognition of knowledge and more effective workplace operations.

Foreign employers are associated with career advancement based on merit and competences rather than connections or other factors. Likewise, Serbian-owned workplaces are viewed as appealing if they have an international orientation due to the greater recognition of internationally-acquired knowledge in these environments. International environments offer other benefits, such as the opportunity to work with colleagues with similar experiences. As we have seen, many individuals prefer to work with colleagues who have international experience, due to shared values and understanding of global business practices. As international standards and business practices diffuse in Serbia, barriers to gaining this knowledge are reduced. This is perhaps most evident in organisations that work with foreign partners, clients and funders. According to many interviewees, companies with foreign orientation adopt similar ways of working. This was echoed by interviewees working in the IT sector. Many commented that the IT outsourcing industry has become more professional as the industry has grown; the requirements of foreign clients have spurred companies to hone their project management skills.

Serbian and foreign firms approach knowledge sharing in different ways. Serbian workplaces lack the procedures and knowledge management techniques that have become commonplace in multinational companies. International firms often generate a shared value system and unified goal, which is lacking if the work culture is too disparate. In Serbian firms, without procedures and oversight to instigate sharing, colleagues become increasingly focused on their own team projects. To ensure effective knowledge transfer, both informal and formal opportunities for knowledge exchange are important. Many workplaces lack formal mechanisms and rely on informal channels for knowledge sharing. Some interviewees discussed the benefits of informal channels while others acknowledged that formal mechanisms would facilitate the sharing of certain types of knowledge.

7.9 Summary

The results showed that higher levels of frustration with work in Serbia, including those related to recognition of knowledge by colleagues and managers, and ability to apply knowledge, are linked to intentions to re-migrate. Specifically, the higher dissatisfaction with the following aspects of life and work in Serbia, the higher the intention to look for work abroad: a) inadequate understanding by others of what international experience brings to the organization; b) the role of professional accomplishments in gaining employment in Serbia; c) inadequate compensation; d) lack of adequate support from top management; e) inadequate management support from local supervisors; f) lack of management strategy for encouraging employees to share knowledge, and g) having skills and knowledge that cannot be transferred to Serbia. The results also showed that newcomers withhold knowledge to establish good relations with colleagues but there was no evidence of differences in work satisfaction according to the NP and NFP sectors. The chapter generated a hypothesis that recognition of returnees' knowledge by colleagues is higher in foreign firms than in Serbian firms (Hypothesis 7.4). This could reflect the fact that managers in foreign companies are more conscious of the attributes that people who have been abroad have, because individuals are using foreign knowledge and skills (i.e. English language) more in foreign companies, or because individuals are consciously aiming for an internationally-oriented career in which they can develop transferable skills.

Interviewees indicated that they tolerate workplace frustrations as long as they see a relative advantage in their position in the Serbian labour market vis-à-vis work and life opportunities abroad. This relative advantage can be represented by a more relaxed workplace environment, greater autonomy or the opportunity to take up a role with a high level of responsibility. Although highlighted as an advantage of working in a Serbian firm, the interviewees noted that autonomy also comes at the expense of management oversight and restricts organisational learning. Without procedures - such as meetings and databases - that encourage staff to contribute to knowledge codification, it is difficult to ensure that knowledge flows throughout organisations. In workplaces where staff enjoy high levels of autonomy, the presence of trust between colleagues and the recognition of knowledge are vital conditions enabling ad hoc knowledge sharing between colleagues to take place. However, knowledge is not internalised at the organisational level because management oversight is missing. Based on these results, Hypothesis 3 is disaggregated to create two hypotheses on autonomy and knowledge sharing:

Hypothesis 3a: The higher the level of autonomy in the workplace the more knowledge sharing with colleagues will take place.

Hypothesis 3b: The higher the level of autonomy in the workplace, the less knowledge sharing with the organisation will take place.

Frustrations with administrative support and out-dated infrastructure were found to be greater in Serbian firms than foreign-owned firms, while levels of dissatisfaction with out-dated infrastructure were higher for those working for longer than a year. These results allow for the generation of the following hypotheses:

Hypothesis 7.1: The longer the period in a workplace the higher frustrations with outdated infrastructure.

Hypothesis 7.2: Levels of dissatisfaction with out-dated infrastructure depend on whether the firm is Serbian or foreign owned.

Hypothesis 7.3: Levels of dissatisfaction with administrative support depend on whether the firm is Serbian or foreign owned.

8 Conditions of knowledge sharing in the workplace

8.1 Introduction

This chapter focuses on respondents' experiences of sharing knowledge in workplaces in Serbia. Using theory and empirical evidence, it describes the selection of conditions that are used to construct a model, which is subsequently tested according to a qualitative data analysis approach. The conditions are associated with four outcomes: the presence and absence of knowledge sharing with colleagues, and the presence and absence of knowledge sharing at the organisational level. The research method allows for comparison of different configurations of conditions that are associated with the four outcomes. A distinction is made between a) knowledge sharing with colleagues and b) knowledge that is captured at the organisational level. The former occurs when an individual acquires a new technique, skill or way of carrying out their work from a colleague (Williams 2007b). At the organisational level, knowledge transfer involves a process of translating and codifying the knowledge held by individuals and teams. Workplaces can use procedures and formal mechanisms of knowledge transfer to ensure this occurs. Many interviewees signalled that their knowledge had made little contribution to the organisational knowledge base, while at the same time describing the sharing of knowledge with colleagues.

The analysis, based on responses from interviews and survey data, firstly suggests that knowledge sharing between colleagues is more common than knowledge sharing at the organisational level. Secondly, although the theoretical and empirical literature is valuable for suggesting frameworks in which to study knowledge sharing (and indeed are central to the design of this research), analysis of the empirical data (interviews and surveys) suggests that the conditions are highly interconnected. In the literature on knowledge transfer in workplaces it is possible to discern specific conditions based on the types of knowledge, workplace culture, motivation and opportunity. The results show that the conditions necessary for knowledge sharing with colleagues and with the organisation are different and that in the latter case, the lack of management oversight is a critical factor. The next section of the paper describes the analytical approach in detail and the selection of conditions that are hypothesised to influence the sharing of knowledge in the workplace.

8.2 Methodology

This chapter uses a research approach known as Qualitative Comparative Analysis (QCA), developed by Charles Ragin in the 1980s. This approach is chosen because it has the potential to allow for a deep understanding of workplace dynamics that quantitative methods could miss. There is also evidence that none of the identified conditions is sufficient for knowledge sharing by itself, and QCA is a technique that tests predicted configurations of conditions that are associated with a given outcome (Rihoux and De Meur 2009: 44). Further, QCA is designed for small- to medium-N research, and allows for the testing of existing theories as well as for the generation of new hypotheses.

A key advantage of QCA is its acceptance that several combinations of factors can lead to the same result (Marx 2010: 256). The QCA method encourages familiarity with the cases, which then informs the design of the configurational analysis. The process should be both deductive (through a selection of theoretically informed conditions) and inductive (gaining insights from the interviews about what is actually occurring) (Berg-Schlosser and de Meur 2009: 6). One advantage of QCA is the emphasis on the process of research design, which itself derives from its qualitative roots: "...QCA as a research process refers to the iterative process of data collection, model specification, case selection and re-conceptualisation of the conditions and the outcome which are of central importance for any QCA-based research design" (Schneider and Wagemann 2007: 2-3). It is a reflective process that asks the researcher to return back to the data at each stage. Indeed, moving back and forth between the cases and the model is a characteristic of QCA (Stokke 2007: 6).

There are three forms of QCA; crisp-set, multi-value and fuzzy-set. The most commonly used technique - crisp set QCA (csQCA) – transforms qualitative data for use in quantitative analysis, which is performed using computer software. Both multi-value (mvQCA) and fuzzy-set QCA (fsQCA) have developed as extensions of csQCA. The biggest difference is that csQCA requires dichotomised values while mvQCA and fsQCA allow for conditions to have different values. For a detailed discussion of where and how to apply these two variants of QCA see Cronqvist & Berg-Schlosser (2009) and Rihoux and Ragin (2009). Armed with a substantive knowledge of the interviews, it was clear that presence or absence of the hypothesised causal conditions of knowledge sharing could be expressed in binary form, indicating that csQCA was appropriate rather than the other forms of QCA.

QCA uses the simple language of Boolean algebra to construct expressions involving conditions and outcomes. The presence of a condition is indicated with a [1] value and is represented in expressions with uppercase letters. The [0] value shows the absence of the condition and is represented using lowercase letters. Conditions are linked by the [*] symbol, meaning ‘and’, and the [+] symbol to signify ‘or’. An arrow [➔] points to the causal link between the conditions and the outcome they seek to explain (Rihoux and De Meur 2009: 34-35). A key principle of csQCA is the process of reducing expressions to their most parsimonious form. This is known as Boolean minimisation. The minimisation process firstly involves the removal of ‘redundant’ conditions, based on the logic that if two expressions produce the same outcome and differ by only one causal condition, this condition is considered redundant and is removed (Rihoux and De Meur 2009: 35). For instance, in the two expressions [A*B*C ➔ D] and [A*B*c ➔ D], condition ‘C’ is superfluous since its presence and absence causes the same outcome ‘D’. Subsequent minimisation procedures are discussed in detail as we use QCA to interpret the data derived from the interviews.

As part of the research a total of 61 interviews were conducted, of which 57 are valid for the QCA analysis (the remainder were conducted with foreign managers working in Serbia). The cases were subsequently coded according to conditions derived from the criteria of knowledge, motivation, opportunity, and workplace culture. From the outset, the researcher must select cases that are sufficiently similar and comparable along chosen dimensions (Berg-Schlosser and de Meur 2009: 20). The next section of the chapter follows a research structure recommended by QCA literature (Marx 2010; Rihoux and De Meur 2009):

1. Development of an explanatory model with the relevant significant variables.
2. Creation of a dichotomous data table.
3. Construction of a truth table (table of configurations).
4. Resolution of contradictory configurations.
5. Generation of parsimonious explanations for the outcomes (knowledge sharing). This is achieved using QCA software.

6. Interpretation of the explanatory models and discussion of the results.

8.3 Knowledge sharing in the workplace: The causal conditions

The interviews indicated that many people with international experience were able to share knowledge with their colleagues (42 people, or 73.7 per cent of interviewees), against 15 who were unable to do so. Further, survey responses also indicate that the potential for knowledge sharing is substantial. On the other hand, less than half - 25 interviewees (or 43 per cent) - expressed an inability to share knowledge and to put their foreign-acquired knowledge into practice at the organisational level. The interviewees discussed a broad range of knowledge sharing, such as the implementation of new teaching methods and curricula in universities, writing reports and funding applications for foreign clients and sponsors, technical and scientific knowledge, new attitudes, and communication skills. Conversely, several interviewees also expressed frustration at their inability to share knowledge and to put their foreign-acquired knowledge into practice. Frequently cited reasons include resistance from colleagues, lack of management oversight, failure to recognise the value of knowledge, and peripheral positions within the workplace. Some interviewees spoke of an inability to share knowledge due to resistance, which manifested as tensions with colleagues who lack foreign experience. To the extent that foreign knowledge is resisted, interviewees also spoke of foreign influences deemed as inappropriate to Serbia, or inferior (and thereby reinforcing existing practices).

The survey responses showed a lack of recognition by management of the knowledge that individuals could bring to the workplace (see Table 8.1 below). The results show that all but 29 respondents (21.8 per cent) experienced some lack of understanding among their colleagues in this respect. This indicates a potential for frustration as well as a lack of management oversight. Of those who responded, a third (45 or 33.8 per cent) believed that their colleagues had 'to a great extent' or above (4 and 5 in the scale) an inadequate understanding of what their international experience could bring to the workplace (mean 2.86). This is a significant proportion of survey respondents. The survey responses also show that, of those who answered this question, 88.3 per cent (or 121) signalled that 'to some extent' or above, it was easy for them to pass on their knowledge to colleagues. At the same time, we see that 70.7 per cent (94) of those who responded signalled at least 'to some extent' their dissatisfaction with the management skills in the workplace.

Table 8.1 Interaction challenges (absolute numbers)

	5	4	3	2	1	Total	Mean
Inadequate management skills on the part of my local superiors (sd 1.38)	25	36	30	18	24	133	3.15
%	18.8	27.1	22.5	13.5	18		
It is easy for me to pass on my knowledge and skills to my colleagues (sd 0.92)	17	58	46	12	4	137	3.53
%	12.4	42.3	33.6	8.7	2.9		
Inadequate understanding by others whom I interact with in a business setting of what my international experience brings to the organisation (sd 1.37)	17	28	36	23	29	133	2.86
%	12.8	21	27.1	17.3	21.8		

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

The model building process is driven by the theoretical literature, statistical analysis of the survey data, and findings from interviews. Using the existing literature on knowledge management at the workplace level as a framework, the results support the selection of six key conditions that influence knowledge sharing. In-depth analysis of the interviews indicated the appropriateness of using the framework for analysing knowledge sharing in the workplace put forward by existing theoretical frameworks. We now discuss the selection of the conditions in detail.

The conditions were selected by moving back and forth between the interviews (which are described in detail below in the discussion section of the chapter) and theoretical models specified in the literature. A key benefit of the qualitative approach is the necessity for familiarity with the cases, ensuring that important factors are not overlooked, which can be a risk in statistical studies (Stokke 2007: 10). Using the theoretical and empirical literature described above as a framework of analysis and familiarity with the cases (interviews), key conditions emerge as key for influencing the interviewees' ability to share knowledge:

1. Recognition of knowledge
2. Non-peripheral position
3. Trust
4. Responsibility
5. Autonomy

6. International orientation

The conditions can be viewed as adding greater specificity and clarity to the dimensions distinguished in the existing literature, as described in Chapter 1, such as those described by Ipe (2003) and Szulanski (1996). For instance, recognition of knowledge is both related to the source and the recipient of knowledge. Responsibility and autonomy can be slotted under both motivations and opportunities to share, while international orientation fits under culture of the workplace.

8.3.1 Condition one: Recognition of knowledge

The first condition in the knowledge-sharing model relates to Hypothesis 2 (Knowledge transfer depends on recognition of knowledge by returnees) described in Chapter 1. It concerns how international knowledge is perceived and valued vis-à-vis the knowledge that exists in the workplace. The first condition deals with knowledge recognition gaps, irrespective of the types of knowledge. This knowledge 'gap' must exist between those transferring and those receiving knowledge. Knowledge gaps arise for several reasons, including resource shortages, emigration of skilled personnel, or because certain professions have only started to take root. The critical distinction is the recognition that individuals have acquired knowledge abroad that is different from that of their colleagues, and whether the perception exists that knowledge sharing could benefit the workplace. Table 8.2 below shows that 46 respondents (34.3 per cent) felt their knowledge was only 'to some extent' (or less) recognised.

Table 8.2: Recognition of knowledge (absolute numbers)

	5	4	3	2	1	Total	Mean
My employers recognise that I have acquired skills and knowledge that can benefit the organisation	45	43	27	9	10	134	3.78
%	33.6	32.1	20.1	6.7	7.5		

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

Text Box 1 points to a lack of recognition of knowledge due to the absence of knowledge gaps in the workplace and consequently no knowledge transfer. This may be intrinsic to the culture of the workplace.

Text Box 1: “I wouldn’t say I am transferring to any significant extent.”

Liljana Lj spent almost a year at a UK university, after which she returned to Belgrade and started work at a Serbian NGO. Although Liljana accepted she had acquired cultural knowledge, as well as communication and language skills, she nevertheless rejected the proposition that she had acquired knowledge that gave her unique advantages in carrying out her work compared to colleagues who did not have international experience:

“[...] despite the fact that I am the only person with a doctorate in the centre and has the highest qualifications, I never feel that I know more than anybody else. I really feel that we all have our specific field of knowledge and of course there are [areas where] I tend to think I know better than the rest of the people but also there are other things that other people know much better than I do and I think it’s a huge asset.”

Liljana has not shared knowledge from abroad because she did not perceive that it adds any relative advantage to the workplace. In fact, Liljana believes that the skills set she needs for work is a combination of generic skills and those generated through work experience in Serbia:

“Project management or even people management skills is something that I already had […] because I’d been a student representative for a while and I’ve been involved in a number of NGOs before so I was also writing a lot of projects. So that’s the kind of thing that I acquired before coming here. But that doesn’t mean that I didn’t develop those skills here.”

The NGO has a strong international orientation. Many of the projects have foreign funding and there is a large cross-border network of researchers working in the same field who keep in regular contact. Information relevant for work is shared through conferences and online resources. Liljana’s experience suggests that knowledge flows through these international networks, allowing people to access information and gain the skills they need in Serbia without having to go abroad. Liljana’s example shows that where workplaces require generic skills and recognise globally convergent skills, the skills gap ceases to exist and there is little apparent skills transfer. On the other hand, if firms require specific skills (such as detailed knowledge of the local market) then a skills gap is more apparent and reciprocal knowledge transfer more likely to occur between colleagues (those with global skills and those with local skills).

Liljana's experience described in Text Box 1 is an example where a knowledge gap is necessary for both the recipient and carrier of knowledge to recognise that unique knowledge exists. While knowledge distinctions are important, it is argued that *recognition* of the relative value of foreign-acquired knowledge in the workplace over local knowledge is a critical condition of sharing. We look at the value attributed to foreign-acquired knowledge (tacit or explicit), particularly the potential impact on the workplace, or the way that colleagues work. The cases were coded according to the rationale described above; [1] if there is recognition in the workplace of the benefits of acquiring knowledge abroad (by the employer, colleagues and the individual themselves). Respondents were questioned about the value of knowledge acquired abroad in relation to knowledge available in Serbia. Their responses where coded [1] if they recognised the benefit to the workplace of their knowledge, should they be able to share it. The cases were similarly coded if the relative value is considered higher compared to the knowledge of colleagues who have not been abroad (but share similar competences). Conversely, cases were coded [0] if the interviewee did not indicate that they had acquired any unique knowledge or knowledge that added value to the workplace.

8.3.2 Condition two: Non-peripheral position

The next condition in the model relates to peripherality in the workplace and relates to Hypothesis 4 described in Chapter 1. Many interviewees indicated that their junior position within the workplace affected their ability to influence how the organisation operated or to share knowledge. There are several dimensions to how this condition can be assessed, which are interrelated to other conditions such as interactions with colleagues, trust and recognition of knowledge. First, newcomers to a workplace tend to start at a peripheral position in terms of responsibility, influence, and trust. Of course, this is not always the case for those who enter at senior management levels and who have significant levels of responsibility, but they may still need to build trust and establish themselves as reliable and approachable (Williams 2007a: 369-370).

A further aspect is the importance of an international background in generating a shared identity between people with similar experiences and knowledge. They are aware that they have a set of unique skills that their colleagues without international experience lack. Those who resist knowledge and reflect former (i.e. socialist) practices of working, find themselves 'othered' in the workplace, in particular because of the perception that they represent obstacles to change and a backward tendency in the country's reintegration into European networks. The interviewees indicate that colleagues who share an understanding of the value of their international knowledge will use and share it with each other. The gradual infiltration of international work standards and practices into work sectors in Serbia helps to accentuate the differences between local staff and those with foreign experience. They are aware that this knowledge can cause friction with friends and colleagues who do not share it, and they are able to contrast workplace environments, where sharing knowledge is appropriate, to their non-work social networks where they avoid frequent mention of their international experience and criticism of Serbia using comparisons with other countries. This is similar to the findings of Thomas-Hunt *et al.* (2003) and Berthoin Antal and Walker (2011). Individuals with unique knowledge may conceal it in order to maintain social connections and remain part of the group (Thomas-Hunt *et al.* 2003). This is consistent with those people who did recognise their own unique knowledge but discussed the need to downplay it in order to avoid upsetting relations with colleagues.

In summary, peripherality can derive from having newcomer status in the workplace, being viewed as an outsider, as well as the degree of connectedness to colleagues with whom the potential for knowledge transfer exists. Cases where the interviewees demonstrated a peripheral position in the workplace, along the lines described above, were coded [0]. Conversely, individuals who were not in a peripheral position, including newcomers who entered at a senior level, were coded [1]. 34 (59.6 per cent) were coded as non-peripheral and 23 (40.3 per cent) as peripheral. It should be noted that there is a potential bias towards peripherality in the sample as many interviewees were young (45.6 per cent were under 30) and had been with their employer for less than a year (52.6 per cent).

