FDI AS A SOLUTION TO THE CHALLENGES OF LATE DEVELOPMENT: CATCH-UP WITHOUT CONVERGENCE?

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Abstract

This dissertation contributes to the literature of late development by examining in detail the solutions to key development challenges - capital, technology and labour productivity – that were constructed in East Central Europe (ECE) at the turn of the 21st century. I argue that these solutions are distinct from those familiar from the previous generations of late developing countries, so much so that they constitute a new variety of late development, which I call *hyper-integrationist.*

Hyper-integrationist development model is distinguished primarily by the centrality of the role of foreign capital, and the way it is incorporated in the response to development challenges. Contrary to the mainstream theories of FDI and development, which see FDI as a vehicle of transfer of technology and skills from foreign to local actors, I show that in the hyper-integrationist development model FDI does not advance the growth of the host country by helping to develop domestic capabilities, but by *substituting* them with external resources.

This form of development also requires different arrangement to govern the relations between key actors: multinationals on the one hand, and local states, capital and labour on the other. The role of the state in particular changes from that of the facilitating transfers of technology and skills to local firms to attracting and directing the flows of foreign capital towards the most promising activities. States in the hyper-integrationist developers are more constrained by the international regulatory environment than their peers in other late development varieties, and in order to achieve their goals they are forced to draw on a more *fragmented set of alliances*, many of them transnational in nature. Although their commitment to international integration limits the range of tools they can use to impose performance targets on foreign companies, it can also occasionally provide them with some mechanisms to resist the more onerous demands on their part.

Hyper-integrationist approach to development also carries a specific constellation of advantages and disadvantages. On the one hand, substitution of capabilities through transnational investment networks can lead to faster modernisation and increased export potential. Using the example of automotive industry, I show how the East Central European countries managed to achieve in record time the level of international competitiveness that is comparable to some of the most successful examples of late development in other regions of the world. On the other hand, the effects the local production factors have not been equally positive. For all its success in advancing external competitiveness, hyper-integrationist development model *does not seem to have an internal mechanism for upgrading of skills or technology*. Domestic firms have been all but eliminated from the competition, the demand for technology production remains low, and the region continues to rely on its low-cost advantage, with limited investments in workforce skills.

This mismatch between catch up and convergence may not necessarily have a negative impact on the region's performance in the medium term, so long as they continue to attract sufficient foreign investment. At the same time, however, it has already created some tensions within the model, especially between foreign investors and labour. The legitimacy of hyper-integrationist development in ECEs had been strongly linked to the promise of eventual convergence with more developed members of European Union. Despite all its achievements so far, a failure to deliver on these promises may yet turn into the main source of instability within the ECE's hyper-integrationist development model.

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If despite all their help this thesis is only as good it stands today, it is because it was, above all, a learning process. Next time will be better.

Declaration

I hereby declare that no parts of this thesis have been accepted for any other degrees in any other institutions. This thesis contains no materials previously written and/or published by another person, except where appropriate acknowledgment is made in the form of bibliographical reference

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CHAPTER I

1 Introduction

At the onset of the 1990s, East Central European states had little to recommend them for success in open international markets. Their greatest asset – highly advanced industrialization and a long manufacturing tradition – was also the biggest source of concern. The region's cumbersome industrial conglomerates were at once too large to respond nimbly to the market signals and too small to compete with the global multinationals; they operated with outdated skills and technologies, had little experience with competition or marketing, and grappled with overstaffed payrolls, low productivity, and suspicious work ethic (e.g. Buckley & Ghauri 1994; Amsden et al. 1994). And yet, only a decade and a half later, the countries on the westernmost rim of the former Soviet block had grown into export powerhouses. Czech Republic, Hungary, Poland and Slovakia in particular saw their production profiles upgraded at a lightning speed, and quickly expanded their share of the European markets in complex manufacturing sectors that were once the exclusive preserve of the most developed industrial economies (Greskovits 2005; Havlik 2005). By most measures, ECEs have done as well, or better, than most of the earlier stars of late development, including the East Asian "tigers" (see Bruszt & Greskovits 2009; Stallings 2010).

The key ingredient of the ECE's "manufacturing miracles" is their extensive reliance on foreign direct investment. A quick comparison between ECEs and a selection of middle and upper-middle income countries shows that ECEs receive more FDI in per capita terms and relative to the size of their economies than any of their peers in East Asia, Latin America or Southern Europe (Figure 1.1). Over the last decade, their share of total world's FDI was nearly three times larger than their share of the world markets. Foreign investment has become the key driver of most economic activities, with near-full control of the banking sector and some of the fastest growing business services, but its impact is especially evident in industry. Affiliates of foreign companies account for around 80% of output in medium- and high-technology

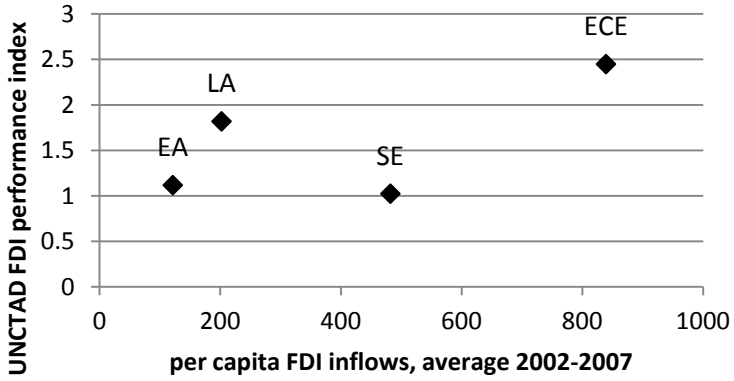
manufacturing which is the backbone of the region's exports, and even in the simplest industries their share is close to 50% (Table 1). Overall, nearly half of the total gross domestic product of Hungary, Czech Republic and Slovakia is produced by foreign firms, closely followed by Poland's 32%.

The pivotal role of FDI in the transformation of ECE's economies is well documented by most researchers of the region (e.g. Bohle & Greskovits 2012; Carter & Turnock 2004; Drahokoupil 2008; Nölke & Vliegenthart 2009; Szelényi & King 2005). There is, however, much less agreement on the long-term prospects of a growth model that relies almost entirely on mobile, externally controlled capital. The discomfort with region's excessive "transnationality" became especially evident since the onset of the crisis, which rekindled interest in its potential vulnerabilities and resurrected the language of dependency in the discussions of East Central Europe (Lane 2010; Nölke & Vliegenthart 2009; Vliegenthart 2010; Bluhm 2010; Bohle & Jacoby 2011). But this shared unease stands in contrast to a great variation in the assessment of ECE's achievements and their position in the global economy: the same group of countries has thus been variously labelled "semi-periphery"(Vliegenthart 2010), "second-rank market economies" (Drahokoupil & Myant 2010), "satellites of hegemonic powers"(Lane 2010), or more optimistically, "semi-core"(Bruszt & Greskovits 2009).

The reason behind this vague but definite discomfort is that we actually know very little about how FDI influences development. In the last two decades, the once widespread fear that foreign investment would distort the trajectory of national growth has been replaced by outright enthusiasm for FDI as the solution to most development problems. But while there is plenty of evidence linking capital inflows to better economic performance, theories of mechanisms through which the FDI works its magic remain relatively few (see also Bell & Marin 2004; Narula & Dunning 2010). Even more surprisingly, such accounts generally tend to ignore the profoundly transnational nature of crossborder investments, as well as the sheer scale on which they have come to operate in the last two decades. In other words, all the talk of globalization notwithstanding, the extant theories of FDI's impact on development still rely on

an assumption of relatively independent economies in which foreign capital plays a welcome and important, but ultimately auxiliary role.

Figure 1.1 Per capita FDI inflows and FDI performance index in selected regions, 2002-2007[1]



Source: WDI, UNCTAD
Note: FDI inflows in USD

Table 1.1 Share of foreign-owned companies in manufacturing, % of output (2007)[2]

	CZ	HU	PL	SK	ECE	% of ECE exports
High	82.7	88.3	65.1	91.9	**82**	**13.4**
Medium-high	75	83	58.9	86.9	**75.9**	**43**
Medium-low	55.8	40.8	30.4	99.6	**56.7**	**23.6**
Low	40.2	48.9	38.6	54.9	**45.6**	**15.8**

Source: Eurostat SBS, COMEXT
Note: Industry classification based on Eurostat, see footnote 2.

[1] Regional score represents simple averages of a selection of countries from each region. The countries included are all classified by the World Bank as having at least "middle income", and most belong to the "upper middle income" category. Very small countries and island states are excluded, as are the East Asian financial entrepôts (Hong Kong and Singapore), others are included subject to data availability. The final sample consists of the following countries: Korea, Taiwan, Malaysia, Thailand, and China in **East Asia**; Argentina, Brazil, Chile, Colombia, Costa Rica and Mexico in **Latin America**; Spain, Portugal and Greece in **South Europe** and Czech Republic, Hungary, Poland and Slovakia in **East Central Europe**. UNCTAD FDI performance index score represents a country's share of world FDI relative to its share of world GDP, i.e. attractiveness to FDI relative to the market size: $IND_I = \frac{FDI_i/FDI_w}{GDP_i/GDP_w}$. $IND_i = \frac{FDI_i/FDI_w}{GDP_i/GDP_w}$.

[2] Industry groupings based on NACE Rev. 1.1., as follows: **High technology manufacturing** - pharmaceuticals, office machinery, medical and precision instruments and aircrafts (DG24.4, DL30,DL32, DL33, DM35.3); **Medium-high technology** - chemicals (excluding pharmaceuticals), machinery and equipment, electrical machinery, transport equipment (exc. aircraft) (DG (exc. 24.4), DK, DL31, DM34, DM35.2, DM35.4, DM35.5); **Medium-low technology** - coke and petroleum, rubber and plastics, basic metals, non-metallic mineral products, shipbuilding (DI, DF, DH, DJ, DM35.1); and **Low technology** - food, beverages and tobacco, textiles, leather, apparel, wood, cork and paper products (DA, DB, DC, DD, DE, DN).

These theories can be roughly divided into two strands. The first is concerned with the ways through which the benefits of FDI are diffused into the rest of the economy. The main assumption behind such approaches links sustainability of FDI-led development to a learning process in which technology, skills, and superior organisational and management practices of the foreign firms are transferred to local enterprises, fuelling a broader increase in productivity and competitiveness of the host economy (de Mello 1997; Blomström & Kokko 1998; Moran 2001; Moran et al. 2005a). Over the last two decades, the research on the so-called "spillovers" from foreign firms sprouted a veritable cottage industry concerned with a variety of channels through which this learning process may occur (for an overview see Blomström & Kokko 1998; Görg & Greenaway 2004). The proposed mechanisms include "demonstration effect", where the local firms imitate the technology or business approach of the foreign firms (Teece 1977; Saggi 2002); "competition effect", where the mere presence of a superior competitor forces domestic enterprises to become more productive (Caves 1974; Aitken & Harrison 1999); labour turnover, where the former employees of the multinationals pass on the newly acquired skills to domestic companies (Kaufmann 1997; Fosfuri et al. 2001); "backward" spillovers, in which local suppliers upgrade their operations with direct or indirect assistance of the foreign firms (Lall 1980; Javorcik 2004; Javorcik & Spatareanu 2009b; Blalock & Gertler 2008); as well as "forward" spillovers where the local firms use higher quality inputs from the foreign enterprises to improve their final products (Venables & Markusen 1999).

In spite of the variety of mechanisms on offer, the empirical evidence of spillovers remains inconclusive. Different studies have found positive, negative, or no effect from foreign presence depending on the country or period under consideration, and sometimes even in the same countries and periods. A recent meta-analysis of 52 quantitative studies conducted since 2000 concludes that there is overall no evidence of positive spillovers to firms in the same industries, although the situation is somewhat better with regard to suppliers (Havránek & Iršová 2011a; 2011b). Nor do the attempts to separate performance of different types of FDI improve the picture. More positive effects are found from brownfield plants and joint ventures

(e.g. Javorcik 2004; Havránek & Iršová 2011b), but these also account for a minority of manufacturing investments in developing countries. Some argue that market-oriented FDI brings more spillovers because of its greater reliance on local inputs (Javorcik 2004), but others only find spillovers from export-oriented investments (Sgard 2001), while yet others maintain that export-oriented FDI has no effect, while market-oriented variety even hurts domestic firms (Görg et al. 2009).

A second strand of literature has therefore emerged, which shifts the attention from FDI itself to the host country capabilities and institutions. The spillovers, the argument goes, will only take place if the host economy possesses adequate "absorptive capacity", i.e. if the local firms have the means and the necessary institutional support to learn from the multinationals (Borensztein et al. 1998; Criscuolo & Narula 2005). Such a position tailors well with the rekindled interest in the new institutional economics and the emphasis on institution-building and capabilities as a precondition for economic growth (Rodrik et al. 2002; Lin 2011; Fagerberg & Srholec 2008), and proposes a similar list of requirements necessary to enhance the benefits of foreign investment: secure property rights, improved physical infrastructure, education, functioning financial markets to allow local actors to access liquidity, coordination between private and public investment in research and development, etc. (Narula & Dunning 2010; Narula & Driffield 2011; for empirical tests on the impact of specific insitutions see Borensztein et al. 1998; Hermes & Lensink 2003; Kinoshita & Lu 2006; Durham 2004; Meyer & Sinani 2009).

In some ways, the return to the policies and institutions of developing countries is a welcome correction to the excessive enthusiasm for FDI, where the mere opening up to foreign capital was deemed enough to kick-start the virtuous cycle towards development. But this shift in focus does not really help us understand how FDI impacts development – if anything, it takes us further away from the original question, by suggesting that FDI brings benefits to those who already have the skills to receive them. The problem with developing countries, almost by definition, is that they do not possess the tools to easily harness local investment and innovation potential in order to maximize their "absoption capacity". However, most authors interested in

the link between foreign investment and growth spare little time understanding which institutions or policies are best suited to support the development of such skills. Instead, policy advice to developing countries typically reads as long shopping lists, with little regard to available resources or conflicts and trade-offs between different approaches (see for example Lall & Narula 2004; Narula & Guimon 2010). Thus the relationship between FDI and development becomes nearly tautological – econometric studies often simply proxy the "absorptive capacity" by per capita GDP (see e.g. Blomström et al. 1994)

In other words, the main problem with the argument that makes benefits of foreign investment conditional upon development of local capabilities is that it reverses the very foundations of this relationship. Even though the purported aim of such theories is to explain the impact of FDI on development, FDI soon begins to resemble the stone in the famous parable of the stone soup: once we add all the ingredients necessary for this link to work, the role of FDI itself fades into the background.

Interestingly enough, even though it paints foreign investment as a more active agent, the original conception of development through spillovers also embodies a similar view of FDI as a temporary crutch. The logical outcome of a successful transfer of skills, technologies and market savvy from the foreign to the local firms is a diminished role for foreign investment as their local competitors come to operate at the same level of competence. While most studies of spillovers do not draw this conclusion out fully, a more or less explicit statement of this process can be found in most stadial theories of development, such as those of the East Asian "flying geese" or of upgrading within global value chains (e.g. Gereffi 1999; Gereffi & Memedovic 2003; Ozawa 1992; 2005). In each of these, a country, firm or industry that originally starts from a position of dependence on foreign companies eventually learns the tricks of trade and becomes competitive in all stages of production. The principle is most clearly formalized in the theory of "Investment Development Path" (Dunning 1981; Dunning & Narula 1996) which sees developing countries pass through five stages of development, each of which changes their

relationship to foreign investment, until they switch their position from recipients to exporters of capital.

1.1 Beyond spillovers: FDI as a strategy of late development

It should be clear by now that regardless of the difference in focus, all of the approaches to FDI outlined above share a similar preconception about development. In the long run, the real benefits of foreign investment lie in its capacity to spur development of local agents, leading to a self-reinforcing and eventually autonomous spiral of growth. However important its role in igniting development, FDI is essentially self-obsolescing: the more successful it is as a growth catalyst, the less central it will become to the country's economic performance.

In this dissertation, I argue that this core assumption has become untenable, and that we must develop a radically different understanding of the mechanisms linking FDI and development which takes the centrality of foreign investment more seriously. The main reason lies in the tectonic changes in the patterns of foreign direct investment over the last two decades. Between 1990 and 2010, the total GDP of developing countries increased threefold, while the volume of FDI going to these countries grew by a factor of seventeen. Together with the explosion in the rate of mergers and acquisitions and the growing integration of transnational markets, this trend has led to significant concentration of productive capacity around the world in the hands of a few giant transnational firms. As we have seen in Table 1, after 20 years of FDI-led development domestic firms in ECE account for only a minuscule share of production in the key export industries, rendering the question of spillovers almost irrelevant, or at least marginal to any plausible account of successful industrial development. And while ECE states might be among the more extreme examples, the broader trend is unmistakable: FDI is becoming more, not less important over time. According to the data collected by OECD, the share of foreign firms in manufacturing turnover has increased in almost all of its member states between 1997 and 2007, and the increase is especially pronounced in countries like Ireland and Belgium which started off with higher levels of FDI (OECD 1999;

2009b). Although the data for developing countries is scarce, industry accounts from South Africa to Mexico testify to a similar takeover of key industries by foreign firms (Schneider 2009; Barnes & Kaplinsky 2000a; Paus & Gallagher 2007; Gallagher & Zarsky 2007). For many of these countries and industries, and for East Central Europe most certainly, FDI is not simply an external impulse that spurs local factors to development: it *is* development.

In view of these trends, even the accounts which stress the need for development of local capabilities in order to support the investment efforts of domestic and foreign firms alike appears at best incomplete. Foreign investment in developing countries mostly arrives in the guise of large multinationals which are perfectly capable of influencing the direction of government policies and lobbying for changes in the institutional framework. They are creative and powerful actors, and while they may support the creation of certain types of local capabilities, they can also divert the resources into activities which support their operations, but are not necessarily in the long-term best interest of developing countries. Clearly, the host governments still have the power to bargain with the firms and influence their choices, but this process takes on a very specific character in a situation where the key economic actors have access to a broad range of options. As a result, facile exhortations to "improve business environment" or "invest in education" do not bring us any closer to understanding what the governments do to anchor multinationals in the national economy, or how they organise education to serve a labour market dominated by mobile firms with specific preconceptions about skill requirements.

This also means that the main research question – how foreign investment impacts development – is best understood as being two questions. The first asks about the mechanics of FDI-led development: the ways in which FDI translates into growth and competitiveness, and the structure of alliances and institutions which support the activities of foreign firms. The second meaning of the question concerns the nature of development taking place under the tutelage of foreign capital – its stability, inclusiveness, distributional consequences, advantages and disadvantages.

In this dissertation, the answers to this dual question come from examination of the ways in which FDI resolves three main challenges of the late development: the problem of capital mobilization, technology acquisition and upgrading, and the need to increase workforce skills and productivity. The research follows the insights of the so-called "late development" literature, which posits that while these problems are common to most developing countries, the solutions can be highly specific, partly as a function of each country's own history and internal balance of forces, but even more so as a result of the timing of its arrival to the international stage. I argue that extensive reliance on FDI that we observe in the ECE, and the alliances constructed to bend foreign investment to serve local development goals, constitute a novel set of solutions to typical development problems, amounting to a new sub-type of late development, with its own logic, costs and advantages. The universe of cases in which the ECE is situated thus consists of similarly successful late developers: middle and upper-middle income countries of Latin America and East Asia, with high levels of industrialization and export competitiveness, but with a different record of solutions to late development challenges.

The research presented here builds on the work of Alice Amsden, whose 2001 book *The Rise of the Rest* offers the most comprehensive summary of late development models in the 20th century. According to Amsden, the most distinctive feature of late developers is that unlike developed countries which maintain their competitive edge through innovation, they must, initially at least, compete in industries in which the technology has already been commercialized by firms from advanced countries. This puts developing countries at a sharp disadvantage: efficient production in mature industries often requires mobilization of capital on a scale which is greater than would be justified by the size of their internal market. Moreover, the technology involved in production of manufactured goods has been developed, and is often jealously guarded, by the firms from developed countries. Even when the production process is well known, a whole bundle of relatively tacit knowledge-related assets creates huge differences in productivity between firms and countries (Amsden 2001). Due to this lack of proprietary skills and the lag in their ability to efficiently employ technology, late developers must rely on

the only asset they have in abundance: their cheap labour. Even this, however, may not be enough in industries where lower wages cannot compensate for low productivity.

The tasks of late development are therefore threefold: mobilize sufficient capital for large-scale investments in industry, obtain technology either by acquiring it from abroad or developing it at home, or both, and step up labour productivity while keeping the wages low enough to remain competitive until the local firms catch up to the technology frontier. In *The Rise of the Rest*, Amsden argues that at the close of the 20th century there were two viable varieties of late development, respectively labelled "independentist" and "integrationist". Empirically derived from the experiences of East Asia on the one hand, and Latin America on the other, both varieties evolved from a common post-war development model, which featured a central role of the state and relative insulation from international competition. The state took care of providing capital and directing it towards selected industries, it supported the learning process and transfer of technologies from abroad, invested in education, and kept a tight lid on the workforce. Foreign involvement, especially in the shape of direct capital investments, remained limited. However, by the mid-1980s, the debt crisis had undermined the trust in the state and forced market liberalization, undermining the power of the government to control the economy, and the single late development model underwent mitosis (Amsden 2001).

The key differences between the two successor models, according to Amsden, are the degree of foreign involvement and the ability of the state to control the decisions of the private sector. The "independentist" approach of East Asian economies remained closer to the original. In Korea and Taiwan, foreign investment even declined in the 1990s compared to the previous decade, while the state continued to micro-manage the economy, in close cooperation with the domestic private firms. The core element of the solutions to capital, technology and labour problem in the independentist late development model was precisely this alliance between the governments and domestic industrial capital, based on a "reciprocal control mechanism" which exchanged government support for clearly defined performance targets (Amsden 2001).

