Chapter 6

Outcomes of Reforms: Growth

Aims of the Chapter:

- To understand growth trajectories in the early years of transition, with special reference to speed of implementation, complementarities and political support
- To re-examine the notion of transition as institutional change
- To discuss stages and the end of transition

Chapters 3, 4 and 5 have introduced the different elements of reforms (stabilisation, liberalisation, privatisation, or – more generally – first and second-stage institutional reforms), and emphasised the technical and political issues associated with their implementation. With Chapter 3, we have established that progress in reforms was easier for small scale privatisation and liberalisation (first-stage), than for the more complex reforms associated with large scale privatisation or competition policies for example (second-stage). Chapter 4 illustrated how reforms could potentially be blocked at every stage by concentrated special interests and that large popular support, freedom of information, and democratic institutions could contribute to greater progress in reforms. Chapter 5 finally put a greater emphasis on stabilisation explaining why macroeconomic stability is often seen as essential to growth and economic recovery and explaining how transition economies were exposed to a variety of de-stabilisation forces that strengthened the need for sound macroeconomic policies.

Building on that, in this chapter, we will now investigate one of the key outcomes of reforms: growth.

1. Transition and Growth: Introducing the Key Issues

To understand growth in transition, a central issue is our understanding of the transitional recession. Indeed, the early experience of transition was characterised by a slump in output in most countries across the region. This central stylised fact of transition has attracted a lot of interest, but remain a sensitive issue. In fact, even if economists seems to have reached a broad consensus now on the lessons to be learned from this experience, a detailed analysis of this painful episode may still help in identifying these lessons in a sharper way. We will therefore begin here by discussing what is special about the early years of transition, and the pitfalls that exist in providing a measured and objective account of this episode. We will discuss three specific issues in turns:

- First, the early years of transition were characterised by a recession, which is poorly explained using the framework generally employed to explain long term growth: a different conceptual model is needed.
- Second, identifying the role played by different factors explaining this recession has proved difficult due to the small sample considered, the large number of possible explanatory variables and their interplay. Variables choice, measurement and estimation strategies will need to be discussed here.
- Third, the absence of a credible counter-factual to compare the actual situation makes it difficult to appropriately frame the results estimated and to convincingly show the conclusions.

1.1. In Search of a Conceptual Framework

Long Term Growth versus the Early Experience of Transition

Let us start first by exploring the first point: that long term growth models cannot be applied to the early transition period. The literature on economic growth tend to focus on a limited number of drivers. Factors accumulation and factors quality, as well as technological change, are the key proximate drivers of growth, while deeper causes of growth are sought in geography and institutions (in a broad sense – i.e. including culture, political system, economic governance and policies).

Typical models focusing on factors accumulation would include Barro (1991), where the key drivers of growth are seen to be both the educational achievements of the population and government consumption (with positive and negative impacts respectively), and Levine and Renelt (1992) where population growth is added and a broader measure of investment replaces government consumption. Critically applying them to transition countries using data from 1990 to 1998, Campos (2001) demonstrated that these models were inappropriate, calling for different models to be used to better conceptualise the peculiar event that was the transitional recession.

In the same spirit, we offer here a complementary test, as we propose to assess how effective a long-term model focusing on institutions and geography can be in understanding long-term growth in transition. Table 6.1 below presents the results of simple regressions explaining growth over a given period in terms of historical legacies and geographical factors (captured through a set of dummies for belonging to specific empires at the time of the Treaty of Vienna in 1815, and distance to Brussels), the impact of disruption caused by conflicts (war), and – last but not least – the early introduction of liberalisation and stabilisation (captured through a dummy

taking a value of one if both liberalisation and stabilisation had been implemented on or before 1993) following the collapse of central planning.

[Table 6.1. Long Term Growth versus Initial Experience of Transition]

Focusing on long-term growth first, we can look at the models of the two last columns of Table 6.1, as they show the results of two regressions explaining growth from the early stages of transition (1990 or 1992, the latter allowing to have two more countries in our sample for which data pre-1992 is otherwise missing: Slovakia and Hungary) to 2015. The overall fit of these two models is not great, with the R-squared for the period 1992-2015 being especially low (i.e. 9.6% of variation explained by the model only), but more importantly nothing appears significant, except for being natural resource rich which turns out weakly significant and positive in the 1990-2015 model only.

However, re-estimating for a shorter period, namely 1990-1997 (and again 1992-1997 to gain two more observations), we can see that we improve the fit of our models quite significantly. Early implementation of both liberalisation and stabilisation is strongly positive and significant, demonstrating the importance of fast reforms in the medium-run, wars are also significant and negatively associated with growth over the period, as expected. Initial conditions overall do not appear significant, but their inclusion in the models does improve the overall fit. We can also note that while natural resources are (weakly) positively associated with growth in the longer run), they have no impact on growth in the first decade of transition, showing that the processes at play differ in the short-run compared to the longer run. The result on resources should however be taken with caution. Given the collapse of energy

resources prices in the mid 2010s, it is unlikely the resource would still play a significant positive role if the time period could be extrapolated.

Models concerned with long-term economic growth thus may not be fully relevant to a situation like the transition from centrally planned to market economy, as the key feature of transition was that one needed to break away from a (failing) politico-economic model to build a new one. This transformative process was sometimes costly in the short-run, because it implies that previously accumulated factors suddenly become redundant or obsolete and it was a technical shift that was needed, where resources were allocated to sectors to respond to the new price structure, and some previously used technologies were abandoned while others were adopted – in fact in some cases more rudimentary techniques could be adopted in new sectors, reflecting the switch from supply-led (central planning) to demand-led economic restructuring. In such a context a different conceptual model is needed to explain growth[i].

