les notes de l'ifri

Does Enlargement Conceal Globalisation ? Location Issues in Europe

Slavo RADOSEVIC
Frédérique SACHWALD

There is a strong perception in the public that enlargement is linked to the current competitiveness and fiscal problems faced by the 'old' EU members. This "Note" argues that the relocation problems experienced in the EU15, which are often attributed to 'unfair competition' from the new member states, are driven by deeper structural changes in the global economy.

An analysis of EU international trade and investment is used in combination with industry case studies to assess the impact of global competition and enlargement on the location of production. Previous enlargements had allowed productivity growth through scale and competition effects among quite similar countries. The latest enlargement has on the contrary stimulated a process of vertical specialisation, with a more radical impact on the location of production. It thus represents a further pressure to structural change in a context of increasing global competition. Examples in the paper illustrate the process of value creation through value chain reorganisation and relocation of production within the EU and more globally. Whether the initially positive effects of enlargement on competitiveness and growth will be maintained depends on firms' strategies and both national and EU structural policies.

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Does Enlargement Conceal Globalisation?
Locations Issues in Europe

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Contents

Abstract

Despite the low share of new member states (NMS) in the EU economy, there a strong perception in the public that enlargement is linked to the current competitiveness and fiscal problems faced by the 'old' EU members. The paper discusses the 'paradox of enlargement' and argues that the relocation problems experienced by various sectors in the EU15, which are often attributed to 'unfair competition' from the NMS, are actually driven by deeper structural changes in the global economy.

This paper combines an analysis of EU international trade and investment with case studies of the automotive and ICT industries to assess the impact of global competition and enlargement on the location of production within Europe. Previous enlargements of the EU had allowed productivity growth through scale and competition effects among quite similar countries. Related intra-industry trade and specialisation have had a limited impact on the structure of production of each country. The latest enlargement has on the contrary stimulated a process of vertical specialisation, with a more radical impact on the location of production. It thus represents a further pressure to structural change in a context of increasing global competition. Examples in the paper illustrate the process of value creation through value chain reorganisation and relocation of production both within the EU and more globally. It suggests that vertical specialisation within Europe can contribute to increased competitiveness of firms located in the EU.

The initial effects of enlargement have been quite positive; they have stimulated demand for exports from Western members and have contributed to growth in the NMS. Whether competitiveness and growth effects will be maintained depends on the strategies of multinational companies but also on adequate structural and policies at both the national and EU levels. A major challenge is to move from zero sum to positive sum view of enlargement by promoting EU-wide industrial restructuring. Alternatives - tax and subsidy competition, migration restrictions - rather belong to zero sum games.

Résumé

Malgré le faible poids des nouveaux pays membres dans l'économie européenne, le débat public suggère souvent que l'élargissement aggrave les problèmes de compétitivité, d'emploi et de finances publiques des « anciens » membres de l'UE. Les problèmes de délocalisation rencontrés dans certains secteurs par les Quinze sont attribués à tort à la concurrence déloyale qu'exerceraient les nouveaux pays membres. L'évolution de la localisation des capacités de production doit plutôt être analysée comme le résultat de changements profonds de l'économie mondiale.

Cette note étudie l'impact de la concurrence mondiale et de l'élargissement sur la localisation de la production en Europe, en combinant une analyse d'ensemble des échanges internationaux de l'UE avec des études de cas de l'industrie automobile et des secteurs de l'information et de la communication (TIC). Les élargissements précédents avaient permis des progrès de productivité à travers des économies d'échelle et une stimulation de la concurrence entre pays similaires. L'accroissement des échanges intra-branche et la spécialisation horizontale n'avaient eu qu'un impact limité sur la structure de la production de chacun des pays membres. Le dernier élargissement a au contraire stimulé un processus de spécialisation verticale, qui a eu un impact plus radical sur la localisation de la production en Europe. L'élargissement renforce ainsi la pression qu'exerce la concurrence mondiale en faveur de changements structurels des économies européennes. L'analyse illustre les opportunités qu'offre l'élargissement pour accélérer l'évolution de la spécialisation des vieux pays industriels de l'UE. Elle donne des exemples de création de valeur à travers la réorganisation des chaînes de valeur et la relocalisation de la production. La spécialisation verticale au sein de l'UE peut ainsi contribuer à accroître la compétitivité des entreprises implantées en Europe.

Au cours des années 1990, le processus d'élargissement a stimulé les exportations des Quinze et contribué à la croissance des pays d'Europe centrale et orientale. La réalisation du potentiel de l'élargissement en termes de compétitivité et de croissance dépend

des stratégies des multinationales, mais aussi dans une large mesure de l'adoption de politiques structurelles adaptées au niveau national et européen. La promotion d'un processus de restructuration à l'échelle européenne doit permettre de concevoir l'élargissement comme un jeu à somme positive, alors que les alternatives – la concurrence fiscale, la course aux subventions et aux restrictions à l'immigration – organisent un jeu à somme nulle.

Introduction

During the 2005 electoral campaigns for the EU constitution strong voices have been expressed about the effects of enlargement on welfare and competitiveness of the 'old' member states. Delocalisations of production facilities from 'old' to new member states, wage and tax competition for FDI between member states have appeared as key areas of public concern. The debates have revealed a widespread fear that 'unfair competition' from new member states is threatening jobs in the 'old' member states.

This latest wave of enlargement is significant in terms of population as the new member states (NMS) from central and Eastern Europe account for 20% of the EU15 population. However, by economic measures they represent much smaller increases of less than 5% of EU15 GDP and about 8% of its trade. In economic terms, the impact of the latest enlargement is thus less significant than the accession of Spain and Portugal, which increased EU10 GDP by 8.3%. The eight new member states from central and Eastern Europe are poor with a GDP per capita below 50% of the EU15 average. However, in terms of economic structures they are not systematically different from the EU15, which includes quite diverse countries such as Germany and Greece, Sweden and Spain. Based on these data, the latest wave of enlargement should not have a substantial impact on competitiveness and welfare of the EU15. So, why is there such a strong perception in the public that enlargement is linked to the current competitiveness and fiscal problems of the 'old' EU member states? There exists a 'paradox of enlargement': EU accession was partly designed to contribute to the development of the new member sates, but the 'old' members fear that they may represent too much of a burden for their own economies and for the EU budget (Sachwald 2005).