8.3.3 Condition three: Trust

Much of the literature on corporate knowledge transfers highlights the importance of interaction between expatriates and local staff for the dissemination of knowledge across sites and countries. Text Box 2 discusses the importance attributed to creating and sustaining good relations with colleagues. Hypothesis 5 described in Chapter 1 relates to trust. Many interviewees commented that relations with colleagues in Serbian workplaces inhibit knowledge sharing. This is most likely to take place in small firms focusing on the local market, where few employees have foreign experience (and knowledge), as well as when individuals are at the start of their career and peripheral to the firm.

Text box 2: Building trust with colleagues

There was strong evidence from the interviews that individuals attenuate and subordinate knowledge sharing to build social connections with colleagues. At one extreme people are told by colleagues that foreign practices are not appropriate to work in Serbia. One interviewee - Luisa M – described how she was careful to maintain good relations with her colleagues in the small human resource firm where she worked: “And you really have to really walk on eggshells in a way to approach it and not offend people when you tell them ‘change what you’re doing’ or ‘what you’re doing is completely wrong.’” The size of Luisa’s firm is also important, since workplaces with a small number of staff encourage the development of close professional relationships and friendships.

The reform of Serbian government institutions also creates situations where local staff, who may have worked in the same workplace for several years, work with people with international experience employed on fixed-period projects funded by foreign donors. Jovana M (international body) initially returned to Serbia to work for such an internationally-funded project to modernise government ministries. Jovana commented on the striking contrast between the group of return migrants and the local staff:

"I think they were intimidated by our behaviour. We were obviously [...] earning more money [...]. Their jobs were secure, indefinite, they all had indefinite contracts [...] And also we were better dressed and carrying laptops [...]. There were a lot of young people and they couldn't stand us. My English was better than theirs. I was a threat to them. They wouldn't share the knowledge, things like that."

In contrast to Luisa M's experience, Jovana M felt no need to withhold knowledge because the local colleagues presented no threat to the positions of those funded from abroad. But crucially there was no incentive to receive knowledge. Little effort was made by the two groups to integrate and to develop trusting work relations. Although the need to build relationships can hinder the sharing of knowledge, it also offers potential, once trust has overcome fear of foreign knowledge and those who carry it. Both Luisa and Jovana's experience demonstrate a failure to share knowledge, with one trying to establish trust and the other making minimal effort. This shows that trust is relevant but that it must also be present in combination with other conditions.

The introduction of new work practices or procedures risks undermining the knowledge held by colleagues. Local colleagues may fear that their knowledge will be undermined, and thus their own position in the company (Macharzina *et al.* 2001: 647). Cultural distance, such as differences in language, norms and values can cause friction between partners, and undermine trust, disrupting potential learning flows (Hau and Evangelista 2007: 1157). Cultural affinity generally facilitates relations between individuals and partners, particularly since knowledge transfer takes place at a personal level through recurrent interactions (Szulanski 1996). Trust in the workplace lowers the likelihood that colleagues will resist foreign knowledge, particularly tacit knowledge embedded in the individual.

In keeping with the growing body of literature on workplace interactions, the interviews showed that micro-processes were influential for knowledge sharing (this is more difficult to appreciate in questionnaires than from interviews). Andrews and Delahaye (2008: 808) label the combination of these micro-processes as the "psychosocial filter". The filter can be seen as a process that mediates the decisions to share and receive knowledge. Trust is one of the most crucial determinants of knowledge sharing. Individuals need to feel that they are not being exploited for the knowledge they share. It is also important that individuals believe that the knowledge will benefit them. Some people are reluctant to approach others for knowledge sharing (or to be approached) in case the knowledge increases workload. Individuals also withhold knowledge that they perceive as unappreciated, or if they fear that others are taking credit for their ideas (Andrews and Delahaye 2000).

Considering the results to the questions in Table 8.3 and Table 8.4 below, there is some evidence of tensions registered by the participants due to a lack of recognition from the people they interact with regarding the value their international knowledge brings to the organisation. In terms of envy from compatriots (mean 2.48), 70.8 per cent had experienced at least "to a small extent", although only ten people (8.7 per cent) found this "to a very great extent." The results point to a substantial proportion having some problems in their work environment due to relations with colleagues. Conversely there was also evidence that the survey respondents had developed good relations with people they interacted with at work. Table 8.3 shows that, of those responding, 82 (65 per cent) described satisfaction with these relations as 'high' or 'very high' (mean 3.76).

Table 8.3: Satisfaction with experiences at work after return to Serbia (absolute numbers)

	5	4	3	2	1	Total	Mean
People I work with (including clients, subordinates, superiors and peers)	30	52	29	14	1	126	3.76
%	23.8	41.3	23	11.1	0.8		

5=very high, 4=high, 3=average, 2=low, 1=very low

Table 8.4: Interaction challenges (absolute numbers)

	5	4	3	2	1	Total	Mean
My colleagues view about work are very different from my own	5	30	37	33	28	133	2.63
%	3.7	22.5	27.8	24.8	21		
Envy from my compatriots	10	18	34	30	38	130	2.48
%	7.7	13.8	26.1	23.1	29.2		

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

Based on the rationale above, the cases are coded [1] if they demonstrate the existence of trusting relations with colleagues. The interviewees were explicitly asked about relations with colleagues and whether they had experienced any envy or resentment due to international experience and knowledge. Many spoke of the importance of trust between colleagues as a prerequisite to knowledge sharing. Cases where there was no evidence of trust as an important workplace dynamic are coded [0].

8.3.4 Condition four: Responsibility

A separate condition for responsibility is included in the model. Responsibility can be related to the returnee's position within the firm and their level of seniority (Szulanski 1996: 31). Satisfaction with the workplace is an important element of the return experience and having responsibilities that match or exceed capabilities acquired abroad can influence satisfaction levels. This is also related to how returnees perceive their effectiveness in the workplace, which can often differ from the perception that local colleagues and managers hold (Alder and Gundersen 2008: 289). The discrepancy between the level of responsibility that the returnees believe they should have and what managers do is also related to recognition of knowledge, since local managers may not recognise that the returnee has acquired any knowledge from their experience abroad that could benefit the workplace.

The level of responsibility is one of the key differences that people experience between Serbian and foreign workplaces. Chapter 1 discussed how responsibility is a motivation for return migration, as returnees take advantage of opportunities that they would not have in the host country (Conway and Potter 2009; OECD 2008c; Macpherson and Macpherson 2009). Additional responsibility appeals to returnees' career aspirations. Text Box 3 discusses the advantages that returnees experience in accelerated responsibility in Serbia, in part due to the transition process and the small size of certain professions. People are able to recognise the additional responsibility they have by comparing themselves to peers not only abroad but also in other Serbian work sectors.

Text Box 3: "None of my UK friends have this level of responsibility"

Working abroad or in foreign firms often has the advantage of greater recognition of foreign-acquired knowledge, as well as higher wages. On the other hand, foreign firms are more likely to have strict hierarchies with clearly defined responsibilities. One interviewee working in a large multinational - Marko O - contrasted his experience of a Serbian company and the experience of working in a large multinational firm in Serbia. In the latter, he had a lot of power over local partners because of the size of the company, but he also lacked the influence that he could have in a smaller company. Serbian companies, especially those in emerging sectors, offer high levels of responsibility, which leads to more potential for knowledge sharing. Responsibility makes it easier to impose changes and share knowledge. Individuals have more opportunities to use knowledge and to push through knowledge sharing that they consider relevant. One respondent employed at a Serbian NGO (Helena J) was working in an area of government reform that attracted support from foreign donors. Helena reflected that in this context, her knowledge and experience gave her responsibility and opportunities that friends working in Serbian government departments did not have:

"[…] we were in a […] discussion [of] national security strategy, and some people who got the job who are our friends in [the government], they couldn't attend because they were too junior. And it would be similar for us somewhere abroad. If you want to take part in that kind of discussion it would take ages to become a respected member of that policy community. So that's I think the advantage here. The policy community here is smaller so it's easier to become known and to get access in that area. For me that's an advantage."

A lack of responsibility also does not preclude knowledge sharing. Several interviewees mentioned how they had shared knowledge with colleagues and used their overseas experience to improve the way they work. Crucially, however, other conditions, such as trust and autonomy, also need to present in these circumstances.

According to the survey results presented in Table 8.5 below, a significant majority (93 or 65 per cent) of those who responded expressed "to some extent" and above that they felt some constraints on using their knowledge and expertise to its potential. In general, career challenges were relatively low. Further, just over half (73 or 54.5 per cent) indicated that at least 'to some extent' they had an inadequate level of responsibility. It is interesting to note here that the mean (2.67)[30] for those describing their responsibility as inadequate is much lower for the responses referring to the lack of opportunities to use knowledge (3.25).[31]

Table 8.5: Career challenges (absolute numbers)

	5	4	3	2	1	Total	Mean
Lack of opportunities to use my knowledge and expertise to the fullest (sd 1.28)	27	35	31	27	14	143	3.25
%	18.9	24.5	21.7	18.9	9.8		
Inadequate level of responsibility (sd 1.19)	10	29	34	29	32	134	2.67
%	7.5	21.6	25.4	21.6	23.9		

5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent

The cases were coded [1] if they demonstrated that they held positions of responsibility that gave them the ability to influence their working practices, or those of the firm. Conversely, the cases were coded [0] if a lack of responsibility was evident in the workplace.

8.3.5 Condition five: Autonomy

The fifth condition, related to Hypothesis 3 from Chapter 1, specified in the model contrasts autonomy and management oversight. Autonomy can be associated with task novelty and innovation, but also with low knowledge transfer to the organisation. This makes the role of managers more vital. Organisations can be knowledge-intensive but without an understanding by management of the dynamics of knowledge development and exchange, the value of autonomous sections to the organisational knowledge base will be lost (Hall *et al.* 2009: 253). Managers are also responsible for capturing knowledge so that the organisational knowledge base is not adversely affected if employees leave. Yet there is very little evidence of a developed culture of management oversight from the interviews. Autonomy has the potential to facilitate a knowledge sharing environment by allowing colleagues to work closely together but it may also reflect a lack of management oversight which can prevent the capturing of

[30] In Tung and Lazarova's (2006: 1866) study the mean scores were lower than those found here: 2.56 for individuals from medium HDI countries and 2.27 for high HDI countries.
[31] Compared to the results for the same question conducted by Tung and Lazarova (2006: 1866), the Serbian scores are significantly higher. In medium HDI countries, the authors found a mean of 2.71 and 3.07 for high HDI countries.

knowledge by the organisation. Very few interviewees talked about the impact of their knowledge upon organisational learning. One exception was Milan K (government agency), who expressed his wish to transfer knowledge, including a proposal to develop a procedural 'cook book' for his workplace. The survey results also point to high levels of autonomy enjoyed by the respondents in their workplaces since returning from abroad. Table 8.6 shows that 91 (or 72 per cent of those who answered), considered that they had a 'high' or 'very high' level of autonomy in decision making, resulting in a mean score of 3.96.[32] Indeed, only 10 of those who responded had a 'low' or 'very low' level of autonomy.

Table 8.6: Satisfaction with experiences in Serbia after returning from abroad

		5	4	3	2	1	Total	Mean
Autonomy in decision making		44	47	25	6	4	126	3.96
	%	34.9	37.3	19.8	4.8	3.2		

5=very high, 4=high, 3=average, 2=low, 1=very low

Although they overlap, autonomy should not be confused with responsibility; high levels of one can exist concurrently with low levels of the other. For instance, managers may allow employees to organise their work with low levels of oversight. However, employees may not have the levels of responsibility to impact upon the way that others work, or upon the organisational running of the workplace. The trade-off between autonomy and management oversight is discussed in Text Box 4.

Text box 4: Autonomy versus management oversight

Many respondents commented on the lack of management oversight in Serbian workplaces. As a consequence employees enjoy the opportunity to pursue projects with minimal interference from management. As Bogdan B commented, there are many different projects in his workplace, and employees direct their work according to personal expertise (such as geographical specialisations and language abilities). Work directed by individual employees and not from above does not encourage the development of procedures and formal knowledge transfer. This was also echoed by Helena J (NGO) who remarked that her workplace was trying to develop procedures to store information. However, since staff members have developed separate

[32] The mean is higher than for studies on Central and Eastern European (CEE) countries. For the same question, Tung and Lazarova (2006: 1869) found a score of 3.23.

specialisations it had become difficult to develop procedures that benefit the organisation as a whole.

If the work culture is too disparate (in terms of a unified goal and value system), colleagues become increasingly focused on distinct projects without procedures and oversight to instigate sharing. A workplace culture that promotes a shared interest in knowledge sharing must also be in place. At Dejan V's work (engineering institute) there are more efforts to manage knowledge. Teams are put together based on an identification of individuals with the required skills. Dejan V also described how the experience of applying for foreign research funding had become institutionalised and put into practice, changing the way domestic government funding is applied for. This illustrates how international orientation again influences the diffusion of knowledge in Serbia.

In Serbia, corporate knowledge management strategies are undeveloped outside the multinational companies operating in the country. International companies still offer the most promising environment for the implementation of knowledge transfer strategies (Williams and Balaz 2005). For many multinational companies international experience is required for high-level managerial positions. It is recognised that you need international experience to acquire certain competences required by managers. Jan N runs his own company and has many managerial responsibilities. The company is internationally-oriented and all the clients are foreign. As a result, the firm needs a knowledge base that includes communication skills and project management. Jan N described how the good practices acquired abroad by his staff make it easier for him to implement Western work standards by altering the culture and values of the organisation.

The type of interaction also influences what knowledge can be shared. Formal learning channels are better for sharing explicit, easily codifiable knowledge (Ipe 2003: 349), whereas regular and intense interaction between colleagues is more suited to tacit knowledge (Lazarova and Tarique 2005:364; Black *et al.* 1999). Interviewees with a great deal of autonomy (and consequently little management oversight) spoke confidently about the types of skills required in their work, and their ability to pursue personal avenues of interest. The workplace provides an interesting and challenging environment and a culture of contributing not only to the country's transition but also to the development of a personal skills set. This chimes with the idea that employees gain satisfaction from working on projects where they can see tangible results. They can also appreciate that through their international work, they are developing a set of transferable skills that puts them on par with peers in other countries. Thus, autonomy in the workplace, which provides the opportunity to pursue interests and develop skills, creates appealing environments, particularly for people at the early stages of their career.

In summary, the cases were coded [1] if there was evidence that the interviewees experienced a level of autonomy in the workplace. Where management oversight was more pronounced, and consequently more formal knowledge mechanisms were present, the cases were coded [0]. Management oversight, on the other hand, is a critical factor in ensuring that knowledge sharing with the organisation takes place (Davenport *et al.* 1999). Management can try to capture knowledge for the organisation but they cannot control the willingness of the holder to share or of colleagues to receive. This is contingent on other conditions, including trust.

8.3.6 Condition six: International orientation

The final condition selected on the basis of the literature and interviews relates to the impact of an international orientation in the workplace (Hypothesis 6). Culture is reflected in the practices, values and norms of a workplace (De Long and Fahey 2000). A workplace can have an international orientation in several ways, with the outcome depending on the frequency and depth of international contact. Whether this comes from foreign clients and partners or, of course, if the firm is foreign owned or a multi-national, the result is that international knowledge gains in recognition, value and acceptance. Text box 5 describes one interviewees' summary of the appeal of internationally-oriented workplaces.

An homogenous culture does not always exist throughout the workplace (McDermott and O'Dell 2001: 77). Many interviewees spoke of differences between colleagues with international experience and local employees who have been in their positions for many years and were uninterested or resistant to any knowledge that could affect their work practices. It is still possible to create an internationally-oriented subculture within a larger organisation, through teams and with colleagues, as many interviewees working in academia attested. This is where the role of autonomy is particularly pertinent since individuals are able to influence their own working practices without management interference. Employees can also seek out like-minded colleagues. Workplace cultures and subcultures influence the values such as trust, a sense of involvement and team spirit that are important (Ipe 2003: 351).

Text box 5: International equals dynamic

Milan K works for an agency charged with promoting international investment in Serbia. It is recently established with a relatively youthful staff. It also has a work culture that appeals to people with foreign experience; there are many people with international experience (critical mass), English language abilities are important, as are communication and presentation skills, and there is co-operation with partners in other countries. Further, Milan contrasts his Serbian workplace to firms abroad where he has worked, which are bigger, more hierarchical and have defined divisions of responsibility. In contrast, Milan's workplace in Serbia is smaller, has less strict hierarchies and individuals have the autonomy to pursue avenues of work according to personal interest or specialism. This appeals to those at the start of their career, especially if they also have experience of workplaces where responsibilities are more strictly defined (i.e. within the management structures of foreign companies).

Milan K is also critical of the structure, and comments on inefficiencies that result from a lack of management oversight, which can explain why Milan is able to share knowledge with colleagues but not at the organisational level. Few procedures are in place, computerised sharing of information is limited and the management do not make enough effort to ensure that knowledge circulates between different teams and sectors, preventing a wider dissemination of best practices, experience and connections - just some elements of knowledge that could benefit the workplace as a whole.

The international convergence of skills in certain industries (and the extent to which you can acquire those skills in Serbia) lowers barriers to knowledge sharing within the workplace, principally because it affects the value attributed to knowledge and the source of this knowledge. In certain industries, such as electrical engineering, locally trained and educated colleagues are not insecure about their knowledge and competences; they do not feel threatened by people from abroad. Where people in a certain profession do not fear that external knowledge jeopardises their position or status, they are less likely to resist it. For instance, interviewees working in the IT industry do not experience problems in knowledge sharing related to issues of trust and resentment. This can be explained by two factors. Firstly, most people working in the IT industry in Serbia work for foreign clients. The outsourcing of IT services is a growing industry, clustered particularly in the city of Novi Sad and surrounding towns. These companies are consciously managed along 'Western' lines in order to meet the professional and technical requirements of their clients. Some firms were established by people who returned to Serbia having worked in IT companies in North America and Western Europe. For managers in these companies, foreign experience is an asset.

International experience gives people the opportunity to join networks and keep up to date with developments, particularly in professions that are globally convergent. Several interviewees working in academia spoke of the contacts they had made abroad and how these were valuable for keeping up to date with developments in their field. Interviewees from in academia spoke about developing courses based on foreign curricula. Foreign contacts also help to transfer new courses and teaching to Serbia, the principal obstacle being resources shortages (students cannot afford resources - i.e. books - that come from abroad). Moreover, in many professions, international contact gives people the opportunity to gauge global expertise and to interact with experts from other countries.

Based on the literature and findings in the interviews, the cases are coded [1] if the workplace exhibits an international orientation. This is premised on the idea that an international dimension is more likely to generate a dynamic workplace, where international knowledge is both recognised and in demand (Hypothesis 6). Such workplaces are also more attractive to people with international experience since they are able to apply their knowledge and work with colleagues with similar experience.

8.4 Creation of a dichotomised table

Based on the discussion above, the model contains interrelated conditions that are nonetheless distinct enough to have a high level of variance across the cases. The conditions are coded positively so that their presence indicates a positive outcome (in this case knowledge sharing with colleagues and with the organisation). Table 8.7 is generated to ensure that categories are related and relevant for all cases. Each condition is coded 1 or 0 to create a dichotomised table necessary for csQCA. Analysis of the cases according to the selected conditions was particularly effective for coding according to Boolean logic. Interviewees were able to clearly engage in a discussion of the workplace and specify how and in which capacity they could share knowledge. The suitability of the conditions is confirmed in the variance across the cases, i.e. none of the conditions is constant (Berg-Schlosser and De Meur 2009: 28). The outcome of sharing knowledge with colleagues and with the organisation is dichotomised for each case, based on the responses given during the interviews. The outcome [1] indicates that knowledge sharing with colleagues or with the organisation took place, while cases where knowledge has not been shared between colleagues or with the organisation is coded [0].