A General Framework to Conceptualise Growth in Transition

Sachs, Zinnes and Eilat (2000) propose a schematic illustration based on the notion that growth in the early years of transition will depend on how much needs to be destroyed and rebuilt. It essentially emphasises that growth patterns will depends on two broad sets of variables:

1. First, they will depend on "initial conditions" which will include variables capturing geography and institutional quality (as in the standard long-term growth models) but also variables capturing the extent of distortions created by central planning (e.g. macroeconomic imbalance, excessive focus on heavy industry, etc.)

2. Second, they will depend on the reforms implemented to help restructuring, in other words stabilisation, liberalisation and privatisation, or the first and second stage institutional reforms as discussed in Chapter 3.

To go beyond this schematic model, we need to explore the theoretical explanations that were brought forward to make sense of the, sometimes important, decrease in GDP observed in the early 1990s. We will present these in the next section, before exploring how initial conditions can be measured.

Explaining the Transitional Recession: some Theoretical Lines

As the command economy systems were failing, dismantling them was an obvious recommendation (see Chapter 2). Greater economic freedom led to stronger incentives and better use of dispersed knowledge by economic actors. This, in turn, was associated with better performance. So why a "transitional recession"?

Before exploring theoretical lines which can explain why the onset of transition was associated with a period of recession, we need to review first two factors that were introduced earlier in the book. Namely:

1. The transition countries were at high risk of inflation due to inherited macroeconomic imbalances.
2. The trade collapsed in the early years of transition.

We have already discussed the relationship between inflation and growth in Chapter 5. There, we explained why post-communist economies were at a heightened risk of inflation in the early years of transition and we also illustrated how the stabilisation programmes that were implemented had positive growth effects. We noted that some specific types of stabilisation programmes may have had a temporary

negative impact on GDP growth, for instance when the programme aimed at fast disinflation combined with fixed exchange rate (Christoffersen and Doyle 2000). But overall, macroeconomic stability was an important driver of growth in transition, in the same way it is elsewhere. Transition only increased the risk of inflation in line with the level of inherited macro-imbalances.

Secondly, there was a real foreign trade shock, associated with the disappearance of trade structures coordinated by the Soviet Council of Mutual Economic Assistance (CMEA) and the disruption of intra-Soviet trade within the FSU (15 out of the 30 transition countries were Soviet republics in 1989). This was already discussed in chapter 1, as "trade collapsed" was the fourth "stylised fact" of transition we described there. This major trade disruption had an important negative effect on growth and therefore explains part of the total output collapse (Christoffersen and Doyle, 2000). It is worth noting that this negative effect of trade disruption was felt as much by reforming and non-reforming countries - it was sufficient that the neighbouring countries (and especially big neighbours like Russia) experience economic problems. This negative effect was progressively overcome, thanks to greater trade openness which was associated with better trade and output performance, as exemplified by Estonia and several other CE countries. The problem was rather when old coordinating mechanisms were not replaced by international market arrangements but instead by a new set of barriers and inefficient exchange rate mechanisms, in particular in the FSU countries (see Gros and Steinherr, 2004).

Beyond these two contributing factors, yet still related to those, two broad theoretical lines have been suggested to explain the 'transitional' recessions:

1. Shocks in relative prices,
2. Disorganisation.

We will discuss both in turn, but we shall note first that they should be seen as complementary rather than competing framework.

Shocks in Relative Prices

Shocks in relative prices are typically exemplified by two channels:

1. The first relates to the elimination of the 'soft' budget constraint, i.e. introducing 'hard' credits and the reduction/elimination of budgetary subsidies to enterprises (see previous chapter), which results in a different set of producer prices (Blanchard 1997).
2. The second relates to the effect of price liberalisation: the shift of prices of energy (and energy-intensive products) towards world prices (even if energy prices were not liberalised fully, prices were at least partially adjusted upwards) (McKinnon 1993).

Then, there are two possible mechanisms linking a change in producer prices with recession:

1. The first mechanism focuses on the role of financial markets. Indeed, financial market imperfections may imply that firms with good projects have no resources to expand quickly, while firms with bad projects are immediately hit and reduce output. Recession follows (Calvo and Coricelli 1992).
2. The second mechanism emphasises the importance of wage rigidity. In this framework, firms hit by price shocks are assumed to be unable to adjust their labour costs downwards. A reduction in both employment and production follows (Blanchard, 1997).

Both mechanisms could also be at play simultaneously, but let's explore them further and in turns. In Blanchard's (1997) version, the theoretical model (under the name of 'reallocation') relies on labour market mechanisms, not on financial sector imperfections. It makes a distinction between those firms which lost out from the shift in relative prices, and those which gained. In the first category we find firms that were subsidised under the old system, in the second those which had to pay the cost of it in terms of higher taxes. The losers (the 'old' sector) may be identified with the state sector, and the winners with the new private sector or with firms restructured after privatisation (the 'new' sector). Alternative categorisations are possible: the 'old-sector' label may be attributed to firms controlled by insiders (both 'old' state and privatised to insiders) and the 'new sector' label to firms where either outsiders or owners-managers (entrepreneurs in the case of small firms) are in control. The key economic distinction relates to the fact that the 'new' sector is more productive – in Blanchard's model, the quality of goods produced is higher. In contrast, the old equilibrium, where firms producing lower quality goods could carry on unhindered was supported by fiscal distortions (subsidies and taxes) and resulting price distortions. Elimination of fiscal intervention makes the prices of the goods produced by both sectors equal, and the consumer demand shifts towards the 'new' sector due to the positive quality differential. If wages in the 'old' sector adjust downwards, there are no negative effects on employment and production, otherwise the transition leads to an initial increase in unemployment and a slump in production.