This policy paper explores the roots of the 'paradox of enlargement' before suggesting policy measures to promote the adaptation of both old and new EU members to the rapidly evolving

global economic context. It is partly based on contributions and debates of a conference organised by IFRI in June 2005 in Brussels.[1]

The paper is structured in three parts. Part 1 highlights the simultaneous occurrence of enlargement and globalisation whose interaction has shaped the depth of the EU integration and the perception of the consequences of enlargement. The coincidence of the process of accession with the rapid integration of newly emerging economies, especially China, into the world economy and with the global diffusion of ICTs has mixed up adjustment issues of enlargement with the globalisation driven adjustment. Relocation problems of the EU15 which are often perceived as 'unfair advantages' of the new member states (NMS) are actually driven by deeper structural changes in the global economy. In this sense, enlargement has been concealing broader globalisation issues in the EU.

Part 2 explores these issues in the case of the two major sectors of the East - West integration: the car industry and information and telecommunication technologies (ICT). Sector studies clearly illustrate the interaction between globalisation and European integration. They discuss the value creation potential of the latest EU enlargement and how it could be further exploited in the global context. They show that initial relocation effects of enlargement have been quite positive and have contributed to the growth process experienced by the NMS. Whether competitiveness and growth effects will be maintained depends on strategies of multinationals but also to a great extent on adequate structural policies at both the national and EU levels.

Part 3 concludes and derives policy implications. A major conclusion relates to the evolution of the role of the EU integration as an economic strategy for European countries. Up to the Single Market program, EU integration stimulated productivity growth through scale and competition effects among quite similar countries. Intra-industry trade developed with benign impact on industrial structures and jobs. In the context of increasing global competition, the latest wave of enlargement represents on the contrary a further pressure to structural change. This last part

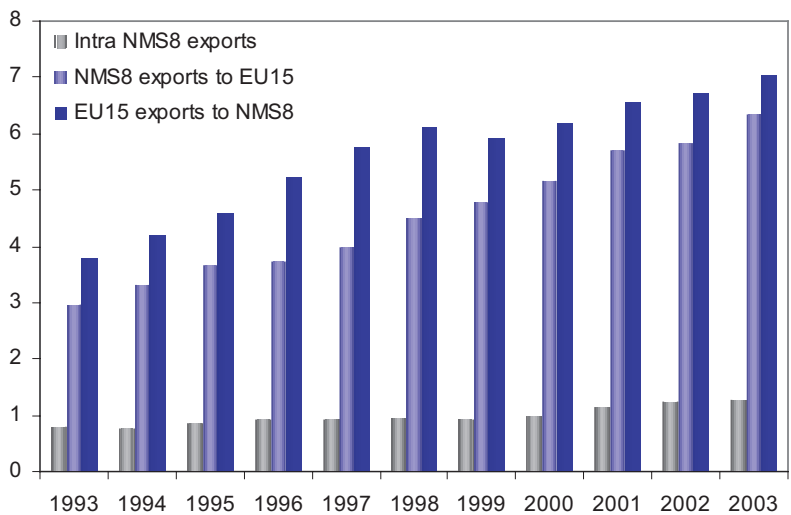
[1] The program of the conference is in appendix and contributions can be accessed on Ifri's website at www.ifri.org

discusses policy ideas, which could assist EU - wide restructuring in new directions. A major challenge is how to swiftly move from zero sum to positive sum view of enlargement by promoting EU-wide industrial restructuring. Alternatives - tax race, FDI subsidy race or race in migration restrictions - are zero sum games, which may even be counterproductive in the global context.

I- Enlargement and globalisation

The process of integration through increasing trade between new and 'old' member states started in the early 1990s, i.e. well before official enlargement in 2004. Bilateral free trade agreements or so-called European Agreements have been crucial for the recovery of the economies from central and Eastern Europe. They have stimulated trade with the EU during the 1990s (figure 1). As a result, the share of trade of the NMS with the Euro area is, on average, greater than that of witching the Euro area (ECB 2005).

Figure 1. Increasing trade between EU15 and NMS, % in EU25 trade

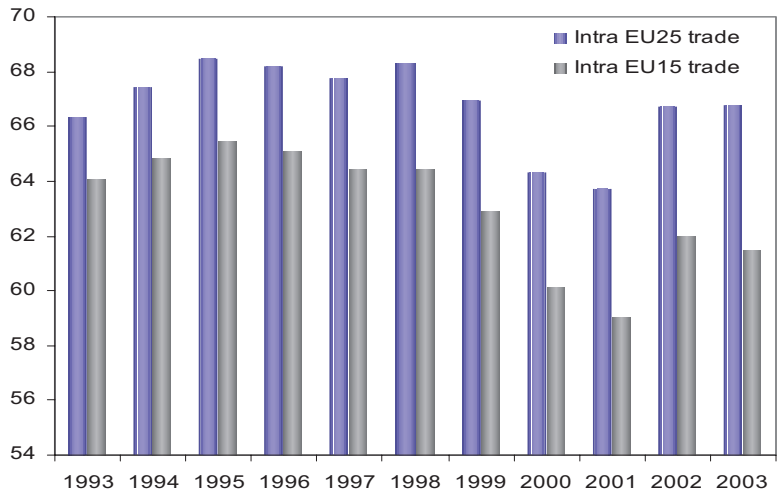


Note: NMS do not include Cyprus and Malta

Source: Calculation from CHELEM

Increasing trade between the EU and accession countries has compensated the decrease in intra-EU15 trade during the 1990s (figure 2). Since the late 1990s, the slight decrease in the share of intra-EU-25 trade has been influenced by the dynamism of trade with extra-European countries, and in particular with China.

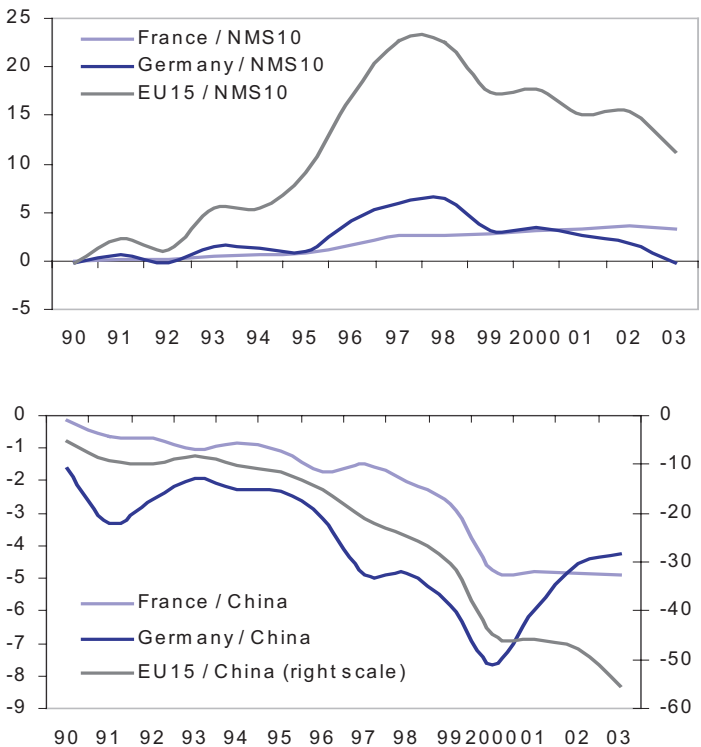
Figure 2. Decreasing intra-EU trade, % of total exports of EU15 and EU25