Table 8.7: Dichotomised data table

Case ID	Recognition of knowledge (K)	Trust (T)	Autonomy (A)	Responsibility (R)	Non-peripheral role (N)	International orientation (I)	Outcome – knowledge sharing with colleagues	Outcome – knowledge sharing with the organisation
1	1	1	1	1	0	1	1	0
2	0	1	0	0	0	0	1	0
3	1	1	1	1	0	0	1	0
4	1	1	1	1	0	0	1	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	1	1	1	1	1	1	1	1
8	0	1	0	0	0	0	1	0
9	1	0	1	1	0	0	0	0
10	1	1	1	1	1	1	1	1
11	0	1	0	0	0	1	0	0
12	1	0	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1
14	1	1	1	1	1	0	1	1
15	0	0	1	1	1	1	1	0
16	1	1	1	1	1	1	1	1
17	0	1	0	0	0	0	0	0
18	1	1	1	1	1	0	1	0
19	0	1	0	0	0	1	0	0
20	0	0	0	0	0	1	0	0
21	1	1	1	1	1	1	1	1

22	0	1	1	1	1	1	0	0
23	1	0	1	1	1	0	1	0
24	1	1	0	0	0	1	1	0
25	1	1	1	1	1	1	1	1
26	1	1	1	1	1	0	0	0
27	1	1	0	1	1	0	1	1
28	1	1	1	1	1	0	1	0
29	1	0	0	0	0	0	0	0
30	1	1	1	1	1	1	1	1
31	1	0	1	1	1	1	1	1
32	1	1	1	1	1	1	1	1
33	0	1	0	1	1	1	0	0
34	1	1	0	0	0	1	1	0
35	1	0	0	1	1	1	1	1
36	1	1	0	0	0	1	1	0
37	1	1	0	1	0	1	1	1
38	1	0	1	1	1	1	1	1
39	1	0	1	1	1	1	1	1
40	1	1	1	1	1	1	1	1
41	1	1	1	1	1	1	1	0
42	1	1	1	1	1	1	1	1
43	0	0	0	0	0	0	0	0
44	1	1	1	1	1	1	1	1
45	0	1	0	0	0	0	0	0
46	1	1	1	1	1	1	1	1
47	1	1	1	1	1	1	1	1
48	1	1	0	1	1	1	1	1
49	1	1	0	1	1	0	1	0
50	1	1	1	1	0	1	1	0
51	1	1	1	1	0	1	1	0
52	1	0	0	0	0	1	0	0
53	1	0	1	1	1	1	1	1
54	0	1	0	0	0	0	0	0
55	1	0	1	1	1	1	1	1
56	1	1	1	1	1	0	1	0
57	1	0	0	1	1	1	1	1

Having selected the conditions and expressed the cases in dichotomised form, the next part of the chapter is divided into two sections. The first deals with knowledge sharing with colleagues while the second focuses on knowledge sharing with the organisation. Out of 57 cases, 42 reported knowledge sharing with colleagues and 25 knowledge sharing at the organisational level. Those who indicated organisational knowledge sharing were able to identify procedures for storing knowledge, which means that the knowledge will have a lasting impact in the event that the carrier leaves the workplace. We first turn to knowledge sharing with colleagues. In this section the QCA approach is described in detail, outlining each step recommended by the literature, as well as a discussion of the results. With the steps thus described, the following section, focusing on knowledge sharing with the organisation, presents only the results of the process. All computed results generated with the QCA software can be found in Annex 7.

8.5 QCA process for knowledge sharing with colleagues

Having identified the outcome and the causal conditions, the method of analysing the dichotomised data using QCA follows the procedures recommended by Ragin (2008). The dichotomised data is used to create a so-called 'truth table' containing all the configurations for which there are cases. More conditions in the model will generate a larger number of configurations (the number of rows follows the 2k[33] rule – where k stands for the number of conditions). Although the QCA software computes all possible configurations, only those with at least one case are included in the truth table. Those configurations that do not have cases are known as logical remainders, or counterfactuals. These are hypothetical combinations of conditions leading to the outcome for which there is no evidence in the existing dataset. They exist because, in the empirical world, there are not enough cases for all the possible configurations of causal conditions. If these configurations were included, the truth table would specify all possible combinations of the causal conditions (in this case, 64 rows). However, the lack of cases means we cannot say what the outcome is.

Table 8.8: Truth table containing Boolean configurations (6 conditions plus one outcome)

No	Know (K)	Trust (T)	Autonomy (A)	Respon (R)	Non-Periph (N)	IntOrien (I)	No of cases	Outcome	Consist
1	1	1	1	1	1	1	14	1	1
2	1	0	1	1	1	0	6	1	1
3	0	1	0	0	0	0	5	C	0.40
4	1	1	1	1	1	0	5	C	0.80
5	0	0	0	0	0	0	3	0	0
6	1	1	0	0	0	1	3	0	0
7	1	1	1	1	0	1	3	1	1
8	0	1	0	0	0	1	2	1	1
9	1	0	0	1	1	1	2	1	1
10	1	1	0	1	1	0	2	1	1
11	1	1	0	1	1	0	2	1	1
12	0	0	0	0	0	1	1	1	1
13	0	0	1	1	1	1	1	0	0
14	0	1	0	1	1	1	1	0	0
15	0	1	1	1	1	1	1	0	0
16	1	0	0	0	0	0	1	0	0
17	1	0	0	0	0	1	1	0	0
18	1	0	1	1	0	0	1	0	0
19	1	0	1	1	0	0	1	0	0
20	1	0	1	1	1	0	1	1	1

[33] The number of possible combinations is related to the number of conditions. If there are two conditions, there will be four combinations (2x2); three conditions there will be eight conditions (2x2x2); four conditions lead to 16 combinations (2x2x2x2), and so on (Berg-Schlosser and de Meur 2009: 27).

21	1	1	0	1	0	1	1	1	1

The truth table brings together six conditions and one outcome. There are 21 possible configurations populated by empirical cases. The conditions are: recognition of knowledge, trust, autonomy, responsibility, non-peripherality and international orientation. The model is specified as:

Knowledge sharing with colleagues (KSC) = f (K + T + A + R + N + I)[34]

The QCA software identifies the possible configurations for the outcome. Ten configurations are linked to knowledge sharing with colleagues. Nine rows describe the configurations that do not lead to knowledge sharing. By far the largest concentration of cases (14) can be found when all six conditions under analysis are present. The next highest number (six) exists for the presence of four conditions (K, A, R and N). However in rows three and four, we find that there is a contradictory configuration, whereby the same configuration of conditions leads to divergent outcomes. For the configuration k*T*a*r*n*i ➔ KSC two cases are associated with the [1] outcome and three with [0]. Similarly, in row four, for K*T*A*R*N*i one case is linked to [0] and the rest to [1]. Before we can proceed, these must be investigated. Given the range of possible conditions that lead to knowledge sharing, it is not unexpected that contradictory configurations exist. They could originate from errors in the coding process, or from a misapplication of the theoretical literature to the empirical data. As Rantala and Hellstrom (2001: 96) note, this stage of the analysis has distinct benefits. By visiting the cases and investigating why two identical cases would lead to divergent outcomes, we actually generate new perspectives and interpretative possibilities.

8.5.1 Contradictory configurations

Contradictory configurations occur when, for the same configuration of conditions, there are both cases associated with the [1] outcome and the [0] outcome. In the QCA process, contradictions provide an opportunity to refine the model and reanalyse cases. The truth table shows that contradictory configurations exist in rows three and four (also marked with a 'c' in

[34] K = recognition of unique knowledge; T = Trust; A = Autonomy; R = Responsibility; N = Non-peripheral; I = International orientation; KSC = Knowledge sharing with colleagues; KSO = Knowledge sharing with the organisation

the ‘outcome’ row). This can also be seen in the ‘consistency’ row. The consistency scores indicate the proportion of cases within each configuration that have the same outcome. However, with such a low number of contradictory configurations in the table, there is support for the proposition at this stage that the model is well specified. Contradictions are normal in QCA, but must be resolved before moving on to Boolean minimisation. As QCA is an iterative process, it is necessary to revisit the cases and theoretical literature, and in this way develop a more robust model (Rihoux and De Meur 2009: 48). There are a number of strategies to resolve contradictory configurations but, given the case study approach, the initial check should be to re-examine the cases in detail and check for any inconsistencies in the coding for each condition.

All cases were revisited. The robustness of the model was confirmed by the finding that some cases had to be recoded. In case 2 (actor working in drama school), knowledge transfer had not in fact taken place. Regarding case 8, there was in fact no evidence that knowledge sharing had taken place either. Case 26 was also recoded to reflect the fact that knowledge sharing with colleagues had taken place, contrary to the previous scoring. It was also decided to remove case 27 since the interviewee had established her own company and did not have colleagues. A revised dichotomised table can be found in Annex 5. Using the revised ‘cleaned’ data, a new truth table (Table 8.9) was generated:

Table 8.9: Revised truth table with resolved contradictory configurations

No	Know (K)	Trust (T)	Autonomy (A)	Respon (R)	Non-periph (N)	IntOrien (I)	No of cases
			Outcome = 1 (knowledge sharing with colleagues)				
1	1	1	1	1	1	1	13
2	1	0	1	1	1	1	6
3	1	1	1	1	1	0	5
4	1	1	1	1	0	1	4
5	1	1	0	0	0	1	3
6	1	0	0	1	1	1	2
7	1	1	1	1	0	0	2
8	0	0	1	1	1	1	1
9	1	0	1	1	1	0	1
10	1	1	0	1	0	1	1
11	1	1	0	1	1	0	1
12	1	1	0	1	1	1	1
						Total	40
			Outcome = 0 (no sharing knowledge with colleagues)				
1	0	1	0	0	0	0	5
2	0	0	0	0	0	0	3
3	0	1	0	0	0	1	2
4	0	0	0	0	0	1	1
5	0	1	0	1	1	1	1
6	0	1	1	1	1	1	1

7	1	0	0	0	0	0	1
8	1	0	0	0	0	1	1
9	1	0	1	1	0	0	1
						Total	16

The twelve different combinations linked to the [1] outcome and nine for the [0] outcomes can be expressed using Boolean algebra. In the following expression [*] stands for 'and' and [+] means 'or'. Upper case letters indicate the presence of the condition and lower case the absence. The cases are represented by initials to aid compactness:

Expression 1: truth table results – [1] outcome

K*T*A*R*N*I +	K*t*A*R*N*I +	K*T*A*R*N*i +	K*T*a*r*n*I +	K*T*a*r*n*I +	K*t*a*R*N*I +
(13 cases)	(6)	(5)	(4)	(3)	(2)
K*T*A*R*n*i +	k*t*A*R*N*I +	k*t*A*R*N*i +	K*T*a*R*n*I +	K*T*a*R*N*i +	K*T*a*R*N*I +
(2)	(1)	(1)	(1)	(1)	(1)

➔ KSC

8.5.2 Minimisation process

At this stage it is useful to reflect and discuss any interesting findings apparent in the revised truth table. The majority of cases (40) are associated with the [1] outcome and twelve configurations lead to this result. Nine configurations are linked with the [0] outcome (16 cases). A casual reading of the table indicates that configurations containing the presence of a higher number of conditions are more likely to be linked to the [1] outcome than the [0] outcome. Indeed, configurations where only one condition is present are associated with eleven of the [0] outcome cases. Similarly, 29 cases with a [1] outcome populate configurations with at least five conditions present.

Now that the contradictory configurations have been resolved we can move on to the next step of Boolean minimisation. The first stage of the process excludes any logical remainders (all the remaining possible configurations of conditions for which there are no observed cases). The next step involves the removal of 'paired' terms that differ in one condition. Thus if two terms are identical except that one shows the presence and the other the absence of a condition, this condition can be considered redundant since the outcome remains the same. For instance the following terms K*T*A*R*N*I and K*t*A*R*N*I are identical apart from the presence of trust (T) in the first term and the absence of trust (t) in the second. Therefore, trust is irrelevant since it makes no difference to the outcome. The first round of minimisation asks the software to remove terms from the expression that have redundant conditions. The result is the simplified expression below (called the 'complex solution' by the software). The software minimises the formulas twice; once for [1] outcomes and once for [0] outcomes.

Expression 2: Complex solution (excluding counterfactuals) - KSC

K*T*A*R + K*T*R*N + K*A*R*N + K*R*N*I + K*T*a*n*I + t*A*R*N*I ➔ KSC

The complex solution shown is an expression reduced to six terms. These terms cover all the rows in the truth table. The expression demonstrates the difficulty in simplification where there is a large number of divergent paths to the outcome. In addition, since we have assumed, based on theoretical and substantive knowledge, that the presence, as opposed to the absence, of the conditions leads to the [1] outcome, it is surprising to see terms expressing the absence of conditions.

8.5.3 Limited diversity and counterfactual analysis

There are 64 rows (combinations of conditions) in the truth table, of which only 21 contain cases. The remaining 43 configurations are known as counterfactuals or logical remainders. The shortage of empirical data to populate all the possible combinations is recognised as a challenging aspect of comparative research (Ragin 2008: 50). QCA recommends that the dilemmas of counterfactual configurations be dealt with by referring back to the same theoretical and evidence-based knowledge used to select the conditions (Ragin 2008: 51). If we put counterfactual configurations (those which do not reach the one case threshold) back into the truth table, we find other parsimonious solutions. As Ragin (2008: 51-52) writes, we should: "Conceive of these two results as the two endpoints of the complexity/parsimony continuum..."

The minimisation process is performed by the software using the Crisp-Quine algorithm. To generate a more parsimonious expression from the data, the software adds some of the logical remainders (only those which lead to a more parsimonious solution) to the set of configurations with observed cases and makes “simplifying assumptions” (Ragin 1987: 110-113; Rihoux and De Meur 2009: 58-59). The inclusion of these non-existing combinations leads to greater simplification and more generality. An additional benefit of the QCA process is that the researcher is able to identify simplifying assumptions according to the model and outcome in question. In this research, the assumption is that presence of the conditions is linked to the outcome. It is therefore regarded as plausible that alternative combinations for which there are no empirical observations can lead to the [1] outcome.

QCA is able to generate a continuum of solutions according to two extremes; complexity and parsimony, as well as intermediate solutions. Analysis including counterfactuals leads to a more parsimonious solution whereas analysis that excludes them will give a more complex solution. Complex and intermediate solutions are both subsets of parsimonious solutions since all solutions must explain rows in the truth table with [1] outcomes (Ragin 2008: 51-52). The software generates an intermediate solution that includes counterfactual analyses of the conditions linked to the outcome in question:

Expression 3: Intermediate solution (includes counterfactuals) - KSC

$$I*T*K + N*R*T*K + R*A*T*K + I*N*R*A*t \rightarrow KSC$$

Expression 3 above can be read as; international orientation plus trust plus recognition of knowledge OR non-peripherality plus responsibility plus trust plus recognition of knowledge OR responsibility plus autonomy plus trust plus recognition of knowledge OR international orientation plus non-peripherality plus responsibility plus autonomy plus lack of trust are linked to the sharing of knowledge with colleagues. Although the intermediate solution is still a complicated expression with many terms, it is relevant because it expresses configurations that would be possible if enough cases existed to populate all the possible configurations. As already mentioned, one of the downsides of small to intermediate-N research designs is an insufficient number of observed empirical cases. However, as we have already justified in the first section of this paper, the presence of each condition should theoretically increase the likelihood of knowledge sharing taking place. Any of the counterfactual configurations is thus plausible. Following the complex solution, the intermediate solution minimises the expression, reducing the number of terms from six to four. The final expression is the most parsimonious. It shows the combinations of conditions that are essential to distinguish between the [1] and the [0] outcomes:

Expression 4: Parsimonious solution [KSC]

$$t*N + K*T \Rightarrow KSC$$

The parsimonious solution can be read as the absence of trust plus the presence of non-peripherality OR the presence of recognition of knowledge plus the presence of trust are the essential differences between configurations leading to the [1] and the [0] outcomes. In other words, configurations that contain either a) no trust plus non-peripherality, or b) recognition of knowledge plus the presence of trust will not lead to a failure of knowledge sharing with colleagues. Coverage of the t*N term is 0.25 and 0.75 for K*T. This means that 10 cases are covered by the first term and 30 by the second term. In many ways, the parsimonious solution is unsatisfying and does not provide much interpretative potential. Instead, we may find greater benefit in looking at the intermediate solution, which contains counterfactual rows from the truth table that are plausible.

The terms of the intermediate solution are subsets of the parsimonious solution above. This can be seen in 't' and 'N' from t*N in the parsimonious present in 'I*N*R*A*t' of the intermediate expression. Complex solutions are also subsets of the parsimonious solutions. The principle of subsets works on the logic that AbC and ABC are subsets of AC since the presence or absence of B is linked to the outcome. Thus AC is the prime implicant that includes the Boolean expressions AbC and ABC (Ragin 2008: 64). The parsimonious expression specifies the essential conditions that differentiate the [1] outcome from the [0] outcome. If we return to the truth table (Table 8.9) we can see that either t*N or K*T from expression 4 are present in all twelve [1] outcome configurations. Similarly, the terms in Expression 4 do not exist in any of the nine [0] configurations.

8.5.4 Expressions leading to the [0] outcome

It is important in QCA to examine the configurations that lead to the absence of the outcome in question. Expression 5 shows that nine configurations are associated with the [0] outcome. The same minimisation process was performed on the expressions and three separate expressions were generated by the software.

Expression 5: truth table results – [0] outcome

k*T*a*r*n*i +	k*t*a*r*n*i +	k*T*a*r*n*I +	k*t*a*r*n*I +	k*T*a*R*N*I +	k*T*A*R*N*I +
(5 cases)	(3)	(2)	(1)	(1)	(1)
K*t*a*r*n*i +	K*t*a*r*n*I +	K*t*A*R*n*i			
(1)	(1)	(1)			

➔ksc

Expression 6: Complex solution - ksc

t*a*r*n + k*a*r*n + k*T*R*N*I + k*t*A*R*n*i ➔ ksc

Expression 7: Intermediate solution - ksc

T*k + i*n*t + n*r*a*t ➔ ksc

Expression 8: Parsimonious solution - ksc

t*n + k*T ➔ ksc

Coverage of the two terms in Expression 8 are 0.437 (seven cases) for t*n and 0.562 (nine cases) for k*T. The parsimonious solution states at the absence of trust combined with the absence of non-peripherality or the absence of recognition of knowledge combined with trust are associated with a lack of knowledge sharing with colleagues. Turning back to the cases, we should discuss whether this offers a reasonable explanation for understanding the configurations of conditions that lead to the [1] outcome. We should ask ourselves whether the configurations are meaningful and do the results bring additional depth to the analysis. The theory provides a useful starting point for selecting conditions but it is only through continuous movement between the interviews that we can assess the coherence of such distinctions. The results show that of the nine configurations, four are covered by the term [k*T] and the remaining five by the term [t*n]. The expression can be read as indicating that if the individuals occupy a peripheral role and lack trust with colleagues OR if trust is present but there is no recognition of knowledge, sharing with colleagues will not occur. These terms show the essential conditions that distinguish the [0] outcome from the [1] outcome.

8.5.6 Sufficiency and necessity

Having created a truth table, we must also evaluate necessity and sufficiency of the conditions or combinations of conditions for the outcome. Necessity involves looking at the cases where the outcome is present and observing whether any conditions or sets of conditions are always present (Marx 2010). Those conditions which are present or absent in all cases can be regarded as necessary conditions (making sure that the literature supports such a justification) (Stokke 2007: 4). As Ragin (1987: 99) writes: “a cause is defined as necessary if it must be present for a certain outcome to occur. A cause is defined as sufficient if by itself it can produce a certain outcome.” Schneider and Wagemann (2006: 753) write that “necessity is present if, whenever we see the outcome, we also see the cause, although we might also see the necessary cause without the outcome. In contrast, sufficiency is present if, whenever we see the cause, then we also see the outcome.” Necessity does not always lead to the outcome whereas sufficiency does.

Table 8.3 shows that the presence or absence of any one condition is not consistent for each term in the above expression. In other words, no single condition is necessary for knowledge sharing to take place. However, two conditions together - recognition of knowledge and responsibility - were present in almost every configuration in the truth table. Similarly, no single condition is sufficient for the [1] outcome. It is also apparent, given the variance across the terms, that regarding sufficiency, there is great diversity in the pathways through which knowledge sharing with colleagues can pass.