In Calvo and Coricelli's version (1992, 1993) companies face a shift in costs resulting either from the removal of subsidies or the higher prices of energy-related products. 'Bad' firms (those for which command economy distortions were

favourable) are hit immediately and reduce production while good firms cannot adjust quickly, as they face credit constraints (and investment processes take time). A recession follows. Over time, firms can accumulate monetary balances and converge to the optimal level of output that would have been reached in the presence of perfect credit markets. Accordingly, the implied behaviour of output would follow a U-shaped pattern. An implication of this view is that output decline should be accompanied by a decline in productivity. Moreover, real wages would drop as well, as enterprises attempt to generate liquidity to purchase inputs (Campos and Coricelli 2002: page 820).

There is thus a direct link between credit market and labour market explanations, as from the finance perspective, lower wages can be seen as substituting for external credit. However, Blanchard's model imposes stronger labour market rigidity assumptions than Calvo and Coricelli's model. In the latter, not only wages can adjust downwards, but in fact this is to be expected along the lines quoted above: the credit constraint implies that it is in the interest not only of producers of 'bad' products, but also of 'good' producers to cut wages temporarily. However, wages can neither go down to zero nor become negative (so that firms could borrow from their employees). Workers are restricted by their access to credit and by their risk preference, and have some non-negative reservation wage. There are thus limits as to how far the internal finance can be generated by a drop in real wages. That explains why firms producing 'good' products cannot accumulate the financial resources quickly enough to expand production. However, the recession also results from the fact that wages in firms producing 'bad' products cannot cut wages deeply enough to match the impact of the slump in product prices, and the latter effect is parallel to Blanchard's model.

In hindsight, it seems that the role of credit constraint may have been more critical for the transitional recession, as in practice wages showed some flexibility downward. For the purpose of our investigation of the drivers of the transitional recession, it is worth noting however that both mechanisms would predict that partial reforms should lead to worse outcomes than full reforms. It is also worth noting that the magnitude of GDP contraction should be correlated with the level of initial distortion in the country, and therefore: the need for reform, their scope, and initial conditions are inter-related.

Disorganisation

The second model (disorganisation) has been presented by Blanchard and Kremer (1997) and Blanchard (1997) in two related versions, describing either a representative production chain or a representative firm facing a number of suppliers. In both cases, before liberalisation, coordination was imposed by the economic administration of the command economy system. Liberalisation leads to outside opportunities being open to all parties involved (domestically or abroad). The possible inefficiency results from the fact that the suppliers and purchasers of intermediate products have to negotiate prices. Bargaining under informational asymmetries may lead to inefficient outcomes, where efficient links are broken, as the suppliers may chose alternative trade partners even if the real opportunity cost exceeds the benefit. The output fall is more likely in industries with a large number of rigid connections between producers of intermediate goods. This empirical prediction is confirmed by Blanchard and Kremer (1997).

The details of their model are as follows. A good is produced according to a Leontief technology (i.e. there is no substitution between factors) and requires ***n*** steps of production (or distribution). One unit of the primary good leads – after the ***n*** steps

– to one unit of the final good. Along the production process, intermediate goods have a value of zero. The price of the final good is normalized to one. With liberalisation, the supplier of the primary good has now an alternative use for the input; value of this option is equal to ***c***. Similarly, along the production chain, movement of the intermediate product is no longer decided by planning administration: the end of central planning leaves firms with ***n*** bargaining problems: there is bargaining at each step over price; we assume that this bargaining results in an equal division of the surplus from the match (a simplification, which is not essential for the results). Solution of this new coordination problem is obtained by working backward from the last stage. The value of the surplus in the last bargaining problem, to be shared between the final producer and the next-to-last intermediate producer, is equal to **1** (by assumption, the partly-processed good is useless before the final stage, so the value jumps from **0** to **1**). Without making any assumptions about a corresponding bargaining strength, we arrive at a simple Nash outcome, where the surplus is shared in equal proportion, which implies that the next-to-last intermediate producer receives **1/2**. Solving recursively along the production chain with ***n*** producers, the first intermediate producer receives **(1/2)n**. Thus, the surplus to be divided between the first intermediate producer and the supplier of the primary good is equal to **(1/2)n – c**. If **c<(1/2)n**, the surplus is positive and production takes place along the chain. If instead **c>(1/2)n**, the primary producer prefers to use the outside option. In this case, the decrease in total output resulting from the breakdown of the production chain may be as large as **1–(1/2)n** (this maximum fall is for **c=(1/2)n** when the first supplier breaks the production chain). Moreover, the more complex the structure of production (the higher ***n***), the smaller the private opportunities needed to trigger the collapse of the production chain.

Thus, the (temporary) collapse in output is due to the combination of two factors:

1. the improvement in outside opportunities, and
2. the loss of coercive power by the government.

The model is illustrated by Figure 6.1 below.

[Figure 6.1. Blanchard-Kremer Model]

To assess the model, we first examine the empirical evidence provided by these authors. Based on input-output tables for nine transition economies, Blanchard and Kremer construct an index of complexity of production structures and find that it correlates with recession, controlling for an appropriate set of other variables. However, the problem with the estimations provided by Blanchard and Kremer (1997) is that we are unable to distinguish between the effects of full liberalisation and those of some partial reforms. In fact, their sample (Albania, Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Macedonia, Moldova, Russia) relates to economies which were not in the group of 'fast reformers' at the time the data was collected. Indeed, Blanchard and Kremer (1997) note the difference between the group of countries in the dataset used for econometric estimations and the CE economies. They present additional OECD data showing that shortages of materials were no longer the major constraint for producers in Central Europe (the Czech Republic, Hungary, Poland) in contrast to economies such as Bulgaria, or Russia which still experienced serious problems.