Source: Calculation from CHELEM

The share of EU15 trade with NMS10 is higher than with China, especially for Germany. However, EU15 trade with China has become quite dynamic, which explains the strong increase in the share of China, especially in total European imports. Figure 3 illustrates the dynamics of trade with the NMS on the one hand and China on the other hand. Simultaneous declining trade surpluses of the EU15 with NMS as well as growing trade deficit with China suggest that much of trade and competitiveness problems of the EU15 are driven by deeper globalisation tendencies. A reshuffling of global value chains, which now involve countries of different levels of development including new member states but also increasingly China and other emerging economies is a micro driver of this global process. In that respect, enlargement has contributed to globalisation tendencies that would have taken place without it. In a nutshell, it is not trade by itself but industry restructuring and increasing integration of production processes across borders that drive this process.

Figure 3. EU15 trade balance with NMS and China, Euro bn



Source: Sachwald (2004)

The outcome of this intensive and large scale restructuring is visible in the declining share of Europe in world manufacturing value added (table 1). Between 1990 and 2001, the share of Western Europe in world value added has decreased by 7.8 percentage points while the share of North America has actually increased by 6.8 percentage points. During the same period, the share of China has increased by 5.8 percentage points while transition in Central and Eastern Europe has led to a reduction in their share of world manufacturing, which actually started before 1990. Overall this table suggests that the declining share of

Western Europe in world manufacturing has deep roots and started before the effects of enlargement became visible.

Table 1. Distribution of manufacturing value added, at current prices, in % of world total

	1980	1990	2001
Developed countries	**67.0**	**76.7**	**73.6**
North America	22.1	23.3	30.1
Western Europe	32.1	34	26.2
Central and Eastern Europe	**19.9**	**8.9**	**2.7**
Developing countries	**13.7**	**14.4**	**23.7**
Africa	0.9	0.9	0.8
South America	7.1	5.6	5.7
South and East Asia	4.1	6.1	16.0
- China	3.9	2.6	7.2
West Asia and Europe	1.6	1.8	1.2

Source: UNIDO

In addition, the process of relocation of manufacturing capacity out of EU15 countries seems to gather speed. For example, a recent survey by Roland Berger indicates a trend of more closures than openings of manufacturing sites in Western Europe (Mercier 2005). This trend is also suggested by databases on restructuring and FDI in Europe.[2] These surveys indicate that foreign investment in new manufacturing sites is more dynamic in the NMS. These new foreign owned manufacturing sites have been driving intra-EU25 trade. The following section discusses the interactions between European and global trends in the location of production activities, focusing on two sectors in which foreign direct investment has been very dynamic, the automobile industry and information and communication technologies (ICT).

[2] Examples includes the European Monitor (http://www.emcc.eurofound.eu.int/erm/) and the data base compiled by the French agency for international investment (AFII).

II- Location of firms in the EU: The value creation potential of enlargement

Since the 1990s, integration of production locations with different cost levels and structures has benefited EU firms. The 'heterogeneity of production functions' within the wider Europe has constituted a competitive advantage for multinational companies (MNCs). The advantages of divergence, which emerged with the accession process, have enabled companies to separate product development from manufacturing and lower the capital requirements and the range of in-house production skills needed for volume production (Zysman *et al*. 1997, 1998). These value creation opportunities within the East - West of Europe have been exploited by the MNCs since the early 1990s (Zysman and Schwartz 1998). With the European Agreements most of legal restrictions that would deter MNCs from expanding these production arrangements have been removed.

EU accession process and liberalisation of trade relationships within Europe during the 1990s have led to market seeking FDI in NMS. Privatisation has stimulated foreign investment, in particular in services. FDI in industry has nevertheless been quite dynamic and has taken an increasing importance recently. The car industry and ICT have attracted a relatively large share of industrial FDI, including export oriented greenfield operations. These new production sites from multinational companies partly explain the evolution of the pattern of trade of new member states and a significant shift in their specialisation. By the end of the 1990s, foreign firms generated more than half of Polish international trade (Picciotto 2003). In 2003, they have generated as much as 80% of Hungarian exports and 75% of Hungarian imports. This pattern results from the increasing vertical intra-industry and intra-firm trade between the EU15 and the NMS. This trend has been documented in particular in the case of trade with France (Sachwald 2004) and Germany (Marin 2004).

Table 2 shows that the NMS have become specialised in automotives and electronics, areas in which they were marginal exporters or non-exporters. As a result, new members have become less specialised in traditional labour intensive sectors such as textiles and more specialised in mid- to high-tech industries.

Table 2. Specialisation* of NMS in their trade with EU 15

	1993	2003	Change
Furniture & parts	3,1	4.0	0.9
Motor vehicles	-1.7	3.3	5.0
Internal combustion piston engines	0.0	3.0	3.0
Telecommunication equipment	-1.6	1.6	3.1
Television receivers	0.0	1.5	1.4
Equipment for distributing electricity	0.4	1.4	1.1
Wood manufacture	1.5	1.1	-0.4
Automatic data processing machines	-1.2	1.0	2.2
Wood simply worked	1.3	1.0	-0.3
Women's clothing	5.0	1.0	-4.0

* Indicator of contribution to trade balance, in %

Source: Sachwald (2004)

In continuation, we discuss this process on the examples of two important sectors of the East - West integration within Europe: automotive and ICT industries. We show how the evolution of global competition in these industries has coincided with the EU enlargement and analyse the impact on the location of production. We also discuss the benefits from integration since the 1990s, as well as the potential dynamic effects on the competitiveness of firms and the development of NMS.