8.6 QCA process for knowledge sharing with the organisation

We now analyse the sharing of knowledge at the organisational level. As discussed, this distinction acknowledges that for an individual's knowledge to make a lasting impact, there must be an effort to capture and store knowledge in ways that other staff members can access. During the interviews 25 individuals indicated that their knowledge had been captured at the organisational level (adapted into the organisational knowledge base and accessible to others), against a majority of 31 who did not. Table 8.10 presents the first iteration of the truth table for the [KSO] and [kso] outcomes.

Table 8.10: Truth table for knowledge sharing with the organisation (KSO)

No	Know (K)	Trust (T)	Autonomy (A)	Respon (R)	Non-Periph (N)	IntOrien (I)	No of cases	Outcome	Consist
1	1	1	1	1	1	1	13	1	1
2	1	0	1	1	1	1	6	1	1
3	0	1	0	0	0	0	5	0	0
4	1	1	1	1	1	0	5	C	0.4
5	1	1	1	1	0	1	4	0	0
6	0	0	0	0	0	0	3	0	0
7	1	1	0	0	0	1	3	0	0
8	0	1	0	0	0	1	2	0	0
9	1	0	0	1	1	1	2	1	1
10	1	1	1	1	0	0	2	0	0
11	0	0	0	0	0	1	1	0	0
12	0	0	1	1	1	1	1	0	0
13	0	1	0	1	1	1	1	0	0
14	0	1	1	1	1	1	1	0	0
15	1	0	0	0	0	0	1	0	0
16	1	0	0	0	0	1	1	0	0
17	1	0	1	1	0	0	1	0	0
18	1	0	1	1	1	0	1	0	0
19	1	1	0	1	0	1	1	0	0
20	1	1	0	1	1	0	1	1	1
21	1	1	0	1	1	1	1	1	1

As predicted, the truth table shows fewer instances of KSO than the KSC outcome. Five configurations are associated with the [1] outcome. Fifteen configurations are linked to the [0] outcome. There is one contradictory configuration in row four that, as with the process described above, must be resolved before moving to the Boolean minimisation stage. The consistency score shows that for the configuration K*T*A*R*N*i two cases lead to the [1] outcome and three cases to the [0] outcome. Upon close examination, the two cases that were linked to the [1] outcome (cases 27 and 46) are individuals recruited by their employer from abroad. Further, the interviewees indicate that an important factor in their employment was the active recognition of knowledge. Indeed, recognition of knowledge is a necessary condition for knowledge sharing with the organisation to take place. Thus it is logical to assume that the decision to recruit individuals with international experience was motivated by a wish to utilise the unique knowledge. It also suggests the presence of some level of management oversight, or corporate strategy, in these workplaces. This is also mentioned by the theoretical literature. To test this relationship we put an additional condition in the model –'Recruit'. The revised dichotomised table (see Annex 5) contains 11 cases coded [1] and 45 coded [0].[35] The new condition is dissimilar from recognition of knowledge (K) since the latter does not imply a deliberate intention to utilise the knowledge held by individuals from the outset, whereas Recruit (R) represents an explicit managerial intention to source knowledge. Expatriate recruitment is frequently used as part of corporate knowledge management strategy to circulate and generate knowledge (Bonache and Brewster 2001).

Knowledge managers have the opportunity to facilitate knowledge-sharing networks, create 'repositories' for capturing knowledge and ensure that employees use them, designing and implementing procedures and knowledge-sharing tasks (Davenport and Volpel 2001:215). The presence of autonomy is used to indicate a lack of management oversight, which is a key condition for increasing the likelihood of capturing knowledge at the organisational level. The minimisation process requires the conditions to be coded depending on whether presence or absence is likely to lead to the outcome. Autonomy is assumed to signal the absence of management oversight (which increases the likelihood that knowledge will be captured at the organisational level). Consequently, during the minimisation process, an absence of the causal condition is regarded as leading to the outcome [KSO]. With the additional causal condition added to the model, a revised truth table is generated (Table 8.11 below). There are now 24 configurations, of which seven are linked to the [1] outcome and 17 to the [0] outcome.

[35] Redoing KSC with the "Recruit" variable was not deemed theoretically necessary since knowledge sharing with colleagues does not require management oversight or recognition of knowledge by superiors.

Table 8.11: Revised truth table: knowledge sharing with the organisation

No	Know (K)	Trust (T)	Aut. (A)	Respon. (R)	Non-periph (N)	Int-orient (I)	rEcruit[36] (E)	No of cases
Outcome = 1 (knowledge sharing with the organisation)								
1	1	1	1	1	1	1	0	11
2	1	0	1	1	1	1	0	5
3	1	0	0	1	1	1	1	2
4	1	1	1	1	1	0	1	2
5	1	1	1	1	1	1	1	2
6	1	0	1	1	1	1	1	1
7	1	1	0	1	0	1	1	1
							Total	24
Outcome = 0 (no sharing knowledge with the organisation)								
1	0	1	0	0	0	0	0	5
2	1	1	1	1	0	1	0	4
3	0	0	0	0	0	0	0	3
4	1	1	0	0	0	1	0	3
5	1	1	1	1	1	0	0	3
6	0	1	0	0	0	1	0	2
7	1	1	1	1	0	0	1	2
8	0	0	0	0	0	1	0	1
9	0	0	1	1	1	1	0	1
10	0	1	0	1	1	1	0	1
11	0	1	1	1	1	1	0	1
12	1	0	0	0	0	0	0	1
13	1	0	0	0	0	1	0	1
14	1	0	1	1	0	0	0	1
15	1	0	1	1	1	0	0	1
16	1	1	0	1	0	1	0	1
17	1	1	0	1	1	0	1	1
							Total	32

The revised truth table above now contains an extra column – 'Recruit' – and the contradictory configurations have been resolved. Using the minimisation process described above, the software generates the following expressions.

Expression 9: Complex solution - KSO

	K*A*R*N*I +	K*T*a*R*I*E +	K*t*R*N*I*E +	K*T*A*R*N*E	➔ KSO
Coverage[37]	0.76	0.08	0.12	0.16	

Expression 10: Intermediate solution - KSO

[36] Recruitment from abroad is represented in by the initial 'E' in subsequent expressions.

[37] Does not equal 100 since there is overlap between the expressions and cases.

	I*N*R*K +	E*N*R*A*T*K	→ KSO
Coverage	0.88	0.16	

Expression 11: Parsimonious solution - KSO

	K*N*I +	A*N*E	→ KSO
Coverage	0.88	0.20	

Coverage of the two terms in Expression 11 are 0.88 for K*N*I and 0.20 for A*N*E. The parsimonious solution states that recognition of knowledge plus non-peripherality plus international orientation OR autonomy plus non-perpherality plus recruitment from abroad are associated with KSO. These terms show the essential conditions that distinguish KSO from kso. The results are discussed in more detail in the discussion below.

8.6.1 The [0] outcome

As with knowledge sharing with colleagues, it is necessary in QCA to analyse both outcomes. Based on the truth table we derive the following expression for the [0] outcome.

Expression 12: Complex solution – kso

	t*a*r*n*e +	k*a*r*n*e +	a*r*n*I*e +	K*t*A*R*i*e +	K*A*R*N*i*e +	→kso
Coverage	0.19	0.35	0.22	0.06	0.13	
	k*T*R*N*I*i +	k*A*R*N*I*e +	K*T*A*n*I*E +	K*T*A*R*n*i*E +	E*T*a*R*N*i*E	
Coverage	0.06	0.06	0.13	0.06	0.03	

Expression 13: Intermediate solution – kso

	i*a +	i*n +	E*r +	e*i +	r*n*A +	e*n*r	→kso
Coverage	0.32	0.39	0.45	0.45	0.52	0.16	

The solution provides a term for each path to the outcome. Thus, using the counterfactuals, we see that there are five possible alternatives to the [0] outcome. The most parsimonious solution for the [0] outcome is specified in Expression 14 below.

Expression 14: Parsimonious solution – kso

	r +	k +	i*r +	a*i +	A*n	
Coverage	0.52	0.45	0.45	0.32	0.22	➔kso

According to the parsimonious solution, there are five alternative paths associated with the outcome failure to share knowledge with the organisation; lack of responsibility or no recognition of knowledge or lack of international orientation plus no recruitment from abroad or lack of autonomy plus international orientation or the presence of autonomy plus peripherality.

The final step is to analyse the relationship of the conditions with each other. Those categories which are present in each term of the expression are considered necessary. The truth table shows that two conditions are necessary for KSO to occur; recognition of knowledge and responsibility.

8.7 Discussion and conclusion

Building on the theoretical literature on the sharing of knowledge in workplaces, the analysis identified six conditions that influence sharing. The theoretical literature proved useful for framing the study of knowledge sharing and the list of conditions here represents a reworking of existing typologies. The key factors that emerged from the interviews were interpreted according to their relevance to categories distinguished by other authors. Several of these can be cut or amalgamated, producing a reduced list of the most important factors for knowledge sharing. As discussed by Ipe (2003), and confirmed by the interviews, there is considerable overlap between the conditions. It was clear, for instance, that ‘international orientation’ is relevant from the perspective of the knowledge that is considered important, as well as for the culture of the organisation (where the workplace has adopted work practices and knowledge as a result of contact with international partners, clients or owners). During the analysis, hypotheses described in Chapter One were tested. There was also hypothesis generation. These are discussed below.

The complexity of the paths that lead to KSO and KSC contrains the generation of succinct hypotheses. Nevertheless, where possible, the QCA results were used to draw out some hypotheses and to show support for hypotheses outlined in Chapter 1. The analysis showed that no single condition is necessary or sufficient for KSC. The overlap between the conditions may expose the limited applicability of the QCA approach to the data. Likewise, it may also suggest weak theories. However, several interpretative possibilities have emerged. As far as theoretical implications are concerned, the analysis confirms the categories of conditions identified by the existing literature, as well as the greater specificity brought to these categories by the selected conditions. The disaggregation of particular conditions within each category is an important advancement, particularly in the Serbian environment where there is little application of knowledge management theory in the form of corporate strategy. The motivation to share in the majority of cases depends on recognition of the added uniqueness and value of knowledge in relation to the broader knowledge base in the organisation and among colleagues, thus providing support for Hypothesis 2 concerning recognition of knowledge. The sharing of knowledge is dependent on a sympathetic environment, one that individuals feel will not penalise them if they attempt to share knowledge. They must feel secure enough that any potential antagonism with colleagues will be mitigated by the advantages to their own improved status (in terms of experience, responsibility and trust with like-minded colleagues). Building trust with colleagues is thus a logical strategy, the importance of which is amplified when combined with recognition of knowledge, international orientation or non-peripherality. The QCA analysis shows that trust gains in importance when combined with recognition of knowledge, international orientation and non-peripherality.

8.7.1 Knowledge sharing with colleagues

Recognition of knowledge was present in every case that led to the KSC [1] outcome, bar one. Further, the truth table shows that configurations covering 13 (out of 16) cases associated with the [0] outcome demonstrate the absence of recognition of knowledge. Another interesting result emerged in Expression 3 (intermediate solution [KSO]). The term I*N*R*A*t, covering eight of the ten cases where trust was absent, suggests that international orientation balances out the negative influence of an absence of trust. This could suggest that internationally-oriented workplaces have more procedures for knowledge sharing. Indeed, interviewees spoke about greater professionalism and the division of personal and professional relationships in foreign firms, and even internationally-oriented firms need procedures to ensure knowledge is shared. The interviews point to higher instances of knowledge sharing with local colleagues in organisations with a strong international orientation. This can change the culture of the organisation, and alters perceptions of what knowledge is considered important, encouraging a change in the ‘in-group’ dynamic (Thomas-Hunt *et al.* 2003). In such environments it is easier for colleagues with international experience to share knowledge with local staff.

Responsibility was present in every row of the sharing with colleagues in the truth table, except one (covering three cases). Several interviewees associated job satisfaction with responsibility. However, responsibility does not lead automatically to knowledge sharing. As discussed above, absence of recognition or trust can derail knowledge sharing opportunities. Several interviewees considered they had responsibility at work but still were unable to introduce knowledge because its value was not recognised. One interviewee, Miodrag T (university professor), explained that he was able to enact changes in the faculty and bring in new teaching methods, literatures and concepts, while local colleagues showed no willingness to receive knowledge. Miodrag T spoke of disinterest rather than resistance from some members of the faculty to these methods. Those with international experience, in contrast, appreciate the value of new courses and techniques.

Over a quarter of the sample (15 people or 26.3 per cent) was unable to share knowledge with colleagues, and a majority did not perceive any capturing of knowledge at the organisational level. As with the analysis of knowledge sharing with colleagues, the minimisation process using QCA is hampered by the variance in paths to the outcomes. This is because the truth table and case studies indicate an extremely broad range of configurations that lead to the outcomes, the range of which is lost if we focus solely on the most parsimonious solution. Nevertheless, the results show that certain conditions are necessary for organisational knowledge sharing. Specifically recognition of knowledge and responsibility must be present. This is confirmed by testing for the [0] outcome. Other combinations of conditions will also never lead to the [1] outcome. For instance, as Expression 14 shows, the presence of autonomy plus peripherality will not lead to knowledge sharing at the organisational level. Based on this analysis, the following hypotheses are generated:

Hypothesis 8.1: Organisation knowledge sharing by returnees is associated with the presence of knowledge recognition in combination with responsibility.

Hypothesis 8.2: Organisational knowledge sharing by returnees will not occur if they have autonomy and are peripheral to the workplace.

It is still possible for individuals to share knowledge even if they experience peripherality on some dimensions. This can occur if they earn 'expert status' in the workplace using their unique knowledge (Thomas-Hunt *et al.* 2003: 474). Some participants demonstrated that they had gained 'expert' status using their unique knowledge. Even if people occupy peripheral positions in the firm, and consciously withhold their unique knowledge, there is evidence that they can still identify their unique knowledge as relevant, as well as the knowledge their colleagues and the organisation lack. We could conceive this as an expert status "in waiting"; individuals are both aware of the unique knowledge they possess as a result of their international experience, and the potential this has for impacting upon work practices, but nevertheless they wait for a suitable opportunity to use this knowledge, until any identified barriers to knowledge sharing have been negotiated. Thomas-Hunt *et al.* (2003) found socially isolated individuals more likely to emphasise their unique knowledge in order to underline their relevance to the firm. On the other hand, unique knowledge that does not threaten colleagues is generally withheld from colleagues outside socially connected groups because it will be devalued if spread too widely. However, the interviews point to a different dynamic; individuals in Serbian companies resist emphasising their unique knowledge for fear of alienating colleagues but under certain circumstances, individuals will use and share unique knowledge. The potential for tension between local staff and returnees is noted by Berthoin Antal and Walker's (2011) study of knowledge sharing in China. The authors' interviews with Chinese returnees showed the importance of building trusting relationship with colleagues for knowledge sharing (Berthoin Antal and Walker 2011: 17-19). This occurs when they are part of a group of colleagues with shared identify. This 'in-group' dynamic mitigates the fear of negative consequences from the sharing and application of foreign knowledge. Knowledge that contradicts or challenges current work practices will not, however, be shared by individuals in peripheral positions; "Despite the possibility that socially isolated group members in heterogeneous groups may both be preoccupied with social acceptance, the mechanism used to gain or maintain this acceptance is likely to differ" (Thomas-Hunt *et al.* 2003: 467). Socially isolated individuals, for instance, will influence their own working practices, but their knowledge will not be accepted by colleagues, who will opt to continue with their existing work practices.

The interviews suggest that many people seek to develop trusting relationships with colleagues. They avoid behaviour that exhibits their foreign experiences and practices overtly. It suggests that the desire to 'fit in' with colleagues is more important for individuals than the desire to share knowledge or influence work practices, even in situations where they can discern how their knowledge could benefit the organisation. A lack of motivation on the side of the recipient could be a sign of the 'not-invented-here' syndrome, which leads colleagues to resist outside knowledge, particularly if the knowledge requires the abandonment of familiar knowledge and practices (Cummings and Teng 2003: 49). Colleagues may reject knowledge by undermining its uniqueness and value, and by arguing that it is not relevant for the rest of the workplace (Gupta and Govindarajan 2000: 476). It will also be resisted if it risks exposing a lack of skills and competences, or if colleagues fear that individuals who carry new knowledge will jeopardise their authority and position in the firm.

The parsimonious solution suggests that knowledge sharing with colleagues can occur without trust as long as there is non-peripherality. For instance, individuals who enjoy a senior position do not have to worry about attenuating their knowledge in order to first establish trusting relations with colleagues:

Hypothesis 8.3: In the absence of trust with colleagues, the higher the degree of returnee non-peripherality in the workplace, the more knowledge sharing will take place

Recognition of knowledge must also be present in combination with trust. Other combinations of conditions also influence the [1] outcome, but the absence of these two terms in any combination of conditions will not favour knowledge sharing with colleagues. The coverage results also showed that 75 per cent of the cases were covered by the K*T term which points to the overwhelming importance of this combination of conditions, though it should be underlined that this term is not sufficient for the [1] outcome and other conditions must also be present (see Expressions 2 and 3):

Hypothesis 8.4: Trust and recognition of knowledge in the workplace increase the likelihood that returnees will share knowledge with colleagues

The parsimonious expression for the [0] outcome also highlights the importance of the combination of the terms knowledge plus trust, and trust plus non-peripherality. In this case any combination with an absence of both trust plus non-peripherality or a lack of knowledge recognition plus trust will not lead to knowledge sharing with colleagues. This confirms the importance of having a non-peripheral role in the workplace. The results show that trust must be present in combination with other factors, notably recognition of knowledge.

8.7.2 Knowledge sharing with the organisation

Turning to the analysis of the conditions for knowledge sharing with the organisation, due to a contradictory configuration in the initial truth table, we were forced to revisit the cases in order to understand why the same configuration led to different outcomes. Under scrutiny, it became clear that the impact of recognition of knowledge was not strong enough in the existing model. Consequently, the interviews were coded according to whether the individuals had been recruited from abroad prior to entering the Serbian labour market. The addition of the causal condition appeared to solve the contradiction. This allowed the model to capture the impact of explicit knowledge recognition and the presence of a knowledge management strategy. In fact, the results appeared to show that autonomy combined with other conditions, such as trust, non-periphery and responsibility could still lead to the [0] outcome.

The revised truth table shows that autonomy combined with responsibility leads to knowledge sharing with the organisation. Where there is less presence of responsibility we also find greater likelihood of the [0] outcome, supporting the hypothesis that responsibility mitigates the influence of autonomy, whereas autonomy on its own does not encourage knowledge sharing with the organisation to take place. Indeed those interviewees with responsibility are in a more senior position whereby they can use autonomy to influence the working practices of firm.

The [0] outcome for knowledge sharing with the organisation was explained in the parsimonious solution by five combinations of terms. Again, we note the role of peripherality. According to the solution, autonomy (which we hypothesise as signalling an absence of management oversight) plus peripherality lead to the [0] outcome. Autonomy, while appealing for individuals in many ways, also encourages staff members to develop knowledge and skills that undermine a unified value system in the workplace. There is evidence that a lack of management oversight to direct and circulate knowledge for the organisational benefit leads to divergence, which in turn renders the development of procedures more difficult. The absence of autonomy plus the absence of international orientation is also associated with the [0] outcome. Clearly, in this term, the potential for knowledge management to exist is compromised by a lack of international orientation. We can therefore generate the following hypothesis that the lack of autonomy does not signal effective knowledge management without the influence of an international dimension in the workplace:

Hypothesis 8.5: In workplaces with management oversight present, international orientation increases the likelihood that returnees will share knowledge with the organisation.

8.7.3 QCA Method

Taking specific conditions evident from the interviews, it was clear that the QCA approach could be applied given the possibilities of dichotomising the data. In this chapter we have extended the applicability of the QCA approach to examine micro-level individual data. One of the benefits of QCA is that it forces the researcher to develop a deep understanding of the data, offering continuous dialogue between the theoretical literature and the evidence (interviews and survey data). It is an approach that is most useful when used in conjunction with other methods of qualitative and quantitative analysis (Rantala and Hellstrom 2001: 98). The development stage of the model involved a triangulation of three methods; theoretical literature, statistical analysis of large-N survey and in-depth familiarity with the intermediate-N of cases. As confirmed during the analysis, the benefit of the QCA process is the compulsion to revisit the cases and refine the model. In this way, we gain not only a more robust model but also a deeper understanding of the cases themselves.