However, their provisional explanation is that the differences between the two groups of countries result from initial conditions, not from differences in economic

policies and reforms. The two initial conditions they mention relate to the degree of centralisation in industrial structures and enterprises (and therefore more specialisation leading to the negative impact of disorganisation) and to the further distance to the main EU markets and volume of trade, which decrease a possibility to alleviate the problems of specificity (1997: 1122).

The first argument (centralisation) may be valid, the second (trade links) seems to be partly invalid, as will also be confirmed by the estimates reported in the next section: more open economies suffered more not less from recessions – initially, the negative effect of breaking the existing trade links was stronger than the positive effect of overcoming specificity.

Our own argument which would link the model to incomplete liberalisation is slightly different. Some prices along the production chain may be still controlled, while freedom of contract may be introduced early. That makes outside options more attractive – in other words, the disrupting effect of partial liberalisation of prices may be more serious than that of full liberalisation. For that reason, incomplete liberalisation may lead to the outcomes that a combination of selective price controls and new outside options (including in the 'underground' economy) leads to long-lasting disruption. A good example of that may be the situation which developed in the former Soviet Union area with under-priced energy coupled with inadequate control over the sale decisions of enterprises, including illegal exports (see Gros and Steinherr, 2004).

In general, it is likely that the disorganisation mechanism was one of the sources of post-communist recessions, but its serious negative effects apply to the case of partial liberalisations and incomplete transitions.

Summarising, we have discussed four explanatory lines for the observed transitional recession:

1. trade collapsed
2. there was greater macroeconomic instability, inflation peaks were observed and stabilisation programs were implemented, and moreover these were not necessary designed in optimum way
3. the return to market forces was accompanied by a differential price shock and an episode of intense restructuring, which was partly hindered by credit constraint and/or wage rigidity
4. the supply chains were *disorganised* and establishing new ones proved difficult, especially under partially reformed regimes.

All four lines are consistent with partial reforms leading to worth outcomes than full reforms, and fit with the notion of a short-term recession, followed by a recovery. They also emphasise the fact that this was a "transformational" recession, as it is often referred to, as the economic contraction was explained by a process of destruction of the old system to be replaced by something new.

2.2. Measurements and Specification Issues

Thus, if long-term growth models are inappropriate to understand the short-term growth patterns following the onset of transition and if we need to investigate the role of initial conditions and reforms instead, then a legitimate question is one of measurement and variable selection. Which variable should we focus on when

looking to explain the transitional or transformational recession, and how should these be measured.

Measuring "Initial Conditions"

We have already discussed how progress in reforms is effectively captured by measures of macroeconomic stability and the EBRD indicators in Chapter 3. We have however, not yet introduced the indicators that can be used to measure the extent of initial distortions, or the relevant dimensions that should be included under the label of "initial conditions". To do so, we will present the exercise carried out by the EBRD and included in the 1999 Transition Report to illustrate the importance of initial conditions. In the 1999 Transition Report, two indexes were generated through PCA (i.e. principal component analysis - a method we have already discussed briefly in Chapter 3) to capture the initial conditions and these where then used to discuss progress in reforms and performances in transition.

Here we focus first on the principal component analysis, which is presented on page 28 of the 1999 Transition Report. Building on an earlier effort by De Melo et al. (1997), the variables selected to capture the initial conditions across the transition regions can be classified into two groups:

1. A first set of variables describing the extent of distortions generated under central planning. These therefore include: share of employment in industry, agriculture and services relative to market economy benchmarks, value of trade with CMEA, a measure of repressed inflation, the black market exchange rate in 1989, the number of years under central planning, pre-transition growth rate or the initial private sector share in GDP

2. A second set of variables focusing on regional differences that existed prior to central planning or which reflect differences in geography. These include: GDP per capita in 1989 (PPP), wealth in natural resources, distance to the EU, share of population in urban settlements, state capacity.

In practices, these two sets of variables do not really fit so neatly in the categories suggested. Indeed, the first set of variables aims at capturing the distortions imposed by central planning, and for example the extent of integration within the CMEA differed widely between the countries of Eastern Europe and those of Central Asia, so could be confounded with other factors. The same relates to macroeconomic imbalances, which were more pronounced in some countries than others (as discussed in Chapter 5), etc. The second set of variables aims at capturing differences that existed independently of central planning. For example, some of Central Eastern Europe was highly developed prior to the Second World War, but at that time, some countries in Central Asia were just modernising away from their nomadic pasts. Some variables could potentially fall under both categories. For example the extent of urbanisation could capture the extent of development, or reflect the anti-agricultural bias of the planners. The level of CMEA integration can also be partly explained by geography as distances are one of the most common factors driving trade flaws (as commonly used “Gravity models” predict trade flows using distances), even under central planning. Holding natural resources can also have an impact on states ability to maintain positive external balances, as was probably indirectly reflected in our own regressions above. Overall all these variables can only be imperfectly classified as legacies from central planning or not. They were known to be correlated, thus the need to identify underlying factors through PCA.

With all the caveats, the data reduction technique led to the identification of two underlying factors capturing these initial conditions. The first factor includes GDP per capita in 1989 (PPP), distance to the EU, measures of employment sectoral distribution compared to benchmarks, macroeconomic imbalances and number of years under central planning. The EBRD describes it as a factor capturing legacies that predates the socialist period and distortions generated by central planning. The second factor includes the level of urbanisation, the share of employment in agriculture relative to market economy benchmarks, value of trade with CMEA and initial private sector share in GDP.