In the "integrationist" variety of late development this alliance was a lot less efficient. The state was unable to extract the same performance standards from the private sector, and relied much more on foreign investment as a complementary solution to some development problems, especially technology. Latin American developers were thus much more open to FDI than the East Asian states: FDI featured prominently as the key source of technology transfer, with far less domestic investment in technology development than in East Asia. The state still remained the key orchestrator of development - foreign investment was tightly regulated, and constrained by policies aimed to promote the transfer of skills to local firms. But if the state was unable to enforce the reciprocal relationship with domestic firms, it faced at least an equally great challenge in shepherding the internationally mobile foreign companies (e.g. Moran 1978; Bennett & Sharpe 1979). To some extent, this problem could be resolved by pitting the interests of two groups of capitalists against each other, under the balancing staff of the government - a configuration which Peter Evans in his work on Brazil had hopefully dubbed the "triple alliance" for development (Evans 1979). Thus in addition to technology transfer, FDI doubled as a sort of disciplining device, pushing domestic firms to raise the performance in order to meet the challenge of the new competitors. On the other hand, politically and socially privileged position of the local capital gave an incentive to foreign firms to enter into partnerships with the locals and help them upgrade, instead of simply forcing them out of the market. When the alliance between the two became too comfortable and detrimental to industrial development, the state itself stepped in, through publicly owned enterprises, to stir up the competition and break ground in new economic activities (Evans 1979).

In both integrationist and independentist models, the state remains the primary engine of development, but it does so in alliance with the private sector, both local and foreign. It is the relative weight of the foreign that varies, as well as the structure of alliances through which the state tries to influence private investment decisions. In Amsden's account, the difference between the two models is a matter of degree, but she does warn of a growing differentiation between the two varieties over the course of the 1990s, and suggests that the next generation of

latecomers later might have to contend with a much greater role of foreign firms (Amsden 2001, p.286).

As indicated by the above figures on global FDI, this prediction seems to have indeed come true, but the growing weight of foreign firms has also altered the logic of alliances which underwrote earlier solutions to late development. The new model, as we observe it in East Central Europe, bears some resemblance to Amsden's integrationist variety, but also enough differences to be considered a distinct model of late development, here dubbed "hyper-integrationist" for its extensive reliance on external actors and resources.

The first major difference, in addition to the greater influence of FDI, is the weak presence of domestic manufacturing firms. In a large number of industries, the expansion of foreign investment was closely linked with transformation of production chains. Fragmentation and internationalization of production made manufacturing more mobile, but also concentrated in the hands of transnational supplier networks. The new generation of developing countries does not only import the lead firms, which they would then try to integrate into the local economy: they now import entire segments of the supply chains, together with their technology, tacit knowledge, rules of production organisations and institutional superstructure of inter-firm coordination. Unless they are already well prepared to compete internationally, local firms are unlikely to withstand the competition: instead of being forced to engage in technology transfer and develop capabilities of local firms, the foreign firms can now draw on their transnational networks to simply replace them.

Transplantation of the foreign production networks can be an extremely efficient solution to many of the problems of late development, leading to quick upgrading of manufacturing capacities, boosting productivity and competitiveness and significantly shortening the catch-up period. This is because the multinational firms integrate developing locations tightly into their international production networks, and are able to import many of the capabilities which are missing locally. However, this does not mean that development suddenly became effortless.

As we will see, transplantation of these networks also requires development of specific alliances between states and foreign firms. The state continues to play the role of the key coordinator of development, endeavouring to bring in the multinationals, and coax them into higher skill and value-added activities. However, its power over the decisions of the private sector is severely curtailed – first of all by the structural power of the multinationals, but also by the changes in the international regulatory environment and the lack of a strong internal balancing force. In other words, the governments in hyper-integrationist late developers have few means to ensure that the support they provide to the multinationals is reciprocated by adequate performance. The lack of tools to constrain firms' behaviour, and access to the missing capabilities in other locations means that multinationals have few incentives to invest in local linkages, which not only marginalizes local firms, but can also result in low investments in skills and innovation. As a consequence, international competitiveness is in some ways less meaningful as an indicator of development, because it need not reflect expansion of host country's internal capabilities (also Baldwin 2012).

To exert influence over the multinationals' decisions and keep moving up the value-added ladder, states in the hyper-integrationist variety of late development need to rely on a more fragmentary set of alliances than either the independentist or the early integrationist types. In each area of development the alliance between the states and the MNCs includes a other agents whose actions can help the governments steer the multinationals, assist the multinationals in extracting additional favours from the government, or challenge the alliance between the two. The identity of these agents varies depending on the challenge. To improve skills and productivity states and MNCs need the cooperation of labour; contribution of local firms and research institutions is the key to technology development; and the cost of capital provision depends on the cooperation of other countries which compete for the same capital flows. The resulting arrangement is probably even less stable than the early integrationist "triple alliance", depending on a multiplicity of interests and shifting balances of forces. However, at least in the case of East Central Europe, these alliances are somewhat stabilized by

another aspect of integration – its embeddedness in the transnational integration regime of the European Union. This is partly ironic, because integration in the transnational regulatory regime is one of the key reasons for the ECE's loss of tools to regulate economic activity on the national level. Nevertheless, to some extent at least the European Union compensates for this loss and stabilizes the hyper-integrationist development mode by regulating the behaviour of supranational firms and providing support and assistance to weaker local actors.

I have argued so far that the set of solutions developed in ECEs in response to the typical challenges of late development constitute a specific, hyper-integrationist variety of late development, distinct from the late 20th century varieties observed in East Asia and Latin America. By most conventional measures, such a growth of manufacturing GDP and international competitiveness, this hyper-integrationist model is at least as successful as its predecessors. However, it does entail a peculiar set of downsides – such as the loss of national champions, the specific costs of attracting foreign companies and difficulties of directing them towards certain kinds of activities – which are different from those we find in other models of late development.

To the extent that these concern differences in the distribution of costs, it is hard to offer a general judgement on the advantages of one model over another model. Whatever its objective achievements, the long-term resilience of each model will depend on the willingness of all actors to accept that particular distribution of costs as necessary to achieve some particular goal of development – in other words, it will depend on the model's legitimacy. It is indeed these aspirational horizons and the perceptions of the appropriate means to get there which distinguish the most different episodes of late development, as they are highly specific to the respective countries' histories and positions in the global economy.

In the ECEs, the ideational background that provided legitimacy to the hyperintegrationist development model was the narrative of the "return to Europe". This narrative has in fact two overlapping subtexts. The first refers to successful economic transformation, to "*catching-up*" in terms of the level of development with the old European

member states. The second, however, implies *convergence*, or the hope that economic growth will lead to similar standards of life and work, political and economic equality and social justice as those prevailing in the real or imagined "West". Most of the time, the two are understood to be closely related. However, it is also true that a model of development that depends on attracting mobile foreign companies can only thrive so long as it offers something different than its competitors. In the countries without specific advantages in innovation or technology, this competitive edge is bound to be linked to lower costs in terms of taxes, wages, or labour conditions. Consequently, regardless of its relative success, hyperintegrationist development model has began to be seen by the citizens of some ECEs as pursuing catching-up at the expense of convergence, a perception that is only strengthened by its propensity to knit together disparate institutional environments and thus reinforce comparisons between them. In the long run, it may not be the economic failures, but the political discontent, that will push these countries to seek, for better or for worse, an alternative path to prosperity.

1.1 Case selection and research strategy

In this dissertation, I examine the internal workings of FDI-led development using the empirical study of East Central Europe. ECE is an exceptionally successful example of the "hyper-integrationist" model of development, and given the extent of its reliance on foreign investment, it is probably as close to the ideal type of this development model as is empirically possible. At the same time, it is a case in which the commonly assumed mechanism of FDI-led growth – technology transfer to local firms – does not seem to operate, or is at best of marginal importance for the overall economic performance. This makes the ECEs an excellent starting point for the generation of new hypotheses about the influence of foreign investment on development. Clearly, this is a necessarily inductive exercise, and the findings presented below may not reflect the full range of mechanisms taking place in the countries with different historical trajectories or with a different position in the world markets. Nevertheless, given the paucity of theories in the field, I believe it might still constitute a valuable contribution to our

understanding of the link between the rising tide of cross-border investment and the perspectives of developing countries.

The research focuses on the specific solutions created in the ECEs in response to three crucial problems of late development: mobilization of capital, technology transfer and upgrading, and the need to ensure adequate skills and productivity of the workforce. In all of these areas, FDI represents a crucial part of the solution. However, the activities of the foreign firms are underpinned by complex alliances with an array of local and international actors, including local governments, labour, domestic firms and institutions, as well as other foreign firms and governments, and finally the EU. These alliances often span multiple levels of agency, from the relationships within the firm to high-level diplomatic bargains. To be able to examine them consistently, I have therefore narrowed the scope of the study further, to the level of a single industry, albeit one which represents a large share of manufacturing activity in the region: the automotive.

Automotive industry is among the more visible symbols of successful FDI-led development in ECEs. Since the mid-1990s, it experienced an explosive growth: more than 150 000 cars have been added to the regional productive capacity every year, and its share of European production rose from around 5% in 1997 to nearly 20% in 2011. The supplier sector has been growing even faster, and foreign firms account for most of the output. But the importance of the industry is not only symbolic: manufacturing of motor vehicles and their components accounts for more than a fifth of all exports from the region (including agricultural exports). Its share of total industrial production and investments is similarly high, although it only employs a little under 10% of industrial workforce (Table 1.2).

In addition to its relevance for the region, automobile industry offers a useful benchmark to other cases of late development. Long considered a trademark of successful industrialization, it has been used extensively as a starting point for analyses of different patterns of industrial development around the world, including both developed and developing countries (for some examples see Bennett & Sharpe 1979; Jenkins 1987; Amsden 1989;

Womack et al. 1990; Shapiro 1994; Lee & Cason 1994; Hollingsworth et al. 1994; Hancké 2002; Guillen 2008). This wealth of secondary literature can thus be used as a background canvas to single out specificities of ECE's own developmental model.

Table 1.2 Weight of automobile industry in ECE economies, 2005-2010

		Share of industry, as % of		
	As % of exports	Production	Investment	Employment
CZ	21.4	18.3	18.2	9.6
HU	17.9	16.2	19.5	7.7
PL	18.0	10.3	8.0	
SK	24.0	22.8	22.7	8.9
CEE	**20.3**	**16.9**	**17.1**	**7.8**
Germany	16.7	18.0	19.4	11.9
EU9	9.8	11.0	11.1	6.5

Source: author's calculations based on Eurostat (ComExt and Structural Business Statistics)
Note: Export data based on HS 96 detailed classification, data on production, employment and investment for DM34, NACE Rev.1.1. EU 9 refers to other West European countries with significant automotive production: Austria, Belgium, France, Italy, Netherlands, Portugal, Spain, Sweden and UK.

Finally, although the focus of the research is a single industry, the scope for generalization is increased by tracing its development in all four East Central European countries: Czech Republic, Hungary, Slovakia and Poland. The regional approach is justified primarily by the structure of the industry itself, which draws on cross-border connections to develop its activities in the region. It also takes into account the profoundly transnational nature of FDI-led development, by showing how the countries converge on similar solutions in spite of sometimes different starting points. On the other hand, by encompassing all four countries I control for small differences in policy, background characteristics and historical accidents which may lead to some variation in developmental trajectories. In that sense, the research combines the main approach of a case study with the most-similar comparative research design to both emphasise the similarities of FDI-led development and delimit the scope for policy manoeuvre within the single "integrationist" model.

Due to the exploratory nature of the research, and the focus on interactions between firms and a variety of outside actors, this study mobilized a broad range of methods and data

sources. Quantitative analysis of industry characteristics relies on a number of publicly available databases by the national statistical offices, banks and international organisations, and two unique databases compiled specifically for this project based on other sources (database on state aid to automobile industry and database on automotive suppliers). The statistical data is complemented by qualitative information based on the analysis policy documents, media resources, company reports, as well as 24 interviews with representatives of foreign and local firms, industry associations, national institutions and European Commission (for a list of data sources and interviews see Appendix I).

1.2 Summary of the chapters

The remainder of this thesis proceeds as follows: Chapter II outlines the main features of East Central European hyper-integrationist variety of late development. It first presents the general model of late development as elaborated by Amsden (2001), and proceeds to identify specific challenges facing East Central Europe at the turn of the century. It then summarizes the solutions developed in the context of ECE "integrationist" model of development in response to the problems of mobilization of capital, technology transfer and upgrading, and labour productivity and skills, and contrast them with those employed by the more "independentist" approach, comparing the achievements and costs of each model.

Chapter III then discusses the evolution of policies and institutions devised to attract foreign investment to East Central Europe, and emphasises the transnational dimension of these adjustments, particularly the way in which the ECEs negotiated implementation of the EU's regime of investment regulation. It argues that while transnational regulations offer some source of empowerment to developing countries, in that they limit the bidding wars among competing states, the balance of power between multinationals and host states remains heavily skewed in favour of the former. Chapter IV engages in more detail with the theories of "spillovers" as the key mechanism linking FDI in development. The findings of the chapter reject the theory that spillovers are the main mechanism behind upgrading argues that the foreign

firms contributed to growth by substituting missing domestic capabilities, rather than by helping to develop them. Foreign automotive firms in East Central Europe have succeeded in creating a vibrant automotive cluster, transplanting their networks of suppliers and institutional solutions to inter-firm relations. The price of this, however, has been a near-complete exclusion of domestic firms and a weak capacity of the region to produce own technologies. Chapter V then turns to the question of labour relations, and the mechanisms to balance labour costs and productivity in the conditions of hyper-integrationist development. The chapter traces a shift in the alliance between foreign firms, local governments and the workers which has provided the region with a strong basis in skilled, cheap labour. Although this arrangement has facilitated the early productivity boom, the effects on the skill upgrading of the workforce had been minimal. As a consequence of this, region's productivity coalitions have recently begun to show signs of tension. International integration and close comparisons with other production locations in Europe have pushed the workers to seek higher wages and better working conditions, while the employers have turned to alternative strategies to protect their cost advantage. Finally, Chapter VI compares the achievements of the ECE's hyper-integrationist development model with those of other late development varieties. It argues that the main advantage of the model is its ability to facilitate rapid catch-up in terms of production upgrading and international competitiveness of exports. However, the model also shows some weaknesses: most importantly, it offers very weak incentives to the leading firms to move beyond production upgrading to investments in technology and skills.

CHAPTER II

2 The mechanics of hyper-integrationist development model

In the introduction I have argued that the role of FDI in development of countries where foreign investment occupies a particularly large share of leading industries is best understood not as a temporary catalyst for development of local factors, but as a more or less permanent fixture – a new form of solution to late development problems. Of course foreign direct investment had played an important role also in the previous generations of late developers, as we will see in the remainder of this chapter. However, its pervasiveness, and the structure of alliances which support its involvement in East Central Europe are all sufficiently different to constitute a separate sub-species of late development, which is best described as "hyper-integrationist".

This chapter lays out in greater detail the mechanics of hyper-integrationist variety of late development, through structured comparison with independentist and early integrationist models. Section 2.1 first describes the logic of inquiry into the specifics of late development. As already noted, unlike the more universalist development theories, late development approaches focus on differences in the configuration of challenges each country faces as a consequence of its position in the world economy and the timing of its integration into international markets. Thus although all developing countries confront similar problems - access to capital, technology and skills – these challenges will be differently calibrated, and will require different solutions.

Most accounts of late development in the 20th century have emphasised the role of developmental state as the main agent behind innovative solutions to development problems. Section 2.2 briefly recounts the crisis of developmental state, starting in the mid-1980s, and the split of the single state-led development model into different sub-types, the independentist East Asian, integrationist Latin American, and the hyper-integrationist East Central European. The three varieties are distinguished by the relative importance of foreign investment on the one hand, and on the other by the types of alliances the states forge in order to direct the activities

of the private sector. Section 2.3 compares the solutions created by these alliances across the three models in response to each of the late development problems: capital mobilisation, technology transfer and development, and labour productivity, and highlights the specific distribution of advantages and costs of each model.

Finally, section 2.4 turns to the question of why East Central European countries chose such a different development path. In line with the late development theories, I trace the origins of this difference to changing international circumstances which constrain some strategies and enable others. However, the choice of strategies is also determined by the internal narrative on the proper direction of national development, which makes some choices appear more legitimate and thus more tolerable than others. This is also why it is so difficult to compare objectively the achievements of each developmental model against those of others – the costs which seem marginal in one context would be politically inadmissible in another. East Central European hyper-integrationist model is certainly more dependent, and probably less effective at shifting to the high technology path than the independentist East Asian one. If, however, the national interest is primarily defined as rapid integration into an external economic regime, and the aspirational horizon is complete imitation of other members of this regime, then the hyper-integrationist model promises, at least in theory, the most straightforward path.

2.1 Challenges of late development

Economic development is a strongly relational concept. At the minimum, the fact that we think of some countries as developed and others as developing assumes that the former have achieved something the latter do not yet have. There is much disagreement on the range of features which constitute development: most theories settle for a minimum level of per capita income, but the concept is often extended to encompass other normative choices: from equality of income distribution, to access to health or education, quality of environment and women's rights. Such normative choices are also often implicitly derived from the experience of a particular developed country, but even if we accept them as absolutes, we still measure them as

relative achievements – by the extent to which developing countries approach the score of their developed peers on that particular dimension, the extent to which they become more similar to them. In other words, for most theories concerned with the notion of economic development, the goal of development is ultimately a form of imitation.

Nevertheless, the literature is deeply divided over the appropriate means to successful imitation. On one side are the approaches which extend the principle of imitation from the outcome to the process of development. From modernization theories of the 1950s and 1960s to the Washington consensus in the 1990s and the more recent emphasis on good governance and institutions, such approaches use the examples of developed countries as templates, to distil a list of general obstacles to development and identify policies, principles of economic regulation and specific institutions which constitute appropriate solutions to such problems. On the other side are development theories which explicitly reject the assumption that the solutions which worked for developed countries can be cleansed of all context and copied as general principles by the latecomers. Instead, they must invent new ways to attain the same level of development. Successful imitation of the outcomes, in other words, requires *innovation* of development process.

This position is characteristic of the so-called theories of "late development", stretching in a long line from Alexander Gerschenkron's exploration of comparative industrialization in late 19th century Europe to the study of East Asian "miracles" in the second half of the 20th century. With varying emphasis, these theories typically offer two types of justification for the innovative path to development: internal specificities, and the peculiar context of "late" development. The emphasis on internal obstacles to imitation is more common, and stems from a view of institutions which does not see them simply as efficient solutions to abstract economic problems, but as specific settlements which embody a particular balance of power and interests in a given context. Imitation might fail because in another setting some actors may be too strong and reject the new regulations; others may be too weak to make use of them even if they are instituted; and their implementation will depend on the availability of a host of complementary

features, from the very concrete ones such as bankruptcy courts to the more elusive ones such as trust (Mattli & Woods 2009; Roland 2004; Evans 2004a; Rodrik et al. 2002; Rodrik 2008). The alternative is to focus on unearthing different pathways, "substitutes" or "second best" institutions, which fulfil similar functions in ways which are better suited to the local context (Gerschenkron 1962; Hirschman 1981; Evans 1971; 2004b; Rodrik 2008).

But the internal context is not the only obstacle to successful imitation. In fact, what sets the theories of late development most starkly apart from those seeking universally valid solutions is the emphasis on external constraints, arising from the very circumstance of their "lateness". Being late means coexisting with already developed countries in the same world economy. This means that the developed countries are not merely abstract examples, but real rivals who already posses the skills, technology and a capital base to set the terms of the competition for the latecomers. For some of the authors in this tradition, such as those of the world system and early dependency approaches, this is tantamount to saying that the rules of development are rigged: development for the latecomers is structurally improbable on terms that have been set by others, and is only likely to occur through a radical break from the world economy (Wallerstein 1979; Frank 1969; for a more nuanced version see Cardoso 1977). For others, however, this relationship is more ambiguous. While competition from more developed countries is likely to raise new obstacles to development, it may also provide latecomers with new opportunities – what Gerschenkron famously dubbed the "advantages of backwardness" (Gerschenkron 1962; Vernon 1966; also Dore 1972). If they are to make use of these, however, the developing countries should not – indeed cannot - simply copy the strategies of their advanced peers.

In what ways does the fact of lateness alter the parameters of development for the latecomers? Overall, the key problems stressed by the students of late development are no different from those commonly identified by any other theory of development: the lack of capital, technology and skills. The way these challenges are configured, however, varies tremendously as a consequence of the timing of their arrival to international competition.

Probably the best known elaboration of this proposition is Alexander Gerschenkron's "Economic backwardness in historical perspective" (1962). Gerschenkron describes the early industrialization of England as a gradual process, fuelled by the capital accumulated by individual enterprises through trade and early experiments in manufacturing. However, by the time England acquired the status of world industrial power and became the object of envy and emulation by less developed continental economies, the challenge of industrialization had changed tremendously. On the one hand, the latecomers could copy technological innovations developed by the English firms, significantly shortening the industrialization process. On the other hand, however, these same technologies had massively increased the scale of production at which they could be utilized efficiently, requiring much larger initial investments. Since no firm in the latecomer countries could muster this much capital on its own, in France and Germany a new institution – the industrial bank – was devised to mobilize the necessary investments, with long-term consequences for the structure of competition and internal organisation of firms in these countries. In Russia, where capital was even scarcer and more diffuse, the only way to accomplish a similar feat was direct intervention of the state into industrialization process (Gerschenkron 1962).