While acknowledging the advantages of QCA, it is also necessary to identify shortfalls in the application of the approach. QCA is a "tool to enhance our comparative knowledge about cases in small- and intermediate-N research designs" and not an end in itself (Rihoux and De Meur 2009: 65). It is equally necessary to revisit the individual cases to understand the reasons that distinguish separate configurations of conditions. As Wagemann and Schneider (2007: 4) write, "research reality will provide us with conditions which are sufficient and necessary only in combination with other conditions ('conjunctional causation') or which are only one alternative among others that only apply to some cases but not to others ('equifinial causation')".

The parsimonious solutions do not necessarily lead to greater simplification because there are multiple pathways to knowledge sharing and the absence of knowledge sharing. Although this chapter has tried to elaborate on specific conditions, derived from the interviews and which also mesh with the theoretical literature, the results show that many paths lead to the outcome of knowledge sharing with colleagues. Given this variance, and the lack of any necessity or sufficiency of any conditions or conjunction of conditions (for sharing with colleagues), the analysis suggests some flexibility in how a knowledge-sharing workplace environment can be specified.

9 Conclusion

The thesis brings a workplace focus to the discussion on return migration, which is both a setting for knowledge transfer and for influencing levels of satisfaction with life during the return period. To formulate hypotheses and a research methodology, the thesis has relied upon the literature on knowledge management in firms.

This research is relevant for countries seeking to stem and reverse the brain drain, and close the knowledge and skills gaps with developed countries. Because there is little data and samples of returning cohorts are difficult to find, Serbia has not been the focus of many studies, despite reports from governments and international organisations that highlight the need to keep existing talented individuals and attract returnees. The thesis has argued that this is an oversight, and as stated by Conway and Potter (2009), each new study of return migration adds to theory and hypothesis testing and generation in this unexplored field.

Knowledge management theories were crucial for the research design and for identifying the conditions that influence knowledge sharing by mobile individuals with international experience in the workplace setting where individuals transfer knowledge to colleagues and to the organisation. This is based on the premise that the acquisition of knowledge is not sufficient for knowledge sharing to occur, and the thesis questions the assumption in migration and brain drain/gain literature that knowledge will be shared by mobile individuals with technical and professional skills, without consideration of mitigating conditions at the firm level. The findings showed that certain conditions are important for knowledge transfer in the workplace, and these conditions also influence levels of satisfaction with return, as well as inclinations for remigration.

Two methods of data collection were employed; questionnaires and in-depth interviews. This combination has been used by pioneering empirical research on return migration (Williams and Balaz 2005; Tung and Lazarova 2006). It is designed to address the criticism that quantitative approaches do not provide country specific information or information on micro level interactions of the migrant, i.e. at the workplace or household (Cassarino 2004: 257). Quantitative methods are thus applied with some difficulty in the case of one-country analyses.

Since the research is to a significant extent exploratory, quantitative methods are applied with caution and used in support of in-depth qualitative methods, which provide more detailed insights.

Several literatures were crucial, including those focusing on knowledge-based economies, tacit and explicit knowledge and migration, TNCs and international business consultancy. By themselves they were not sufficient for the theoretical framework of the thesis, as well as the focus on the return stage and the key setting the workplace. The guiding questions required reflection on insights that are rarely brought together. The thesis showed how the literatures overlap and can be used in the analysis of different stages of migration – in this example, the point of return. A similar framework, with some adaptation, could be used to look at migration over time. Later in this conclusion, future avenues of research are discussed in more detail. The different literatures were indispensible for deriving initial hypotheses and for hypothesis generation. As stated in the introduction, return migration is an exploratory field, and this is reflected in the limited hypotheses described at the start of the thesis. This is not a weakness, and analysis of the survey and interviews, with reflection on relevant literature, has allowed for extensive hypothesis generation.

Three methods were used in the research to analyse the data; qualitative comparative analysis, quantitative analysis of survey responses and qualitative analysis of the interviews. Further, analysis of Serbian migration and the structural processes influencing mobility was conducted using existing theoretical models and composite indicators. By moving back and forth between theory, surveys and interviews, hypotheses were generated through a rigorous analysis of knowledge transfer at the different levels of analysis. The use of qualitative comparative analysis (QCA) to analyse workplace knowledge sharing mechanisms was appropriated given the variance of combinations that lead to the knowledge sharing outcomes. Although the research design proved to be well specified, the need for certain modifications became apparent during the data collection stage. The flexibility in the methodology drew attention to potential bias in the sample, and explanations for the difficulty in observing the existence of communities of practice (CoPs) were explored through analysis of the interviews. Bias within the interview sample is reflected in the proportion of respondents at the beginning of their careers who have yet to develop communities of practice in their profession. Further, many Serbian firms lack knowledge management techniques that would foster CoPs. Instead of CoPs, many participants emphasise the importance of personal networks, including those formed abroad. As many interviewees mentioned, personal connections are useful in part because of a lack of other forms of information; websites are not trusted because they are not regularly updated. The interviews highlighted the importance of using connections in a business environment, suggesting weak diffusion of international business practices that would make connections less relevant. An alternative research design, involving participant observation could help to elaborate on the nature of CoPs, and future research could explore knowledge transfer through these channels.

9.1 Brain drain and international integration

Chapter 3 highlighted changing concepts of mobility, reflecting global trends in migration theory and practice. There is an increasing number of studies focusing on diasporas and technological catch-up and development in the homeland. In Serbia there is little evidence that highly skilled individuals who left during the past two decades are returning in large numbers. Serbia's experience of migration is comparable to other countries' experiences, including those in Central and Eastern Europe and South East Europe. However the number of existing studies is limited. The participants in this research represent, to use Williams and Balaz's (2005: 463) label in relation to Slovakia, a 'transitional generation'; a cohort that is entering the home labour market during a period of upheaval as the economy opens up to foreign markets and the government seeks to reform political institutions in line with European standards, as precursors to entering regional political and trading systems. As in the Slovakian case, transition in Serbia is generating potential for returnees to develop their careers, in the expansion of the private sector and the establishment of small firms, but also in the not-for-profit sector. This was evident for individuals working in NGOs where funding and support from foreign donors and partners provides opportunities to conduct research and advocacy in diverse areas of reform affecting Serbia. However, the relative isolation of the past decades is still apparent in indicators showing low levels of international trade. The findings from Serbia are also relevant for other countries that also find themselves in economic and political transition, and are attempting to keep and attract talent in the face of growing global highly skilled migration, and the thesis discussed studies that have mentioned the opportunities emerging for return migrants in countries from different regions, including Asia and the Pacific (Conway and Potter 2009). It is important to add that this research could not measure circulatory migration, given that the interviews and surveys did not seek to capture migration cycles over time.

At each level of analysis in the thesis there is evidence of the impact of international isolation, from low ratios of imports and exports to individual motivations to go abroad. Travel, because of Serbia's relative economic and political isolation, has become more difficult during the last two decades. Likewise, analysis of macro data on economic integration, such as export levels, shows that the economy is still oriented to the local market. The survey and interviews highlighted that employees believe knowledge of the local market is more relevant for work than knowledge of international business. Further, poor economic conditions discourage return. Several composite indicators measuring international integration, the knowledge economy and innovation confirm that Serbia is lagging behind regional neighbours, despite progress in some sectors.

Chapter 4 showed that the government has been slow to make the necessary reforms in regulatory and legislative areas and local firms are poorly prepared for international trade (surveys show that managers' biggest frustrations relate to unfair competition and poor regulation). Due to a relative lack of international integration and low exposure to domestic and foreign competitive pressures, firms are also signaling low demand for international skills. Employers are not experiencing widespread skills shortages - as might be expected in a 'brain drain' situation - because firms remain oriented to the local, and not global, market.

9.2 Individual motivations

The thesis analysed the reasons for return and the factors that keep people away for longer, as well as the frustrations that they experience when they return. The results highlighted that it is difficult to reduce migration motivations to a succinct list or parsimonious formula. Many studies have noted that returnees provide a wide range of motivations for return (Gmelch 1992; Thomas-Hope 1999; Conway *et al.* 2005; Connell 2009). As Cerase (1974) argued, simplified definitions of return do not fit reality. In their decision to go abroad, the respondents rated pull factors more highly than push factors, which points to the maintenance of connections to the country. By way of explanations for return, the role of family and friends in the decision-making process becomes more salient when economic and career motives are less convincing. For those in unsatisfying jobs personal reasons replace economic and career justifications, whereas individuals in satisfying jobs discuss the benefits of being in Serbia in both personal and professional terms. Returnees discuss the benefits of working in Serbian workplaces that have an element of international orientation (clients, funders, etc), where they have high levels of responsibility in Serbia compared to jobs available abroad for people at similar career stages. This point resonates particularly for the 'transition generation'; interviewees working in the not-for-profit sector spoke of higher levels of responsibility than they could have expected abroad, and participation in national-level policy development, international integration and reform.

Motivations for migration and return vary according to age and length of time abroad. For young people, international experience is valued for the opportunity to travel and to live in another country. This can be explained by the fewer opportunities for foreign travel for younger people (the majority of university students have never travelled abroad). Younger people tend to be more mobile and have higher aspirations than older people (Krieger 2004). Moreover, aspects of life related to living standards, crime, job prospects and housing problems are likely to keep people abroad for longer. Many factors keep people abroad for longer and those who rate 'push' factors higher will spend a longer time abroad since their motivations are driven by home country problems. Higher research standards abroad were more important push factor for those individuals who spent a longer period of time abroad. This shows that poor research standards are disincentives to return. In terms of hypotheses, the results showed that frustrations with aspects of life and work in Serbia keep people abroad for longer. **Hypothesis 1 helped to generate additional justifications for staying abroad for longer; better work and education resources (Hypothesis 1a); housing problems in the home country (Hypothesis 1b); availability of jobs in one's profession in the homeland (Hypothesis 1c); crime (Hypothesis 1d); poor rule of law (Hypothesis 1e); and unstable political situation (Hypothesis 1f). In addition, there was evidence that the use of personal recommendations is more likely if migrants are not using a migration programme (i.e, foreign scholarship or internship programme) (Hypothesis 1g).** Analysis of the survey and interviews indicated that those looking to re-migrate experience more frustrations with work and life in Serbia whereas individuals intending to stay are willing to ignore certain frustrations because of lifestyle benefits they identify in Serbia.

Overall, career-related issues are not significant worries for the majority of the sample, reflecting optimism among those surveyed for future career opportunities, as well as issues related to the sample (substantial proportion of young people). Younger people return because of family and friends and use this social aspect to define levels of satisfaction with life in Serbia. Economic and career motives are also sought but young people are more prepared to work in unsatisfying jobs in the expectation of future advancement and also in the security that they have gained internationally-transferable generic skills with which they can access the global labour market. Responses from interviewees did suggest, however, a desire for speculative return, particularly among younger individuals who nonetheless saw the opportunity to access the Serbian labour market as one of many possible career choices open to them with their internationally-relevant skills. Many were able to secure positions in Serbia before returning, using connections in their family and friendship circles. This also proved salient for many interviewees who remarked that in Serbia many aspects of work and life continue to operate through personal connections, a fact that may discourage people from returning because they lack the connections, or are unprepared to use them, to access the labour market. This is one difference between Serbian and foreign firms; people have the perception that foreign firms have professional recruitment procedures that reward experience and expertise. Optimism is also captured by 'uncertain future', which is ranked bottom of all 'push' factors. Issues concerning corruption and crime are also ranked low. In sum, the results show that individuals consider the experience of another country and gaining foreign qualifications the most important pull factors, whilst political uncertainty is considered the most important disincentive to staying in Serbia. At the same time, the interviews showed that returnees are motivated by the opportunities offered by Serbia's transition. Expectations of future recognition of skills and welfare improvements can incentivise individuals to ignore short-term (re)migration pressures.

9.3 Knowledge and the workplace

The research showed that recognition and application of knowledge was not always a factor driving individual personal satisfaction with life and work in Serbia. For instance, those in satisfying workplaces emphasised career-related motivations whilst those in unsatisfying jobs spoke of personal reasons for returning and remaining in Serbia, as well as optimism for future opportunities. There was evidence from the interviewees that those expressing an interest in ‘boundaryless’ careers spanning different locations and firms also emphasised generic over firm-specific and country-specific knowledge. Return migrants who expect to follow non-linear careers invest in generic knowledge (Lazarova and Tarique 2005; Williams and Balaz 2008b). Having a broad base of skills, including generic skills, is one factor that encourages individuals to consider return since they have knowledge that allows them to access the international jobs market. Thus, if things do not work out in Serbia, the decision is reversible. This ‘guarantee’ of remigration is also mentioned by other authors (Stepputat 2004; Castles and Miller 2009: 69). Specific knowledge of the Serbian market or Serbian firms is of limited value to return migrants unless it is acquired alongside generic internationally-applicable skills. Most interviewees considered their knowledge to be generic not specific, and they feel equipped to work across firms and locations.

Return migrants gain a positive assessment of their time abroad, even if they do not acquire formal skills and qualifications, supporting a broader interpretation of the value of international experience, notably in terms of ‘total human capital’ and the self-confidence and social skills that derive from this experience (Evans and Rainbird 2002; Li *et al.* 1996; Williams and Balaz 2005: 464). In these instances, instead of the label ‘brain waste’, they could actually be described as ‘brain training’ because they attribute their improved status upon return to informal or ‘tacit’ skills gained during their sojourn in another country.

The crucial site of knowledge sharing is the workplace and initial hypotheses were generated from the literature on the conditions that influence knowledge transfer: the nature of knowledge; motivations to share; opportunities to share; and the culture of the organization. During the analysis these guiding hypotheses were complemented by hypothesis generation in the chapters. Any findings from the data carry a warning about the impossibility of gathering a statistically random sample. However, in testing for significant differences based on theoretically (and empirically) derived hypotheses, there is evidence to support important findings concerning the conditions that facilitate knowledge sharing.

Returnees can find that their expertise is not recognised by management or by colleagues. This can be a source of frustration and can lead to a desire to remigrate. They may also find that the ways of conducting business that they experienced abroad are different from those held by local colleagues. Even if recognised, knowledge may be rejected because colleagues believe it is irrelevant or unwelcome in the workplace. Knowledge transfer involving returnees is thus not autonomic and the thesis has highlighted that the combination of conditions that lead to knowledge transfer can be complex and are different depending on whether it involves transfer with colleagues or at the organizational level. **In** terms of frustrations with the workplace, the results indicated that the longer they had been in a workplace, the more that returnees indicated dissatisfaction, **specifically with outdated infrastructure (Hypothesis 7.1).** In addition, **levels of dissatisfaction with outdated infrastructure depend on whether the firm is Serbian or foreign owned (Hypothesis 7.2). The level of dissatisfaction with administrative support depends on whether the firm is Serbian or foreign owned (Hypothesis 7.3).** This suggests that countries and firms attempting to retain returnees will have to address these factors in the long term or they may lose knowledgeable employees. **Chapter 7 showed that recognition of returnee's knowledge by colleagues is higher in foreign organisations than Serbian ones (Hypothesis 7.4**), reflecting the international orientation of foreign companies and the relative importance of international work standards and practices.

Using the insights from knowledge management literature, the analysis highlighted combinations of conditions that increase the likelihood of knowledge transfer, which are referred to but rarely tested by migration scholars. **There was support in the results for Hypothesis 2 that knowledge transfer depends on recognition of knowledge by returnees.** In the sample there were few examples of Adler's (2008: 292) 'resocialised' returnees who fail to recognise their own foreign-acquired knowledge. Chapter 8 elaborated further and showed that in 75 per cent of cases where knowledge sharing with colleagues took place there was a combination of a) recognition of the added value that migrant knowledge brought to the organisation, and b) trusting relations with colleagues. At the same time, however, these two conditions are not sufficient for knowledge sharing to occur and additional conditions must also be present. **In Chapter 8, findings showed that knowledge sharing with the organization was more likely to occur in the presence of a combination of knowledge recognition and responsibility (Hypothesis 8.1)**

The results supported **that knowledge transfer depends on the level of management support.** This was expressed as the presence or absence of autonomy, based on the premise that management support is necessary to ensure knowledge sharing at the organizational level, but that autonomy facilitated knowledge sharing with colleagues. Interviewees spoke of a lack of management oversight to direct and circulate knowledge for the organisational benefit, which can lead to divergent attitudes towards goals and values in the workplace, in turn rendering the development of procedures more difficult. **The analysis was used to generate two hypotheses: First that the higher the level of autonomy in the workplace the more knowledge sharing with colleagues will take place (Hypothesis 3a); and second, that the higher the level of autonomy in the workplace, the less organisational knowledge sharing will take place (Hypothesis 3b).** These hypotheses were also tested with QCA in Chapter 8 and the results showed that **in workplaces with management oversight present, international orientation increases the likelihood that returnees will share knowledge with the organisation (Hypothesis 8.5).** As Serbia becomes more internationally integrated, management techniques and strategies could become more common and greater attention could be placed on ensuring that employee knowledge is circulated and used for organisational benefit. There is a trade-off however, and many returnees were able to contrast favourably the impact of autonomy on their work in Serbian companies against that which they experienced abroad and in foreign companies.

Hypothesis 4 also proved to be valid (knowledge transfer depends on the degree of centrality/peripherality of a returnee in the workplace). Analysis in Chapter 8 generated Hypothesis 8.2 that organisational knowledge sharing by returnees will not occur if they have autonomy and are peripheral to the workplace. Further, the QCA results showed that in the absence of trust with colleagues, more knowledge sharing will take place the higher the degree of returnee non-peripherality in the workplace (Hypothesis 8.3). The interviews pointed to a specific dynamic that prevents knowledge sharing; individuals in Serbian companies resist emphasising their unique knowledge for fear of alienating colleagues. They avoid behaviour that exhibits their foreign experiences and practices overtly. It suggests that the desire to 'fit in' with colleagues is more important for individuals than the desire to share knowledge or influence work practices, even in situations where they are aware how their knowledge could benefit the organisation. This dynamic has particular resonance when individuals fear their experience will isolate them in the workplace. Junior newcomers enter a workplace in a peripheral position which influences relations with colleagues and the recognition and impact of knowledge that they can use. This will be different for older returnees who are likely to have more experience and enter workplaces at more senior levels with more responsibility. In terms of knowledge, the results showed that return migrants in peripheral positions emphasise formal knowledge and experience because they are not able to use more tacit forms of knowledge in the workplace, compared to those who are not in peripheral positions. People in senior positions do not attenuate their knowledge in order to first establish trusting relationships with colleagues. The interviews showed, however, that the reluctance to share knowledge was less prevalent in internationally-oriented workplaces and those with a cohort of individuals with international experience, demonstrating the impact international experience has on the norms and values of the workplace

The results found that trust was also a relevant condition for knowledge sharing (Hypothesis 5: Knowledge transfer depends on the degree of trust between returnees and local colleagues). As mentioned above, the QCA analysis showed that trust was important in combination with recognition of knowledge, leading to generation of Hypothesis 8.4 that the combination of trust and recognition of knowledge in the workplace increase the likelihood that returnees will share knowledge with colleagues, which suggests that trust is never sufficient for knowledge transfer and must be combined with other factors. There is some also overlap with peripherality (all the conditions overlap) since knowledge sharing with colleagues often hinges on trust and familiarity, particularly for junior members of staff. This echoes the findings of other studies that focus on the role of trust; Andrew and Delahaye (2000) found that specific channels of knowledge transfer were required in the absence of trust. Indeed, social interactions in the workplace strengthen the effects of other variables considered important for enabling knowledge flows (Nooderhaven and Harzing 2009: 720).