Therefore, this confirms that indeed initial conditions are highly correlated (and thus cannot be entered all simultaneously in a regression), and it also shows that while sufficient variations in initial conditions existed to discriminate among countries, even if as noted in the EBRD report, the differences are not very pronounced.

Let's look now at how these initial conditions correlate with progress in reforms and performance:

- a correlation of 0.5652 is found between the first factor extracted by PCA as explained above and the speed of liberalisation (measured as the number of year where the internal liberalisation transition indicator has been over 3 and the external liberalisation indicator has been over 4 between the beginning of transition and 1999, divided by the number of years in transition up to 1999)
- a correlation of 0.4552 is also recorded with the cumulative decline in GDP during the transition recession.

Initial conditions therefore seems to be important for our understanding of progress in reforms and transition performances. But by presenting how initial

conditions are measured, we are also highlighting some of the issues associated with their selection and measurement.

First, initial conditions are a mixture of central planning legacies and other inherited factors that may not have had much to do with central planning but which describe initial conditions all the same, and are strongly correlated to central planning legacies. In other words, it is virtually impossible to construct a measure of purely central-planning-made initial conditions. However, while for example a longer experience of communism may make it more difficult for a country to reform (as they have a greater job to do and less template or foundations to build on) and should mean greater distortions, once reforms are actually implemented, initial backwardness should lead to higher growth, as these countries have more scope for leapfrogging and should experience faster growth in a context of economic convergence. More generally, initial conditions may have different links to growth at different stages of transition and clearly correlate with each other; this generally implies that the selection of variables to use as controls and the choice of investigation periods are likely to have an impact on the identified drivers of growth.

Second initial conditions are correlated with progress in reforms creating further identification issues. As fast reformers had on average better initial conditions than slow reformers, cross-country comparisons may over-estimate the positive role of reforms in the short- to medium-run and under-estimate it later on, as fast reformers also benefit in the short-run of their more favourable initial conditions, but catching-up by laggards later on will bring down these gains.

Overall this calls for a careful selection of variables, a preference for within country estimations over cross-country analysis, and the need to interpret results

cautiously. This can be highlighted further with a quick overview of the literature on growth in the early stages in transition, focusing on three key papers.

(De-)Growth in Transition: the First Decade

One of the most frequently cited paper on growth in transition was written by Falcetti et al. (2002) and it explored the role of initial conditions versus reforms in the first decade of transition, following the general conceptual framework we have just introduced. Most studies discussing growth in transition indeed include some indicators capturing both initial conditions and policies, with policies including stabilisation programmes and structural reforms. However, important differences exist still in the specifications and interpretations of results. Here, Falcetti and her co-authors offer an in-depth analysis of growth in transition which help illustrating some important issues with this literature.

They first discuss the differences in results between models relying on cross-sectional and panel data. Indeed, about ten years after the beginning of transition, models trying to explain the growth trajectory of the countries of the former communist bloc can either identify the impact of different drivers on growth using cross-sectional variation (i.e. differences across countries) or variations in time (i.e. relying on panel data techniques). Looking at cross-sectional models first (as in the model we presented in Table 6.1 earlier), Falcetti et al. (2002) show that initial conditions are a very important driver of growth. While reforms matter too, they appear to be highly correlated to initial conditions, i.e. countries with more favourable initial conditions appear to have implemented reforms more easily, consistent with our discussion above. However, when variables are highly correlated but entered simultaneously in an equation, estimated coefficients can be spurious. To address this

issue, a system of equation is estimated instead, with both growth and reforms being modelled as dependent on initial conditions. With this new specification, the variable capturing reforms in the growth equation essentially measures reforms that went beyond what could have been predicted by initial conditions alone, and it shows a positive but insignificant coefficient, which moves further away from any significant threshold when measures of macroeconomic stability are added. Overall, this illustrates a strong link between initial conditions and growth in the early stages of transition, as reforms appear to be strongly determined by initial conditions, and reforming "against the odds", or beyond the predictions of initial conditions, seems to improve growth outcomes but not in a statistically significant way. In their own words, they conclude that:

"*reforms have exerted a positive overall impact on growth in the Transition Economies, but […] this impact has been both smaller and less robust than previously thought. […] Adverse initial conditions have a strong negative direct effect on growth, but […] the importance of initial conditions wanes over time. However, because initial conditions also affect reforms and this indirect effect seems persistent, starting points have continued to exert a strong influence on performance over the first decade of transition*."

With models relying on panel data, they essentially confirm the results described above. They are then able to further qualify the link between reforms and growth exploiting their data in a dynamic model where reforms have an impact on growth but where growth can also affect reforms in the following period. Accounting for this reverse causality, the effect of reforms on growth is further weakened. But how can it make sense for reforms not to have generated any positive growth

outcome, when central planning was failing and when reforms were the only option in some countries? In fact, Merlevede (2003) evidenced that reversals in reforms were very damaging to growth, a finding that is not compatible with an insignificant effect of reforms on growth obtained by Falcetti et al. (2002).

One may also observe that the results presented by Falcetti et al. (2002) are not fully in line with the wealth of evidence collected on the issue. Taking advantage of over ten more years of data and research, in a recent review of the stream of literature focusing on the link from reforms to growth, Babecky and Havranek (2014) concluded on the existence of a J-curve of reform, whereby reforms in transition were associated with an initial recession, but had a positive return in the medium run. This result is based on a meta-analysis using about 60 studies and aiming at extracting the average effect of reforms on growth established in these studies, and can therefore be seen as the average impact of reforms as identified in the quantitative literature. In their conclusions, they also single out the consistently positive effect of external liberalisation identified in the literature. Overall, their results are clearly more supportive of a positive effect of structural reforms in the medium run than Falcetti's. But any result need to be considered carefully in a context where (i) the sample of countries analysed is small, (ii) the phenomenon studied is expected to be short-term, but of unknown length, and to follow patterns at odd with those of long-term growth, and (iii) the variables we need to control for are imperfectly measured and inter-dependent.