Gerschenkron's analysis is partly sector-specific, and partly time-specific, but its basic principles are more widely applicable. As industries mature, there is a strong tendency towards increasing economies of scale, which raises capital requirements. The means higher barriers to entry for the latecomers, but the new costs are partly offset by the opportunity to shorten the catch-up process by borrowing already developed technologies. Gerschenkron is aware that technology "borrowing" is not a straightforward process – he notes, for instance, that in the more backward countries the machine tool industries took much longer to evolve than the more capital but less skill intensive iron foundries – but he nevertheless stresses the lack of capital as the largest obstacle to development, at least for the early industrializers. For those writing on the post-war industrial development, however, the magnitude of challenges had reversed. By the 1970s, international credit boom had eased the capital constraints in developing countries,

while the spread of more skill intensive industries turned the questions of technology and human capital into the key problems of development (e.g. Abramovitz 1986).

The most encompassing elaboration of these two challenges comes from Alice Amsden, and her extensive research on industrial development in Korea and Taiwan. Much of Amsden's work is concerned with the fact that the "advantages of backwardness", i.e. the flow of new technologies to less developed countries, do not manifest automatically. This is not simply because of developing countries' lack of skill to imitate advanced technologies, but also because of the way in which technology is produced and diffused - not as a public good, but as a proprietary advantage of developed countries' firms. Unlike technology *development*, which is a more universal challenge, technology *transfer* is thus a specific problem of late development. To accomplish it successfully, these countries must devise ways to pry the secrets of the trade away from foreign firms, and teach their own firms how to use them efficiently. For those sufficiently close to the technological frontier, exposure to the example of foreign firms through competition might be enough; others will have to resort to additional methods, from the purchase of licences and reverse engineering to apprenticeship within joint ventures with foreign firms (Amsden 1989; Amsden 2001; Amsden & Chu 2003; Hobday 1994). Such measures are distinct from, although not incompatible with, those aimed at fostering technology *development*, such as investments in local capabilities, skills and research. There are, however, cases in which the two can clash: the most classical example is the protection of intellectual property rights (IPRs). While IPRs are touted as a way to promote private investment in innovation with the promise of windfall profits to the first movers, they can be a problem for the latecomers seeking to "borrow" technology (Gereffi & Evans 1981; Amsden 2001; Braithwaite & Drahos 2000). This creates additional challenges for the late developers, who must find ways to balance the two, and eventually manage the transition from borrowing technology to making it.

Part of the difficulties related to technology transfer, and even more to the task of completing the catch-up process by advancing from transfer to production of own technologies, is the availability of skilled workforce. Although the question of education features prominently

in most discussions of economic growth, in developing countries as in developed, Amsden is careful to point out some specific challenges for late developers. For one, because of the novelty of technologies being transposed, it is unlikely that the broader educational system will provide the future workforce with necessary skills. Therefore, a substantial amount of training in catch-up firms has to take place on the shop floor. Because the firms themselves are in the process of learning, however, skilled workforce is especially valuable, and its cooperation more precious than in countries where such technologies are considered a more standard fare (Amsden 1989). Thus, over and beyond good general education, late developers will require specific institutions to support the learning process within the firm, motivate the workforce to invest in new skills, and ensure its loyalty and cooperation.

At the same time, however, late movers operate under a much greater cost constraint. They lack proprietary technologies and the associated innovation rents, are less productive, and thus typically have much smaller profit margins. To be competitive, they must continue to rely on the one asset they have in abundance: cheap labour force. This means that late developers require a somewhat contradictory combination of tools to promote skills and motivation necessary for the continuous rise of productivity, while at the same time ensuring that the costs remain lower than those of their competitors, and that the promise of profit is high enough for the firms to pursue large, risky investments (Kohli 2004; Amsden 1990b; Dore 1990 (1973); Cole 1978).

These concerns which the internal and external context of development are precisely what sets the late-development theories apart from the more universalistic growth theories. The challenges they identify are broadly similar: capital, technology and productivity. However, for the late development theorists, it is the specific configuration of local actors and resources, and even more the conditions of international competition which set the specific parameters of these challenges for each newcomer: the amount of capital required and the way it can be mobilized, opportunities for technology transfer from the innovators to followers and the severity of conflict between the dual aims of raising skills and productivity of the workforce and

keeping the costs low. As the challenges vary, so do the responses. To create a viable solution to each development problem in a new context, late developers cannot use the tried and tested policies of their predecessors. The key question, then, is how are the new solutions devised, and what makes them successful.

2.2 The solutions in historical perspective: imitation, innovation, integration

The main argument of late development theories is that successful imitation, or catch-up with more developed countries, is only possible through institutional and policy innovation. From the standpoint of developing country governments, and especially for international organisations intent on benchmarking and helping along development efforts, this is a somewhat disappointing conclusion, as the acknowledgment of diversity in itself does little to identify successful solutions in advance. Empirically, however, most accounts of late development do point to one champion of innovation: developmental state.

Theoretically speaking, the challenges of late development as outlined above do not necessarily imply a strong role for the state. The verdict usually ascribed to Gerschenkron, that government intervention increases with the relative "backwardness" of the country, was a historical observation rather than a universal proposition. It is nevertheless true that even in the later decades of the 20th century most developmental success stories featured the state as the main engine behind the catching-up project. This is precisely what Alice Amsden refers to as the "original" model of late development: a well organised, development-oriented state machinery which not only provides basic security and property rights, but also engages in active micro-management of industrial growth, mobilizes capital and directs investment, provides technological assistance to the private firms, sets up own public companies to advance key technological sectors, and controls, educates and regulates labour (Chang 1994; Amsden 1989; 1992; 2001; Evans 1995; Kohli 2004; Wade 1990; Woo-Cumings 1999; Johnson 1982).

However, by the 1990s, and the ECE's opening to the international markets, this notion of state as the key champion of development had fallen into disrepute. To be sure, it was never a foolproof method to begin with. For every successful developmental state, there were plenty of failures which wound up as depressed, captured economies, with crony authoritarian governments and limited gains which only extended to a chosen few (Kohli 2004; Krueger 1996; Lal 1984; Evans 1992). The paragon of state-centred economy, state socialism, had collapsed in Eastern Europe leaving behind spiralling recessions, and the expert opinion had decidedly swung in favour of government withdrawal from the economy. Furthermore, the success stories of state developmentalism were almost equally unnerving. East Asian economic miracles, premised on a combination of protected domestic markets and aggressive exports, had made many enemies in the developed economies, especially the US whose firms were already beginning to feel the pressure of Asian competition (e.g. Chang 2002; Cumings 1998; Bhagwati & Patrick 1991; Bown & McCulloch 2009). The end of Cold War removed the incentive to extend preferential treatment to non-socialist developing countries, and by the time the financial crisis on 1997 hit the Asian "tigers", many were ready to denounce their paternalist-corporatist development model and demand opening up, extraction of the state from the corrupt private-public networks, and commitment to the new international rules of fair competition.

Thus for a time the key debate in development studies became known as "state vs. markets". This was, of course, only part of the story. Even the most resolute advocates of free markets, at least those in the international development organisations, agreed that the state must continue to play a pivotal role in creating markets, protecting private exchanges, supporting development of infrastructure and fostering private capabilities to make use of the markets (e.g. Williamson 2002; Burki & Perry 1998). Rather than abolishment of the state, this was in fact a revival of the doctrine of imitation as a universal path to development. The state was still allowed, and indeed expected, to perform the roles it performed in developed countries. However, innovation and intervention by the state in the processes which – at least in developed countries – could be successfully carried out by private actors, were considered to be

too perilous. The asymmetry was not lost on development scholars, some of whom denounced it as hypocrisy, and warned about the negative repercussions of the loss of "policy space" in which to create new solutions for development (Wade 2003; DiCaprio & Gallagher 2006; Chang 2002; 2006).

Nevertheless, the common pressure for changes in the international economic environment did not produce uniform responses among late developers. Rather, it led to a split of the late development model into two sub-types, which is most carefully documented in Alice Amsden's "The Rise of the Rest" (2001). Those countries for whom "independentist" approach under the tutelage of developmental state worked well, like the East Asian states, employed a range of "mechanisms of resistance" to preserve the main tenets of their development model, in spite of international trends. While they acquiesced to the regime of freer trade, they made active use of various safeguards to extend market protection and continued to resist the entry of foreign competitors into their markets (Amsden 2001). The most glaring violations of the liberal international regime, such as outright prohibition of foreign ownership or multiple exchange rates were abolished, but the governments continued to subsidize key development sectors (Amsden & Chu 2003).

On the other hand, the countries where developmental state was already weaker, less effective and more contested, increasingly abandoned earlier strategies and sought to exploit new opportunities presented by the changing international environment. These "integrationist" types, in Amsden exemplified by Latin American countries, Mexico in particular, were quicker to open up and accept the rules of international trade and investment, and ally with the outside forces to advance local growth. East Central European countries, which had only just extricated themselves from the embrace of an all-powerful authoritarian state, went even further, eager to reinvent themselves in the image of their more successful Western neighbours and join the regional supranational alliance.

At the first glance, the integrationist development model appears to abandon all attempt at institutional and policy innovation in favour of emulation of developed countries' institutions.

This is especially true of those countries which became part of supranational alliances with more powerful states and indeed did everything in their power to transpose the rules of economic competition, and adopt similar approaches to market regulation. Nevertheless, imitation remained as difficult as ever. For one, the rules were not always clear. Even when developed countries became directly engaged in helping their less developed peers transpose the rules – e.g. through transnational associations such as NAFTA and EU - and even where they did their best to devise detailed templates for institutional transplantation, which in case of EU ran to some 80 000 pages of regulations, these could never cover all aspects of institutional performance (e.g. Jacoby 2004). One reason is that there often is simply no best model to follow. Developed countries themselves display a variety of approaches to capital mobilization, technology development and labour relations, sometimes as a consequence of the novel solutions they developed in their own catch-up times (compare Gerschenkron 1962; Hall & Soskice 2001). But even when the rules are clear, or when developing country authorities simply pick one model to imitate, there is no guarantee that these institutions will actually provide the necessary solutions to development problems. A good example are the stock markets in East Central Europe: although some countries of the region hurried up to establish them at the very start of transition, and did everything to transpose international rules of financial regulation in this field, for the next twenty years the East Central European stock markets did little to raise the funding for restructuring of the region's industrial firms (Claessens et al. 2000; Kominek 2003). Instead, the necessary capital came from the outside, in the guise of foreign direct investment, and one of the reasons for the continued weakness of the region's stock markets is precisely the fact that its best performing firms are not listed there. In that sense, to the extent that integrationist models of development provide effective solutions to late development challenges, they do so not so much by copying developed countries' solutions as through direct involvement of external actors and their resources. While these may help to advance institutional imitation, they can just as well retard effective regulatory transposition or prompt new combinations of actors and policies. In other words, as a strategy of response to

development challenges, integration is also a form of innovation, but the solutions it brings are less directly engineered by the state: rather, they are negotiated between the state and the powerful outside actors.

I have argued in the introduction that the main difference between different varieties of late development is the ability of the state to control the decisions of the private sector, and the degree of involvement of foreign firms. In the independentist model, which remains closest to the original prototype of state-led late development, the influence of foreign firms is limited, and the state is extremely strong. The state has a tight relationship with the private sector, which is based on a principle Amsden calls the "reciprocal control mechanism", i.e. a relationship in which the government provides various forms of support to the private firms, but also monitors their performance closely to ensure they deliver on government-specified targets (Amsden 1989; Amsden 1992). In this configuration, foreign firms mostly appear as vehicles for technology transfer, but direct investment is generally considered to be the least preferred option, replaced wherever possible by loose partnerships, licencing agreements etc.

In the early integrationist models, the state had less ability to control the private sector. Although it provided a similar range of subsidies, it was far less successful at exacting adequate performance in return (Amsden 2001; Evans 1995). In this context, foreign investment constituted a double solution, both as a source of new technologies to improve local productivity, and as a source of controlled competition to discipline domestic firms. However, the balance of forces within this "triple alliance" (Evans 1979) between the government, domestic and foreign firms is still premised on a strong government role, because it is precisely the domestic firms' privileged access to political and social capital, and the governments intervention to limit the entry of foreigners which buttresses the bargaining position of local firms vis-à-vis the more competitive foreign capital. This coalition is more complex than in the independentist model, and the balance more precarious, with a lot of potential for shifting alliances between the three partners. Although the influence of the government is somewhat weaker, it remains the main force which stabilizes the triple alliance. To keep the development

goals on course, the government alternates between intervention to strengthen the domestic sector through regulation and direct involvement, and policies to weaken its position and force it to improve the performance by giving freer rein to foreign firms (Evans 1979).

With more pressure on the state to withdraw from the private sector, this balancing act becomes more difficult. Without government support, domestic firms are unable to face up to the challenge of foreign firms, and are likely to be pushed out of the sectors where they cannot meet the technological and productivity demands of free competition. Thus in the hyper-integrationist model the government is more or less alone against foreign firms, and has to find new ways to sway them towards local development goals. At the same time, with the states' regulatory framework severely constrained by the commitment to a liberal international trade and investment regime, foreign firms have become even more difficult to direct, due to their structural power and credible exit options.

This state of affairs led to much debate over the power of developing countries to guide the private sector towards a structural shift into more complex production, as opposed to simply trying to make the best out of their comparative advantage in cheap labour. For many, liberalization signals the end of government's ability to guide private investment decisions, although not everyone finds the consequences of this shift to be equally detrimental to development.

In East Central Europe, the more pessimist view sees the relationship between the government and the private sector transformed in such a way that the government decisions become completely subordinate to the wishes of powerful multinational capital. Developmental state is replaced by a "competition state" (Drahokoupil 2008; Vliegenthart 2010), in alliance with a compradore service sector, which focuses on attracting mobile capital as a sole form of industrial policy. This singular focus leaves behind many of the other goals of development, such as regional development, labour and environmental concerns (e.g. Drahokoupil 2008), and has practically no ability to push for a shift towards higher value-added functions (Nölke & Vliegenthart 2009). At the other extreme, some authors see the state withdrawing from the

alliance altogether, but maintain that under some circumstances, the firms can by themselves create institutional arrangements which advance productivity growth in the locality. According to this argument, firms with high asset specificity, i.e. those which derive their competitiveness not from costs alone but from specialization in more complex products, require a number of goods which are produced outside of the firm to operate successfully - most notably a skilled and committed labour force, and technological advantages they derive from cooperation with other firms. If a locality does not possess adequate institutional framework to provide these goods, the firms can engage in "endogenous coordination" to create the necessary capabilities on their own, kick-starting a virtuous circle for development (Hancké & Kureková 2008; Hancké 2012).

Although it is undeniable that the developmental state has lost much of its power, both the positive and the negative narrative of the state's withdrawal from the driving seat are at best premature. Both contribute important insights which should be taken into account when analysing the process of development in the hyper-integrationist model: on the one hand, the element of competition between states, which in itself creates pressures for institutional adjustments (see also Bohle & Greskovits 2012), and on the other the stress on firms' ability to act creatively to ensure access to certain key capabilities, even if it means bypassing the existing local institutions.

Nevertheless, by stressing only one aspect of this transformation, both miss the complexity of relations within the new alliance for development which characterises the hyper-integrationist model. For one, the narrative of endogenous coordination appears strangely incomplete. Although the authors stress that endogenous coordination will only arise when two preconditions are in place – if firms with high asset specificity, and a specialization in high-skill, high-technology goods find themselves in an environment where they don't have access to these goods – it is hard to find theoretical justification for why a firm of that description would at all find itself in a country without adequate institutions, and with enough sunk capital to prefer developing new institutions to simply moving on. At the other extreme, a blanket

pronouncement of state's degeneration into a handmaiden of foreign capital does little to uncover the remaining mechanisms through which different countries can be more or less successful at navigating foreign firms towards their own development goals.

It is also hard to ignore the repeated findings that the state, or rather "stateness", in the sense of governing capacity, remains the key to successful development (e.g. Weiss 2003; Bohle & Greskovits 2012). Even within the relatively homogenous region of Eastern Europe, Bohle and Greskovits (2012) show that higher state capacity is linked to better growth performance and a more successful shift towards higher value-added activities, but also that different states can choose different approaches to foreign investment. The state still takes on the task of attracting the "right" kind of multinational, provides the necessary conditions to ensure they stay put, bears the costs of restructuring necessary to make the industries more productive, but also decides which demands it will not fulfil, and tries to minimize the costs of these services and steer the multinationals out of cost-intensive production and into more complex activities. To do so, the states bargain directly with the multinationals, and try to broker agreements with a range of other actors in order to balance the demands of foreign capital with the goals of local development.

None of this is to deny that the state in the hyper-integrationist model is in a much weaker position than in any other variety of late development. The alliance on which it is founded is very different from the "reciprocal control mechanism" of the independentist type, because the dependence between firms and the state is not symmetrical. It is also more fragmented than the integrationist "triple alliance", where the state used its regulatory power over foreign firms to manipulate responses of domestic capital. In the hyper-integrationist variety, foreign capital is the primary target of the state action, but the state's regulatory capacity is much weaker. The bargains with the multinationals therefore take place in the context of more complex, fragmentary alliances with other states and international organisations, local firms, research institutions, and labour. Each of these is in itself reminiscent of the triple alliance, as it contains the potential for shifting agreements between the three

parties which sometimes benefit the state and sometimes the multinational, and sometimes pit both against the third partner. However, because each aspect of the alliance features a different actor of varying bargaining power, the alliance itself is far more complex and fragile.

2.3 Hyper-integrationist model in comparison

Amsden's analysis of divergence between late development models in the 1980s and 1990s focuses almost exclusively on the question of technology, or rather the ability of late developers to cross from the stage of technology transfer to technology development. In this context, innovation is the trademark strategy of the "independentist" variety, what she calls the "make" decision. Although East Asian developmental states still rely heavily on borrowed technology, they have also made substantial efforts to adapt it and invest in their own technological development, making the last transition in the catching-up process from followers to innovators. By contrast, late developers of the "integrationist" type continue to rely more heavily on import. They "buy" technology, by inviting in foreign investors and hoping they will supply the necessary spillovers through interaction with local firms.

I have argued so far that the integrationist strategies do not stop at technology transfer, but dominate all key areas of development: technology, capital and labour productivity. Chapters 2 through 5 examine in greater detail the evolution of specific solutions to each of these problems in East Central Europe, filling out the contours of the new, hyper-integrationist variety of late development. To highlight the differences in strategies employed by each of the three late development models, the following three sections offer a short comparison of the respective solutions to the main development challenges.

Comparing the solutions and outcomes necessarily implies a judgement on the relative achievements of each model, but it should be noted that none of the approaches to late development is easy or costless. All of the countries compared below are success stories in their own context, and these are rare enough among late developers. However, the nature of achievements and the distribution of costs vary among the three varieties. They are difficult to

evaluate against each other, because each developing country faces different constraints, and has its own horizon of aspirations and own benchmarks against which to measure the success of its development model. As we will see below, some key achievements of the earlier models – such as the rise of national champions – are nearly impossible within the hyper-integrationist approach. At the same time however, the hyper-integrationist model is less vulnerable to some of the classical ills of late development, such as balance of payments problems, and can substantially speed up upgrading and export competitiveness. In the end, the overall performance of successful integrationists may be no worse than that of successful independentist, at least when measured by standard indicators such per capita GDP and export competitiveness, but the types of costs and sources of tension within the model will certainly be very different.

2.3.1 Capital

As noted in the introduction, the problem of capital scarcity in late developers is compounded by several factors: cost, scale and uncertain pay-offs. High capital costs are a direct consequence of capital scarcity, and discourage firms from undertaking large investments. At the same time, large initial investments are necessary in most mature mass-market manufactures, because of substantial scale economies. However, because they are mature, and the competitors well established, the risk of such investments for developing country firms is augmented by uncertain pay-offs: the size of the local market typically does not justify investment on that scale, and their ability to recoup investment costs by capturing a share of the international market is limited by their lower productivity and the lack of experience and market access.

It follows that in order to stimulate the shift into new industries with higher productivity returns, a late developing country must find ways to mobilize capital on a sufficient scale, lower the costs of capital provision, and ensure satisfactory returns to motivate investment. However well regulated, local financial markets are unlikely to supply adequate

solutions for these problems. Instead, most late developers found some form of solution in state intervention. The state either undertook such investments directly, through public companies, or goaded the private firms into selected activities by manipulating the costs and returns on capital: lowering interest rates on certain types of investments, offering targeted subsidies, creating a domestic market for new products, and protecting it from outside competition to ensure higher profits (Wade 1990; Amsden 1989; Stallings 2006).

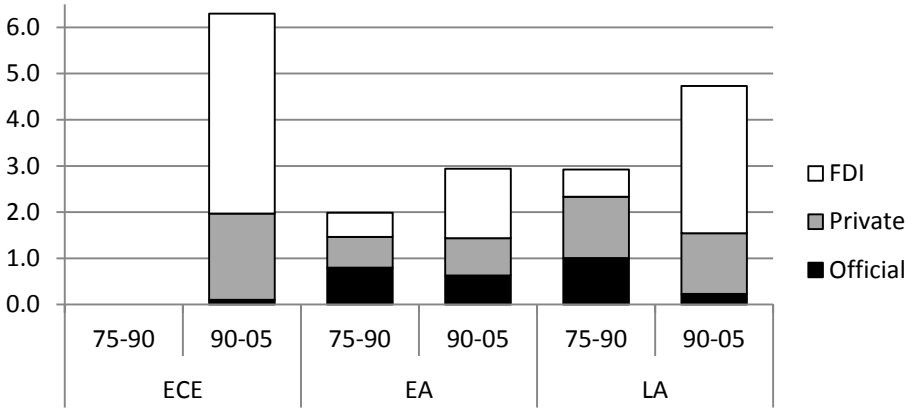
This "independentist" solution rested firmly on a reciprocal relationship between the state and the local firms, but it nevertheless involved a good deal of import of foreign capital. However, most of this capital came in via foreign borrowing, while direct foreign investment remained very limited. Foreign savings were typically channelled through government-owned development banks, which meant that governments took on part of the borrowing risk, and were able to target credit to selected activities and firms (Amsden 1989; Stallings 1990). Even in Latin America, which was more open to direct involvement of foreign companies, the arriving multinationals were hand-picked by the government and their number and behaviour strictly regulated (Shapiro 1994; Bennett & Sharpe 1979). Thus throughout the period of import-substitution industrialization, the share of FDI remained well under a quarter of the total externally sourced capital (Stallings 1990, see also Figure 2.1).