A. Eastward expansion of the "European motor industry"

Since the early 1990s, the accession countries have been progressively integrated into the "European motor industry", as Spain had been in the 1980s (Rhys 2004). German carmakers have been the first to locate new production capacities in Central and Eastern Europe. This is due both to geographical proximity and to

the major crisis experienced by the German car industry in the early 1990s. The German carmakers have been obliged to clamp down on costs to restore their international competitiveness and relocation of production should be interpreted as part of this effort. As in other sectors, EU wide integration also corresponds to the globalisation of the automobile industry.

Enlargement and the new pattern of global competition

The opening and integration of the new member states' markets and industry coincided with the emergence of a 'new' pattern of competition in world automotive industry. Table 3 summarises the key features of this new pattern of competition, which has worked in favour of the NMS as an important production location. Global competition has favoured establishment of the NMS as node within the EU network for building cutting-edge productive capacity.

Table 3. A new pattern of competition in the automotive industry since the 1990s

'Old' pattern of competition	'New' pattern of competition
Domestic competition based on exporting from home country supply-base	Global competition: production functions are organised on a regional and global basis
Emerging markets as dumping grounds for old models and production equipment	Emerging markets as locations for building leading-edge productive capacity
Export-led industry: firms from different countries compete mainly through markets	Network-led industry: each major firm manufactures within each major market

Source: Based on Sturgeon and Florida (1999, 2004)

Modularization and supplier outsourcing have been the key drivers of the transition from the domestic to the global pattern of competition. The sharing of responsibility between carmakers and component suppliers has given rise to first tier global suppliers. These evolutions have led to both vertical disintegration by

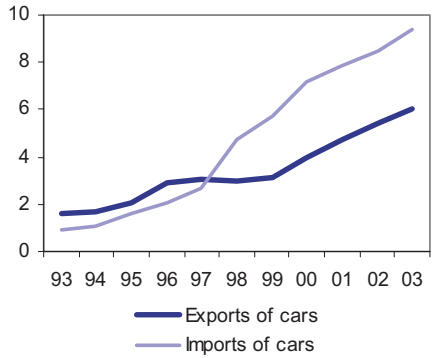
assemblers and vertical integration by suppliers that- in combination with globalisation- generates a new global supply-base capable of supporting the activities of final assemblers on a worldwide basis.

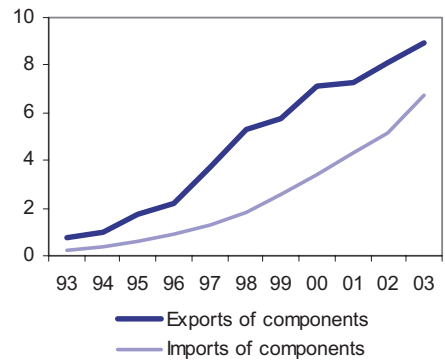
As a result of these evolutions, carmakers initially considered NMS as new markets, but progressively followed "build-where-you-sell" strategy. The small size of the NMS markets led them to gradually use these countries as a production location to serve all European markets. This led to a stream of investment in Greenfield sites and purchase of local operations in CEE countries. By 2004, local production reached 1.3 million cars a year and new investments in Poland, Czech Republic, Slovakia, Slovenia and Hungary will increase production capacity to 3.5 million by 2014 (Heymann 2004).[3]

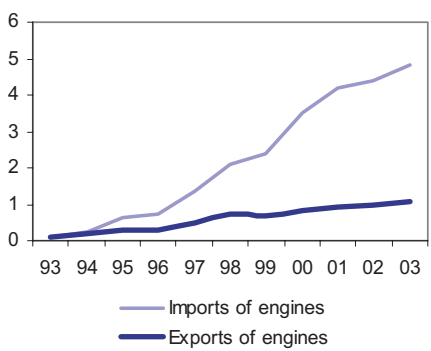
The integration of NMS into the European automotive industry has led to a new economic geography, with a fast expanding new manufacturing pole in central Europe. The low-cost corridor in Central Europe is one of the world's fastest-growing centres of car manufacturing, second only to China (Boston and Zammert 2005). The Central European pole concentrates on exports of a few products. It tends to compete with Spain in the segment of small cars and is strongly specialised in engines (Lefilleur and Lepape, 2005). As a result, the EU15 has a trade deficit in cars and engines with NMS, but a trade surplus in car components being exported for assembly to Central European countries (figure 4). The car industry thus illustrates the complex impact of vertical FDI on trade flows.

[3] Supply will thus exceed demand for some time. In the longer term, supply and demand in NMS could balance around 4 million vehicles (Lepape 2005b).

Figure 4. EU15 trade with NMS in the automobile industry, $ bn







Source: Sachwald (2005)

The types of cars and components being produced reflect the dual motivation for investing in NMS: low costs and increasing local demand. Cost factors are strongly emphasised by commentators, but the potential for demand growth in catching-up countries has also been a major determinant of new investments. The cost and demand factors combine to explain that a number of production units in NMS are specialised in small cars and low cost cars.[4] Demand for cars in these countries focuses on the small and lower middle-class segments. Fiat has been using Poland to source its mini car and Renault sources the Logan from Romania. The new Greenfield site by PSA and Toyota in Kolin (Czech Republic) is also geared to making small cars. These cars correspond to the purchasing power of local customers. They also tend to be relatively labour intensive, as the labour content does not increase proportionately with the size and sophistication of cars. It seems thus logical to produce smaller models in low-wage countries. Several restructuring strategies of automotive MNCs underpin these changes in the wider Europe (box 1).

Box 1. Typology of the role of emerging markets in global strategies

1. Market entry: Companies enter new countries in order to expand consumer base using a similar production model in the foreign country to the one they operate at home.

2. Product specialisation: the entire production process (components to final assembly) is located in a single location or region, with different regions specialised in different products and trading finished goods.

3. Value chain disaggregation: different components of one product are manufactured in different locations and are assembled into the final product.

4. Value chain reengineering: after moving value chain steps to a new location, processes can be redesigned to capture further efficiencies/cost savings (e.g. capital/labour trade off).