6.3. Refocusing on the "Transitional Recession"

Transitional or Transformational Recession: Addressing the Distortions of the Past

Overall, what we have presented so far helps highlighting two key issues in the literature focusing on the early growth experience in transition. The first issue is technical, and it relates to multicollinearity between various dimensions, and has been already discussed above. The second issue is a conceptual one, around the notion of causality. Indeed, the early years of transition were characterised by a recession across the post-communist region. This episode of "transitional recession" or "transformational recession" is often described as the recession that followed liberalisation. But the true causes of the recession are the distortions created by central planning, not the policies implemented to restructure the economy. It is, of course, worth repeating here that, in a number of countries, the recession preceded reforms and that across the region, people had pushed for reforms that were seen as necessary. The old system had proved its limits, and time was ripe to switch to markets. This essentially means that, in this context, the appropriate counter-factual to reforms was "no reform": something that was both unfeasible as the organs of central planning had crumbled under the social and economic pressure, and would have led to potentially much worse recessions or indefinite stagnation. As stated by Rodrik (1996, page 29) "Once one makes allowance for the likelihood that the counter-factual – no reform – produces even worse results in the short run, the consequences of reform actually look pretty good".

With this in mind, and as suggested by Mickiewicz (2005), the question regarding the links between reforms and growth needs to be framed carefully. Reforms did not really cause the observed recession, they were instead meant at

accelerating the return to growth, at correcting the distortions of the past and at restructuring towards a better working economy. The relevant question is therefore to understand how and when did reforms better mitigate this short run recession. Several authors have made explicit efforts to frame their research in that way and to interpret their findings accordingly and we will here provide some examples of this.

Explaining the Depth and Length of the Transformational Recession

Consistently with this approach, Mickiewicz (2005) investigated how progress in reforms related to the depth and length of recession, and exercise that we are repeating here with a slightly different set of explanatory variables.

[Table 6.2 Timing of Recession, Liberalisation and Stabilisation Programmes]

The objective here is to explicitly identify a set of factors that can explain the recessions experienced by the post-communist economies during the 1990s. There is more than one way of measuring the economic cost of recession, and the presence of serious measurement errors (Åslund 2001) calls for the use of number of alternative indicators to ensure results are robust. As in Mickiewicz (2005), we use four alternative measures:

- The first is the depth of recession, as measured by the ratio of the lowest value of output to its 1989 value. For most countries, the indicator was provided directly by the EBRD (1999, Table 3.1: 63); however, here it was verified for the two countries which were still in recession in 1999 (Ukraine and Moldova) and supplemented for the missing countries (Bosnia and Herzegovina, Serbia and Montenegro) using EBRD and World Bank statistics. The indicator shows

that the recession had been most shallow in the Czech Republic and the most dramatic in war-torn Bosnia and Herzegovina.

- The second relates to the length of the recession. Here, the range of outcomes varies between two years for Poland and ten years for neighbouring Ukraine and also Moldova.
- The third is a close correlate. Instead of length, it measures the time span between 1989 and the exit from recession. Thus, while the former measure shows lower values for countries that entered recession later, the latter is defined by the timing of the final entry on the post-communist positive growth path. The indicator can be easily computed from the fifth column of Table 6.1 above. It has some advantage over the previous one, if we take into account that the early output statistics may be more problematic for some of the transition economies while in contrast there is little measurement error related to timing of exit from recession.
- Finally, the fourth is a crude proxy for the overall *cost of the recession*, as measured by a combination of both depth and length. It is calculated as a product of the depth of output slump at the lowest point and the length of the recession.

[Table 6.3: Length, Depth and Cost of the Recession]

The set of explanatory variables used are the same as the ones we used in our growth regressions earlier in this chapter (see Table 6.1.), namely distance to Brussels, membership to Russian (tsarist), Austrian or Ottoman empire in 1815, a dummy for resource rich countries and countries having experienced wars at the onset

of transition, and a policy dummy capturing if liberalisation and stabilisation were both introduced early (by 1993).

Initial conditions are shown to matter for the depth of recession in particular, with countries that emerged from the break-up of the Russian and Ottoman empires experiencing deeper recessions than those which were under Austrian influence. War increased the overall cost of the transitional recession, but more through a deepening of the output plunge, than through a lengthening of the crisis. Finally early reforms are shown to be negatively related to length, depth and overall cost of recession, and highly significantly so as far as length and total cost are concerned. So to some extent, this simple analysis helps restating the true effect of reforms: early reforms did help softened the recession.

6.3.3. Complementarities in Reforms?

Another, more recent, strand in the literature suggests that complementarities in reforms need to be investigated to better understand which combination of reforms were more likely to conduce to better growth outcomes. Here again the focus is on policies as mitigating costs, and on trying to gain a better understanding of the type of reforms that were most successful. Many studies have off course pointed out that liberalisation and stabilisation policies are correlated in transition countries, leading to issues in identifying their individual role (which is why we decided to control for early liberalisation and stabilisation jointly in the models we have presented in table 6.1 and 6.3). Based on the evidence we presented in Chapter 3 regarding progress in reforms across the region, it is quite easy to see that in practice some reforms were implemented jointly. It is because some of the indicators measuring progress evolved

jointly that we were able to identify two groups of indicators that we have called respectively the “first stage” and “second-stage”. We also pointed out that progress in the first-stage reforms seems to have facilitated reforms in the second stage reforms, possibly indicating further complementarities. But how does this translate into growth? Are there complementarities in reforms that translate into better growth outcomes?