These alternatives all but dried up in the aftermath of the debt crisis in mid-1980s. Commercial bank lending to developing countries nearly collapsed, and although private loans and portfolio investments resumed again in the following decade, the official lending continued to dwindle. On the other hand, direct foreign investment soared. Since the 1990, FDI has been the most important source of external finance for developing countries: by the middle of the following decade, it already accounted for nearly half of all net foreign capital inflows even in East Asia, while in Latin America and East Central Europe its share came closer to two thirds (Figure 2.1). At the same time, however, the reliance on foreign savings remained relatively low in East Asia, less than half of the level of East Central Europe, where net foreign capital flows account for over 6% of GDP annually. It is even lower in the older generation of "tigers" – since

the late 1990s, foreign financing in Korea has fallen below 1% of GDP, and high domestic saving rates have increasingly proven a viable alternative to foreign capital (Stallings 2004; Kohli 2009).

Direct investment from abroad certainly appears to be an effective solution to most capital-related challenges outlined above. FDI is not constrained by the cost of borrowing in the local financial market, and can quickly reach the scale and productivity levels (through import of proprietary technologies and other inputs) which render host country operations competitive on the international markets. If sufficient investment is forthcoming, this can help developing countries avoid balance of payments problems often associated with import substitution strategies. Reliance on foreign investment also does away with the threat of government failure which is inherent to the developmental state's strategy of "picking winners" – the danger that they might make the wrong choices, or that support for development of the private sector will degenerate into cronyism.

Figure 2.1Composition of net foreign capital flows to selected regions, %GDP



Note: Official flows include multilateral and bilateral loans from official sources (excluding IMF loans) and grants. Private flows include commercial international loans, bonds and portfolion investment. For the composition of regions see footnote 1.

Source: own calculations based on World Bank WDI database

However, this solution comes at the cost of novel difficulties. For one, short-term relief of balance of payment problems can turn into a long-term drain on capital account through profit repatriation, which means that the host states have to keep finding novel ways to

convince the companies to re-invest. FDI is also famously difficult to navigate: foreign firms are harder to bargain with because they have an easy exit option, and cannot be pressured to invest into less than promising activities or regions for the sake of long-term national development goals. In fact, to the extent that FDI is the embodiment of private, market-led efficient allocation of resources, it will almost by definition fail to accomplish the main task of development: structural shift of investments towards momentarily less efficient but more promising uses. In that sense, developing country governments remain saddled with the difficult task of luring private investment to activities where it would not otherwise go, by devising various schemes to make such investments more appealing.

In the earlier generation of integrationist states, the "bait" consisted of preferential access to domestic market. Because the firms could pass on the higher costs of production to the local customers, they did not mind investing in activities which did not comply with the local comparative advantage. In the latter generation "hyper-integrationist" states, however, this is often not an option, and the incentives tend to be of a more direct kind. In order to lower investment costs, the host governments resort to manipulation of taxes to increase profitability, direct subsidies, and provision of special services and infrastructure. An interesting twist in the hyper-integrationist context, especially in smaller developing countries, is that the main prize for the foreign investors isn't so much the local market, but the ability to serve other countries' markets through local export platforms. This leads to a small paradox in that policies typically used to attract foreign firms and promote linkages to the local economy are also the ones which they need to abandon if the country is to become a part of an integrated trade and investment area. As we will see in more detail in Chapter 3, this conflict came into particularly sharp relief in East Central Europe once the region's FDI-oriented development clashed with the EU's competition regime and the interests of other member states.

This gives the alliance between states and MNCs a particularly complex character. The MNCs try to play off governments against each other in order to minimize their power over the firms' investment decision and increase the amount of subsidies. The governments, on the other

hand, have an interest to cooperate to limit the costs of FDI, but such cooperation is difficult because the pay-offs for defection are very high. A transnational regulatory regime, such as the European Union, can stabilize this cooperation to limit subsidy wars, but its interference also reinforces the interest of individual states to cooperate with the MNCs in order to outbid the competition. In the ECEs, this three-way interaction between host governments, competitor states and multinationals, under the aegis of the EU competition regime, underwrites a good deal of policy making ranging from investment policy to regional development and taxation, but its power to direct the multinationals' investment decisions remains limited.

2.3.2 Technology

While attracting foreign investment into desired sectors is neither cheap nor easy, it has the added value of improving the chances of technology transfer. When we speak about the learning process among latecomer firms and countries, "technology" should be understood very broadly - it includes not only acquisition of machinery and technical know-how, but also the "soft" aspects of productivity such as optimal production organisation, knowledge of the markets, experience with sales and management of suppliers. All these pose substantial challenges to firms in late developing countries, with the result that even when they acquire necessary technologies, they often remain less productive than firms in developed countries (Amsden 2001; Amsden & Hikino 1994).

FDI can help to resolve some of these problems, and has indeed been used as an important vehicle of technology transfer even by the most dedicated "independentist" governments. Most often, however, it is combined with a heavy dose of state intervention to ensure that the learning process takes place. The specific policies range from subsidies for the purchase of foreign licences, to lax attitude to intellectual property rights to allow reverse engineering, and local content requirements and limits on foreign ownership to promote cooperation with domestic firms. In some cases, as with Japanese investments in Korea, the government even "re-nationalized" foreign partnerships after a while, forcing foreign firms to

withdraw from joint ventures once the local affiliate caught up (e.g. Amsden 1989, Amsden and Chu 2003). Where the local firms were too weak to manage such partnerships, joint ventures in strategic industries were often established by the government itself, which later either crowded in domestic investment or spun off new start-ups with freshly acquired technologies (see Amsden 2001, pp.213–225)

The same policies were also widely applied in Latin America, but the control over foreign investment was much weaker. Local content requirements were as a rule accompanied by trade restrictions to protect the local market and allow foreign firms to recoup the profits lost due to higher cost of inputs, and only rarely by balancing export requirements. The resulting pressure on the balance of payments, coupled with the changes in international trade and investment regulations in the early 1990s eventually abolished most attempts to force technology transfers. The Uruguay round of GATT negotiations in 1994 finally banned local content requirements, and enforced stricter protection of intellectual property rights in developing countries (Chang 2006). Foreign firms were still regarded as the most important source of technology, but the argument now was that the spillovers will take place automatically, through competitive interaction between foreign and local firms, and without regulatory intervention. Despite the concern that unregulated FDI might crowd out weaker domestic enterprises, rather than helping them improve, some even argued that liberalization of investment regimes was more conducive to spillovers, as foreign firms would be encouraged to bring in cutting-edge technologies, without fear that their proprietary skills will be expropriated (e.g. Moran 2001; 1999).

These regulatory changes diminished the bargaining power of all developing country governments vis-à-vis foreign investors, but different types of late developers met the challenge in different ways. The most significant difference, however, was not so much in the way they accommodated changing regulatory regime of technology transfer, but in the degree to which they stepped up investments into own technology development. In “The Rise of the Rest”, Amsden calls this the choice between “making” and “buying” technology (also Amsden & Hikino

1993). The most advanced of East Asian developing countries responded to the liberalization of foreign capital flows by rushing to increase investments into local research. The approach bore the familiar mark of public involvement: Korean and Taiwanese governments had long supported cooperation between state research institutes and the leading firms, but now they began to offer greater tax incentives for research, and set up technology parks and incubators which nurtured the future leading firms in the most technology-intensive industries (Hobday 1994; Amsden & Chu 2003).

The concerted efforts to rear up domestic champions were successful enough that even when the restrictions on foreign investment were lifted, the share of FDI in high growth, high productivity sectors continued to decline (Amsden & Chu 2003), and many firms in Korea and Taiwan succeeded in making the last step from imitators to producers of proprietary technologies. On the other side, Latin American countries chose to make greater use of mobile international capital. However, they now focused less on technology transfer, which was left to the voluntary spillover effects, and more on attracting high-technology firms in the hope that in due time these transplants will turn into full-fledged centres of technology development (Paus & Gallagher 2007; Spar 1998).

The "free-style" spillovers were clearly not strong enough to help domestic firms to face competition from TNCs, and the project of national champions was slowly abandoned. Amsden observed that the "buy" approach to technology resulted in a tiered structure in Latin American manufacturing, where the lead firms were all foreign-owned, while the local firms populated lower supplier ranks, or exited manufacturing altogether (Amsden 2001; also Schneider & Karcher 2010). As discussed in more detail in Chapter 4, this process had gone even further in the ECEs, where domestic firms are near-absent from the region's most successful industries. At the same time, productivity growth in these industries has been unprecedented – foreign firms have brought in the most advanced technologies and have set up highly efficient production clusters, but technology "transfer" is hardly the right word to describe this process, since practically no local partners take part in it (see also Baldwin 2012). Instead of learning,

reindustrialization and upgrading in the hyper-integrationist model consist largely of a process of capacity substitution, accompanied by marginalization of local firms.

This transformed the task of local development from the management of technology transfer and linkages between foreign and local firms into one of coordinating transplantation of foreign firm networks. The task was greatly helped by the transformation of inter-firm relations within manufacturing industries on the global level, which gave rise to novel forms of transnational supplier management such as follow sourcing requirements, centralized screenings and enforcement of universal management standards (Humphrey & Memedovic 2003; Harrigel & Wittke 2005; Casper & Hancké 1999). In ECEs, an additional form of support came from investor associations in the region, as well as home country chambers of commerce, which provided alternative venues for cooperation and conflict resolution among incoming firms.

Technology and production transfer thus took place almost entirely through the private coordination networks of multinationals, with the host governments providing supporting infrastructure and additional incentives for supplier investments. Domestic capital, on the other hand, is largely excluded from this circuit of interactions. Overall, the result is a much faster upgrading and greater competitiveness in advanced manufacturing branches than in any other late developing type - in other words, in the hyper-integrationist model technology *transfer* is much more efficient, because it takes place within the multinational firms, and not between foreign and domestic companies. However, the impact on technology *development* is less clear. The most important question for the region's long-term competitiveness, and one which still remains unresolved, is whether an almost exclusively "import"-based strategy of technological catch-up can be turned into a viable "make" strategy. In absence of large and successful local firms, the answer depends on whether TNCs can be persuaded to produce technology locally.

In her analysis of divergence between two late development models, Amsden was sceptical about such prospects, and warned that continued dependence on technology imports might be the main weaknesses of the "integrationist" variety, contributing to its worse

performance over the long run. Data for 2000s seem to bear this prediction out. Although there is much variety within each region, Korea and Taiwan score much higher on indicators of technology "making" than any other country, with higher rates of R&D investments relative to GDP and more R&D personnel per population (Table 2.2). However, East Central European "hyper-integrationist" states are doing much better than even the best performers in Latin America, especially with regard to R&D employment. Thus it would appear that although there is relatively little autonomous development of technology in the region, they have managed to link up to some extent with the transnational channels of technology production.

Interestingly, however, and contrary to Amsden's prediction that the integrationist late developers "buy" technology instead of "making" it, Table 2.2 shows little variation among the three types on indicators which measure the "buy" decision. East Asian countries also have higher outlays for foreign intellectual property than almost any other country in the sample, and import about the same worth of capital equipment relative to GDP as the Latin American states – in other words, they both buy *and* make more technology. ECEs import substantially more capital equipment, but this may also reflect the relatively recent arrival of foreign investment in this region. The only aspect on which both integrationist models clearly conform to the type is the higher share of FDI in total capital investments, but this says little about technological content of these projects. One reason might be that it is simply more difficult to evaluate processes which take place inside the firm. The figures indicating the amount of "bought" technologies could be biased against the integrationist states if the affiliates of foreign multinationals do not pay for the use of parents' intellectual property. On the other hand, there is a real danger that beyond the one-off transfer of cutting edge technologies which arrive bundled in the initial capital investments the integrationist strategy of "buying" technology may degenerate into a "no-technology" path.

Table 2.1 "Making" vs. "buying" technologies in selected countries, 2000s

	Make		*Buy*			*GDP per capita in 2010, USD*
	Investments in Research and Development, % of GDP	**R&D personnel per million inhabitants**	**Payments for use of foreign intellectual property, %GDP**	**Import of capital equipment, %GDP**	**FDI as % of GFCF**	
ECEs						
Czech Rep.	1.3	3316.4	0.3	10	22.2	18,910
Hungary	1	2168.1	0.9	12.2	45.6	12,863
Poland	0.6	1827.1	0.3	4.7	18.1	12,303
Slovakia	0.5	2561.3	0.2	9	15.2	16,036
East Asia						
Korea	2.9	4582	0.6	3.9	2.0	20,540
Taiwan	2.4	7971	0.6	6.3	4.9	18,571
Latin America						
Argentina	0.5	1029.7	0.4	2.1	11.8	9,124
Brazil	1	1019.2	0.2	1.6	15.9	10,993
Chile	0.3	612.6	0.3	3.6	31.6	12,640
Mexico	0.4	470.3	0.2	5.1	13.8	9,128
Costa Rica	0.4	190.8	0.3	4.5	22.8	7,774

Source: Columns 1 and 2 - UNESCO database on science and technology, National Science Council of the Republic of China (Taiwan); Columns 3 and 4: IMF and Central Bank of the Republic of China (Taiwan) balance of payments and national accounts databases; Column 4: UNCTAD commodity trade database

Note: Capital goods include imports under codes 711-718; 721-728; 731-737; 741-749 and 771-772 of the SITC Rev.3 group 7 - machinery and equipment

To prevent this from happening, the host governments must find ways to motivate the foreign firms to undertake technology-intensive activities locally. In theory, there are two possible paths. On the one hand, they can create demand for technology development in situ, either by manipulating the market conditions (through trade policy, environmental policy or directly by imposing sourcing and technology requirements) or by offering financial incentives to the resident firms. Once again, the incentive-based approach may be the only one available to the smaller late developers, but is also the more uncertain one, because there is no guarantee that the multinationals will respond positively. The experience of East Central Europe is quite telling: although generous subsidies are available for innovation activities, only a tiny proportion of total subsidies is allocated to such purposes (see Chapter 4).

Another way, much touted by gurus of technological development, is to invest in development of own capacities, in order to become more attractive to international capital in

knowledge-intensive sectors. The specific policy suggestions are less straightforward: usually the government is expected to invest in everything from education to provision of start-up capital, besides the funds already committed to attract the multinationals (e.g. Lall & Narula 2004; see also O'Riain 2000). In addition to being extraordinarily expensive, such advice also once again reverses the causality between foreign investment and development, and is not very realistic in developing country settings. With the governments reluctant to undertake industrial investment themselves, and the local firms too weak to participate in technology development, there is little basis on which to create the kind of infrastructure that would inspire interest by global multinationals. More often than not, the only bait they can count on to attract knowledge-intensive investments, if they can raise the quality of offer, is the one resource they have aplenty: the labour.

2.3.3 Labour

Human capital is the final piece of challenge to successful catch-up with developed countries. We have seen that late developers face a peculiar conundrum with regard to labour productivity. On the one hand, skilled labour is scarce, which makes it relatively expensive in developing country context. On the other hand, labour as such is fairly abundant and cheap, and indeed constitutes their only comparative advantage. To build up competitiveness in more skill-intensive industries, developing countries must increase their reliance on skilled workforce, but also find ways to ensure that until they reach the technological frontier, productivity gains are not fully absorbed or overtaken by rising wage costs. Most late developers have attempted to resolve this challenge by a combination of two strategies: investment in skills, often at the company level; and political intervention to ensure cost moderation, which often includes workforce segmentation intended to capture both high and low skill ends of the market. However, the specific policies to bring about these solutions, and the balance between the two strategies depend on the distribution of forces.

According to Amsden (1990a), in Korea and Taiwan, as in Japan before them, wages actually grew quite quickly, but never outpaced the productivity gains. All of these countries frequently resorted to currency devaluations to improve external competitiveness, but these also increased the costs of imported inputs and capital equipment. Therefore, to ensure profitability of industrial enterprises, the governments also tried to address the problem of labour costs directly, by suppressing all activities which could interfere with productivity growth. Among other, these included outlawing independent trade unions, suppressing strikes and allowing wage growth to be balanced by exceptionally long working hours.

However, wage control was largely a secondary strategy. The main trust of labour policy in East Asia was to focus heavily on investments in education, especially technical education, which included pressure on the private sector to do the same (Evans 1995; World Bank 1993). Here growing wages doubled as a kind of "productivity whip": they forced the firms to increase productivity faster, among other through investments in workforce skills, in order to catch up with the wage growth. Private investment was further encouraged by paternalist labour relations which demanded workforce commitment and wage moderation in exchange for the promise of stable employment (Amsden 1990b; 1989; Dore 1972). At the same time, in industries where productivity gains were slower or where labour costs remained the key source of competitiveness, the costs were kept low through reliance on the more vulnerable segments of the workforce, typically women (Berik 2000; 2006; Amsden 1989).

We find a very similar range of tools in Latin American development states, but in a less coordinated manner. Here the labour force was more militant, and the governments less cohesive, often in need of broad popular support. Outright repression of labour and adversary shop-floor labour relations thus alternated with periods of populism aimed to appease urban industrial workforce (Evans 1979; Murillo 2001; Kohli 2004). Market protection allowed capital owners to pass on excessive wage increases to the consumers, but it also lowered the incentive for skill investments, which was not compensated by greater public investment in education. The result was a more erratic productivity trend, which turned stagnant, or even negative with

the crisis of the 1980s. Negative impact on external competitiveness was somewhat softened by selective opening through special economic zones, which relied on labour segmentation and tax exemptions to lower labour costs and recoup competitiveness in some sectors. Probably the most famous example are Mexico's *maquillas* in the northern border zone, which offered consistently lower wages and worse working conditions than the domestic-market oriented industries around the capital, and employed a very different type of workforce: rural, less skilled, younger and often female (Kopinak 1997; OECD 1997).

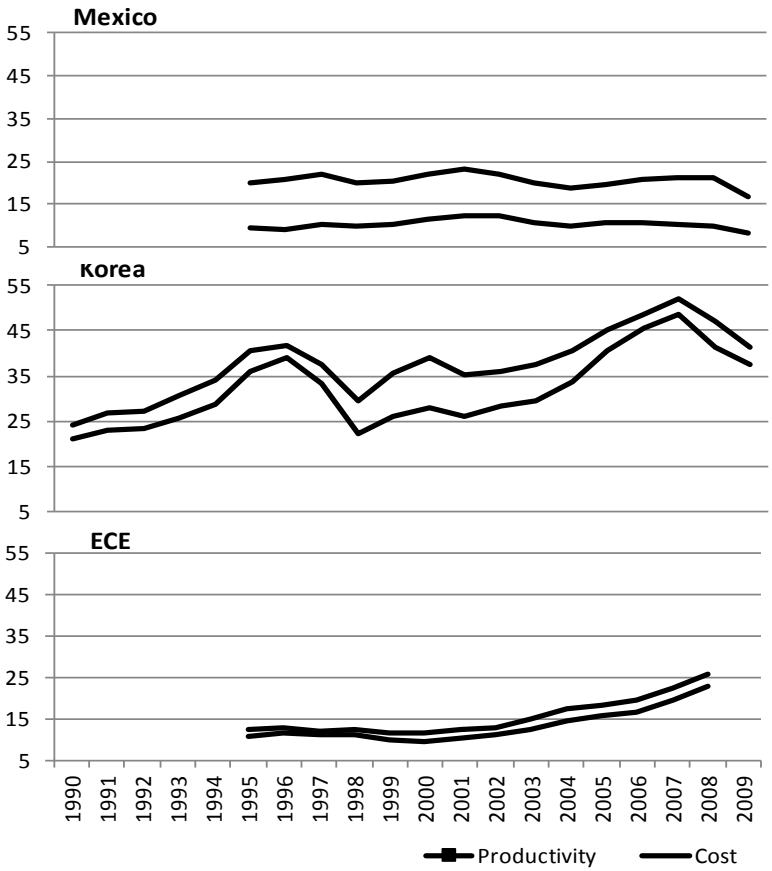
The onset of political and economic liberalization altered the tools of labour control to some extent, but the differences in outcomes between "independentist" and "integrationist" types only became more pronounced. Democratization in Korea and Taiwan stirred the trade union militancy, and the firms responded by rushing into higher value-added activities to prevent the loss of competitiveness from wage increases. In Latin America, governments resorted instead to radical liberalization of labour markets, replacing political repression with labour market flexibility to ensure wage moderation. Combined with trade liberalization and relative scarcity of skilled labour, this choice only further accentuated the potential for the region's specialization in low-cost manufacturing. In Mexico, for instance, the share of maquilladora sector in total manufacturing employment sharply increased in the 1990s (Dussel Peters 2003).

Reliable productivity and compensation data for developing countries are scarce, but Figure 2.2 offers a striking illustration of this divergence. It shows trends in productivity and labour costs in manufacturing for Mexico, Korea and East Central Europe between 1990 and 2010. For the sake of comparability, all scores are standardised as percentage of US values in the same period. Data for Mexico is only available from 1995, but the starting point is very similar to that of Korea in the early 1990s. However, relative labour productivity in Korea nearly doubled in this period, closely tracked by increase in wages, continuing the steady earlier trend. In Mexico, meanwhile, productivity remained practically unchanged, oscillating around 20% of the US levels. The gap between productivity and costs is also much larger, indicating

smaller unit labour costs in Mexico, and a continued comparative advantage in labour-intensive industries.