5. New market creation: by capturing the full value of global activities firms can offer new products at significantly lower price and penetrate new market segments/geographies

Source: McKinsey (2003)

[4] One exception is the assembly of Audi TT Coupé in Hungary; 99% of the production is exported

During the early 1990s strategies were mainly of the market entry. Tariff jumping stimulated some FDI like Opel's investment in Poland. However, liberalisation of trade tariffs with the EU has removed this motivation for FDI. Realisation of the NMS as competitive production locations led to product specialisation strategies. Audi's engine factory in Gyor (Hungary) or Fiat's production of cars in Poland, which the carmakers use to supply the entire European market are examples of this type of restructuring. Value chain disaggregation and reengineering are currently the most common in the NMS automotive industry. However, the greatest value creation potential may be realised by new market creation type of restructuring. Such restructuring has been fully implemented in the case of Škoda VW. Also, the Logan model of Renault Dacia has been designed to generate such potential (Verdonck 2005) and is already in great demand.[5]

In summary, carmakers have been using NMS for market access, cost and rationalisation of their value chains, but also new market creation. Value creation has been taking place and enlargement has increased the competitiveness of the European auto industry, but progress is still necessary as global competition is tightening. In this perspective, lower costs and higher flexibility in work organisation appear as strong assets for NMS production sites. Especially as some of the plants are recent and use up to date technologies and organisation principles. The new PSA-Toyota plant in Kolin, which has an annual capacity of 300,000 cars, has benefited from best practice transfers from Toyota's French plant in Valenciennes (Bocquet 2005). "When it reaches full capacity, Kolin will be Toyota's most efficient factory in the world" according to Shinichi Sasaki, president and CEO of Toyota Motor Europe[6]. Another illustration is VW's Bratislava plant, which has recently won the bid to produce Audi's new Q7 SUV, beating out VW's west European plants (Boston and Zammert 2005).

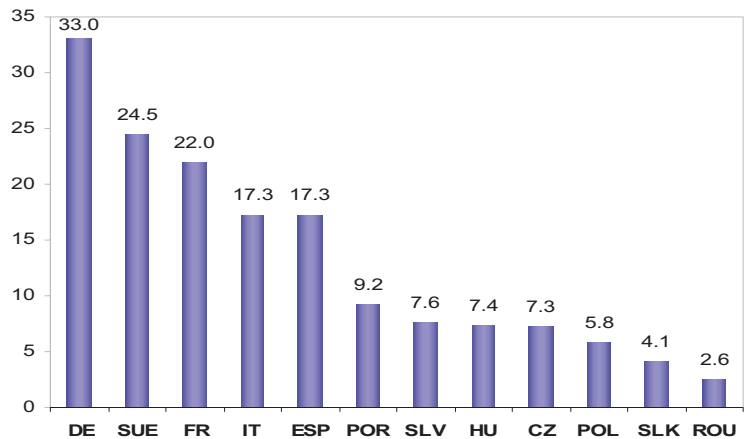
Relocation and outsourcing are important means for EU15 carmakers and supplier to remain competitive. The integration of Central Europe into the wider European production network should be welcomed. However, as pointed by Nunnenkamp (2004), the

[5] Including in France where the Logan is sold in a more equipped and more expensive version than in NMS

[6] Quoted in Boston and Zammert (2005).

benefits to be derived from relocation and outsourcing are not equally distributed within the industry: 'for low skilled production workers, the competition from Central Europe has intensified pressure on relative wages and impaired employment opportunities'. Increasing production capacity will tend to deepen this problem and is likely to lead to continuing wage restraints and longer working hours. NMS experience wage inflation, but wage differentials between Western and Central Europe remain quite large in the car industry (figure 5).

Figure 5. Labour costs in the automotive industry (Euro/hour, end of 2004)



Source: Lepape (2005a*)*

In view of competitive pressures from Japanese and Korean producers, as well as the possible emergence of China as an automotive exporter, European carmakers will have to continue with value chain disaggregation and reengineering, with product specialisation and with creation of new markets based on heterogeneous production capabilities within Europe. As pointed by Nunnenkamp (2004) wage restraint will provide only part of the solution for low skilled workers in EU15, but also, in a long term, for the NMS as well. Hence, the only long-term solution will be improvement in the level of qualification and training.

Impact of enlargement in the New Member States

The NMS automotive industry is highly concentrated on central Europe (the Czech Republic, Slovakia, Hungary, Slovenia, Poland) with great potential benefits in terms of clustering of supplier networks. Integration of this emerging cluster into EU wide industry networks is well under way and has enhanced competitive position of the EU automotive industry.

Productivity is significantly higher in the assembly sector when compared to suppliers. For example, in Hungary assembly is 3 times more productive, and in Poland 1.8 times (Radosevic and Rozeik 2004). Although lower productivity of component suppliers could be attributed to lower capital intensity of this sector,[7] case study evidence suggest that it may be also partly due to weak competencies of local suppliers. It seems that the NMS component industry is not yet able to satisfy world standards. Indigenous suppliers are considered of lower technological ability and quality (Pavlínek 2002). However, the increasing location of West European and American suppliers in the region is likely to lead to improvements in the technological level. Practically all-major component firms have established subsidiaries in NMS by taking over local companies or more commonly through Greenfield investments. This is usually because they are requested to follow their clients' strategic moves. But on the other hand, increased reliance on modular systems and shared platforms enables carmakers to source from a larger number of countries than before, thus reducing their incentives to source locally (Sturgeon and Florida 1999).

Carmakers and first tier component suppliers are key agents of building a local supply base in NMS through their linkages with local suppliers. Hence, from an industrial restructuring perspective it is important to understand what the drivers and obstacles are in spreading the local supply base, but systematic evidence on local suppliers is not widely available. It seems however that high productivity improvements in car plants have not yet been accompanied by the spread of a local supply base. The arrival of first tier suppliers will deepen automotive clusters and ensure local

[7] Labour makes up a higher share of costs for suppliers (20 to 40% as opposed to 10 to 15% for carmakers), Boston and Zammert (2005).

content with important effects on technology transfer and employment. Increasing employment in the supplier sector suggests that this process is underway.

B. Relocation and upgrading in ICT industries

Since the 1980s, ICT has rapidly globalised as an increasing number of countries has been involved in ever more complex value chains. Outsourcing of production by American producers in particular has led to the relocation of activities to a number of emerging economies.[8] In the 1990s, production has spread to yet other locations through relocation by American, Japanese and European firms. Some activities have also been shifted from emerging countries such as Mexico to lower cost locations. As a result the production of ICT, which belongs to high tech industries, is now widely spread among emerging countries in Asia (China, Singapore...), Latin America (Mexico, Brazil) and Europe (Hungary, Czech Republic, Estonia, Poland). The recent emergence of China as a major producer should be seen within this wider historical context.