There are only a handful of studies investigating this issue quantitatively and explicitly. Staehr (2005) for example captured progress in reforms using an indicator derived from a principal component analysis or PCA, he thus explicitly recognised the existence of complementarity in reforms and correlations among EBRD indicators, and found progress in reforms to be associated positively with growth. In a clearer effort to make these complementarities explicit, De Macedo and Martins (2008) built an inversed Hirschman-Herfindhal index capturing whether reforms in a given country where progressing consistently across EBRD indicators or not, and found that countries where the reform packages implemented showed more coherence across the different dimensions of reforms grew faster. In other words, reform efforts were more likely to pay-off, if they were holistic rather than piecemeal. Finally, da Rocha (2015) focused more specifically on the possible complementarities between privatisation and liberalisation. To do so, he estimated the role of stabilisation and liberalisation policy on growth directly, but also added in interaction term capturing any additional benefit (or cost) potentially generated by progress in these two areas of reforms jointly. He thus showed that the short-term costs of privatisation were better mitigated with full liberalisation, in other words, large scale privatisation and liberalisation were shown to be complementary, and implementing them jointly contributed to mitigating the transformational recession.

6.4. Conclusions

To conclude, this chapter aimed at discussing growth in transition economies. Some of the key points that we have discussed are around the issues that still exist in measuring and estimating the impacts of different variables on the growth performance of transition countries:

- We discussed how the growth process in transition was first characterised by an episode of transformational recession, which does not fit the more general long-term growth framework well. In other words, the initial period (of destruction of the old regime and of correction of the economic distortions it had generated) requires a framework of analysis which differ from the framework that is traditionally used in the literature on economic growth and therefore which also differ from the patterns of growth that we may expect to observe once this first stage is over.
- We went on to explain how initial conditions were difficult to measure, correlated with progress in reforms and with possibly contradictory impact on growth at different stages in the transition process. Creating thus additional difficulties in assessing the role they played and the role played by reforms in the early stages of transition.
- Finally, we called for caution in the interpretation of the results put forward by growth estimation, and in particular in the need to conceptualise reforms as unavoidable, therefore focusing on identifying more successful packages.

Before closing on this chapter, it may be interesting to contrast the above with the debate around an appropriate speed of reforms, and whether reforms should gradual or implemented quickly and comprehensively (i.e. using a "Big Bang" approach). Re-examining the evidence presented in Chapter 3 on the progress in reforms, we should emphasise now that slow reformers appear to be exactly that: slow reformers. There is no evidence that countries were reforms started quickly then faced difficulties that led to a slow-down or a reversal in reforms, and there is no evidence that countries were reforms started slowly were then able to accelerate their pace. Bringing in the evidence that we have reported here, we can now add that slow reformers probably did benefit from reforms when they were implemented, as progress in reforms is on average associated with better growth outcomes in the medium run. But later reforms lengthened and deepened the transitional recession, generating larger short-run costs. Reforms also seem to have been more effective at mitigating the transitional recession when progress took place along all EBRD indicators simultaneously rather than in a piecemeal fashion. Overall, we have to conclude that fast pace reforms generally appear to have led to better economic outcomes, a finding we will revisit in Chapter 11 when we discuss progress in reforms and institution building.

Review Questions:

- Explain why initial conditions and policy choices were important for growth in the early stages of transition.

- Discuss some of the issues making it difficult to clearly identify and explain the impact of initial conditions and policies on growth (technical and conceptual)
- Draw lessons for policy makers.

Suggested Readings:

- Falcetti, Raiser and Sanfey (2002) Journal of Comparative Economics, Vol. 30(2), pages 229-250
- da Rocha, B. T. (2015) "Let the markets begin: The interplay between free prices and privatisation in early transition" Journal of Comparative Economics, Vol. 43(2), pages 350-370
- de Macedo, J. B. and Oliviera-Martins, J (2008) "Growth, Reform Indicators and Policy Complementarities" *Economics of Transition*, Vol. 16(2), pages 141-164.

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Sachs, J., Zinnes, C. and Y. Eilat (2000) Patterns and Determinants of Economic Reform in Transition Economies – 1990-1998. Working paper 61. The Earth Institute. http://hdl.handle.net/10022/AC:P:8199

Staehr, K. (2005). 'Economic reforms in transition economies: Complementarity, sequencing and speed', European Journal of Comparative Economics, 2(2), pp. 177–202.

Figure 6.1. Blanchard-Kremer model.