Can we attribute this divergence to different incentive structures within the two development models? The experience of East Central Europe would seem to reject this hypothesis. Although it starts from a lower level than either Mexico or Korea, productivity trends in ECE are closer to the Korean pattern, picking up around the start of 2000s and surpassing the Mexican levels by the end of the decade. Productivity increase is even slightly faster than that of wages, signalling improvements in both quality and cost competitiveness of the region. Nevertheless, there are good reasons to be cautions in interpreting these results as a sign that the ECE's hyper-integrationist development model had found a durable solution to the problem of long-term productivity growth.

Figure 2.2 Evolution of labour cost and productivity in manufacturing, 1990-2010



Source: own calculations based on OECD productivity database
Note: Labour cost and labour productivity (value added per person employeed) in manufacturing as % of US values

One reason is that productivity growth in ECE since the 1990s is partly the result of a one-off change resulting from the enormous influx of new capital investments, and the gradual collapse of less productive domestic industries. Once this substitution process is complete, and the outdated capital stock has been fully replaced by state-of-the-art technologies, further improvements will have to come from better utilization of existing capacities, including workforce skills. It is, however, unclear, whether the hyper-integrationist model provides the right structure of incentives to motivate further productivity convergence. As we have seen in the Mexican case, left to its own devices FDI seems likely to follow comparative advantages, in this case lower labour costs. Whether the model can be pushed further along the high-wage, high-productivity path will depend on the future balance between strategies of skill formation and cost control. There are, however, several differences between ECE and Latin America which suggest that the outcome of the "hyper-integrationist" model might be more promising.

First, keeping the costs low in the long run might be more difficult in East Central Europe. The legacy of industrialization, together with the collapse of former socialist industries and the dissolution of workers' organisation in the early transition years have created a large pool of cheap, skilled manufacturing workforce. But unlike in Latin America, which has a much larger young population and an equally sizeable reserve labour force in the informal sector, this situation in the ECE's labour markets is likely to be temporary. Stronger inflows of foreign investment relative to the size of these economies have helped to quickly absorb the available workforce. In the most competitive manufacturing industries the upward pressure on wages is already palpable, although it was somewhat relieved by the recent crisis. Greater flexibility, which in principle contributes to cost control, can backfire in tight labour markets because it decreases workforce loyalty, and although there are clear signs of attempts to use segmentation in order to combine the benefits of skilled and committed core workforce with the more flexible labour arrangements, the scope for such measures is limited simply by the lack of sufficient number of cheap, unskilled workers.

This leads us to the second major difference between the ECE and the Latin American integrationist types: the legacies of state-led development, which have left East Central Europe with an overall higher level of education. In fact, unlike in most developing countries, the limiting factor on further upgrading of the region's industries is not so much the lack of skills in general as the lack of specific manufacturing skills which would allow them to move into higher value-added activities. This also means that moving ECE onto the "high road" of higher productivity and wages would be easier, because the skill gap is much smaller and would require less extensive policy intervention. Bearing in mind the long-term wage pressures, it is not impossible that the incoming firms might consider the benefits of further upgrading to keep ahead of the cost curve.

However, while tighter labour markets and greater skill potential both suggest upgrading as a plausible alternative, this does not mean that it will be easy to convince the foreign firms to take it. First of all, unlike basic investments in education, the formation of specific manufacturing skills requires complementary investments by the private sector. Adequate training in new technologies is too costly for the governments to implement on their own, and will almost certainly not be as effective. So far, however, although there have been many complaints in the region about skill shortages, foreign investors have done little to support public vocational training efforts, except for putting pressure on the governments to do it for them. Moreover, relying on the "productivity whip" to bring mobile transnational firms to invest in more complex activities may be potentially more dangerous. Unlike domestic champions, who draw their comparative advantages from the home markets, transnational firms do so by distributing their activities in places with different structure of advantages. Therefore, to the extent that the investments in ECE had been motivated primarily by the need to lower production costs along the value chain, foreign companies may not be interested in investing in higher value-added activities, which they can still do profitably at home, and may prefer to move elsewhere in search of lower costs. In theory, this could also result in improved productivity in the host economy, if they manage to attract instead different companies with

different motivations, but this is a more disruptive path than upgrading with ones who are already there.

This creates an additional problem in that individual investments in specific manufacturing skills are unlikely if employment possibilities are so uncertain. The very factors which had made the region so attractive for manufacturing FDI in the first place: the collapse of socialist industries and low wages – are the same ones which make manufacturing employment less appealing for the future generations. The atmosphere of permanent restructuring, together with additional efforts to make employment relations even more flexible in order to control the costs, have decreased the attractiveness of manufacturing jobs in spite of the growing wages. In addition to this, rapid structural shift towards services opened up new opportunities in other sectors, and the regional labour markets still offer very high premiums on higher education.

The governments are thus facing a choice between continuing to support upgrading in complex manufacturing and hope that the firms will play along, and the even more uncertain strategy of allowing the cost advantage to slowly wear off while the region's skill profiles shift elsewhere. Similar to the problem of technology development, as they have fewer tools to influence the behaviour of foreign firms and force them to cooperate in skill development, governments in the region have been trying to convince the students to commit to vocational training path, mostly by promoting cooperation between schools and companies, and by limiting enrolment in higher education. The latter in particular, however, is proving to be a politically problematic issue, creating a new source of instability in the hyper-integrationist development model.

2.4 Choosing integration

The solutions to late development problems which have taken shape in East Central Europe since the fall of communism bear all the marks of a distinct late development model, different from those represented by the earlier generations of late developers in East Asia and Latin America. The basic outlines of the model resemble what Alice Amsden has dubbed

"integrationist" variety of late development, distinguished from its more "independentist" cousin by greater reliance on foreign investment, especially in technology transfer. However, Amsden's observations refer to the early stages of differentiation between the two models in the last decades of the 20th century. In this chapter, I argued that in its more advanced form, which is well exemplified by East Central Europe, the differences run much deeper, resulting in radically different solutions not only to the problem of technology, but also of capital and labour productivity.

In the hyper-integrationist model, foreign firms are central to the catch up mechanisms in all these areas. The state, which was the key driver of institutional innovation in the earlier generations of late developers, now plays a more auxiliary role, although it continues to manipulate local conditions to direct foreign firms towards domestic development goals. Nevertheless, the policies devised to influence decisions of foreign investors often involve bargaining with external actors, including multinationals themselves, their representative associations, home countries and supranational institutions.

Different solutions also imply different outcomes. The centrality of FDI alleviates some problems of late development with remarkable efficiency: most of the cost of capital is shouldered by the foreign firms and productivity growth in key industries is extremely fast, which increases the chances of attaining export competitiveness very quickly, avoiding long-term debt and balance of payments problems. Other results are more ambiguous: rapid productivity increase is due to transplantation of technologies, but this comes at the expense of local firm involvement, with dubious consequences for local learning. A similar problem exists with regard to skills: foreign firms are reluctant to invest in workforce training, and may be less willing to accommodate substantial wage increases due to the easy exit option.

The hyper-integrationist model, in other words, is not necessarily more or less efficient than its independentist counterpart, but it does entail certain costs – such as near-complete marginalization of domestic firms, and continued dependence on foreign capital inflows – which would have been unthinkable for political reasons in other late developers. It may also have a

limited potential for upgrading beyond imitative stages of development, given the difficulty of convincing foreign firms to engage in development of new products and technologies locally.

Why, then, did the East Central European countries embrace this particular model? Part of the reason lies in the classical constraint of late development: changes in the external economic and political environment. The collapse of trade barriers around the world in the late 1980s and especially in the 1990s brought about a surge in capital mobility, providing a new source of finance for development. However, this process was coupled with a structural shift in many manufacturing industries. To make use of the new markets, leading firms from developed countries engaged in aggressive expansion, either through direct investments or through mergers and acquisitions. In order to manage their growing global operations, and limit organisational costs of over-expansion, they also sought to standardize products and supplier networks around the world. The result was an enormous increase in scale economies, raising barriers of entry in the most lucrative production segments (Sturgeon & Lester 2003). The era of national champions seems to be over: to meet the exigencies of international competition, developing country firms had to become globally players almost as soon as they entered the international markets – a tall ordeal for most firms which were still too far from the technological frontier to attempt an international breakthrough (Barnes & Kaplinsky 2000a; Boudier-Bensebaa 2008).

This is not to say that the new form of competition didn't bring some advantages: the exigencies of global competition pushed multinational firms to seek new investment locations and extended a promise of modernization to many lagging areas of the world. The rise of complex global production chains also meant that developing countries could plug into the international trade more easily by specializing in certain production segments, instead of having to replicate the entire industrial structure (Bair & Gereffi 2001; Gereffi 1999; Sturgeon & Florida 2000). In that sense, the appeal of the integrationist model of development was not only due to the difficulties of following the old path, but also to the shortcuts offered by the new international environment.

The same is true of the changes which took place in the political environment. It was already noted that "developmental state" lost its credibility in the aftermath of the debt crisis, and the general mood swung towards insistence on the benefits of minimal regulation and free trade. The pace and extent of liberalization were particularly strong within regional blocks such as NAFTA and EU, which enforced a stricter regime of free trade and capital flows and imposed their own rules of "fair" competition among the members (Stallings & Streeck 1995). At the same time, however, they also offered new opportunities to the developing countries which made the "integrationist" orientation highly appealing. Among the benefits are the guarantee of a transnational alliance which makes developing countries "safer" for external investment within the block, preferential access to developed countries' markets and protection from competition by other aspiring latecomers, transnational enforcement of minimum standards of production, labour and environmental protection to strengthen the hand of host governments in their bargain with the multinationals, and, especially in the case of EU, direct transfer of expertise and financial assistance to help the new entrants meet the requirements of intra-regional competition (see Bruszt & McDermott 2009).

But the propensity towards integrationist variety of development cannot only be traced to external factors. After all, the second and third generation of East Asian "tigers" held tightly onto independentist solutions, in spite of the international pressure. Internal factors, such as past experiences, balance of powers between different actors and the horizons of expectations determined the commitment to one or the other development path.

In "The Rise of the Rest", Amsden traces the origins of this divergence to prior legacies of industrialisation and distribution of income. According to her, the countries where manufacturing had taken deeper roots, but where previous (typically foreign) owners were expropriated in the course of decolonisation were more likely to invest in development of national firms and national skill formation. By contrast, countries which preserved greater continuity in foreign ownership before and after World War II were also more likely to remain open to foreign influence. East Asian independentist model was thus heavily influenced by

economic nationalism, reinforced by relatively equal income distribution which lent credence to the ideology of national unity. In Latin America, initially high income inequality forced the governments to balance between competing demands of different classes, and lowered tolerance to a concentration of resources required to build national champions (Amsden 2001, also Kohli 2004).

At the first glance, ECEs had every predisposition to opt for the independentist development model. The legacy of socialism meant a complete discontinuity with foreign involvement in industrialization, which was highly advanced, with income inequality among the lowest in the world. Nevertheless, nationally-oriented strategies were quickly abandoned across the region, and by the early 2000s most of the East Central European states converged on radically integrationist approaches. To explain the integrationist turn, it may therefore be more useful to broaden Amsden's categories to encompass other determinants of legacies and national development compacts.

Most importantly, by the time the two models began to diverge, it was not so much the legacy of early industrialisation that mattered, but the legacy of late development itself. Post World War II, all of the countries here labelled late developers have adopted some form of the "independentist" development model, under the tutelage of a powerful developmental state. In a number of East Asian countries, and most notably in Korea and Taiwan, this approach had led to remarkable successes, and they continued to adhere to the same model after it came under international pressure. Successful development of the national champions also created a powerful constituency with an interest to preserve the most important pillars of the independentist approach, even as they adapted their strategies to changing international competition. By contrast, in the regions where for political or economic reasons the independentist model was judged to have worked less well, as in Latin America and East Central Europe, there was a greater incentive to abandon it and seek alternative paths in the changing international environment.

Just as the early experience of manufacturing is not the only relevant legacy, so the level of income inequality is not the only determinant of national unity and commitment to a "nationalist" development model. In fact, the more important factor seems to be the perception of the country's position within the world economy, its relationship to the regional hegemonic powers, and the shared horizon of developmental aspirations. Relative equality of income only provided the breathing space for the concentration of resources necessitated by the "independentist" mode of development in East Asia: what drove this model forward, however, was the fiercely anti-colonial stance of its leaders, the fear of interference by the more developed Japanese neighbour, and a conception of development as emancipation from the dominance of hitherto colonial powers. Authoritarian form of government, although not a sufficient condition for a successful developmental state, certainly added to the "unity", or coherence of the nationalist narrative.

In Latin America, by contrast, high levels of inequality created internal polarisation which made it more difficult to clearly define "national" interest. The crisis of import substitution industrialisation which culminated in the debt crisis of the 1980s brought up a new generation of leaders, many of whom opted for radical liberalization (Murillo 2001; Kurtz & Brooks 2008). The wide income gap, and the perception of large domestic capital as being aligned with the interest of foreign powers made their claim to represent national interests more tenuous (Evans 1979). While all these factors made the welcoming of foreign investors a more plausible alternative, difficult relations with the regional hegemon, the US, also added to the degree of ambivalence in the integrationist path. Moreover, unlike the East Central European states, which received a definite promise of integration from the European Union, offers extended to the various Latin American countries varied in depth and appeal. Internal polarization and ambivalence of external relations made the integrationist path more unstable. Some countries, such as Mexico, have moved closer to the hyper-integrationist pole, bolstered by their membership of the North American Free Trade Area (NAFTA). Others, such as Brazil and Argentina, have been attempting to resurrect a more independentist approach, with tighter

control on foreign flows and a stronger involvement of the state in the economy (Schneider 2004; Ebenau & Liberatore 2013).

In East Central Europe, integrationist model was favoured both by disillusionment with the legacy of statist developmentalism, and by a particular conception of development which is best summed up by the political project of "return to Europe". Regardless of the objective achievements of state socialism in terms of industrial development, ECEs emerged from socialism convinced of the perils of public over-involvement in the economy. The new political elites were eager to extricate the state from the productive sector and transfer it into the private hands as soon as possible. Very few were willing to continue nurturing the most promising national industries and create a new class of owners – indeed, some even lacked the patience to manage the costly process of attracting foreign investors into complex manufacturing, as opposed to simply letting it flow into the most cost-effective sectors (Bohle & Greskovits 2012). With the state itself abandoning the national champions, there was no constituency to consistently defend a nationalist development model. Hasty divestment of the formerly socially owned assets was not conducive to the creation of a new domestic bourgeoisie, and those who managed to take over significant parts of national wealth were rarely perceived as legitimate owners.

At the same time, the prospect of membership of European Union meant that for at least a decade and a half after the collapse of state socialism, *integration* came to be perceived as the ultimate expression of national interest. The ECEs did not fear the new regional hegemon, nor did they conceive of development as becoming independent from its influence – on the contrary, they longed to become part of the union of nations in the West, to become *like* them. The core of the development compact in East Central Europe thus lie in the promise that integration will result in a faster, more complete imitation of a specific set of developed countries.

I have argued however, that import of foreign actors and resources in the context of the integrationist development model does not lead to perfect imitation. FDI may indeed seek to transfer some institutional solutions from home to host countries in some areas, but is at least

as likely to attempt to alter them, or find entirely new and more profitable ones. Indeed it is one of the rationales of cross-border investment that multinational firms develop comparative advantages by combining resources of different institutional environments. To the extent that their hope for catching up is premised on a degree of institutional divergence – and more specifically of reliance on a leaner, cheaper, more flexible and less cooperative production model – it also constitutes the seed of tension at the very heart of ECE's integrationist development compact.

The following chapters offer a detailed exploration of the solutions developed by ECEs for each late development challenge – capital, technology, and skills. They describe how the countries of the region settled on the integrationist solutions in each of these areas and how these solutions evolved; evaluate the extent to which they produced successful upgrading of local production profiles and ensured their international competitiveness; and try to assess how close these solutions came to fulfilling their desire for convergence with "Europe".

CHAPTER III

3 Oiling the wheels: steering foreign capital towards development

3.1 Introduction

At the first glance, foreign direct investment is a fairly straightforward solution to the problem of capital scarcity in late developers. We have seen that most developing countries anyway rely on some form of foreign savings to secure the sufficient amount of starting capital for large-scale investments. Among the various forms of external financing, FDI has the additional advantage that it can help receiving countries to further reduce the risks of such investments. First, compared to bonds or portfolio investments, FDI is usually considered to be more stable: because the investors make a larger capital commitment to a host country, they are less likely to pull out at the first sign of market downturn (e.g. Lipsey 2000; Prasad et al. 2007). It also means that the foreign party takes on a greater share of investment risk, making it safer for the recipient than foreign borrowing. Unlike creditors, direct investors only receive returns on their capital if the enterprise is successful, which gives which gives FDI has a strong incentive to perform and thus contribute to overall growth (Corsepius et al. 1989; Hunya 2001; Lane & Milesi-Ferretti 2006).

For the same reasons, however, FDI is also less likely to flow to high-risk countries and ventures. There is plenty of evidence in the literature that foreign investment flows to developing countries are extremely selective, concentrated in a handful countries and industries which already perform relatively well (Lucas 1990; UNCTAD 2004). At the same time, in spite of its advantages, most developing country governments have long considered FDI the more intrusive and expensive form of financing (see Stallings 1990). There is in fact surprisingly little research into the relative cost of foreign direct investment, but the few studies that compare FDI to debt servicing to suggest that FDI-related repayments such as dividends and intra-company loans may in fact exact greater resources from the host country in the long run (Claessens 1993;

Liang 2007; Nunnenkamp & Spatz 2004; Mold 2008)[3]. But the largest difference between FDI and, for example, borrowing, is the degree of local influence over investment decisions. Multinational companies distribute investments to different locations according to their own profit goals, and not according to the host country's development aspirations. They may bring the necessary investments in the coveted industries, but they are at least equally likely to limit their efforts to exploitation of local resources of cheap labour or engage in simple import-intensive assembly for the local markets. If we define development as a structural shift in a country's specialization from simple, labour and resource intensive activities to more complex, skill and technology intensive ones, then the FDI's contribution to development depends on the extent to which the foreign firms can be convinced to invest in the latter kind of activities, especially where they do not fit the present comparative advantage.

As we have seen in the previous chapter, for a long time the task of persuasion lie with developing country governments, which evolved an array of industrial policy tools to steer multinationals towards selected sectors and activities. With the recent changes in global regulatory environment, however, it would appear that this power has been taken beyond the reach of most developing countries. Today, multinationals are more mobile than ever, and the ability of any individual location to exercise control over local upgrading is restricted by the spread of liberal trade and capital regulations (Strange 1996; Chang 2005; Gallagher 2008). According to most recent development literature, globalization has spelled an end to the "policy space" in which the newcomers could devise their own strategies for development (DiCaprio & Gallagher 2006).

According to others, however, the same processes have made such interventions increasingly unnecessary. In fact, globalization was promising to deliver where even the strongest states had struggled. While developing countries of the yore had to "coerce and cajole" (Evans 1979) their foreign firms into exports (Jenkins 1987; Shapiro 1994), developing

[3] Claessens, for instance, finds that in the period 1980-86 the average rate of return in developing countries was 16.2% for US investment, compared to the average commercial interest rate of 9.7%.

countries today profit from increased competition, which alone is forcing the multinationals to expand exports from low-cost locations. New forms of production organisations known as "lean" manufacturing have bolstered agglomeration effects and multiplied investments among the suppliers. With the multinationals themselves insisting on just-in-time deliveries and local sourcing, a variety of tools previously used to increase the share of domestic production – import barriers, local content requirements and the like - could now be safely put to rest (Pack & Saggi 2006).

The same view sees new restrictions on states' involvement in industry as not merely harmless, but as a true blessing in disguise. Complex industrial policies of the earlier generations of developers have earned a bad name because they placed high demands on state capacity to remain alert to the needs of industry while avoiding capture by special interests (Amsden 1989; 2001; Evans 1995). The costs of protection for specific industries had to be shouldered by the rest of the economy, and this made such policies particularly sensitive to asymmetries in the bargaining power between the state and the private sector. Confronted by the powerful multinationals, the less capable bureaucracies of developing world could easily turn their tools for development into rent-extorting devices, without any guarantee of local industrial upgrading (Evans 1995; Moran 1999; Moran et al. 2005a; Krueger 1996). In these circumstances, restrictive international regulations can be actually viewed as a source of muscle for developing countries, "tying their hands" and boosting their bargaining power to deny expensive special treatment to incoming investors (Bartlett & Seleny 1998; Thomas 2000).

The latter argument is a powerful parry to the common wisdom that globalization necessarily undermines the position of individual states, and a useful reminder that few countries outside the developed core entered this new era from the position of strength. Unfortunately, it also does little justice to the complexity of relations between multinationals, host and home locations, and the ways in which the international regulatory frameworks evolve as a result of this interaction.

As the existing research on East Central Europe convincingly demonstrates, active involvement by the governments remains instrumental in attracting and directing foreign investment. FDI in complex manufacturing industries did not simply follow the comparative advantage in cheap labour, or even the possibilities offered by the local manufacturing traditions - nor was a stable macroeconomic environment enough (Greskovits 2005; Bohle & Greskovits 2012). Instead, it took a strenuous effort by the region's governments, combining protection, incentives and dedicated infrastructural investments, to convince the flagship firms to invest there (Bohle & Greskovits 2012; also Drahokoupil 2008; Bandelj 2008). There is also little evidence that the states in the region felt particularly liberated by the restrictions on their ability to extend such incentives: in fact, they did everything in their power to evade and postpone the more stringent regulation mandated by the membership of European Union (see Bohle & Husz 2005).