There was support for Hypothesis 6 that knowledge transfer between returnees and local colleagues depends on the degree of international orientation of the workplace. Internationally-integrated workplaces are more likely to have procedures for knowledge sharing. The interviewees indicated more instances of knowledge sharing between colleagues in organisations with international orientation. An important finding from the interviews related to how international orientation facilitates knowledge transfer is that foreign partners and clients can spur organisations to develop procedures for storing knowledge. At one level this takes the form of written communication through emails and regular reports. This makes organisations think about the knowledge they have and how this can be not only communicated to partners or clients, but also within the workplace. Organisations have to reflect the expectations of their foreign partners and clients, leading them to adopt international perspectives to work. Workplaces also store knowledge in databases, which help them share knowledge with foreign partners and colleagues. International practices and standards are thus strengthened through regular interactions with those who abide by similar practices and standards.

The survey results showed that the ability for returnees to share knowledge in the workplace, and the types of knowledge they can share, depends on the whether the firm is foreign or Serbian and if the workplace is in the for-profit or not-for-profit sector. **Hypothesis 6.1 tested whether internationally-relevant skills are rated more important for work in foreign workplaces than in Serbian-owned workplaces.** In workplaces without international-orientation, individuals are more aware of skills gaps between colleagues, whereas in workplaces that are internationally-integrated (foreign firms especially, but also workplaces integrated into foreign networks), individuals are less able to perceive a knowledge gap, because many people have similar international experience (and hence knowledge). Even where the skills gap is apparent, individuals' knowledge sharing abilities are limited by obstacles such as lack of trust and responsibility, and peripherality. These must be negotiated before knowledge sharing can occur. Again, the research highlights the influence of international orientation upon how workplaces operate. The sharing of knowledge with colleagues and at the organisational level is more likely if workplaces are encouraged to adopt the practices of international business and knowledge management. The international orientation or the firm, as well as the experience of employees, thus influences the dominant organisational values, which in turn highlight the types of knowledge that are important and the processes by which it is generated, circulated and stored. **There was evidence to show that certain skills were more valued in the for-profit sector, such as language ability (Hypothesis 6.2): The degree of recognition of language ability depends on whether the workplace is in the for-profit or the**

not-profit sector. This finding may also be related to international orientation as not-for-profit workplaces, particularly NGOs and research institutes, often have foreign funders and partner institutions. They may also be working on issues that require a greater interaction with foreign networks.

In terms of knowledge transfer mechanisms in the workplace, the results from Chapter 7 indicated that respondents use both tacit and explicit skills in the workplace. The results also showed that individuals acquired both generic and specific knowledge. There was no support for **Hypothesis 7a that formal knowledge transfer channels in the workplace are associated with explicit knowledge trasnfer.** Similarly, the analysis did not find evidence to support **Hypothesis 7b that the use of informal knowledge transfer channels is associated with the transfer of tacit knowledge. However, the analysis in Chapter 6 indicated that generic knowledge is associated more with formal channels, which led to the revised form of of Hypothesis 7: Generic knowledge transfer is associated with formal knowledge sharing channels**. The research identified several processes in Serbian workplaces that help to reinforce existing practices. For instance, in the absence of written procedures or formal training, newcomers learn ‘on the job’ through teamwork, participation and observation. Knowledge transfer depends on channels of knowledge sharing in the workplace; tacit knowledge benefits informal knowledge sharing mechanisms whilst explicit knowledge is associated with formal channels such as trainings and procedural documents.

9.4 Profiles

Although the research is wary of reducing motivations for return to parsimonious formulas, the results can be used to develop profiles of likely knowledge carriers. From the analysis, certain patterns and profiles emerge. A typical profile of a highly skilled knowledge carrier in this research is a young man or women who takes part in a knowledge acquisition mobility programme (education or professional internship), or to work abroad in a sector that is particularly internationally convergent such as IT or engineering. They are motivated by a desire to gain qualifications or professional experience but also to experience life abroad. Some return because of visa conditions. Some are offered the opportunity to extend their time abroad but decide to come back because of personal reasons. Upon return, they recognise and expect that their experience makes them more marketable vis-à-vis non-migrant peers, but because the Serbian economy is undergoing restructuring (old unreformed socialist era enterprises existing side by side with privatised, foreign and de novo workplaces) employment experience varies. Those employed by Serbian workplaces are frustrated because of low wages, and managers and colleagues who reject or fail to recognise the value of international experience and qualifications. However, the lack of management oversight (autonomy), informal office atmospheres and the work/life balance are seen as benefits. Those who work for foreign firms or workplaces with international orientation, on the other hand, feel that their (generic) experience and skills of international business practices are recognised but specific knowledge is not always employed because of hierarchies, peripherality or strictly defined responsibilities. At the same time, they realise that they are still building on skills and experience that are globally marketable. Further, some are employed in workplaces where they can make definitive contributions to Serbia's transition, such as academia or NGOs. The opportunities provided by these experiences in terms of the level of responsibility can be greater than positions in the receiving country. Likewise, the chances of knowledge sharing vary according to workplace hierarchies, culture and responsibility. This likelihood increases as individuals build trust with colleagues or move to non-peripheral positions where they use authority and responsibility to enforce changes. Autonomy facilitates knowledge sharing with colleagues but undermines organisational knowledge learning.

Significant differences exist between those looking for work abroad and those intending to stay in Serbia, and is evident in statistically significant differences between the results for satisfaction and frustrations at work. The former group receive lower recognition of professional and educational accomplishments, experience a lack of managerial support at work, and are unable to utilise their skills to the fullest or develop their careers in Serbia. There are also fewer opportunities for knowledge sharing. Further, for those in the diaspora, the inability to realise career goals, low salaries and poor resources are strong disincentives to return.

9.5 Policy implications

Exceeding the expectations of return migrants in at least one workplace condition mitigates against a negative overall perception of working in Serbia because of the absence of other conditions. Firms could use this when recruiting from abroad. They could offer incentives in the form of project managerial positions or fast track promotional opportunities. Governments could emphasise, as the Chinese government has done, that returnees are not only contributing to development of the homeland but gaining experience that they could not get abroad.

Migration policies have the greatest potential when they address the causes and consequences of ‘brain drain’ and create conditions to bring about ‘brain circulation’, firstly by providing incentives for the highly skilled to remain in the country and secondly through targeted engagement with the diaspora to promote both permanent and temporary migration. Alongside economic growth as an important pre-requisite for large-scale return, international exposure and integration are the most effective ways of changing organisational cultures and for providing a satisfying environment for mobile individuals with valuable skills and knowledge. There should be support for network development, personnel exchanges and collaborative projects involving firms and organisations in other countries. Serbian firms should be encouraged to orientate themselves towards the international market. This process will also provide increasing opportunities for people to stay in Serbia and those abroad to return. No one single group should be targeted; young people at the start of their career can share knowledge with colleagues and change the work culture from below, and more experienced individuals who can steer changes from above.

The research shows that combinations of conditions raise the likelihood of knowledge transfer taking place, as well as ensuring satisfaction among migrants. Policies directed at improving conditions in terms of research and development environments and infrastructure have the potential to attract talented individuals. Policies should aim at remedying those areas that return migrants consider disincentives to return and which inhibit the knowledge sharing process. In the former, poor housing, deficient research infrastructure and poor economic opportunities are the principal issues. In terms of knowledge sharing a lack of management oversight and procedures, and unprofessionalism are particularly salient. Further, many of those who left have settled abroad and raised families. Although they have no intention to return, there is evidence that their children are interested in exploring opportunities in Serbia. On the one hand younger people are the most likely to return to pursue a career and put up with frustrations in Serbia. In contrast, more experienced individuals whose knowledge and skills can potentially make a greater contribution are less likely to migrate permanently back to the home country.

Many people will consider working in Serbia, despite frustrations with other aspects of life and work, if they consider they are gaining advantage on one dimension, such as extra responsibility. At the same time, individuals with international experience want to know that they are building on their generic, international skills set and will be more satisfied if there is an international element to their work. Remigration pressures will build if there is no application of skills or career development potential. In terms of knowledge sharing, international orientation will also encourage the development of procedures that will help incorporate individual knowledge into the organisational knowledge base and prevent any damaging knowledge loss if key staff leave. Management oversight should encourage the circulation of knowledge and ensure that the values and objectives of the workplace remain focussed and shared among all employees.

9.6 Limitations and future research

This thesis does not look at the composition of migration flows, non-migrants or people who have re-migrated after return. Since a control group of non-migrants is not used, it has also not been possible to ascertain whether return migrants are more entrepreneurial than locals. However, the sample is appropriate for addressing questions related to the return point on the migration cycle - principally what conditions influence knowledge transfer. At the micro level, these influence not only individual motivations for migration and return but also the reception and transfer of knowledge in the workplace. This research looked only at highly skilled migrants (those with tertiary education) and did not seek to address the composition of return migrant flows (which would have tested typologies of return; return of failure, conservatism, innovation, etc). Given the lack of data on return migration, neither did the research intend to measure the level of skills among return migrants as a proportion of total migrant flows. Rather, the intention was to examine workplace factors, and to analyse how structural factors impact upon these micro-level conditions. It would also be valuable for future research to include people who interact with returnees - such as managers and colleagues - to compare perceptions and attitudes, although it was right to focus on returnees themselves since their perceptions of knowledge transfer and aspects of work influence the decision to remain or to remigrate.

Limitations relating to the data sample, collection method and statistical analysis should also be highlighted. Since the questionnaire was administered in several cases by alumni organisations, it was not possible to know the response rate. A further limitation was the small sample size, which restricted the statistical analysis to 't-tests' of significant differences between groups and measurements of frequencies. These issues are recognised by other authors studying return migration (Williams and Balaz 2005; Tung and Lazarova 2006). At the same time, there was no theoretical justification in the methodology that would have required the use of econometric methods.

The scope of the project could not test certain questions but these represent fertile topics for additional studies. It would have been insightful to include non-returnees, current students abroad, or a control group of non-movers. Given the findings that motivational factors behind migration vary according to age and time spent abroad, temporal dimensions could be explored further; for instance, does temporary migration lead to permanent migration? An additional question emerged during the analysis from the lack of correlation of responses given to 'push' factors and disincentives for return. Future research could explore temporal and spatial determinants which influence motivations for migration and return, exploring the dynamic interactions between the importance of pull factors in migration and conversely the importance of push factors in keeping migrants abroad for longer periods.

Connections and networks are important for the migration decision. Chapter 5 showed that family and friends are powerful influences in the migration decision-making process. Given the importance of personal networks, future research could elucidate on the role of family and the role of gender. Family is an important motivational factor that is not sufficiently addressed in migration literature. Williams *et al.* (2004: 30) also note that ad hoc networks comprised of family and friends in recruitment have been downplayed by existing literature. Further, there has been little research conducted into the effectiveness of these networks in encouraging collaboration and diaspora engagement. Theoretical focus has concentrated on the micro level and macro levels of migration; personal decision-making and global processes. Other authors concentrate on the level of analysis between the micro and macro levels. It is beyond the remit of this research to analyse the strength of these networks in depth and further work in this area would be welcome. Further, research could shed light on communities of practice; how they emerge and evolve in the context of return migration.

Finally, the sample does not claim to be representative of all migrants. However, by including students, professionals, academics, people raised abroad and scientists and technicians, the sample reflects the diversity that characterises highly skilled mobility, although in the absence of reliable population frames, the sample is, to use Williams' words (2005: 448), "purposive rather than representative." Nonetheless, the research design and the sample were appropriate for addressing the questions at hand and they fulfill the initial intention of the project to plug a gap in knowledge transfer research and generate an empirical study of return migration to add to the small number of existing studies on this important topic.

In terms of the knowledge that people acquire while they are abroad, it would also be interesting to test the hypothesis that individuals with high expectations of return (guest workers, temporary migrants, students) invest in internationally transferable rather than country-specific human capital since country-specific human capital loses its value once the location changes (Chiswick 2008: 71).

This thesis only tested certain distinctions of firms, namely international orientation and whether the firm was Serbian or foreign owned. Other factors could also have played an important roles, such as size and sector, and future research could also explore these aspects, in order to see which profile of firms are most likely to transfer knowledge.

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Annex 1: Summary of interviews and interviewees

No.	M/F	Pseudonym	Period abroad	Abroad for	Work in Serbia	Length of interview	Location of interview	Date of interview
1	M	Aleksandar D	> 3 yrs	Student	University	57 mins	Novi Sad	29-11-09
2	F	Ana P	4 mths	Student/professional	International body	60 mins	Belgrade	05-11-09
3	F	Biljana S	7 yrs	Student/professional	Private Serbian firm	85 mins	Belgrade	11-11-09
4	M	Bojan F	> 10 yrs	Professional	University	35 mins	Telephone	30–10-09
5	F	Bojana F	5 mths	Professional	University	57 mins	Belgrade	19-11-09
6	M	Bogdan B	4 yrs	Student	Government agency	56 mins	Belgrade	31-07-09
7	M	Boris O	> 5 yrs (6-8 mths abroad a yr)	Professional	International body	85 mins	Belgrade	11-11-09
8	M	Branislav P	Born abroad	Raised abroad	TNC	90 mins	Belgrade	08-08-09
9	M	Darko K	1 yr	Student	Serbian NGO	39 mins	Belgrade	19-11-09
10	M	Dejan V	4 yrs	Student	Serbian Research institute	45 mins	Belgrade	06-07-09
11	M	Dragan D	2 yrs	Professional	Serbian NGO	25 mins	Belgrade	03-11-09
12	F	Drenka R	8 yrs	Student/professional	TNC	43 mins	Belgrade	12-08-09
13	M	Dusan M	1 yr	Student	Private firm (foreign owned)	26 mins	Belgrade	20-10-09
14	M	Goran M	8 yrs	Student/professional	University	34 mins	Belgrade	09-11-09
15	F	Helena J	1 yr	Student	Serbian NGO	39 mins	Belgrade	19-11-09
16	M	Ivan G	1 yr	Student	University	47 mins	Belgrade	24-11-09
17	F	Ivana K	8 yrs	Professional	Serbian NGO	67 mins	Novi Sad	17–09-09
18	M	Jan N	9 yrs	Professional	Private Serbian firm	34 mins	Novi Sad	14-09-09
19	F	Jasmina B	6 mths	Student/professional	Private Serbian firm	47 mins	Belgrade	21-10-09
20	F	Jasna Z	4 yrs	Student	University	58 mins	Belgrade	23–11-09
21	F	Jovana M	6 mths	Student	International body	37 mins	Belgrade	27-08-09
22	F	Katarina G	2 yrs	Professional	University	70 mins	Belgrade	23–09-09
23	F	Liljana Lj	9 mths	Student	Serbian NGO	90 mins	Belgrade	16-08-09
24	F	Ljubica M	> 3 yrs	Professional	Private Serbian firm	60 mins	Belgrade	26-10-09
25	F	Luisa M	> 10 yrs	Raised abroad	Private Serbian firm	81 mins	Belgrade	01-09-09
26	F	Marija Dz	> 10 yrs	Raised abroad	Government	38 mins	Belgrade	05-08-09

					ministry			
27	F	Marina L	9 mths	Student	Private firm (foreign owned)	36 mins	Belgrade	03-08-09
28	M	Marko G	> 10 yrs	Professional	TNC	76 mins	Belgrade	19–11-09
29	M	Mihailo E	> 10 yrs	Raised abroad	Serbian NGO	43 mins	Belgrade	12–11-09
30	M	Milan K	> 10 yrs	Raised abroad	Government agency	40 mins	Belgrade	23-07-09
31	F	Milena B	> 6 mths	Student	Student / NGO	60 mins	Belgrade	05-11-09
32	F	Milica S	> 1 yr	Student/professional	Private foreign firm	50 mins	Belgrade	16–09-09
33	M	Milos A	2 yrs	Professional	Serbian private firm	111 mins	Belgrade	29–10-09
34	F	Mina Z	3 mths	Professional	University	55 mins	Belgrade	21-09-09
35	M	Miodrag T	> 1 yr	Student	University	40 mins	Belgrade	26–11-09
36	M	Mladen M	8 yrs	Professional	Serbian NGO	30 mins	Novi Sad	17–09-09
37	M	Miroslav R	> 10 yrs	Professional	University	72 mins	Telephone	30-10-09
38	F	Natalija C	14 yrs	Professional	Research institute	30 mins	Telephone	05-10-09
39	M	Nebojsa J	8 yrs	Student/professional	Research institute	32 mins	Belgrade	27-11-09
40	M	Nenad D	> 10 yrs	Professional	University	70 mins	Belgrade	03-11-09
41	M	Nikola S	> 10 yrs	Raised abroad	Serbian private company	73 mins	Belgrade	22-07-09
42	M	Petar Z	> 5 yrs	Student	University	195 mins	Belgrade	19-08-09
43	M	Sasha B	> 10 yrs	Professional	Private Serbian firm	40 mins	Belgrade	15-10-09
44	M	Sinisa C	> 5 yrs	Student/professional	Serbian private firm	52 mins	Belgrade	20-07-09
45	F	Slavica U	4 yrs	Student	Government agency	27 mins	Belgrade	01-12-09
46	F	Snezana M	4 yrs	Student	Private Serbian firm (self-employed)	40 mins	Belgrade	20-10-09
47	M	Srdjan S	2 yrs	Professional	Serbian private firm	30 mins	Belgrade	30–09-09
48	F	Svetlana K	3 mths	Professional	Serbian NGO	23 mins	Belgrade	19–10-09
49	M	Tomi S	3 yrs	Student	Research institute	40 mins	Belgrade	20–11-09
50	M	Vlada B	3 yrs	Student and professional	Private company	21 mins 25 mins (46 mins)	Belgrade Novi Sad	22-07-09 11-08-09
51	M	Vladimir F	> 5 yrs	Professional	Private firm (foreign owned)	60 mins	Belgrade	06–10-09
52	M	Vuk Z	> 5 yrs	Student	Government agency	70 mins	Belgrade	31-07-09
53	M	Zarko R	6 mths	Professional	Engineering institute	90 mins	Belgrade	15–09-09
54	M	Zelimir J	> 3 mths	Student	Government agency	115 mins	Belgrade	29-07-09
55	M	Zeljko K	> 10 yrs	Raised abroad	International body	84 mins	Belgrade	02-08-09
56	M	Zoran J	> 10 yrs	Raised abroad	TNC	48 mins	Novi Sad	25-11-09
57	F	Zorica D	> 5 yrs	Student/professional	University	89 mins	Belgrade	19-11-09

58	M	Peter S	Foreign manager	N/a	Private firm (foreign owned)	60 mins	Belgrade	22-10-09
59	F	Linda D	Foreign manager	N/a	Private firm (foreign owned)	30 mins	Belgrade	11-11-09
60	M	David G	Foreign manager	N/a	Private firm (foreign owned)	60 mins	Belgrade	04-11-09
61	M	Martin L	Foreign manager	N/a	Multi-national	40 mins	Belgrade	10-11-09

11 Annex 2: Results of survey conducted by SMMRI (2007) on the opinions of the diaspora

Sample based on 831 individuals of which 41.1 per cent left between 1945-1988; 38.8 per cent between 1989-1999; and 20.1 per cent after 2000

Table 2a

How satisfied are you with the economic co-operation of Serbia and the diaspora?	%
Very dissatisfied	13
Mainly dissatisfied	23
Neither satisfied nor dissatisfied	43
Mainly satisfied	15
Very satisfied	5

Table 2b

How often do you come to Serbia?	%
More than once a month	2
Approx. once a month	5
A few times a year	46
Once a year	35
Once every 2-3 years	10
Once every five years	2
Less than once every five years	2

Table 2c

How strong are your contacts with your friends in Serbia?	%
Very weak	2
Generally weak	5
Neither weak nor strong	22
Generally strong	32
Very strong	38
I don’t maintain contacts in Serbia	1

Table 2d

How important is it to know what is going on in Serbia?	%
Not at all important	1
Generally not important	3
Neither nor	13
Generally important	37
Really important	46

Table 2e

How satisfied are you with your life abroad?	%
Very dissatisfied	1
Generally dissatisfied	4
Neither nor	14
Generally satisfied	42
Very satisfied	39

Table 2f

What are you plans regarding return to Serbia?	%
Certain I will not return	12
Probably won't return	18
Not sure	30
Probably will return	22
Definitely will return	18

Table 2g

What are the two most important prerequisites for your return to Serbia?	%
Exclusively personal and family reasons	47
Improvement in economic situation	45
Solving of pension, health and social security	27
Employment possibility	25
Change in the political situation	14
Regularisation and simplification of administrative procedures	7
Possibility of expert training	5
Other	5