In 2002, China, Japan and the United States were the main exporters of ICT. China has become a major exporter of automatic data processing equipment, with a share of world exports increasing from 2 to 15% between 1992 and 2002.[9] The share of some European countries has also increased remarkably since the 1990s. Among EU countries, it is the case of Ireland, and especially Finland. It is also the case of a number of NMS, especially Hungary.

ICT is one important sector in European industry, but with wide differences in the degree of specialisation between countries. Ireland, Finland and to a lesser extent Hungary have been increasing their specialisation in ICT. Different European countries are specialised in different ICT products. Telecommunication equipment is the main sector for most European countries, but is

[8] See for example Kenney and Florida (2004)

[9] Data on trade in ICT are drawn from Sachwald (2004), based on UNCTAD trade data base

particularly important in Finland and Austria. The share of computing is highest for Ireland, Hungary and the Netherlands. Instruments remain a strong sector, especially in Germany and the Netherlands. These profiles are reflected in trade performance. Overall, telecommunication equipment is a strong sector for European countries. Between 1992 and 2002, EU15 market share has grown from 31 to 41% of world exports and that of accession countries has grown from less than 1% to nearly 4%. European performance is much weaker in all the other ICT sectors.

Global competition and production location in ICT industries

Several features of the structural change in electronics have been favourable to the expansion of ICT in NMS.

First, there is a long-term trend in electronics of moving from a highly localised to a highly globalised production pattern and a rationalised network of facilities. An example is Philips consumer electronics, which has gone from more than 100 factories twenty years ago, to 12 main production sites today (of which two are in Hungary). Each of these factories produces larger volumes, which increases productivity.

Second, manufacturing has become increasingly decoupled from product development and the various activities are being dispersed across firms and countries.[10] The rise of electronics manufacturing services is a clear indication of this trend. However, location of production has also become heavily concentrated in a few specialised local clusters. For example, around two-thirds of computers sold in Europe in the 1990s were assembled in Ireland and Scotland. Ireland also accounted for over 40 % of all packaged software and 60 % of all business software sold in Europe (Barry and Curran 2005).

Third, in order to resolve the paradox between increased dispersion and concentration, companies are focused on reducing costs of the integral supply chain through outsourcing, relocation to low cost sites, reduction in the number of suppliers, common

[10] See Ernst (2000), Kenney and Florida (2004)

standards to improve flexibility and a global product range. This has led to large-scale relocations. For example, over the period 1995 to 2000 there was a loss of 34,000 European jobs in the sector, with Ireland, Scotland and Hungary gaining against the trend. By the end of the period Ireland and Scotland had around 20,000 each in the segment and Hungary had around half of the 20,000 NMS' jobs in the sector (Barry and Curran 2005). In addition, the most labour intensive production processes (Flextronics, IBM, Philips, TDK) have been relocated from central Europe to China and to low-wage eastern European countries (especially Romania and Ukraine).

Fourth, competitive pressures are forcing electronics companies not only to move production from expensive to cheaper areas, but also to locate close to the main markets to increase market responsiveness. These drivers generate the need for flexible-manufacturing structures, which requires common standards, which are in turn a great incentive to transfer process technologies in order to attain these standards. Hence, NMS are well placed to acquire production capabilities given their skill levels.

Hungary and recently Czech Republic have managed to make full use of these opportunities. Several factors have contributed to Hungary becoming one of the major European locations in electronics. First, Hungary has been open to FDI both through FDI incentives and through privatisation. Second, until EU membership, its regulation on free trade zones has been favourable for establishing export-oriented scale-intensive assembling operations. Third, availability of semi-skilled and skilled but relatively cheap workforce, which has been made available through privatisation and bankruptcy of state owned firms, has attracted FDI. Fourth, its geographic proximity to the biggest EU markets has enhanced its competitive advantages through moderate logistic costs. In addition, its accumulated experience with a few large ex-socialist electronics firms (Tungsram, Videoton) has enabled it to kick-start the process. Finally, local governments in Hungary and Poland played an important role in working jointly with foreign investors on establishing industrial parks and new capacities. In Hungary, and after 1996 in the Czech Republic, the government also played an important role in attracting FDI to electronics.

Relocation to the East and upgrading in the West

Relocations in electronics are driven by differences in wages but they are also inextricably linked to opportunities to upgrade once the cost structure becomes untenable. The movement up the value chain within the hardware sector involves a shift of innovation from computers to electronic components. The ability to organise an efficient and responsive global value chain to answer consumer needs also plays an increasing role in competition (Curry and Kenney 2004). Within the last decade computer value chains have been shifting to global scale, but final assembly has remained close to markets, moving from the United States to Mexico, from Singapore to lower costs locations in East Asia (Thailand, Malaysia, China) and from Ireland and Scotland to central Europe. Within central and Eastern Europe, there are emerging signs of relocations moving further east (Romania, Ukraine).

As computer assembly jobs have been shifting overseas, many of the computer firms have remained and upgraded in Ireland. Relocations from Ireland have forced companies to concentrate on relatively high value added non-manufacturing functions such as sales and technical support for call centres and logistic. Ireland has also attracted advanced manufacturing facilities as in the case of Intel. Finally, new jobs in the component segment tend to be better paid (Barry and Curran 2005). However, the same pressures have not led to upgrading in Scotland whose R&D spending in electronics is one quarter of Irish's (ibid). This has revealed weaknesses in the UK supplier base and the need to move to more sophisticated segments. The large-scale manufacturing operations that have characterised the Scottish electronics industry for the last 20 years are no longer competitive, but Scotland is not ready in the short-to-medium term to move up the value chain and has to import labour to fill vacancies in information technology and software companies.

In summary, company responses to structural changes in ICT have been operating in favour of NMS as an emerging location. Despite examples of relocation to East Asia, NMS retain their advantages in terms of skills, proximity and flexibility. This is confirmed by recovery of production after the 2001 crisis. In addition, trends like decoupling of manufacturing and design need

for both concentration and proximity, pressure to reduce costs converge to increase the attractiveness of NMS. For example, even the EU15 companies, which have been traditionally vertically integrated, have moved rapidly to the region pursuing outsourcing and low cost strategies. For some products or components, NMS are nevertheless not able to produce at low enough costs. Rising costs, including unit labour cost, in some NMS[11] are forcing the shift of simple assembly jobs to China. Also, some cases suggest that we may expect relocation further east to Ukraine and Romania. For example, Flextronics is subcontracting some production in Ukraine, where labour costs are less than one-quarter that of Hungary's. For contract manufacturers such as Flextronics, the search for greater efficiency will not stop at the Hungarian border and it will be only a matter of time before we see further expansion of electronic assembly to Ukraine and its increase in Romania.