While the role of the state seems to be instrumental for capital provision even in the context of a hyper-integrationist development model, it is also clear that the range of tools at states' disposal to manage FDI has changed tremendously. There is, however, much less research on the ways in which this changing policy configuration affected the costs of foreign capital, or the ability of the host governments to guide multinationals towards specific developmental objectives, i.e. foster technology transfer to local industries or direct investment towards less developed regions or higher value-added activities.

This chapter examines this problem in greater detail, using the example of automotive industry development in East Central Europe. Its main purpose is to identify the factors which strengthen or weaken the position of ECE host states vis-à-vis the multinationals, and determine the possibilities for directing investment towards local development goals. The first part of the chapter provides some background on the general determinants of states' bargaining power, and the degrees of cost and control associated with different types of policies. The following sections then evaluate the ways in which these have changed in East Central Europe since the fall of socialism, focusing especially on the role of the supranational regulatory regime: section

3.3 examines the early transition period, section 3.4.1 the period of integration into EU, and section 3.4.2 the changes related to accession and membership of European Union. The final section summarizes the findings of the chapter. I argue that the costs of foreign financing within the hyper-integrationist development model are substantial, and do not necessarily diminish over time. ECE states continue to proffer support and adjust the economic environment to the needs of multinationals, in spite of the reduced policy space and the fact that the industry is already well established and highly profitable. EU's transnational integration regime has helped the ECEs to reduce somewhat the costs of foreign capital: on the one hand directly, by providing them with financial assistance to cover some of the related expenses, and on the other by imposing of a uniform regulatory framework on incentive policies to prevent bidding wars among its member states. However, none of this has altered the fundamental asymmetry of power between MNCs and the host governments, nor has it helped them to extract greater concessions from the multinationals in return for incentives.

3.2 Changing toolbox

Most liberal advocates of development through FDI find the widespread use of investment incentives somewhat embarrassing, and generally caution against them (OECD 2003; Blomström & Kokko 2003; Moran et al. 2005a). This is because incentives often appear to be pure rents to the multinationals. They are almost never sufficient to fully sway a decision on investment allocation - surveys among investors generally rank incentives as far less important than the quality of structural and institutional features of the potential host country – but they become decisive when the competition is between very similar locations (Morisset & Pirnia 2000; Oman 2000; Thomas 1997; 2000; Harding & Javorcik 2011). This means that investment subsidies can be particularly high when they are least necessary from the standpoint of attractiveness of the location. At the same time, for the host country they represent significant opportunity costs, and can distort competition by conferring an unfair advantage on the incoming multinationals vis-à-vis the resident firms. In this view, the best the governments can

do is to abandon selective intervention altogether and concentrate on building up a generally favourable investment climate (OECD 2003; World Bank 2004).

Given the spread of FDI-related subsidies, however, it would appear that very few governments have heeded this advice. Among the economists, the most common reluctant defence of incentives is that they are not really pure rents, but a form of compensation for the anticipated externalities from FDI which cannot be fully recouped by the firm in the form of profits, but are of particular interest to the host location (Blomström & Kokko 2003; Görg & Greenaway 2004). As the benefits of multinationals' presence trickle down through investments in suppliers and workforce training, the original subsidy to foreign firms eventually becomes a subsidy to domestic economy as a whole. Unlike general deregulation, special incentives can be therefore used by the governments to enhance these processes, targeting particular regions or activities.

From the standpoint of the host states, then, the problem of incentives can be separated into questions of cost and control – the ability to assess and limit the "price" of new investment in terms of required subsidies, and the degree to which the government can ensure that the desired spillovers do indeed take place. Horizontal deregulation, of the kind commonly recommended to "improve business environment" - i.e. lower taxes or better infrastructure - is the least cost-effective in that regard, since the states commit to large public investments or forgo tax revenues without having any say in how the firms use these benefits. At the other end of the policy spectrum are targeted incentives, either in the form of direct subsidies or selective deregulation, which the governments negotiate directly with each incoming multinational, and can also set the terms of investment in exchange. Whether or not the latter approach really yields a better outcome for the host government will, however, depend on its bargaining power vis-à-vis the multinational.

The bargaining power of an individual location is not only determined by its objective characteristics, or even by the nature of anticipated benefits, but is influenced by a variety of external factors such as timing, scarcity of investment, availability of alternative locations and

the interest of their governments, past experiences, and not least by the dominant ideology toward FDI (Kindleberger 1983 (1965); Fagre & Wells 1982; Moran 1977; 1978; Dunning 1998). However, in addition to the raw bargaining power, the form of incentives offered to the incoming multinationals also has an impact on its relative cost to the host government. We have seen that the earlier generations of late developers relied heavily on trade barriers to manipulate the behaviour of foreign investors. Although they create market distortions and impose additional costs on consumers, customs duties as a form subsidy to resident producers are understandably popular since they are actually a form of revenue for the government, unlike direct payments of exemptions from corporate taxes. Moreover, some regulatory measures are better at bundling subsidies with other objectives of industrial policy. Trade barriers increase the specificity of the local market, and as long as they are applied to both finished products and inputs, encourage local production. There is no such incentive in direct subsidies and tax deductions, which means that to achieve the same outcome the governments might have to exert more explicit pressure on the firms.

However, the choice of policy used to attract foreign investment is not determined solely by preferences of host governments. In the hyper-integrationist model in particular, which requires a variety of foreign resources to succeed, the governments must count more carefully with the international regulatory environment and market conditions. In principle the ECE states, as any developing country, could choose to rely on trade barriers to encourage local production, but the price may be prohibitive if their access to other countries' markets depends on adoption of a liberal trade regime. Moreover, competition for FDI among developing (and developed) countries has a particularly strong effect on the choice of policy, creating pressures to imitate the actions of successful peers and to avoid being left behind by their regulatory innovations.

East Central Europe is a particularly good case on which to study how such changes in policy affect the cost of foreign capital and the ability of governments to direct it. In the two short decades since the collapse of socialism, the countries of this region experimented with a

variety of tools, from discretionary measures based on selective regulatory derogations to direct payments and horizontal deregulation. The alliance between the ECE states and the multinationals which today characterises their version of hyper-integrationist model of development evolved gradually over the years, and the policy changes took place in response to three major shifts in the way each of the partners viewed their position within this relationship. The first transformation, which took place relatively early in the 1990s in response to the weaknesses of East European markets and trade liberalization with Western Europe, concerns the changing status of the ECE regions in the eyes of multinationals from a market to a production location. The second transformation, partly concurrent but culminating in the late 1990s, was the change in ECE's perception of the multinationals as a more or less necessary evil, or at best a useful tool for local development, to reliance on FDI as the main driver of development and the lynchpin of economic policy – not only worth having, but also worth competing for. Finally, the process of accession to EU changed the status of ECEs from outsiders to insiders within a transnational system of competition control, radically reducing their policy space, but also eliminating the worst effects of inter-governmental competition for investment. The following sections examine how each of these shifts affected the relative bargaining power of ECE states vis-à-vis the multinationals, and the consequences for their ability to harness FDI for local development goals.

3.3 The wisdom and folly of early industrial policies

The earliest bargains between ECE governments and automotive multinationals were struck in the midst of a fast-changing economic landscape. There was much uncertainty about the regulatory environment: the markets were opening up, but the tariff walls went up and down balancing the beliefs in the benefits of free trade with the reality of surging trade deficits. For the multinationals, the risk of investment in these unstable economies competed with the temptation of the vast and underexploited East European markets. With the outdated vehicle park and the number of cars per population five times lower than the European average, ECEs

promised windfall profits to the first movers. According to the early estimates, the annual sales in the region were expected to reach 3 million by the end of the decade, and more optimistic observers put the figure to as high as 10 million (Van Tulder & Ruigrok 1998; Dörr & Kessel 1999).

For the governments, foreign investment was essential to modernize production or, as in the case of Hungary, to pry their way into an industry they long coveted. However, even though everyone agreed that East European manufacturing was technologically backward, there was little consensus on the size of the gap. Those who trusted the potential of their industrial heritage were afraid of selling themselves too short, especially where, like in Poland and the Czech Republic, the investors were taking over the former national champions.

Given the amount of uncertainty on both sides, it was small wonder that the first deals had to be actively brokered by the states. The earliest investments – Fiat in Poland, Volkswagen in the Czech Republic and Suzuki in Hungary – all started off as joint ventures, even though the bargaining position of the government varied tremendously from one case to another. At the same time, even though some of the tools used in this period resembled the activist approach of the East Asian developmental states, the ECEs lacked both the funds and the conviction to implement a more systematic industrial policy (Husan 1997; Drahokoupil 2008). Rather, they were meant to ensure that the local industry receives a running start, hoping it will live up to its presumed capabilities.

Czech Republic was probably best placed to bargain for significant concessions from the incoming investors. Škoda commanded a large market share throughout the COMECON, and attracted a lot of interest from the Western carmakers who were hoping to use it as an entry point to the East European markets. In 1991, Volskwagen bought a 31% stake in the Czech automaker, outbidding Renault and GM with an offer of a down payment of 620 million DM, and promising to invest a total of 9.5 billion DM over the next ten years (Sander 1994). In exchange, the VW pledged to preserve the Škoda brand, keep in-house R&D, maintain employment for all

of 20 000 Škoda workers and, importantly, invest in restructuring and modernization of the local suppliers (Pavlínek 2008; Dörr & Kessel 2002).

Even though technically a minority owner, Volkswagen was fully in charge of restructuring and management of the company, and was given the option to gradually purchase the rest of equity, finally assuming full ownership in 2001. However, the fact that the Czech government stayed on as a partner meant it could exercise a modicum of control over implementation of the original investment agreement. The first opportunity arose already in 1993, when the crisis in the West European markets forced VW to cut down its investment plans, threatening to downsize the projected investment at Škoda by almost two thirds. The government intervened, and although the investment programme was revised, it ensured that the original goals – development of new Škoda brand products, local sourcing, and raising production to 450 000 units by 1997 – remained on track (Dörr & Kessel 2002).

Polish government also began its negotiations with Fiat from a relative position of strength. Fabryka Samochodów Małolitrażowych (FSM) had long produced under Fiat licences and in 1987 it signed a contract to manufacture the new Cinquecento for the global markets. The deal was originally a cooperation agreement, and did not involve transfer of equity, although Fiat had invested heavily in the modernization of production lines. Still in 1990, the FSM management thought they could preserve independence of the company, with the long-term goal of manufacturing their own vehicles (Greenhouse 1990). The dream quickly dissipated with the collapse of East European markets. The recession in Poland and the hyper-inflation which raised the price of foreign debt service for the already heavily indebted FSM forced the government to privatize the company. After long and arduous negotiations, Fiat took over the plant, promising to invest an ambitious 2 billion dollars into the project, and keep FSM's 19 000-strong workforce on board. For a company intending to produce around 250 000 cars, this was an exorbitant number, and Fiat shared the burden by devolving parts of the company to its key Italian suppliers. The result was an integrated production cluster – more than 200 Polish suppliers also remained connected to the factory, although only some 35 firms

were selected for a supplier development programme. As a result, local content reached 75% already by 1996 (Balcet & Enrietti 1997).

The early bargains were not limited to privatization of the national champions. Hungary wasn't allowed own automotive industry under socialism, but in the late 1980s the government began negotiations for with Japanese Suzuki to set up a car plant in the country. This was a novel experiment for both sides: Suzuki was not a particularly strong player internationally, and was trying to get a toehold in the European markets while keeping the risks minimal. The original agreement was therefore a joint venture between the Japanese carmaker, the Hungarian government, and a consortium of 62 local companies with some experience in vehicle manufacturing, who were also to act as suppliers to the newly established plant. Originally, Suzuki's own stake only came up to 40% (another 20% was held by a Japanese financial company and the finance hand of the World Bank, see Sadler & Swain 1994). The project was emphatically aimed at preparing the Hungarian firms for a role in the new industry. It included special incentives for technology transfer from the Japanese carmaker to its Hungarian partners, as well as a "stick" – a 50% local content requirement, which was made all the more credible by a similar target (60%) required for the exports to EU (Bartlett & Seleny 1998).

The fact that the ECE governments were able to demand all these concessions from the investors did not mean that they always received them – or that they came for free. Where the entry was a result of privatization, the government typically absorbed most of the costs of restructuring by taking over enterprise debt and parts of the company which were not of interest to foreign investors (Sander 1994; Uminski 2001). They were also accompanied by modest tax breaks, from only 2 years in the Czech Republic to 5 in Hungary (with a possibility of extension). The largest concession, however, were import tariffs, with which the investors hoped to cement their advantage in the local markets. Thus the Czech Government agreed to introduce a 19% customs duty on finished vehicles, similar to Hungary's 18%, while Poland ramped up its tariff from 15% in 1991 to 35 in 1993. Another "market-creating" measure was a

ban on import of second hand cars which came into force in Hungary and Poland in 1993 and concerned all vehicles older than three years.

It is difficult to assess fairly the effects of these measures, given the contradictory impulses of transition, restructuring and the fact that they only lasted a few years. Already at the start of transition, ECE governments had signed agreements for mutual trade liberalization with EU, which came into force in 1994 (1995 for Slovakia and Czech Republic) and set out a schedule for a gradual tariff elimination which would lower the customs on cars below 10% within just 3 years (6 for Poland). This was a radical decline in protection by historical standards, and even by comparison to contemporary developing countries. Although free trade agreements were melting trade barriers around the world, most of the newcomers among automobile producers had at least a decade or two of some protection to ready their industries for head-on competition (see Table 3.1).

Table 3.1 Trade protection and local content requirements in selected countries

	Began exporting	Average import tariff[1]			Years of protection[2]	Local content requirements
		1992 - 1996	2000s			
			Min.	Max.		
Korea	1975	11.6	8	8	30 (no imports to 1986)	Until 2000 + majority foreign ownership banned until 1997
Thailand	1987	60	5[3]	80	15 (no imports to 1991)	54% until 2000
Mexico	1972	11.4[4]	0	20	25 (no imports to 1989)	60% until 1993, 34% until 1998, 29% until 2003[5]
Poland	1991	27	0	10	10	No[6]
ECE3	1991	14.0	0	10	6	No[6]

[1]Passenger cars. For Mexico and ECEs, tariff applied to the largest trading partners (US and EU, respectively)
[2]Years between the start of exports and the year in which import tariffs fall below 10%
[3]Only applies to ASEAN, AU and NZ. Average tariffs for China are 20%, for Japan 40%
[4]Until 2003, only resident manufacturers were allowed to import
[5]Until 2003, foreign ownership of Mexican suppliers limited to 49%
[6]For non-EU producers 60% regional content applies ("region" means ECE states + EU)

Source: (Kohpaiboon & Yamashita 2011; Fujita & Child Hill 1997; Kaminski 2001; Europe Agreements; Johnson 1993; Hufbauer 2005; Lee 1997)

This limited manipulation of trade policy was clearly not enough to turn all tariff-jumping investments into successful export platforms. However, it did serve to attract the attention of foreign carmakers to the region. To secure local access, General Motors also entered

a joint venture with Poland's largest automaker FSO in 1992, but refused to take on the task of full-scale restructuring. Cooperation ended in 1996, but GM proceeded to set up a greenfield investment instead. Volkswagen in Poland and GM in Hungary also abandoned vehicle assembly as soon as the import tariffs dropped below 10%, but remained in place, switching to different activities. GM's engine plant in Hungary was expanded into a regional production hub, while Volkswagen, which had set up shop in Poznań to assemble Škodas for the Polish market, turned to production of small commercial vehicles.

Early interventions had thus put the ECE on the map of major automotive producers, and created possibilities for future cooperation, but they also remained far from a full-blown industrial policy. Local suppliers were struggling to keep up, and the protection they received was paltry compared to that accorded to the multinationals – except for engines, most components had customs duties barely above 5%, and the resident carmakers were generally allowed to import parts free of tariffs. The governments had provided the local firms a link to multinational firms, but rarely supplied the resources they needed to make use of this opportunity. Although the MNCs had made a formal commitment to involve local firms, no specific targets were imposed.

Even in the case of suppliers which did receive some assistance from their new customers, the relationships were often tense. This was especially the case in Hungary, where Suzuki tried to ramp up local capacities by forcing domestic firms to acquire Japanese licences, which meant there was little left for their own capital investments (Swain 1998). For many years, practically until it could rely on the localized network of European suppliers and convince some of its Japanese partners to make complementary investments in the region, Suzuki's local content remained well below the ambitious 50% target (Szanyi 2001; Havas 2000). In Poland, Fiat's attempts to streamline the supply network reduced the number of suppliers by one third in just four years, and the ones who remained were often taken over by foreign firms or relegated to the less value-intensive production (Balcet & Enrietti 1997; Domański & Gwosdz 2009). At Škoda, Volkswagen aggressively promoted joint ventures as the easiest way to make

its Czech suppliers reach Western production standards. Even though this meant that production remained local, and the volume of investment into component sector increased, the local firms were often unable to keep up the pace, and many of the most promising ones were soon bought out by their foreign partners (Pavlínek 2003). Nevertheless, these early interactions were to prove more fruitful than any later attempt to create linkages to the local industry in ECEs: in spite of trimming down their local network and teaming up with the more efficient foreign firms, Suzuki, Škoda and Fiat still have the largest number of domestically owned firms in their local value chains (Domański & Gwosdz 2009; Pavlínek 2004; Szanyi 2001).

3.4 Liberalization, competition and the switch to direct incentives

Whereas trade policy is neither sufficient nor perhaps always necessary for an effective industrial policy, for the ECE governments it was an attractive alternative also because it came relatively cheap. Whatever the implicit costs for the consumers, for the governments it served the double purpose of protecting local industries and preventing the collapse of the balance of payments. Slovakia, where an early investment by the Volkswagen lay largely dormant until the late 1990s, completely abolished the tariffs on cars in 1995, only to raise them back to 18% the year after as the car sales tripled to 75 000 in a single year, contributing to a surge in trade deficit (World Bank 1998).

However, it was also a tool that was decidedly going out of fashion. The early promise of the East European markets turned into disappointment, and the region's next best offer to foreign investors was its access to the West European consumers. As already noted, this required them to accept reciprocal reductions in trade barriers with EU, and while it did improve the region's prospects as an export location, it took away the trump card of market specificity which had tempted the investors to venture in the first place. This meant that not only West European markets, but also the East European markets could be served from any

location in the region, and to make sure the investment flowed to their own jurisdiction the ECE governments had to raise the stakes.

This was by no means easy. Until the late 1990s, not all East Central European states were convinced that their only way to prosperity lie in the "sell-out" to foreign investors. Especially in the Czech Republic and Slovakia, the chosen methods of privatization (vouchers and insider privatization) de facto excluded foreign owners (Sinn & Weichenrieder 1997; Myant 2003; Bohle & Greskovits 2012), and the governments held onto the belief that once the economy was in private hands it would operate successfully, with or without FDI. But even in Hungary and Poland, where the attitudes to FDI ranged from agnostic to outright enthusiastic, privatization was running out of steam and new tools had to be devised to attract greenfield investment.

These still made use of the existing regulatory barriers, offering selective derogations as bait to investors. In the face of faltering domestic consumption, ECEs made special efforts to attract export-oriented investment, and to that end offered full exemptions from customs duties on inputs. In 1995, Poland established 14 special economic zones (SEZ) which included guarantees of free trade, as well as additional incentives such as exemption from corporate taxes up to the full value of investment, assistance with land acquisition, and offer of infrastructural investments by local governments (Sedmihradsky & Klazar 2002; Domański 2005). A year later Hungary also revamped its long-standing scheme of Industrial Free Trade Zones (IFTZ), abolishing import balancing requirements, and adding a 10-year tax holiday for reinvested profits (Antalóczy & Sass 2001).

Unlike the early investment agreements, these did not involve direct bargaining with investors. At best, they stipulated threshold requirements for the investment to qualify for tax relief, including minimum capital and employment. In principle, these zones were also intended to guide investment towards areas of high unemployment or in dire need of restructuring, but in practice these considerations were often sidestepped for particularly important investments. Thus Poland agreed to establish a special economic zone around the industrial town of Gliwice

where the General Motors decided to open its new plant, although the level of unemployment in Gliwice wouldn't have qualified it for this special treatment. In 2000, it even set up a zone around the existing Fiat plant in Bielsko-Biała (Domański 2001; 2005). In Hungary, all geographic limitations were abolished: as long as the investment was new and export oriented, the investors were entitled to set up one wherever they chose. As a result, by 1999 there were 115 ITZFs in the country, operated by 101 different companies (Antalóczy & Sass 2001).

The recession had contributed a lot to the perceived need to attract fresh FDI, and limited governments' developmental ambitions to mere recovery of lost manufacturing employment. But the incentives were also upped by the competitive pressure which increased tremendously in the late 1990s. Economic crisis in the Czech Republic and political crisis in Slovakia had exposed painful weaknesses of national capitalisms, and the two countries were doing their best to catch up with the neighbours in their race for investment (Drahokoupil 2008; Bohle & Greskovits 2012). Czech Republic embarked on a veritable offensive, upping its offer of a 10-year tax holiday for all investments above USD10 mn with a promise of cash grants of USD2-5 thousand for each new job. In 2000, Slovakia joined in with a similar offer of tax relief, dropping the threshold requirement of investment to a mere EUR 5 mn (Sedmihradsky & Klazar 2002).

If the ECE governments had hoped to use special incentives to differentiate their offers, the pressure of competition and mutual benchmarking had only made them even more similar – but raised the bar higher (Kolesár 2006; Bohle & Greskovits 2012). With FDI having become the only game in town, liberalization was clearly making governments less, not more powerful, and shifting the costs of subsidies from an implicit tax on consumers to explicit burden on the government coffers. Ironically, the ensuing loss of bargaining power took place just as the region as a whole was becoming the prime location for European investment. However, this also meant that the ECEs did not only have each other to worry about: with the West European governments beginning to worry about potential relocations, they were about to step into a real warzone.