Table 2h

Temporary working trip to Serbia – How probable is this form of cooperation between you and Serbia?	%
Not at all probable	45
Generally not probable	20
Neither is nor not probable	21
Generally is probable	11
Very probable	4

Table 2i

Permanent return – how probable is this form of cooperation between you and Serbia?	%
Not at all probable	17
Generally not probable	21
Neither is nor not probable	27
Generally is probable	20
Very probable	15

Table 2j

Direct investment in Serbia - How probable is this form of cooperation between you and Serbia?	%
Not at all probable	34
Generally not probable	22
Neither is nor not probable	24
Generally is probable	13
Very probable	7

12 Annex 3: 'Talent Index: Thematic and individual indicators

Indicator	Weight: 1 to 5	Indicators (contd)	Weight: 1 to 5
Demographics		Cost of living	3
Population aged 20-59	4	Degree of restrictiveness of labour laws	4
CAGD population aged 20-59 (%)	1	Wage regulation	1
Quality of compulsory education		Quality of workforce	4
Duration of compulsory education	4	Local managers	4
Starting age of compulsory education	1	Protection of intellectual property rights	4
Current education spending (% of GDP)	2	Protection of private property	3
Current education spending per pupil as a % of GDP per capita	4	Meritocratic remuneration	4
Primary school enrolment ratio (%)	2	Mobility and relative openness of the labour market	
Secondary school enrolment ratio (%)	4	Number of students studying overseas	3
Mean years of schooling	4	Number of overseas students studying in country as a % of tertiary enrolment	4
Adult literacy rate (% of pop over 15)	5	Language skills of the labour force	5
Pupil/Teacher ratio, primary	2	Hiring of foreign nationals	4
Pupil/Teacher ratio, lower secondary	2	Openness of trade (exports and imports % of GDP)	3
Pupil/Teacher ratio, upper secondary	2	Stock and flow of FDI	
Quality of universities and business schools		Average flow of FDI in previous five years (% of GDP)	3
Gross enrolment ratio ISCED 5 & 6 total	4	Average stock of FDI in previous five years (% of GDP)	2
Number of business schools ranked in the world's top 100	2	Proclivity to attracting talent	
Number of universities ranked in the world's top 500	3	Technical skills of the workforce	4
Expenditure per student for higher education (as % of GDP per capita)	3	Personal disposable income per capita	4
Quality of the environment to nurture talent		Employment growth	3
Share of the population aged 25-64 with tertiary level education	3	GDP per capita	0
Percentage of higher education graduates in the social sciences, business and law	2	GDP per capita (PPP)	4
Percentage of tertiary graduates in the sciences	4	Nominal USD GDP	3
Researchers in R&D (per m pop)	4	PPP GDP	0

Technicians (per m pop)	3	Real GDP growth (%)	3
R&D as % of GDP	5		

Source: Heidrick and Struggles: 2009: 9

13 Annex 4: National Innovation Capacity index - individual and thematic indicators

Name of indicator	Year	Source
Absorptive capacity		
Expenditures in education in % of GDP	2007	Eurostat
Science & Engineering graduates (‰ 20-29 population)	2007	EIS
Population with 3rd level education	2008	EIS
Participation in life-long learning (% of working age pop)	2008	EIS
Employment in high-tech manufacturing	2008	EIS
Employment in high-tech services	2008	EIS
R&D supply		
Public R&D expenditures (% of GDP)	2008	EIS
Business R&D expenditures (% of GDP)	2008	EIS
R&D personnel per labour force	2008	Eurostat
EPO patent applications (per million population)	2008	EPO
USPTO patent grants (per million population)	2008	USPTO
Resident patents per capita	2008	WIPO
Diffusion		
Training enterprises as % of all enterprises	2005	Eurostat
CVT in % of labour costs of all enterprises	2005	Eurostat
ISO 900 certifications per capita	2008	ISO
Internet users per 10,000 inhabitants	2008	ITU
Fixed broadband Internet subscribers (per 100 people)	2008	ITU
ICT expenditures (% of GDP)	2006	Trendchart
Demand		
Stock market capitalization in % of GDP	2008	World Bank
Domestic credit provided by banking sector (% of GDP)	2008	World Bank
Share of FDI stock in GDP	2008	UNCTAD
Share of trade in GDP	2008	World Bank
Index of patent rights	2005	Pack (2008)
Registered unemployment	2008	UNECE
Consumer price index	2008	UNECE

Note: CVT = Continuous Vocational Training; EPO = European Patent Office; FDI = Foreign Direct Investment ; GDP = Gross Domestic Product; ICT = Information and Communication Technology; ISO = International Organization for Standardization; R&D =Research & Development; USPTO = US Patent and Trademark Office.
Source: Kutlaca and Radosevic (2011)

14 Annex 5: Revised dichotomised data table for outcome - knowledge sharing with colleagues and the organisation

Case ID	RecKno	Trust	Aut	Respon	Non-periph	IntOrien	Recruit	KSC	KSO
1	1	1	1	1	0	1	0	1	0
2	0	1	0	0	0	0	0	0	0
3	1	1	1	1	0	0	1	1	0
4	1	1	1	1	0	0	1	1	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	1	1	1	1	1	1	0	1	1
8	0	1	0	0	0	0	0	0	0
9	1	0	1	1	0	0	0	0	0
10	1	1	1	1	1	1	0	1	1
11	0	1	0	0	0	1	0	0	0
12	1	0	1	1	1	1	0	1	1
13	1	1	1	1	1	1	0	1	1
14	1	1	1	1	1	0	1	1	1
15	0	0	1	1	1	1	0	1	0
16	1	1	1	1	1	1	0	1	1
17	0	1	0	0	0	0	0	0	0
18	1	1	1	1	1	0	0	1	0
19	0	1	0	0	0	1	0	0	0
20	0	0	0	0	0	1	0	0	0
21	1	1	1	1	1	1	0	1	1
22	0	1	1	1	1	1	0	0	0
23	1	0	1	1	1	0	0	1	0
24	1	1	0	0	0	1	0	1	0
25	1	1	1	1	1	1	0	1	1
26	1	1	1	1	1	0	0	1	0
27	1	1	1	1	1	0	1	1	1
28	1	0	0	0	0	0	0	0	0
29	1	1	1	1	1	1	0	1	1
30	1	0	1	1	1	1	0	1	1
31	1	1	1	1	1	1	0	1	1
32	0	1	0	1	1	1	0	0	0
33	1	1	0	0	0	1	0	1	0
34	1	0	0	1	1	1	1	1	1
35	1	1	0	0	0	1	0	1	0
36	1	1	0	1	0	1	0	1	1
37	1	0	1	1	1	1	0	1	1
38	1	0	1	1	1	1	0	1	1
39	1	1	1	1	1	1	1	1	1
40	1	1	1	1	0	1	0	1	0
41	1	1	1	1	1	1	0	1	1
42	0	0	0	0	0	0	0	0	0
43	1	1	1	1	1	1	0	1	1
44	0	1	0	0	0	0	0	0	0
45	1	1	1	1	1	1	0	1	1
46	1	1	1	1	1	1	1	1	1
47	1	1	0	1	1	1	1	1	1
48	1	1	0	1	1	0	1	1	0
49	1	1	1	1	0	1	0	1	0
50	1	1	1	1	0	1	0	1	0
51	1	0	0	0	0	1	0	0	0

52	1	0	1	1	1	1	1	1	1
53	0	1	0	0	0	0	0	0	0
54	1	0	1	1	1	1	0	1	1
55	1	1	1	1	1	0	0	1	0
56	1	0	0	1	1	1	1	1	1

15 Annex 6: Survey

Migration, skills acquisition and knowledge transfer

Thank you for agreeing to participate in this survey. The objective is to explore the transfer of skills and knowledge through people who have spent time living abroad. Your participation and responses in the survey are **anonymous** and **confidential**. If you are interested in the outcome, please indicate at the end of the survey. If you have any questions please contact Thomas Jackson Email: tjmstja@ucl.ac.uk Tel (Serbia): 0612288842

Section 1: Individual data

1. Gender

a. Male ☐
b. Female ☐

2. Age

3. Marital status

a. Married ☐
b. Not married but living with someone ☐
c. Single ☐

4. What did you do before you went abroad?

a. Worked in:
i. a privately owned company ☐
ii. an academic institution ☐
iii. a government institution ☐
iv. a not-for-profit organisation ☐
v. a state-owned company ☐
vi. an international NGO/diplomatic ☐

b. Pursued a course of education ☐
c. Started a business / Self employed ☐
d. Was unemployed ☐
e. Other (please specify) ☐

5. What did you do when you were working abroad?

a. Worked in:
i. a privately owned company ☐
ii. an academic institution ☐
iii. a government institution ☐
iv. a not-for-profit organisation ☐
v. a state-owned company ☐
vi. an international NGO/diplomatic ☐

b. Pursued a course of education ☐
c. Started a business / Self employed ☐
d. Was unemployed ☐
e. Other (please specify) ☐

6.	**Before you moved abroad, what level of qualifications did you have?**	
a.	Degree / BSc / BA	☐
b.	Masters / MA / MSc / MBA / MPhil	☐
c.	Doctorate / PhD	☐
d.	None of the above	☐

Additional comments:

7.	**In what year did you move abroad?**

8. **For how long were you living abroad?**			
Less than 3 months	☐	Less than 3 years	☐
Less than 6 months	☐	More than 5 years	☐
Less than 1 year	☐	More than 10 years	☐
Less than 2 years	☐	Other:	

Section 2: Reasons for moving abroad

9. In your own experience, how would you rate the following as 'pull' factors influencing your decision to move abroad (5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1= not at all important)?

		5	4	3	2	1
a.	Prospects of getting well-paid permanent job after graduating	☐	☐	☐	☐	☐
b.	Positive impression of living / working / studying abroad from others	☐	☐	☐	☐	☐
c.	A new professional and personal experience	☐	☐	☐	☐	☐
d.	A good academic and professional reference	☐	☐	☐	☐	☐
e.	Opportunity to earn additional income	☐	☐	☐	☐	☐
f.	High standards of research abroad	☐	☐	☐	☐	☐
g.	Better living standards in general abroad	☐	☐	☐	☐	☐
h.	Economic / political stability abroad	☐	☐	☐	☐	☐
i.	Other reasons (please describe):					

Additional information:

Source: Grecic 1995

10. In your own experience, how important were each of the following as personal motivational 'push' factors for moving abroad (5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2= less important, 1= not at all important)

		5	4	3	2	1
a.	Your standard of living in Serbia	☐	☐	☐	☐	☐
b.	Uncertain future	☐	☐	☐	☐	☐
c.	Housing problems	☐	☐	☐	☐	☐
d.	Economic instability	☐	☐	☐	☐	☐
e.	Unavailability of jobs in your specialism	☐	☐	☐	☐	☐
f.	Political uncertainty	☐	☐	☐	☐	☐
g.	Lack of possibilities for the realisation of own ideas	☐	☐	☐	☐	☐
h.	Corruption	☐	☐	☐	☐	☐

i. Crime ☐ ☐ ☐ ☐ ☐
j. Other reasons (please describe):

Additional information:

Source: Grecic 1995

Section 3: Employment, migration and other activities since returning to Serbia

11. When you returned to Serbia, what did you do?

Continued with your previous job in:
- i. a privately owned company ☐
- ii. an academic institution ☐
- iii. a government institution ☐
- iv. a not-for-profit organisation ☐
- v. a state-owned company ☐
- vi. an international NGO/diplomatic ☐

Pursued a further course of education ☐
Started a business / Self employed ☐
Unemployed ☐
Other (please specify) ☐

Found new employment in:
- i. a privately owned company ☐
- ii. an academic institution ☐
- iii a government institution ☐
- iv. a not-for-profit organisation ☐
- v. a state-owned company ☐
- vi. an international NGO / diplomatic ☐
- vii. other ☐

Additional information:

12. In which country are you *currently* working?

Additional information:

13. How would you best describe your *current* area of work:

- General management / administration ☐
- Public services / education ☐
- Accounting ☐
- Academic research ☐
- Marketing / sales ☐
- Legal ☐
- Human resources ☐
- IT ☐
- Research & Development ☐
- Public relations ☐
- Advocacy / research ☐
- Cultural / arts ☐
- Other (please provide details): ☐

Additional information:

14. How many jobs have you held since returning to Serbia?	
None	☐
One	☐
Two	☐
Three	☐
Four or more	☐
Additional information:	

15. How long have you been working for your *current* employer	
5 years or more	☐
Between 3 and 5 years	☐
Between 1 and 3 years	☐
Less than or equal to 1 year	☐
Additional information:	

16. Is your firm / organisation Serbian or foreign owned?	
Serbian	☐
Foreign / international	☐
Additional information:	

17. If you are working in Serbia now, are you currently actively looking for jobs abroad?	
Yes	☐
No	☐
Comments:	

Section 5: Knowledge and competences gained abroad and their role in obtaining employment

18. In your own experience, how important are the following in securing a job in Serbia after returning (5 = fundamentally important, 4 = very important, 3 = neither important nor unimportant 2 = less important, 1 = not at all important)?

	5	4	3	2	1
Previous professional accomplishments	☐	☐	☐	☐	☐
Educational experience from another country	☐	☐	☐	☐	☐
Technical qualifications	☐	☐	☐	☐	☐
Knowledge of local culture (in Serbia)	☐	☐	☐	☐	☐
Business network at home	☐	☐	☐	☐	☐
“Cosmopolitan outlook”	☐	☐	☐	☐	☐
Knowledge of (contact with) foreign networks	☐	☐	☐	☐	☐
Additional information:					

Source: Tung and Lazarova 2006

19. According to your own experience, how important are the following factors in discouraging return migration back to Serbia (5=fundamentally important, 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important)

	5	4	3	2	1
Poor economic situation	☐	☐	☐	☐	☐

Poor rule of law	☐	☐	☐	☐	☐
Unstable political situation	☐	☐	☐	☐	☐
Complicated administrative procedures	☐	☐	☐	☐	☐
Corruption	☐	☐	☐	☐	☐
Crime	☐	☐	☐	☐	☐
Unstable security situation	☐	☐	☐	☐	☐
Unprofessionalism in Serbia	☐	☐	☐	☐	☐
High taxes	☐	☐	☐	☐	☐
Poor infrastructure	☐	☐	☐	☐	☐
Bad image of Serbia in the world	☐	☐	☐	☐	☐
Other reasons (please specify)	☐	☐	☐	☐	☐
Additional information:					

Source: Grecic 1995

Section 6: Views on and retrospective evaluation of time abroad

This section concerns the competences you acquired while you were living abroad. There is also a column at the end of some questions asking whether you believe that these competences could have been gained in Serbia as well. Please indicate whether, in your opinion, you could have acquired the same competences in Serbia or not.

20. Many competences acquired abroad only become apparent upon return home. How would you rate of the following, according to their importance for your work in Serbia? (5=fundamentally important 4=very important, 3=neither important nor unimportant, 2=less important, 1=not at all important)
As well as abroad, which of these could you also have acquired in Serbia?

	5	4	3	2	1	Not relevant	Could have gained in Serbia
Supervisory/leadership skills	☐	☐	☐	☐	☐	☐	☐
Administrative skills	☐	☐	☐	☐	☐	☐	☐
Cross cultural skills	☐	☐	☐	☐	☐	☐	☐
Technical/functional skills	☐	☐	☐	☐	☐	☐	☐
Knowledge of international business	☐	☐	☐	☐	☐	☐	☐
Communication skills	☐	☐	☐	☐	☐	☐	☐
Negotiating skills	☐	☐	☐	☐	☐	☐	☐
Decision-making skills	☐	☐	☐	☐	☐	☐	☐
Other (please specify):	☐	☐	☐	☐	☐	☐	☐
Additional information:							

Source: Bolino and Feldman 2000

21. To what extent do you consider your period abroad to be worthwhile with respect to the following (5=extremely worthwhile 4= somewhat worthwhile, 3= neither worthwhile nor not worthwhile, 2= not particularly worthwhile, 1= not at all worthwhile).
As well as abroad, which of these could you also have acquired in Serbia?

	5	4	3	2	1	Could have gained in Serbia
Acquiring qualifications	☐	☐	☐	☐	☐	☐
Learned new skills (e.g. technical competences related to work)	☐	☐	☐	☐	☐	☐
Acquired new ideas	☐	☐	☐	☐	☐	☐

English language ability	☐	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐	☐
Additional information:						

Source: Williams and Balaz 2005

22. To what extent do you consider your period abroad to be worthwhile with respect to the following informal skills (5=extremely worthwhile 4= somewhat worthwhile, 3=neither worthwhile nor not worthwhile, 2= not particularly worthwhile, 1= not at all worthwhile)
As well as abroad, which of these could you also have acquired in Serbia?

	5	4	3	2	1	Could have gained in Serbia
Knowledge and understanding of another country	☐	☐	☐	☐	☐	☐
New perspectives on my home country	☐	☐	☐	☐	☐	☐
Better able to deal with new challenges and stressful situations in the workplace	☐	☐	☐	☐	☐	☐
Learned new approaches to work	☐	☐	☐	☐	☐	☐
Enhanced confidence in my abilities	☐	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐	☐
Additional information:						

Source: Balaz and Williams 2004

23. From your point of view now, to what extent do you consider your period abroad to be worthwhile with respect to the following (5=extremely worthwhile, 4=somewhat worthwhile, 3=neither worthwhile nor not worthwhile, 2=not particularly worthwhile, 1=not at all worthwhile)

	5	4	3	2	1
General enhancement of academic and professional knowledge	☐	☐	☐	☐	☐
Relevance to my current job	☐	☐	☐	☐	☐
Relevance to my current career prospects	☐	☐	☐	☐	☐
Maturity and personal development	☐	☐	☐	☐	☐
Overall importance for my life	☐	☐	☐	☐	☐
Additional information:					

Source: Williams and Balaz (2005:459); King and Ruiz-Gelices 2003

24. To what extent are you satisfied with your life after returning to Serbia? (5=extremely satisfied, 4=somewhat satisfied, 3=neither satisfied nor dissatisfied, 2=somewhat dissatisfied, 1=extremely dissatisfied)

	5	4	3	2	1
Living	☐	☐	☐	☐	☐
Working	☐	☐	☐	☐	☐
Additional information:					

Section 7: Using knowledge and skills in the workplace

Acquiring knowledge and skills

25. International migration is recognised as important for the transfer of knowledge and skills. In your personal experience, how much do you agree with the following in terms of transferring skills and knowledge to Serbia (5= strongly agree 4= slightly agree, 3=neither agree nor disagree, 2= slightly disagree, 1= strongly disagree)

	5	4	3	2	1

The most valuable means of transferring knowledge is through observation: watching, learning and repeating	☐	☐	☐	☐	☐
The knowledge that I have acquired can be easily codified (expressed in words and numbers), and easily communicated and shared in the form of hard data, manuals, codified procedures or universal procedures	☐	☐	☐	☐	☐
Other (please specify):	☐	☐	☐	☐	☐
Additional information:					

Sources: Bonache and Brewster 2001

26. How would you rate your satisfaction with your experiences at work in Serbia before and after being abroad, according to the following criteria (5=very high, 4=high, 3=average, 2=low, 1=very low)?