Integration into global value chains and local value added

Expansion of the existing facilities in NMS electronic manufacturing has involved extensive upgrading of production capabilities. However, cases of functional upgrading or moving from manufacturing to engineering within the same firm seem rare. Examples of foreign controlled R&D, software and design centres in electronics are concentrated in telecommunications. This, together with the strong product specialisation of foreign plants, suggests that the mastery of technology has been confined to process improvement (Radosevic 2002, 2004).

In the medium-term we may see the emergence of regional architecture in electronics characterised by the inclusion of a few more countries into the production networks (Ukraine, Romania) and possibly the tiering of countries with Hungary and the Czech Republic occupying higher positions. There is already a trend of positioning some companies in Hungary as European mandate plants. For example, Philips, Nokia and Samsung have established European mandate facilities in specific production lines (Radosevic 2002, 2004). However, this scenario implies an upgrading of the

[11] For recent data, see DGTPE (2005)

Hungarian system of innovation as well as significant improvements in the system of education.

For the time being we can observe a limited value creation potential because national networks are underdeveloped. The Hungarian ICT industry is concentrated on few products that are all highly export-oriented. Among the top 10 export products 8 are electronic products, which account for almost 20% of Hungarian export (table 4). Strong export orientation results from the central role of multinationals in the Hungarian industry, especially in ICT. Multinationals are among the top Hungarian exporters. Major exporters such as Flextronics, Philips or IBM export nearly all their Hungarian production.

Table 4. Major products in Hungarian exports, in % of total exports

Product	Export share 2002	Export share 1992
Telecom appliances	7.8	0.1
Reciprocating piston engines	6.2	0.0
Cars	4.3	0.2
Input or output units	2.2	0.0
Parts for TV, radio	2.1	0.3
Storage units for computers	1.6	0.0
Television receivers	1.6	0.2
Video recording app.	1.5	0.1
Parts for automatic data processing machines	1.5	0.1
Electric conductors	1.3	0.4

Source: Sass (2005*)*

ICT manufacturing tends to generate relatively low value added in NMS. This is the case in Hungary, except for medical and optical instruments (table 5). Relatedly, R&D intensity of the NMS' electronics is below R&D intensity for manufacturing in general (Srholec 2006). These data suggest that the role of local production activities is focused on assembly and simple operations. Local suppliers and subcontractors tend to provide a limited set of components to foreign firms' subsidiaries. As a result, the potential for dynamic effects through either vertical or horizontal spillovers is limited. Estimates suggest that technology transfers and productivity increases have focused on multinational subsidiaries with little spillovers on suppliers (Damijan *et al*. 2003). The layer of

local firms in NMS' electronics is still very weak with limited capabilities in core technologies (Radosevic 2002, 2004).

Table 5. Distribution of value added in Hungarian manufacturing, 2002

		gross VA / gross output	share in manufacturing output	share in manufacturing export
33	Medical, optical and precision instruments	42.2	1.2	0.7
16	Tobacco	40.6	0.6	0.1
26	Non-metallic minerals	37.0	2.9	1.2
24	Chemical products	36.6	6.3	6.5
36	Furniture	32.7	1.4	0.8
28	Metal products	31.9	4.4	2.6
35	Transport equipment	31.5	0.7	0.4
31	Electrical machinery n.e.s	30.9	7.8	10.2
22	Publishing, printing	30.4	3.1	0.1
20	Wood and wood products	30.1	1.4	1.0
25	Rubber and plastic	29.4	3.7	3.2
29	Machinery n.e.s	28.5	5.6	5.6
23	Coke and petroleum	26.7	4.6	1.8
18	Clothing	26.1	2.4	1.9
37	Recycling	26.1	0.1	0.0
21	Paper and paper products	24.8	1.7	1.3
19	Leather	24.0	0.8	0.5
15	Food and beverages	22.9	14.2	5.3
17	Textiles	22.7	1.4	1.0
27	Basic metals	20.1	3.4	2.8
34	Motor vehicles	18.4	13.0	22.1
30	Office machinery	14.8	3.4	6.2
32	Communication equipment	11.1	16.0	24.7
	Manufacturing	**24.1**	**100.0**	**100.0**

Source: Sass (2005)

III- Conclusion and policy implications

Increased exchanges with EU countries through trade and investment have opened opportunities for new member states to upgrade their manufacturing capabilities and become more specialised in mid- to high-tech products.[12] Access to Western markets and FDI have thus contributed to the transition process and growth in Central and Eastern European countries. For the EU-15, increasing integration with accession countries has meant both exports to small but dynamic markets and imports as part of a process of regional vertical specialisation. Both trends can contribute to strengthen the EU15 economies, provided the latter do adapt to further specialise in high-tech products and services. Enlargement thus represents both an opportunity to speed up structural change and an additional pressure to do so. The paper has emphasised the fact that enlargement occurs in a context where global competitive pressures from emerging countries are gathering pace and call for structural evolutions of the European economies. From this global economic perspective, EU enlargement is not a major event. This latest wave of enlargement may actually correspond to the end of the focus of the EU on integration itself as a strategy in which increasing economies of scale in sectors of mass production played a major role in improving economic performance[13]. Increased market size resulting from the latest wave of enlargement has stimulated vertical specialisation along value chains and integration of NMS' facilities into European networks, but increasing performance requires restructuring in a number of sectors. Enlargement thus appears as a factor of acceleration of change in a global context of change, which explains the increasingly complex political economy of European economic integration.

[12] The convergence process is focused on manufacturing. Overall structural convergence with the EU is slow as the share of agriculture in value added remains higher and the share of services remains lower (ECB 2005)

[13] The Single market has been both the last step in the economies of scale driven integration and the beginning of the era of integration cum structural change (Sachwald 1997).

The current perceptions of 'unfair' competition from the new member states tend to mask the true causes of increasing competitive pressures. Tax competition has often been cited as an example of 'unfair' competition, in particular by increasing the attractiveness of the NMS. However, research on this issue reveals little ground for strong conclusions of this type. Until the beginning of the 2000s, higher taxes have tended to discourage inward foreign direct investment, but it seems that the 'new' and 'old' member states were not competing for same type of investment.[14] This may be due in particular to the privatisation process, which attracted important investment flows in services.[15] Such analyses are not yet available for the post-enlargement period, during which industrial sectors have attracted a larger share of foreign investment in NMS. Besides, as we saw in two sector studies, cost attractiveness seems to play a relatively larger role in comparison with market attraction, which was a more prominent motivation during the 1990s.