3.4.1 The game of subsidies: EU state aid policy

At about the same time the ECEs embarked on a process of mutual trade liberalization with European Union, the EU itself was putting final touches on the project of a fully integrated internal market. Starting with the adoption of the Single European Act in 1987s, its aim was to abolish all the remaining non-trade barriers within the Community, many of which had remained within the automotive sector as a way to protect the national champions that were still reeling from the consequences of the two oil shocks. Their final abolishment prompted substantial adjustments in the industry, including a wave of mergers which was meant to help the firms to better exploit scale economies of the common market. However, it also created pressures for rationalization of production, especially as the European car market took a heavy blow in the crisis of 1992. Sales plunged by 17% and were not to recover until the end of the decade (Dunford 2009). With overcapacity estimated at around 30%, the unions rushed to conclude "competitiveness pacts" to lower the costs and preserve production and employment numbers in their locations (see Hancke:2000, Zagelmeyer:2000).

The temptation was great for the West European governments to weigh in with promises of public support, but so was the determination of the European Commission to prevent any such interference. For the Commission, state aid was not only an economically inefficient solution which threatened to weaken competitiveness of the European automotive industry as a whole: it was also potentially politically explosive, with the member states accusing each other of investment theft by subsidies (Blauberger 2009b). Automotive industry had a particularly bad record, as the high visibility and employment impact of large manufacturing investments made it the prime target for state support. Therefore it was hardly a surprise that already in the run-up to the common market the EC introduced a special set of rules for the sector, summed up in the "Community framework for state aid to motor vehicle

industry" (EC 1990)[4]. The Framework introduced the obligation for member states to notify all aid to the sector to the Commission, which then examined them for compliance with the Single Market on case-by case basis.

In principle, all such aid is a priori at odds with the common market, but it could not be outright abolished due to the prominent role it plays in EU's regional development policy. Given the disparity of development levels among and within the EU member states, and the lack of resources on the supranational level to correct for inequalities through central transfers, state aid policy is relaxed to allow governments in "disadvantaged regions" to offer incentives in order to improve their chances of competing for mobile private investment[5]. This delicate balance between competition and cohesion principles hinges on a somewhat unusual assumption, which equates *development* with *competitiveness*, i.e. it takes for granted that less developed regions are by definition less attractive to investors, practically ignoring the possibility of cost-competition in Europe.

The Commission realised this was a strong assumption to make when in the early 1990s automotive investments began to head to the poorer areas of Spain and Portugal, where the allowed aid could reach up to 75% of investment costs. The revised state aid framework for automotive industry therefore abandoned the standard assumption of disadvantage and instead asked the target investment location to prove the necessity of aid. This meant calculating the costs of investments in a given "disadvantaged region", and comparing them to the costs of the same investment in another, developed area of EU. The difference, known as "cost handicap", could be paid by the authorities to level the playing field for the poorer location. In other words, the Commission was trying to mimic the benchmarking process that was supposedly already

[4] In the words of the European Commission: "some Member States are known to be highly protective or at least supportive of their indigenous motor vehicle industry and in some cases they can offer large financial assistance to attract new foreign investment, which renders the sector sensitive on the European level" (CEC:1990). The Framework only came into with a two-year delay (1991), due to opposition by Germany and Spain.

[5] Article 3 of the Treaty of Maastricht defines "disadvantaged regions" as "regions with abnormally low standard of living", set at 75% of average GDP in the European Union.

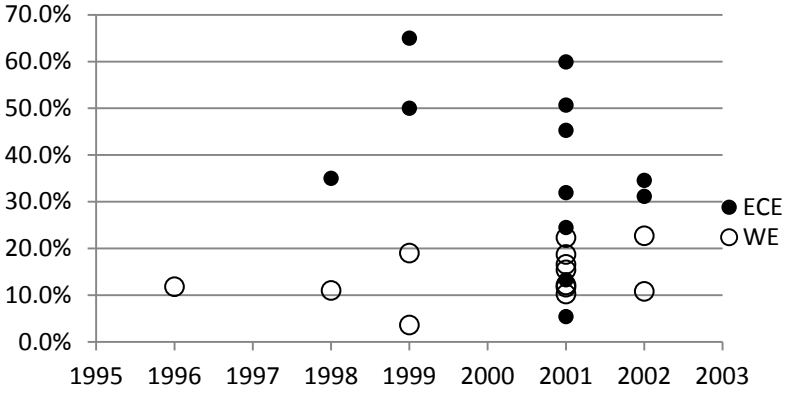
conducted by the companies, and thus pre-empt locational tournaments by ensuring a rigorous and transparent comparison of costs.

The procedure indeed reduced the levels of approved aid, but was also viciously protested by the member states. Although the differences in competitiveness *within* EU constituted the rationale for state aid in the first place, they were not, they argued, the most relevant ones: less developed areas of EU were not losing investment to their richer peers, but to the booming new production locations in Eastern Europe. Between 1996 and 1998, both Italy and Germany came into conflict with the Commission after they were forced to downsize aid promised to Fiat and Volkswagen investments in Southern Italy and East Germany. In Italy, a comparison between Naples and Arese in Lombardy cut the allowed aid from 30 to 17% of the investment, but Italy complained that this amount would be insufficient to persuade the carmaker not to invest in Poland, which was the real alternative considered by Fiat (EC 2000). Germany stubbornly refused to recall the aid it had already granted to Volkswagen for investments in Mosel and Chemnitz in 1995, citing major disadvantages of these locations vis-à-vis the Czech Republic, and only caved in after it lost the trial before ECJ four years later (EC 1996; ECJ 1999). In 1998, bowing to the pressure from the Member States, the Commssion allowed areas in East Central Europe to be included in the comparison for aid assesment (EC 1998).

The demand for incentives skyrocketed. The maximum value of subsidies was still capped by the regional aid ceilings, but the levels of disadvantage reported by West European regions stoked a sense of panic at the potential loss of competitiveness. The explicit process of regional benchmarking, which the Commission had hoped would curb the competition had in fact only served to legitimise it. Between 1998 and 2004, whenever the comparison was with an ECE site, the resulting cost disadvantages were well above those recorded against other regions within Western Europe. With the exception of Trnava/Ryton and Pamplona/Bratislava comparisons where the cost differences appeared to be small, the average cost advantage of

East European locations stood at above 30% of total investment and on occasion even exceeded 50% (see Table A3.1 in Appendix III).

Figure 3.1 Estimated cost difference between investment in eligible EU locations and alternatives in ECE or developed areas of WE (% of investment value)[6]



Source: author's calculations based on European Commission State Aid

While in theory this should have boosted the confidence of ECE states to lower or completely eliminate their own incentives to the EU firms, nothing could be further from the truth. Instead, the comparisons had only managed to demonstrate the scope of competition, and also set the benchmarks for what seemed to be considered an acceptable level of subsidy by the carmakers. A particularly instructive case was a "beauty contest" between Leipzig in Germany and Kolín in the Czech Republic in 2001 for a new BMW factory. Kolín was shortlisted as the most plausible alternative to Leipzig among some 250 bidding locations (Pries 2006; Dreyhaupt 2006). The Czech investment agency had already prepared the land, buying it up from the local owners, and promised the carmaker an automotive training centre, as well as a new highway to Prague (Drahokoupil 2008). In the meantime, BMW had produced a cost-benefit analysis showing that Leipzig had a "cost handicap" vis-à-vis the Czech site of about 591,4 million euro, (35% of the investment), which the German government had offered to pay. The Commission intervened, and produced its own cost calculations, but even after it had factored in the expected wage convergence of about 5% per year, additional training requirements for the

[6] *A total of 24 cases were assessed by the European Commission between 1995 and 2003 involving direct comparison with alternative locations. Due to state aid limitations, the actual award rates are typically lower than estimated cost handicap, for details see Table 3.2.*

Czech workforce including German language courses, as well as extra advertising costs up to 1% of BMW's total turnover to alleviate the "brand damage" caused by its choice of a low-cost production site, the Commission conceded that the Czech location had a competitiveness advantage of more than 360 million euro (EC 2003).

Given Germany's reputation in carmaking, the Czech Republic could have concluded that as far automotive industry was concerned, it was probably the most attractive place on Earth. Instead, all the Czech authorities learned from this incident was that next time they should offer more money. The Toyota-Peugeot-Citroën (TPCA) investment which settled in Kolín at the end of the same year received an incentive package of around 170 million euro (15% of total investment), including money spent on land purchase and preparation, a ten-year tax holiday, and more than 3000 euro for each job it created (Pavlínek 2008).

3.4.2 EU accession and institutionalization of incentives

If the competition with Western Europe had upped the stakes, it was competition within the region which was raising them to a fever pitch. To get the TPCA plant Czech Republic had to fight off Poland, as did Slovakia when in the following year it snatched a large greenfield investment by Kia (also contested by Hungary and the Czech Republic), causing a major controversy in the Slovak media over the amount of incentives offered. In fact, every single automotive investment in the region in this period had involved a bidding war between the region's governments. Competition did not only drive up the price of investments, it practically ruled out any attempt by the states to control the investment terms. Where once the governments had offered concessions to major manufacturers in exchange for investment in local linkages, now they were routinely promising additional incentives to bring in carmakers' suppliers from abroad (Kolesár 2006; Interview ITDH 2010).

As the accession was approaching, however, the European Commission was doing its best to limit the damage and bring the ECEs in line with its state aid policy. In anticipation of the enlargement, in 2002 the Commission abolished the special framework for automobile industry,

replacing it with a general multi-sector framework for large investments and later by the standard Regional Aid Guidelines (2006). The new approach abandoned the principle of cost benchmarking altogether, and the appropriateness of aid was once again judged simply in reference to the region's level of development and not in comparison to alternative locations.

The Commission argued that there was no need for the special treatment of automotive industry any more, and that it could not bear the administrative costs of case-by-case comparisons in another 10 new member states (EC 2002; communication with DG Competition 2010). But it was also a convenient way out of the competition/cohesion conundrum, as the EU was about to find itself in an awkward position of having to deny development-bound state aid to its poorest regions on grounds of their superior competitiveness. Instead, the Commission used the rule-based approach to eliminate the more problematic types of subsidies in ECE, such as long-term tax exemptions and special economic zones, and to restrain the incentives that went beyond EU regulations.

The ECEs put up a tough fight to preserve the benefits they had already granted to the manufacturers, and managed to receive some concessions and transition periods (Bohle & Husz 2005). On the other hand, they also fully incorporated the new rules after the accession, so much so that a number of authors wondered at their sudden exemplary compliance with EU's regulations (Blauberger 2009a; Hölscher et al. 2010). One could argue that the terms of EU's aid policy could not have been too onerous in a region where most areas are still allowed to offer substantial aid (see Figure A3.1 in Appendix III), especially as the system of uniform criteria waved the threat of competitive bidding with richer EU members. However, the new regional aid framework did reduce significantly the levels of allowable assistance to large projects: investments above 100 million euro could now receive only up to 1/3 of the regional aid ceiling. With the average investment in automobile industry at around 300 million euro, this meant that

the available amount of aid ranged from a modest 4.8% in regions with a GDP at 75% of EU average to 28.3% in regions at 45% of EU's GDP[7].

On the plus side, stringent regulations strengthened the position of the governments to fight off the most extortionary demands and hold multinationals to certain minimum performance standards. This probably also explains why the governments complied so readily, especially in view of the public outrage which accompanied some of the more prominent cases. In 2006, acting on its new EU-compliant aid scheme, the new Slovak government refused incentives to Kia's suppliers, which had already been promised by its predecessor. Kia threatened legal action, but the government pointed to EU regulations and refused to budge (Balogová 2006). In another high-profile stand-off, the Hungarian government revoked part of the subsidy granted to Korean tyre-maker Hankook for its violation of Hungarian (and EU's) labour law (Neumann 2008). In the next few years, not a single incentive package exceeded the limits set by EU - supranational intervention had definitely put a lid on subsidies, beyond which the threat of Commission's action would have made the incentives expensive even for the multinationals (Blauberger 2009b).

At the same time, as long as they remained below the prescribed maximum, the incentives had now also become fully institutionalized. Aid schemes are customarily approved in advance, setting ceilings for different sectors and areas of investment, and unless they exceed these standards, dealings with individual firms need not even be notified. Minimum investment threshold for large firms are quite low: from as little as EUR 2 mn in certain areas of the Czech Republic to 14 mn in Slovakia – only Poland has a somewhat more demanding threshold of EUR 38 mn. Separate grants for job creation are available in all countries, but only Hungary and Poland require all supported investment to create some employment (see Table 3.2). Although there is no legal requirement to grant aid, in practice it is routinely awarded without further

[7] The maximum aid of award for large projects is calculated as R*(50+0.5B+0.34C), where R is the general regional aid ceiling, B is the eligible investment between 50 and 100 million euros and C is any expenditure above 100 million (RAG 2006).

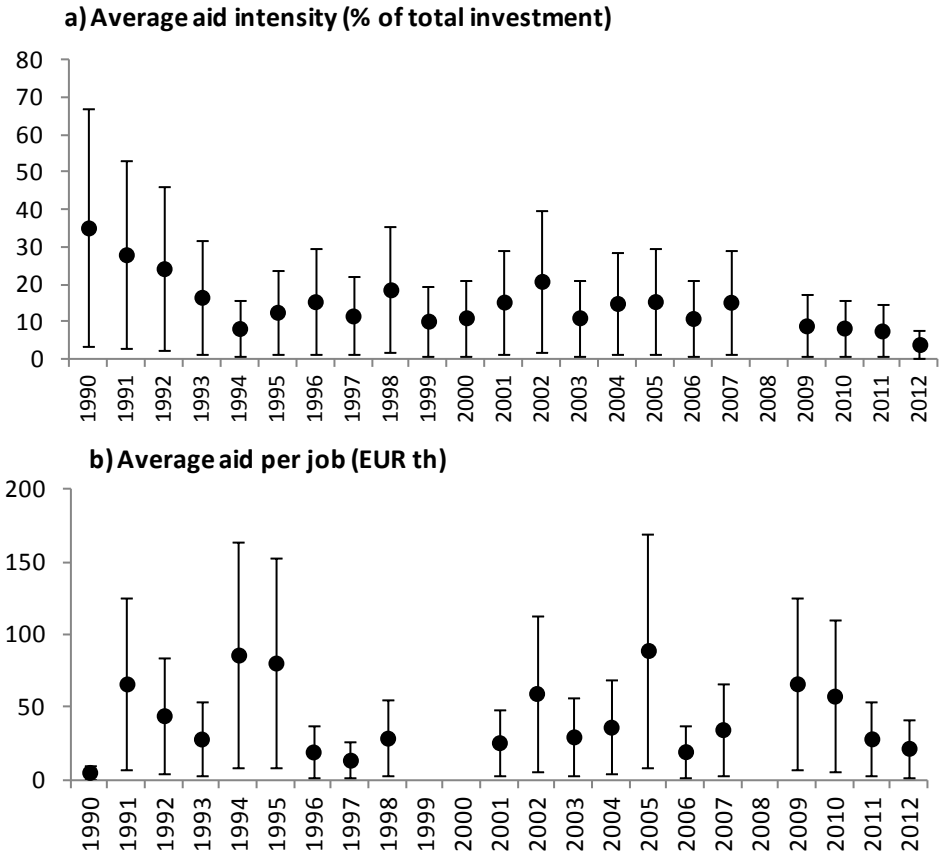
negotiation to any firm that meets the minimum investment requirements (Interview CzechInvest 2010, SARIO 2010).

As a result, over the last seven years, practically every automotive investment in Eastern Europe has received some aid, even if it only involved minor modernization or a change of production model. Compared to the excesses of the early 2000s, the value of individual subsidies has stabilized around an average of 10%. On the other hand, these are very often relatively small investments to expand or replace production, and their effect on employment is also much more modest. In fact, even though the size of incentives as share of investment decreased, the amount of subsidy per new job created continues to vary widely, with the average still around 20-30 000 euro (Figure 3.2).

Even less has changed with regard to large, high-profile investments. They are still subject of intense competition, which easily turns EU's maximum support rates into minimum offers. After the latest round of incentive bidding for a Mercedes plant which Hungary eventually won against Poland and Romania, the then prime minister of Hungary Ferenc Gyurcsány explained that "all the countries bidding had offered maximum incentives possible under EU law" (Hodgson 2008). With little scope left to negotiate direct incentives, ECEs routinely offer whatever they can, and do their best to invent new perks: a common practice is to throw in substantial infrastructural investments which benefit the recipient but can be defended to the Commission as general infrastructural development.

In some ways, the ECEs have been forced to abandon specific targeted incentives and focus more generally on "improving the business environment" although the stress remains on eliminating costs for investors. With the caps on direct subsidies, the competition has once again shifted into the regulatory arena, primarily taxation (see also Bohle 2008; Bohle & Greskovits 2012). As with many other innovations when it comes to attracting investors, Hungary had led the way already in 1996, cutting its corporate income tax to 18%, but at the time it maintained a separate dividend tax of 23% and a withholding tax on repatriated profits of 15% to encourage reinvestment in the country. With the accession to EU, both of these were

Figure 3.2 Aid to automobile industry in EU, % of total investment and amount per job[8]



Source: Own calculations based on data compiled from the European Commission State Aid Register
Note: Only shows aid to investment above EUR100 mn. Error bars represent 90% confidence interval. Values in figure b) in constant 2005 prices.

phased out, and although the top rate has been raised in the crisis, in 2010 the government introduced an even lower 10% tax to all corporate income up to EUR 1.7 million, with the result that the effective tax rate remained practically unchanged. By the late 2000s, all countries in the region converged on a low 19% tax rate on profits, and in spite of the general reduction in income taxes all across Europe, the difference to EU average is for most of them even larger now than it was in the early 2000s (see Table 3.3). Most recently, a similar round of competitive cuts took place in the area of personal income taxation, in the hope of improving region's attractiveness ratings in the face of strong wage pressures (see Chapter 5).

[8] Calculations are based on 120 cases of aid to automobile industry capital investments between 1990 and 2012 for which data was available. Information on new job creation was only available in 75 of 120 cases. In another 17 cases the host location explicitly stated that no new jobs will be created (aid is given to preserve existing jobs), in other cases the information is simply missing.

Table 3.2 Incentives available to manufacturing industry firms in ECE, 2011/2012

Conditions for investment in manufacturing[a]				
	Czech Republic	Hungary	Poland	Slovakia
Minimum investment requirement	EUR 2mn-4mn (depending on unemployment rate)	EUR 11.1mn (3.7 in preferred regions)	EUR 38mn	EUR 14 mn (3.5 if unemployment exceeds 50% of national average)
Minimum job requirement	no	150 (75 in preferred regions)	250	no
Other requirements	At least 50% from investor's own sources + min. 60% in new equipment			At least 25% from investor's own sources
Type of aid available				
Tax relief	up to 10 years	up to 10 years	until 2020 in SEZ	up to 10 years
Job creation grants	up to EUR 2000 only in regions with unemployment 50% above national average	up to EUR2000 minimum 500 jobs (200 in preferred regions)	up to EUR 4500 minimum 250 jobs	up to EUR 10 000 only in regions with unemployment 50% above national average
Training grants	25% of training costs only in regions with unemployment more than 50% of the national average	25-90%, up to EUR1mn min. 50 new jobs. If more than 500 new jobs are created, maximum is EUR 2mn	25% of training costs	25% of training costs
Additional incentives	Cash grant up to 5% of total costs in addition to standard incentives for "strategic projects" (investment EUR 20mn, 500 new jobs)	Additional cash grant for projects above EUR10mn and creating at least 50 jobs (10 in preferred regions)	Exemption from local real estate tax, preferential land transfer in SEZ	Improvement of infrastructure within industrial parks, up to 85% of total costs

Source: CzechInvest, ITDH, Sario, PAIiIZ

[a]Only large firms, different conditions apply to SMEs. In Poland, only automotive, electronics and aviation are eligible for state aid among the manufacturing sectors.

Note: Investors are required to implement and maintain the project over at least 5 years

This form of competitive deregulation often involves direct intervention by multinationals: associations of foreign investors were instrumental in pressuring for corporate tax reforms, and a number of investment agreements signed in the 2000s contained explicit

pledges by the governments not to raise taxes in the future (Drahokoupil 2008; Neumann 2008). The American Chamber of Commerce, one of the largest networks of foreign investors in the region, regularly holds Regional Tax Conferences with ECE ministers of finance and investor representatives in order to benchmark tax performance in the region and suggest "best practices".

Table 3.3 Corporate tax rates in ECE and EU

	Statutory (Effective[a])				Difference to EU15 average	
	2000		2011		2000	2011
CZ	**31**	(23.6)	**19**	(16.7)	-3.4	-6.9
HU	**19.6**[b]	(19.7)	**20.6**	(19.3)	-14.8	-5.3
PL	**30**	(27.1)	**19**	(17.5)	-4.4	-6.9
SK	**29**	(25.8)	**19**	(16.8)	-5.4	-6.9
DE	51.6	(40.4)	29.8	(28.2)	17.2	3.9
EU15	**34.4**	**(29.3)**	**25.9**	**(23.3)**		

[a] *Takes into account deductions and variable corporate tax base, see Deveraux et al. 2008*
[b] *Includes locally levied business tax*
Source: Eurostat 2012

3.5 Unequal bargains

In December 2008, the Hungarian government paid 49.5 million in investment incentives to Audi in Győr for a minor expansion involving a production line for a new generation of engines. Although Győr is among the most developed areas of Hungary, within the EU it is a disadvantaged region, and allowed to grant up to 12.61% of aid to large projects. Hungary's offer was a mere percent under the maximum aid rate, and given that the project only created 150 new jobs at the factory, it amounted to exorbitant 356 000 euro per job. Assuming that Audi pays its workers the average Hungarian wage, this would basically have covered the full labour costs of its 6000 or so strong workforce for an entire year. The government justified the aid by arguing that the investment constituted substantial modernization and was "expected to contribute also to the development and expansion of the technological standard of the Hungarian supplier network" and that by "conveying the knowledge and experience resulting from the investment project through the existing co-operations with the University of Győr

[...] the investment will also contribute to the development of the quality [...] of higher education in the region" (EC 2009).