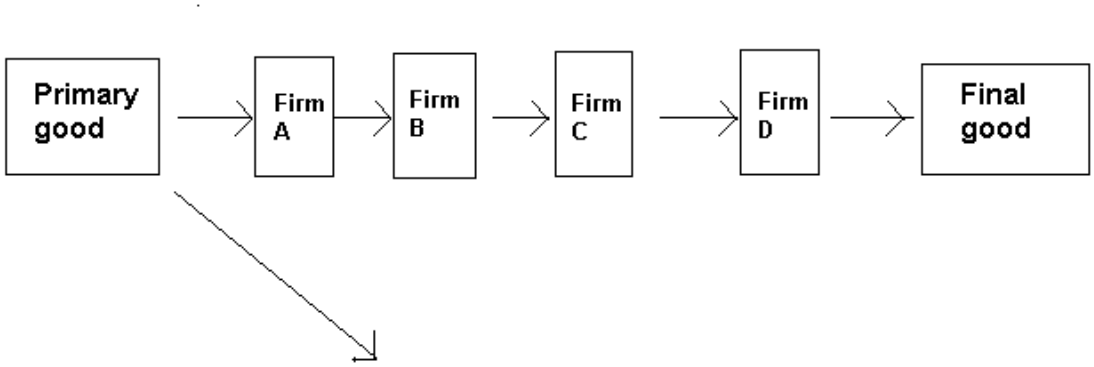

Table 6.1. Long term growth versus initial experience of transition

	1990-1997	1992-1997	1990-2015	1992-2015
DistBruxells	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
empiresR	0.089	0.007	-0.008	-0.158
	(0.430)	(0.284)	(1.857)	(1.520)
empiresO	0.161	0.179	0.441	0.660
	(0.459)	(0.307)	(1.979)	(1.646)
rich_res	0.027	-0.029	1.732*	1.819
	(0.213)	(0.207)	(0.921)	(1.109)
war	-0.256*	-0.047	-0.590	0.091
	(0.131)	(0.158)	(0.567)	(0.847)
earlyLibStab	0.362*	0.471**	1.084	1.578
	(0.185)	(0.197)	(0.797)	(1.057)
GDP1990	0.000		-0.000	
	(0.000)		(0.000)	
GDP1992		-0.000		-0.000
		(0.000)		(0.000)
Constant	-0.173	0.028	3.246	3.977
	(0.746)	(0.538)	(3.222)	(2.881)
R-squared	0.534	0.457	0.240	0.096
N	18	20	18	20

* p<0.10, ** p<0.05, *** p<0.01

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Table 6.2 Timing of Recession, Liberalisation and Stabilisation Programmes

Country	Liberali-sation date	Stabilisa-tion date	Begin-ning of recession	Last year of recession	Length of recession	Lowest output / '89 value
Central Europe and South Eastern Europe						
Albania	1993	1992	1990	1992	3	0.604
Bosnia	1998	1997	1989	1994	6	0.120
Bulgaria	1994	1997	1990	1997	8	0.632
Croatia	1991	1993	1989	1993	5	0.595
Czech Rep.	1991	1991	1990	1992	3	0.846
Estonia	1993	1992	1989	1994	6	0.608
Hungary	1992	1990	1990	1993	4	0.819
Latvia	1993	1992	1991	1995	5	0.510
Lithuania	1993	1992	1990	1994	5	0.533
Macedonia	1991	1994	1989	1995	7	0.551
Poland	1990	1990	1990	1991	2	0.822
Romania	1994	1993	1989	1992	4	0.750
Serbia	2001	1993	1989	1993	5	0.400
Slovakia	1991	1991	1990	1993	4	0.750
Slovenia	1991	1992	1989	1992	4	0.820
Commonwealth of Independent States						
Armenia	1996	1994	1990	1993	4	0.310
Azerbaijan	1998	1995	1989	1995	7	0.370
Belarus	not yet	1994	1990	1995	6	0.627
Georgia	1996	1994	1989	1994	6	0.254
Kazakhstan	1995	1994	1989	1995	7	0.612
Kyrgyzstan	1994	1993	1991	1995	5	0.504
Moldova	1995	1993	1990	1999	10	0.317
Russia	1993	1995	1990	1998	9	0.553
Tajikistan	2000	1995	1989	1996	8	0.392
Turkmenistan	not yet	1997	1989	1997	9	0.420
Ukraine	1996	1994	1990	1999	10	0.365
Uzbekistan	not yet	1994	1991	1995	5	0.834

Notes:

(i) Liberalisation: year when the average of the three EBRD liberalisation indicators (price liberalisation, external liberalisation and small privatisation) takes value of 3 or higher (with price liberalisation indicator based on pre-2003 EBRD definition, adjusted where necessary to preserve compatibility). *Source*: EBRD (1995–2004) and Falcetti *et al.* (2002).

(ii) Stabilisation: year when successful stabilisation programme was introduced (i.e. for countries with recurring high inflation episodes, the second date is reported; example: Bulgaria). *Source*: EBRD (1999–2004).

(iii) Timing of recession: based on EBRD (1995–2004) and World Bank, World Development Indicators (2001 dataset).

(iv) Lowest value of output (depth of recession): based on EBRD (1995–2004).

(v) At time of writing, Georgia is no longer a member of CIS.

Table 6.3: Length, Depth and Cost of the Recession.

	Rec-end	Rec_length	Rec_depth	Rec_cost
DistBruxells	-0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
empiresO	-0.997	-0.743	0.192*	0.336
	(1.318)	(1.302)	(0.102)	(1.040)
empiresR	1.220	0.761	0.201**	1.377
	(1.134)	(1.121)	(0.088)	(0.896)
rich_res	0.930	1.587	-0.036	0.488
	(1.075)	(1.062)	(0.083)	(0.849)
war	-0.534	-0.030	0.243***	1.247*
	(0.782)	(0.773)	(0.060)	(0.618)
earlyLibStab	-3.161**	-3.072**	-0.039	-1.763*
	(1.123)	(1.109)	(0.087)	(0.886)
Constant	8.356***	7.536***	0.224*	2.791**
	(1.586)	(1.566)	(0.123)	(1.252)
R-squared	0.358	0.380	0.550	0.452
N	27	27	27	27

* p<0.10, ** p<0.05, *** p<0.01

[i] This point was made intuitively by Popov (2007) and econometrically by Fidrmuc and Tichit (2009) who identified structural breaks in the growth paths of transition economies over the period 1990-2007.