		5	4	3	2	1
Autonomy in decision making	Before	☐	☐	☐	☐	☐
	After	☐	☐	☐	☐	☐
Ability to assume wider responsibility in my work	Before	☐	☐	☐	☐	☐
	After	☐	☐	☐	☐	☐
Prospects for career advancement either in my native country or elsewhere	Before	☐	☐	☐	☐	☐
	After	☐	☐	☐	☐	☐
Ability to help economic development in my native country	Before	☐	☐	☐	☐	☐
	After	☐	☐	☐	☐	☐
Financial remuneration	Before	☐	☐	☐	☐	☐
	After	☐	☐	☐	☐	☐
Overall satisfaction with job	Before	☐	☐	☐	☐	☐
	After	☐	☐	☐	☐	☐
Additional information:						

Source: Tung and Lazarova 2006

27. From your experience of working abroad and in Serbia, how do the following feature as means for transferring and generating knowledge between individuals (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to little extent, 1=not at all)

		5	4	3	2	1
Formal training programmes	Serbia	☐	☐	☐	☐	☐
	Abroad	☐	☐	☐	☐	☐
Structured work teams	Serbia	☐	☐	☐	☐	☐
	Abroad	☐	☐	☐	☐	☐
Informal channels (for example, social activities with colleagues)	Serbia	☐	☐	☐	☐	☐
	Abroad	☐	☐	☐	☐	☐
Additional information:						

Organisational challenges

28. To what extent was your experience in the workplace in Serbia affected by the

following organisational challenges (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent)					
	5	4	3	2	1
Inadequate compensation for my skills and expertise	☐	☐	☐	☐	☐
Lack of adequate support from top management of the organisation	☐	☐	☐	☐	☐
Out-dated infrastructure (including technology)	☐	☐	☐	☐	☐
Inadequate administrative support	☐	☐	☐	☐	☐
Other factors	☐	☐	☐	☐	☐
Additional information:					

Source: Tung and Lazarova 2006: 1866

29. To what extent would you agree with the following statements regarding your personal experience of working in Serbia? (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent)					
	5	4	3	2	1
My employers recognise that I have acquired skills and knowledge abroad that can benefit the organisation.	☐	☐	☐	☐	☐
My employers have a management strategy for encouraging employees to share knowledge	☐	☐	☐	☐	☐
In my workplace, it is common to work individually	☐	☐	☐	☐	☐
In my workplace, it is common to work in teams	☐	☐	☐	☐	☐
The skills and knowledge I acquired abroad are only really relevant to the country where I was living and cannot easily be transferred to Serbia	☐	☐	☐	☐	☐
Additional information:					

30. To what extent would you agree with the following statements regarding your personal experience of working in Serbia? (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent)					
	5	4	3	2	1
The knowledge and skills I have acquired can only be transferred though observation	☐	☐	☐	☐	☐
It is easy for me to pass on my knowledge and skills to my colleagues	☐	☐	☐	☐	☐
I have learned a lot from observing the work practices of my colleagues	☐	☐	☐	☐	☐
My acquired skills have wide applicability to a number of different work environments	☐	☐	☐	☐	☐
My skills are specific to my area of specialisation and have little value outside of my workplace	☐	☐	☐	☐	☐
Additional information:					

Career challenges

31. To what extent was your experience of work in Serbia after being abroad affected by the following career challenges? (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent)					
	5	4	3	2	1

	5	4	3	2	1
Lack of opportunities to use my knowledge and expertise to the fullest	☐	☐	☐	☐	☐
Lack of opportunities to advance my career	☐	☐	☐	☐	☐
Lack of opportunities to work in another international location	☐	☐	☐	☐	☐
Lack of opportunities to learn new things	☐	☐	☐	☐	☐
Inadequate level of responsibility	☐	☐	☐	☐	☐
Lack of opportunities to network	☐	☐	☐	☐	☐
Additional information:					

Tung and Lazarova (2006: 1866)

Interaction challenges (network challenges: trust, etc)

32. To what extent was your experience in the workplace in Serbia affected by the following interaction challenges? (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent)

	5	4	3	2	1
Inadequate management skills on the part of my local superiors	☐	☐	☐	☐	☐
Inadequate understanding by others whom I interact with in a business setting of what my international experience brings to the organisation	☐	☐	☐	☐	☐
Working with colleagues whose views about the way I should do my work are very different from mine	☐	☐	☐	☐	☐
Envy from my compatriots (including clients, subordinates, superiors, peers)	☐	☐	☐	☐	☐
Additional information:					

Source: Tung and Lazarova (2006: 1866)

General challenges

33. To what extent was your own experience affected by the following general challenges? (5=to a very great extent, 4=to a great extent, 3=to some extent, 2=to a small extent, 1=to no extent)

	5	4	3	2	1
Worries over job insecurity	☐	☐	☐	☐	☐
My native country is very different from what I anticipated before returning from abroad	☐	☐	☐	☐	☐
Family related and/or personal reasons	☐	☐	☐	☐	☐
Additional information:					

Source: Tung and Lazarova (2006: 1866)

16 Annex 7: Interview protocol

Area	Information to cover
Pre-migration experience	- What were you doing prior to leaving Serbia?
Motivations for migration abroad and return	- What were your motivations for moving abroad? - What were your motivations for returning to Serbia?
Experience abroad	- How long were you abroad? - Can you describe what you were doing abroad? - Did you encounter any problems with life and/or work? - What difference did you notice between work/life/education environments in Serbia and your host country? - How would you describe your time abroad in terms of what you learned and how you changed personally?
Return to Serbia	- What have you done since you returned to Serbia? - If relevant, did you experience any problems having the qualifications or professional experience that you acquired abroad recognised in Serbia (i.e.nostrification of degrees)? - What difficulties, if any, have you encountered since your return to Serbia: (e.g. housing, reintegration, re-adaptation, employment, administrative and bureaucratic problems) - Have you experienced any changes in occupation, income, and status since you returned to Serbia? - Do people treat you differently than you expected because you've been abroad? Why do you think this is? - Do you know many people who are working abroad or who have worked abroad? - Do people treat you differently from what you expected because you have been abroad? - Do people seek out your advice because of your international experience - Do you think that highly skilled migration is a problem in Serbia? - Are you aware of any initiatives or government policies to stem highly skilled migration and encourage return? If so, what do you think of these efforts? - Can you talk about your career aspirations and trajectory? - What are your plans for the future, if you know? - Are you intending to stay in Serbia? What factors are influencing your decision? - In your experience are certain skills, competences and knowledge

	scarce in Serbia? - Does this have any impact upon how workplaces in Serbia operate in comparison to firms from abroad?
Workplace	- Is your workplace Serbian or foreign owned? - How big is your company? - How many units are there? - How many people work in your unit? - How long have you worked in your current workplace? - Can you think of any major differences between Serbian workplaces and those you encountered abroad, if appropriate? - What do you think of the working practices in your current job, compared to other places you have worked, in Serbia and abroad? - Do you believe that there exists a "Serbian way of doing things"? Is this compatible with ways of doing things in other countries / your way of doing things? - Is professional 'success' defined by achievements abroad?
Skills and knowledge in the workplace	- What kinds of projects do you work on? - What competences are required in your area of work? - How important are so-called 'soft skills' (such as teamwork / communication skills) to your work? - Are there knowledge / ways of doing things / skills relevant to your profession that you think can only be acquired abroad? - Do you consider that the education and training you have received in Serbia has equipped you with the skills and knowledge you need in your profession?
Responsibilities	- How would you describe your position and level of responsibility at work? - What responsibilities do you have? - Are you satisfied with your level of responsibility?
International orientation of the workplace	Do you work with people abroad? Do you work with people who you met while living abroad? How many people in your profession / company have international experience? How would you describe the impact of having international experience in your profession?
Teams and communities of practice	- Do you work in teams? - If so, how often do you meet with this team? - Do you discuss work, innovations in work, or other matters related to your interests with people in an informal way? - Do you talk about work with (or work with) people in other organisations (inter firm)? - Is this necessary for your work or voluntary? Do you do it of your

	own initiative? - Would you describe this as a formal or informal network? - What comes out of this network / what results do you get or is it a means of just exchanging knowledge and helping each other? - Where from and how did the network emerge? - If relevant, does the network use any of the following interactions to enable members to develop their knowledge: Email and discussion boards; document checkout (allows multiple people to work on one document); lectures and large meetings; application sharing; web tours - Do you work closely with colleagues or more individually? (competence trust in colleagues / intentional trust / frequency interactions). - Which way of working do you prefer? - How would you describe your relations with colleagues?
Types of knowledge:	- Thinking about the knowledge that you acquired abroad: - Was easy or difficult to comprehensively document in manuals or reports? - Was easy or difficult to precisely communicate through written documents? - In your profession, do you think there is an international convergence in skills and knowledge which means that your skills can be used irrespective of the working environment? - Do you consider your skills and knowledge to be widely applicable across firms and professions? - In terms of your experience abroad, did you learn new any techniques or approaches that are relevant for your work (*embrained knowledge)?* -Did you pick up any news skills and knowledge through observation and participation which you couldn't have learned through books, or the internet (*embodied)*? - Did you learn anything that you consider useful from the way that your workplace abroad operated, such as organisational approaches, culture, work groups, management techniques? In what ways would you say your experience of foreign firms is different from Serbian firms (*Embedded)*? - I want to ask you now about cultural differences. Did you observe any approaches to work in your professional work, or more general work approaches, that you consider to be specific to the country and people *(Encultured)?*
Knowledge recognition in the workplace	- Are there ways of doing things / knowledge and skills that are relevant to your profession that you think are best acquired abroad? - In your experience, does your organisation utilise the experience, talents and abilities of individuals who have lived and worked abroad? - Can you think which of your skills are most useful for your employer (and colleagues); what do you bring to the organisation and what perhaps do you find is sought out by others or commented on by your

	managers and/or colleagues? - To what extent is your foreign-acquired knowledge utilised in your work in day-to-day projects and responsibilities? - Do others notice that you are using it?
Workplace procedures to store knowledge	- Does your workplace have a manual or description of how procedures in the workplace operate? - Does your workplace use databases to store knowledge? - Does your workplace have shared access to information / projects / contact databases that several employees can use and provide input for?
Knowledge transfer in the work place	- In your workplace, what do you think you have learned from other people? - Can you think of what other people in your workplace have learned from you? - I would like to ask you about recollections of problems uncovered and resolved with colleagues, not necessarily in your unit or your company. - What kind of problems arise at work as part of your day-to-day work? What is your approach dealing with them? - Who have you told about an idea or a tool, and where else was it applied? What would have happened without this tool / knowledge? - Has your knowledge changed the way things are done in your firm? - Can you think of any examples where colleagues who have not been abroad have tried out a new idea based on the knowledge brought in by someone who has been abroad (such as yourself), and where this knowledge has led to change in the way things are done in the organisation / a new procedure / product / innovation?
Workplace challenges	- In your experience is there any resistance to new ideas: in the workplace; among colleagues; within Serbia? - In your experience, is there any culture or politics within your workplace that facilitates or acts as a barrier to knowledge generation and transfer?
Management oversight and knowledge transfer channels	- Do your managers and the people you work have international experience? - How would you describe the managerial style in your firm (career planning and counselling, support given by managers)? - How frequently do you meet and discuss ideas with managers? - How important is management input and guidance for your work and the realisation of your projects? - How important are managers for bringing the best out of the people working in their teams? - Can you think of any formal or informal mechanisms that take place at work that involve colleagues interacting with each other and knowledge generation and transfer taking place?

	- Does you company have clear incentives or a system designed to encourage employees to seek and share knowledge, i.e. direct monetary incentive, a factor in promotion and advancement, or a source of formal recognition and acknowledgement in the organisation? - If applicable, in the networks or teams to which you belong, is there any evidence that they were set up specifically to assist in knowledge transfer between return migrants and local colleagues? - How do people learn in your profession? - By experimenting, getting feedback, evaluating? - By learning general principles and then applying to specific situations? - By observation? - What are main ways in which you keep up with technological changes and advances in your work / field / profession? - Have you received any training in these skills within your company or elsewhere?

Annex 8: QCA software output

1. Knowledge sharing with colleagues - [1] outcome

```
*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: outcomekc = f(reckno, trust, autonomy, respon, non-periph, intorien)

 Rows:      21


 Algorithm: Quine-McCluskey
      True: 1

--- COMPLEX SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000

raw       unique
coverage    coverage   consistency
                                               ----------  ----------  ----------
reckno*trust*autonomy*respon                   0.600000    0.150000    1.000000
reckno*trust*respon*non-periph                 0.500000    0.025000    1.000000
reckno*autonomy*respon*non-periph              0.625000    0.025000    1.000000
reckno*respon*non-periph*intorien              0.550000    0.050000    1.000000
reckno*trust*~autonomy*~non-periph*intorien    0.100000    0.100000    1.000000
~trust*autonomy*respon*non-periph*intorien     0.175000    0.025000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000

*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: outcomekc = f(reckno, trust, autonomy, respon, non-periph, intorien)

 Rows:      21

 Algorithm: Quine-McCluskey
      True: 1-L

--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000

raw       unique
coverage    coverage   consistency
                     ----------  ----------  ----------
~trust*non-periph     0.250000    0.250000    1.000000
reckno*trust          0.750000    0.750000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000


*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: outcomekc = f(intorien, non-periph, respon, autonomy, trust, reckno)

 Rows:      18

 Algorithm: Quine-McCluskey
```

```
      True: 1
  0 Matrix: 0L
Don't Care: -

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000
Assumptions:
intorien (present)
non-periph (present)
respon (present)
autonomy (present)
trust (present)
reckno (present)

raw       unique
coverage    coverage   consistency
                                               ----------  ----------  ----------
intorien*trust*reckno                          0.550000    0.100000    1.000000
non-periph*respon*trust*reckno                 0.500000    0.025000    1.000000
respon*autonomy*trust*reckno                   0.600000    0.050000    1.000000
intorien*non-periph*respon*autonomy*~trust     0.175000    0.175000    1.000000
solution coverage: 0.925000
solution consistency: 1.000000
```

2. Knowledge sharing with colleagues – [0] outcome

```
**********************
*TRUTH TABLE ANALYSIS*
**********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: ~outcomekc = f(reckno, trust, autonomy, respon, non-periph, intorien)

 Rows:      21

 Algorithm: Quine-McCluskey
      True: 1

--- COMPLEX SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000

raw       unique
coverage    coverage   consistency
                                                        ----------  ----------  ----------
~trust*~autonomy*~respon*~non-periph                    0.375000    0.125000    1.000000
~reckno*~autonomy*~respon*~non-periph                   0.687500    0.437500    1.000000
~reckno*trust*respon*non-periph*intorien                0.125000    0.125000    1.000000
reckno*~trust*autonomy*respon*~non-periph*~intorien     0.062500    0.062500    1.000000
solution coverage: 1.000000
solution consistency: 1.000000

**********************
*TRUTH TABLE ANALYSIS*
**********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: ~outcomekc = f(reckno, trust, autonomy, respon, non-periph, intorien)

 Rows:      21

 Algorithm: Quine-McCluskey
      True: 1-L

--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000
```

```
raw       unique
coverage    coverage   consistency
                       ----------  ----------  ----------
~trust*~non-periph     0.437500    0.437500    1.000000
~reckno*trust          0.562500    0.562500    1.000000
solution coverage: 1.000000
solution consistency: 1.000000

**********************
*TRUTH TABLE ANALYSIS*
**********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: ~outcomekc = f(intorien, non-periph, respon, autonomy, trust, reckno)

 Rows:      28

 Algorithm: Quine-McCluskey
      True: 1
  0 Matrix: 0L
Don't Care: -

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000
Assumptions:
~intorien (absent)
~non-periph (absent)
~respon (absent)
~autonomy (absent)
~trust (absent)
~reckno (absent)

raw       unique
coverage    coverage   consistency
                                         ----------  ----------  ----------
trust*~reckno                            0.562500    0.562500    1.000000
~intorien*~non-periph*~trust             0.312500    0.062500    1.000000
~non-periph*~respon*~autonomy*~trust     0.375000    0.125000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000
```

3. Knowledge sharing at the organisational level – [1] outcome

```
**********************
*TRUTH TABLE ANALYSIS*
**********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: outcomeko = f(reckno, trust, autonomy, respon, non-periph, intorien, recruit)

 Rows:      24


 Algorithm: Quine-McCluskey
      True: 1

--- COMPLEX SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000

raw       unique
coverage    coverage   consistency
                                                     ----------  ----------  ----------
reckno*autonomy*respon*non-periph*intorien           0.760000    0.640000    1.000000
reckno*trust*~autonomy*respon*intorien*~recruit      0.080000    0.080000    1.000000
reckno*~trust*respon*non-periph*intorien*recruit     0.120000    0.080000    1.000000
reckno*trust*autonomy*respon*non-periph*recruit      0.160000    0.080000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000
```

```
*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: outcomeko = f(reckno, trust, autonomy, respon, non-periph, intorien, recruit)

 Rows:      24

 Algorithm: Quine-McCluskey
      True: 1-L

--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000

raw       unique
coverage    coverage   consistency
                                     ----------  ----------  ----------
reckno*non-periph*intorien           0.880000    0.760000    1.000000
autonomy*non-periph*recruit          0.200000    0.080000    1.000000
~autonomy*respon*~non-periph         0.040000    0.040000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000


*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: outcomeko = f(recruit, intorien, non-periph, respon, autonomy, trust, reckno)

 Rows:      20

 Algorithm: Quine-McCluskey
      True: 1
  0 Matrix: 0L
Don't Care: -

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000
Assumptions:
recruit (present)
intorien (present)
non-periph (present)
respon (present)
~autonomy (absent)
trust (present)
reckno (present)

raw       unique
coverage    coverage   consistency
----------  ----------  ----------
intorien*non-periph*respon*reckno                  0.880000    0.760000    1.000000
intorien*respon*~autonomy*trust*reckno             0.080000    0.040000    1.000000
recruit*non-periph*respon*autonomy*trust*reckno    0.160000    0.080000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000
```

3. Knowledge sharing with the organisation – [0] outcome

```
*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
```

```
Model: ~outcomeko = f(reckno, trust, autonomy, respon, non-periph, intorien, recruit)

 Rows:      24

 Algorithm: Quine-McCluskey
      True: 1

--- COMPLEX SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000
coverage    coverage   consistency
                                                              ----------  ----------  ----------
~trust*~autonomy*~respon*~non-periph*~recruit                 0.193548    0.032258    1.000000
~reckno*~autonomy*~respon*~non-periph*~recruit                0.354839    0.161290    1.000000
~autonomy*~respon*~non-periph*intorien*~recruit               0.225806    0.096774    1.000000
reckno*~trust*autonomy*respon*~intorien*~recruit              0.064516    0.032258    1.000000
reckno*autonomy*respon*non-periph*~intorien*~recruit          0.129032    0.096774    1.000000
~reckno*trust*respon*non-periph*intorien*~recruit0.0645160.032258    1.000000
~reckno*autonomy*respon*non-periph*intorien*~recruit0.0645160.032258    1.000000
reckno*trust*autonomy*respon*~non-periph*intorien*~recruit    0.129032    0.129032    1.000000
reckno*trust*autonomy*respon*~non-periph*~intorien*recruit    0.064516    0.064516    1.000000
reckno*trust*~autonomy*respon*non-periph*~intorien*recruit    0.032258    0.032258    1.000000
solution coverage: 1.000000
solution consistency: 1.000000


*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: ~outcomeko = f(reckno, trust, autonomy, respon, non-periph, intorien, recruit)

 Rows:      24

Algorithm: Quine-McCluskey
      True: 1-L

--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000

raw       unique
coverage    coverage   consistency
----------  ----------  ----------
~respon                     0.516129    0.129032    1.000000
~reckno                     0.451613    0.096774    1.000000
~intorien*~recruit          0.451613    0.129032    1.000000
autonomy*~non-periph        0.225806    0.193548    1.000000
~autonomy*~intorien0.3225810.000000    1.000000
trust*~autonomy*recruit     0.032258    0.000000    1.000000
solution coverage: 1.000000
solution consistency: 1.000000

*********************
*TRUTH TABLE ANALYSIS*
*********************

File:  C:/Documents and Settings/Administrator/My Documents/QCA23062010Cleaned.csv
Model: ~outcomeko = f(recruit, intorien, non-periph, respon, autonomy, trust, reckno)

 Rows:     164

Algorithm: Quine-McCluskey
      True: 1
  0 Matrix: 0L
Don't Care: -

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 1.000000
Assumptions:
~recruit (absent)
```

```
~intorien (absent)
~non-periph (absent)
~respon (absent)
~trust (absent)
~reckno (absent)

raw       unique
coverage    coverage   consistency
                                  ----------  ----------  ----------
~intorien*~autonomy0.3225810.032258    1.000000
~intorien*~non-periph0.3870970.064516    1.000000
~recruit*~reckno0.4516130.096774    1.000000
~recruit*~intorien                0.451613    0.129032    1.000000
~recruit*~non-periph*~respon      0.516129    0.129032    1.000000
~recruit*~non-periph*autonomy     0.161290    0.129032    1.000000
solution coverage: 1.000000
solution consistency: 1.000000
```