The diagnosis is similar with respect to wage competition and relocation of manufacturing facilities in NMS.[16] Studies based on data up to the beginning of the 2000s generally conclude that the impact of relocation to low cost countries has been a minor cause of unemployment in Western Europe.[17] Based on recent events and the apparent multiplication of relocation cases in both industry and services, some analysts nevertheless suggest that competition from low-cost countries could have an increasing impact on the labour market in EU countries.[18] Besides, the public opinion is also struck by the combination of persistently high unemployment, concrete examples of industrial sites being closed and new sites being

[14] During the conference, Amina Lahrèche-Revil (2005) presented the results of her research on tax competition at CEPII (www.cepii.fr).

[15] Mikerova (2004) suggests that market growth potential, lower costs and proximity to markets and customers have been the main drivers of FDI in services in NMS.

[16] Studies analyse relocation to emerging countries in general and few focus on NMS; see Riess and Uppenberg (2004), Konings (2004). For France, Aubert and Sillard (2005); for Germany, Marin (2004), Deutsche Bundesbank (2004), Brück *et al.* (2004); for Belgium, Van Den Cruyce and Courcelle (1998).

[17] This conclusion has been emphasized during the conference by Reinhilde Veugelers.

[18] Recent reports in France have suggested such an acceleration of relocation (Fontagné and Lorenzi 2004, Grignon 2004), but statistical data is not yet available for a complete diagnosis

opened in NMS. In Germany and France, this gloomy atmosphere has been further deteriorated by pressure from some companies, which have been arguing that they will relocate to NMS or emerging economies unless they can increase working hours and flexibility in order to reduce unit labour costs. This has been accompanied by migration restrictions from East to West, which have been facilitated by a lack of co-ordination at the EU level (Boeri and Brucker 2005).

Some 'old' member states may feel as though they are in a 'nutcracker', positioned between high tech America and low cost global locations, including new member states. New member states also feel squeezed in between 'old' member states and low cost locations like China and India. Both have difficulties to generate sufficient value added given their cost and technology competitiveness. The perception that there are races to the bottom within Europe may trigger structural beggar-my-neighbour policies. This would be particularly counter productive as a race to the bottom in some spheres (e.g. tax competition) would not be compatible with a race to the top in areas such as public expenditure on infrastructure or research. New members should resist the temptation to reduce taxes only to attract FDI and risk running unsustainable public deficits. Besides, they would exacerbate the competition to attract FDI among themselves rather than with Western EU members. For EU economies, the objective should be to work at stimulating structural change, so that the perception of a race to the bottom is dissipated.

If European countries engage more clearly on an innovation-based growth path, they will generate more jobs in new activities and will feel less threatened by relocation to low cost countries. Such an ambition is quite challenging for public policies as it does not only require more public spending in education and research, but also institutional changes, ranging from national innovation systems to labour markets and competition in product markets.[19] In this perspective, enlargement should certainly not be seen as another opportunity to simply increase the EU economic area. Enlargement and its challenges should rather trigger reform of a number national features and an evolution of the role of the EU

[19] In the case of France the required evolutions and reforms have been discussed in a number of recent contributions, among which Cahuc and Zylberberg (2004), Camdessus (2004), Miotti and Sachwald (2004).

economic policies. The challenges of enlargement should thus not be seen in isolation from the Lisbon strategy, as the major problem is that of stimulating industry restructuring in the EU.

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Appendix. Program of the conference

Enlargement and Globalisation: Location and Competitiveness of firms in Europe

17 June, 2005, European Economic and Social Committee, Brussels

9:50 Opening remarks: Josly Piette, Member of the Bureau of the EESC and President of the Consultative Commission on Industrial Change

Introduction: Pierre Lepetit, Executive Director, Ifri

10:00-11:30 IMPACT OF ENLARGEMENT ON THE LOCATION OF FIRMS IN EUROPE

Chair: Pierre Mirel, Director for Turkey and Croatia, European Commission DG Enlargement

Impact of Enlargement on Firms' Strategies and the Location of Production in Europe, Frédérique Sachwald, Head of Economic Studies, Ifri, Paris

Global networks of production and location in Europe, Vincent Mercier, Managing Partner Roland Berger Strategy Consultants

Discussion: Waltraut Urban, Vienna Institute for International Economic Studies (WIIW)

11:45-13:10 EUROPEAN DIVISION OF LABOUR AND THE COMPETITIVENESS OF THE AUTOMOBILE INDUSTRY

Introduction and Chair: Slavo Radosevic, University College London

Enlargement and the "European Motor Industry", Yann Lepape, Regional Economist, EU Enlargement, French Ministry of Economics in Warsaw

Discussion: Jacques Verdonck, VP Strategic Planning Renault; Reinhold Kopp, Group Senior VP Volkswagen

14:40-16:10 ICT: THE EU-25 IN THE GLOBAL PRODUCTION NETWORKS

Introduction and Chair: Michel Martinez, Rexecode, Paris

The European Geography of the ICT Sector, Frank Barry, University College, Dublin

ICT in Hungary: Evolution since the 1990s, Magdolna Sass, Institute of Economics, Hungarian Academy of Sciences, Budapest

Discussion: Serge Ferré, Vice-President, Nokia France; Slavo Radosevic, UCL

16:10-17:30 EUROPEAN GEOGRAPHY OF PRODUCTION AND PUBLIC POLICIES

Chair: Pierre Defraigne, Director of Eur-Ifri

Fiscal competition in Europe, Amina Lahrèche-Revil, CEPII, Paris

Enlargement, competitiveness and the Lisbon strategy, Reinhilde Veugelers, Catholic University of Louvain (KUL)

The revised Lisbon strategy : contributing to a strong European industrial base, Mathias Ruete, Director, Competitiveness Coordination, European Commission DG Enterprise

17:30-17:45 CONCLUSION

Nicolas Théry, Advisor to the DG, European Commission DG Enterprise

Presentations are available on IFRI's website (www.ifri.org)

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Dr. Frédérique Sachwald's recent publications include:

In English, *Growth in France between 1950 and 2030: The challenge of innovation*, IFRI, 2004 (with Luis Miotti, online at www.ifri.org); *The Integration of China and East European Countries in Global Networks*, (Les Etudes de l'ifri n°2, 2004, online

at www.ifri.org); "Co-operative R&D: Why and with whom?" (with Luis Miotti, *Research Policy*, 2003).

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