The case is an excellent illustration of the paradoxes of "institutionalized" incentive procedure. Even the most rigorous theories of bargaining power would have found very little reason for Hungary to offer these incentives, given its attractiveness as an investment location. Audi Hungaria had been the concern's most profitable operation in Europe for more than a decade, and the profit it earned in 2007 alone would have been enough to cover this investment. Nor was there much reason to fear that investment would have gone elsewhere – the plant in Györ produces *all* of Audi's engines, and it would have been extremely difficult to argue that the investment was in any meaningful way mobile. Nevertheless, the government granted the subsidy more or less automatically, without any specific commitments by the carmaker to actually invest in the "Hungarian supplier network" or involve its research institutions in any way except for "conveying the knowledge" through "existing co-operations".

It is, of course, very hard to decide whether or not the incentives are truly needed. As I have argued in Section 3.2, depending on the relative bargaining power, they can often turn into pure rents to investors - the fact that had only become more blatant in ECE through the benchmarking against Western Europe. At the same time, competition for mobile investment assures that the governments continue to provide them: as the experience of the Czech Republic and Slovakia in the 1990s clearly demonstrated, refusing subsidies could mean forgoing important investments (Drahokoupil 2008). But even as the competition abated somewhat under the watchful eye of the European Commission, and even as the automotive plants became a lot less mobile given the enormous capital costs they have sunk in the region, the essential asymmetry of power between the governments and the MNCs does not seem to have improved.

In fact, just as the ECE countries came to be considered excellent investment locations and received plenty of FDI, they seem to have lost even the bargaining power they commanded while they were still an unknown quantity with dangerously volatile regulatory environments and the investors coming in on their toes. Not only have the region's governments continued to

provide support to foreign firms, they have also all but abandoned the attempts to link these subsidies to specific performance conditions. Most incentives require nothing in return but the investment itself – some do not even set requirements for employment, let alone ask for specific commitments to upgrading or engagement with local industry. There are some signs that this might be changing, but these are few and far apart. Quite alone in the region, the Hungarian government recently threatened to tie all future aid to the number of Hungarian suppliers employed by the MNC, but then changed its mind and opted for a softer approach of "strategic partnership agreements". Daimler and Suzuki were among the first multinationals to sign these partnerships: they contain no specific targets, but the firms promised to look into the options of cooperating with local firms, contribute to the government's vocational training reform, invest in research and development, and to meet government representatives twice a year to review their progress on these fronts (Government of Hungary 2012a; 2012c; 2012b).

As the main solution to the problem of capital scarcity in ECE manufacturing, foreign direct investment clearly has enormous advantages. For one, in the early 1990s it was almost the only way to ensure sufficient influx of new investments to revive and restructure ailing socialist industries. Existing research consistently finds that foreign-owned manufacturing firms perform better in terms of employment growth and exports than those with any other form of capital (e.g. Dunning & Rojec 1993; Djankov & Hoekman 2000; Sabirianova et al. 2004; Woodward et al. 2005). The ability of foreign investors to quickly integrate the region into their international networks means that a number of obstacles which usually plague late developers, such as the scale of local sales and access to external markets, were almost automatically overcome.

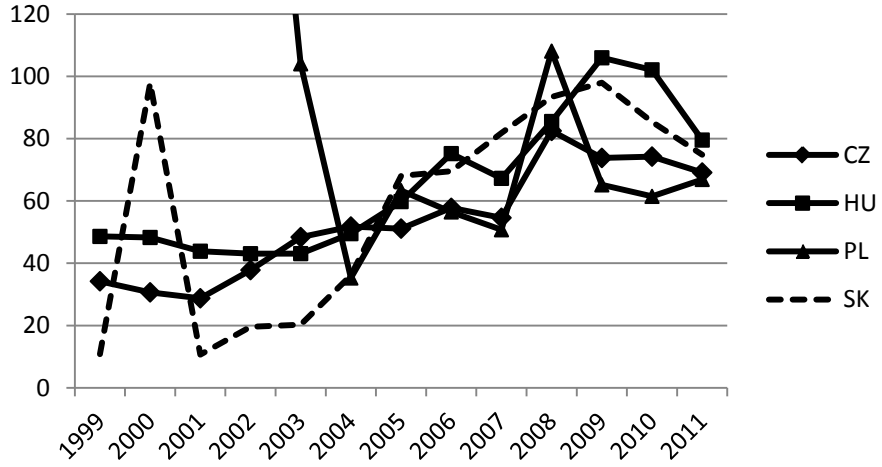
However, these benefits come at significant costs. The most obvious are the costs related to the attraction of foreign investors, which, as we have seen above, can be especially high in the context of hyper-integrationist development, because the success of the model requires acceptance of certain features of the dominant international regulatory framework, such as trade and capital liberalization. This, in turn, makes different locations more interchangeable,

and requires more effort from the governments to distinguish their offers from those of competitors.

In the specific case of East Central Europe, these costs are somewhat attenuated by the nature of the European Union integration regime. On the one hand, the EU helps the ECE meet the costs of catching up through FDI directly, by co-financing some of the incentives (especially those for regional development and training) and providing additional funds for infrastructure and similar services. On the other hand, although it takes away a lot of policy autonomy from ECE governments, its regulatory framework also protects them from the worst effects of inter-state competition, as well as from the potential retaliatory actions by the multinational's home countries. Interestingly, however, the regime of competition control only applies to direct subsidies. In spite of recurrent complaints about tax and social "dumping", the new member states are still allowed to ramp up their attractiveness through general deregulation as far as their budget will handle it.

There are also signs that such costs are not transitory – we have also seen that the willingness of ECE governments to offer incentives did not decrease as the multinationals became more established in region. In fact, the East Central European states have a good reason to keep finding new ways to convince the multinationals to reinvest in their jurisdictions, if they wish to prevent the one-time remedy for capital scarcity from turning into a constant drain on their capital accounts. Since around the mid-2000s, FDI seems to have entered into a phase of saturation in most ECE countries, and most of the new inflows come in the guise of reinvested earnings rather than new equity (Lisický & Maleček 2012; Brada & Tomšík 2009). At the same time, reinvested earnings as a share of total FDI income in these countries have been steadily falling. In the last few years, more than half of profits made by foreign firms in ECE are taken out of the region, a tendency which seems to have been accentuated during the crisis when practically all income was sent back to the headquarters (Figure 3.3, see also Hunya 2011).

Figure 3.3 Remitted profits as share of total net income on FDI



Source: Eurostat, National accounts
Note: Remitted profits include distributed dividends and repayments of intra-company loans

This makes it perhaps less surprising that the ECE states have not managed to improve their bargaining power vis-à-vis automotive multinationals, especially as regards their ability to control the terms of investments and steer them towards specific development goals. Efforts to convince foreign firms to invest local linkages, once the mainstay of independentist, as well as integrationist industrial policy, have all but disappeared, and the governments seem to have resigned themselves to hopes that domestic firms will eventually find a way to integrate themselves into the successful foreign-owned industry, with or without their help. Things are much the same with regard to the prospects of technology development in the foreign-owned manufacturing cluster: all countries in the region offer additional incentives for research and development, but have little way of forcing multinationals to engage in such activities.

That the governments cannot control these processes, however, does not necessarily mean that they will not take place. Globalization has changed the logic of international production organisation, and many issues which had once demanded careful policy coordination are nowadays resolved through market incentives. This is most evident in the case of manufacturing exports, which were once the subject of hard negotiations between multinationals and host states (Evans 1979; Jenkins 1987) – today it is the multinationals who seek to improve their competitiveness through imports from low-cost locations. It is unclear

whether similar processes can also drive technology development in the latecomers. As we have seen in the introduction, there are certainly great expectations in the literature that FDI inflows from developing countries will almost automatically result in spillovers, bolstering technology transfer and upgrading of domestic industries in the host states. The spread of new communication technologies have also made research and development activities more flexible and there is plenty of recent research which suggests that innovation is increasingly becoming de-localized and that developing country locations might be able to capture a greater share of R&D investments (Feinberg & Gupta 2004; Narula & Guimon 2010; UNCTAD 2005a). The next chapter looks at the extent to which we find evidence for such developments in ECE automobile industry, and the ways in which foreign investment affects technology transfer and development in the new generations of late developers.

CHAPTER IV

4 Transmission issues: diffusion and development of technology

There is hardly an aspect of foreign direct investment that has received more attention in the literature than its ability to transfer technology and improve performance not only of the entities in which the outside capital is invested directly, but also of their local customers, suppliers, and even competitors. As we have seen in the introductory chapter, these spillovers from foreign firms to local industries are in fact often posited as the main mechanism linking FDI and overall development of host countries (e.g. Blomström & Kokko 1998; de Mello 1997; Venables & Markusen 1999), and most of the standard economic literature on FDI, as well as the more heterodox approaches, focus on identifying channels through which these multiplier effects can be enhanced. The focus on spillovers is also politically attractive, because it mollifies nationalist tensions by suggesting that dependence on FDI is only transitory, and justifies special concessions to foreign firms as an indirect subsidy to development of domestic capacities (Moran 1978; 2001; Lall 1980). In that regard, the main difference between the neoclassical and heterodox accounts is the degree to which they consider public intervention as a necessary ingredient in facilitating these transfers.

As discussed in the previous chapters, until the mid-1990s most late developers, including the ECE states, have employed some form of policy to convince the multinationals to develop local linkages and allow domestic firms to learn from them by copying technology, participating in joint ventures or becoming part of the supplier network. From the mid-1990s onwards, however, changes in international trade and investment regulations have rendered most of these tools practically illegal (Chang 2006; DiCaprio & Gallagher 2006). In spite of this, however, accumulated evidence of spillovers across a

variety of countries and industries led many advocates of FDI-driven development to maintain that spillovers would take place anyway, and that costly government policies to force such connections were at best unnecessary and at worst even harmful (Lall 1980; Lim & Fong 1982; Moran 2001; 1999; Blomström & Kokko 1998).

Recently, however, extensive research into the mechanisms of FDI transfers has begun to dampen the early enthusiasm for spillovers. The tide turned with a seminal article on FDI spillovers in Venezuelan manufacturing industry (Aitken & Harrison 1999), which found negative effects on domestic firms. Subsequent investigations have yielded more ambiguous conclusions, and more recent surveys of the literature find expert opinion to be largely agnostic on the matter (Görg & Greenaway 2004; Havránek & Iršová 2011a; Havránek & Iršová 2011b; also Chapter 1). Adding to this ambiguity is the fact that most channels through which FDI is expected to exert positive influence on domestic firms can also carry the opposite effect. Thus increased competition might force local firms to become more productive in order to meet the challenge of a superior competitor, but it may also push promising firms out of business if they are given too little time to adjust to the new market demands (Aitken & Harrison 1999). In the same way, the flow of workers between enterprises can help diffusion of new skills and technologies from the multinationals to the local firms, but it may equally well decrease their productivity if the multinationals use their superior market position to attract the best workers away from the local industry – an effect all the more likely since the governments often subsidize the costs of new hires by foreign investors (Driffield 1999; also Pavlínek 2004). Even the effects on the firms lower along the value chain are problematic. While some studies find evidence that foreign firms help their local suppliers to upgrade technologically, others show that very few local firms make it into the multinationals' supplier ranks, except on the lowest levels where technological improvements are less of a decisive factor (Javorcik & Spatareanu 2009b; Lorentzen et al.

2003; Barnes & Kaplinsky 2000b; Humphrey & Memedovic 2003). As a result, domestic companies in highly competitive industries are increasingly losing ground on all levels of the supply chain (Barnes & Kaplinsky 2000b; Paus & Gallagher 2007; Rugraff 2010). Moreover, negative effects become stronger as the amount of FDI in the industry increases, lowering the chances of local firms to break into the multinationals' supply network (Altomonte & Pennings 2009; Chen et al. 2011). While positive spillovers are still commonly found in developed countries, the evidence on developing and transition countries is extremely mixed (Görg & Greenaway 2004; Damijan et al. 2008; 2003; for an overview of findings on Central and Eastern Europe see Table 4.1 in Annex III).

Given that spillovers to local firms are the most commonly cited link between FDI and development, why is there so little hard proof of their existence in developing countries? And if local firms are unable to benefit from the presence of multinationals in their home markets, is the result necessarily a superficial or truncated industrialization? In the long run, what does marginalization of domestic capital mean for a country's ability to advance from the stage of technology transfer to technology development?

In this chapter, these questions are explored through detailed analysis of the development of automotive supplier industry in East Central Europe. The next section outlines recent changes in organisation of international automotive production, and their effects on the potential of peripheral locations to become part of these networks and acquire high value-added functions within them. Section three then looks at various dimensions of technology transfer in ECE – the growth of the automobile supplier sector, as well as the place and prospects of local firms within it. It shows that in spite, or rather because of tremendous expansion of investment in automotive components industries in the region, domestic firms have been pushed towards the very bottom of the market, where they have little possibility for technological upgrading. Rather than technology transfer, the

key force behind industry's development in the region is best described as a process of transplantation, facilitated by private transnational networks of investors, and with support of host country governments. Domestic companies are largely excluded from this process, but the result is nevertheless a vibrant cluster of localized, if not local firms. Finally, section four looks at the consequences of these trends for technology development in East Central Europe, and finds little evidence of comprehensive functional upgrading. Although some of the tendencies which pushed localization of transnational production networks in the region are also present in the field of research and development, they are far weaker. Few foreign companies undertake any R&D in the region, and even fewer local firms operate at the level of the supply chain where they are expected to make large investments in technology development. Although domestic firms could be expected to have a higher stake in domestic technological development, as it determines their competitiveness abroad, they are structurally too weak. Therefore, government efforts to spur technology development mainly consist of attempts to convince multinationals to invest in technology-intensive activities, and to coax domestic science infrastructure into cooperation with the private sector.

4.1 Changes in international production organisation and consequences for local industrial development

For the host governments, efforts to attract flagship foreign firms, of the kind we saw in the previous chapter, are only the first step towards development. Indeed, one of the reasons that the spillovers garnered so much attention in policy and academic literature is that they are a direct response to one of the longest-standing concerns about FDI: that without strong links to the local industry, integration into multinationals' production networks will result in incomplete development, locking the host country in a less desirable position in the

international division of labour (Valenzuela & Valenzuela 1978; Evans 1979; Gallagher & Chudnovsky 2009). Incomplete, "hollow" or "truncated" industrialization can manifest in several ways. Where the local market is the main source of attraction, a multinational may set up final assembly in the host country, but import all or most of the important components from abroad. But even where the multinationals are eager to use the host country as a source of exports, they may choose to locate there only the most labour intensive and cost-sensitive production, which has low technological intensity, little scope for upgrading, and is also more vulnerable to relocations.

In the early 1990s, falling trade barriers meant that tariff-jumping assembly for developing country markets was becoming less common, as they could now easily be served through exports. This could have led to fewer investments in the peripheries, but the disappearing trade barriers, together with falling transportation costs, had also made them more attractive as low-cost production locations. Cost considerations were just gaining primacy in European automobile industry, owing to a combination of market factors, and for a while this seemed to reinforce the division of labour which pushed developing countries towards specialization in low value-added activities.

In the developed world, the two oil shocks and the rising competition from East Asian, especially Japanese producers, had turned the once prosperous industry into a trench fight for maturing markets. In the US, the structure of demand allowed domestic producers to escape through upward adjustment towards ever larger off-road and luxury vehicles, but lifestyle changes and urban congestion in Europe actually shifted the demand back towards smaller cars. The crisis of profitability which hit the industry in the early 1990s demanded severe adjustments in terms of production efficiency and costs, and shifted production of the smallest, least profitable vehicles towards low-wage countries.

In addition to direct relocation of smaller and cheaper models by final manufacturers, a number of changes in production organisation which took place in this period also favoured outsourcing towards peripheral locations. Efforts to decrease intermediate costs, such as inventories, pushed more responsibility on suppliers for quality control and organisation of deliveries. Moreover, they were now also becoming responsible for a larger share of production, organisation of smaller sub-suppliers, as well as research and development, as the carmakers tried to streamline their operations by divesting non-core competencies (Lung & Volpato 2002; Herrigel & Wittke 2005; Humphrey & Salerno 2000). By mid 2000s, close to 80% of a car's value was sourced from the outside, and the carmakers made ample use of their market power to drive down component prices, forcing even the long-term suppliers to compete for new contracts and asking them to commit to "continuous cost reductions", i.e. to lower the price of their supplies by 4-7% every year (Lung 2004; Roland Berger 2008).

All of this created enormous pressure on suppliers to lower production costs, which often meant relocation of parts of production to low-wage countries. Within Europe, relatively low transportation costs and few market barriers seemed to favour a clear division of labour between the technologically advanced core and low cost peripheries. Early observers of industrial revival of East Central Europe under the leadership of foreign direct investment indeed warned that the region was on the way to becoming a cheap "maquilladora" for Western multinationals: marginally incorporated into the European production systems and entrusted only with the simplest, labour intensive processing tasks (Ellingstad 1997; Martin 1998).

However, the same processes which forced the diffusion of production towards low-cost locations also prevented such a simplistic division of tasks (Freyssenet et al. 1998; Lung 2004). Outsourcing of a large share of inputs also created new problems in terms of

delivery and quality control. Larger and bulkier components were still expensive to transport, even within Europe, and the "just in time" supply regime made production at the point of sale more attractive for the complex parts. This limited the pressure towards relocations, but also ensured that once the carmakers themselves began to settle in the periphery, agglomeration forces attracted all categories of suppliers, including those of more sophisticated components.

Adding to this was a revolution in car design, which reduced possibilities for hierarchical differentiation of production across core and periphery locations. To mitigate the costs of research and development, vehicle manufacturers tried to boost the economies of scale, spreading the costs across as many markets as possible. The "world car", i.e. a single model to be sold simultaneously in all regions of the world was most enthusiastically pioneered by Fiat in the early 1990s, but it soon turned out to be an overly ambitious strategy: differences in consumer tastes, purchasing power and governmental regulations left a single global model a distant dream (Camuffo & Volpato 2000; Camuffo 2004). Nevertheless, it inspired a number of intermediary solutions, the most promising of which involved standardization of various systems of internal components into "platforms". These are effectively the invisible parts of the car architecture, which can comprise up to 70-80% of inputs, but still allow for customizations of certain features such as the engine size and type, style of bodies and accessories etc. (Lung et al.1999, Pries 2003). Due to these external variations, platforms can be shared among a wide range of vehicle models by the same manufacturer, and sometimes even between manufacturers. The Volkswagen Group, which now owns eight brands of passenger cars with very different market appeal, makes a total of 240 car models on just 16 platforms. Even though peripheral locations may still specialize in smaller and less profitable products, the difference between them and the more complex,

higher value-added ones is much smaller, and product upgrading can be achieved with minimal adjustments.

This double movement in the restructuring of automotive production - on the one hand, greater fragmentation of production and cost sensitivity, on the other the pressures for agglomeration and standardization – has also changed the logic of industrial development in the periphery. In some ways, their prospects now appeared more promising than ever. Vehicle manufacturers were now willing to outsource a larger share of value added, and cost considerations pushed both carmakers and their suppliers to step up the share of exports from developing country locations. At the same time, coordination issues limited the trends towards fragmentation of production, and helped the rise of agglomeration economies in selected locations. The combination favoured especially the "near peripheries", i.e. low cost regions in proximity of established manufacturing centres, such as Mexico or East Central Europe. Moreover, efforts to standardize components across a large range of products eliminated fixed hierarchies between low- and high-cost locations, and opened up greater opportunities for upgrading. However, while all this meant that FDI could lead to strong development of local industry, the same was not true of its impact on locally owned firms. In fact, it was precisely the processes which helped the flow of investments towards developing country locations that also raised barriers to entry into higher industry ranks out of reach for most local businesses.

To meet the demand for lower costs the suppliers also tried to increase the scale of production, and the 1990s saw an enormous wave of mergers and acquisitions - with the result that some of the most prominent component manufacturers are even larger than their customers. At the same time, strong tendencies towards industry concentration are also a consequence of rapid internationalization. Since the bulk of components is now standardized across various products and markets, the desire of component makers to

protect their intellectual property, and of the car manufacturers to limit coordination costs, have pushed the established suppliers to follow their customers to new markets (Collins et al. 1997).

For the aspiring developing country firms, this meant not only that they now had to contend with formidable foreign competitors in their own markets, but also that if they wished to displace them, they had to be ready to do so also at the international level (Sturgeon & Florida 2000; Boudier-Bensebaa 2008). This would explain the lack of spillovers to domestic enterprises: the barriers to entry into the higher league have become enormous, and the local firms are either replaced or taken over by the foreign competitors, or pushed onto the lower ranks of supplier hierarchy where there is less scope for upgrading. Thus the overall effect can be negative even if the firms which manage to win the supplier status do experience strong positive spillovers. In a rare empirical study which examines directly the relationship between local suppliers and multinational customers in the Czech Republic, Javorcik and Spatareanu (2005) found precisely that: firms supplying MNCs exhibited definite signs of learning, and improved their productivity faster than non-suppliers. However, the same study failed to find overall positive spillovers in the supply industry, which probably means that the gains to a few direct beneficiaries are offset by the negative impact on a large segment of firms which fail to enter multinationals' supply networks. This is also in line with the repeated finding that backward spillovers are more strongly associated with certain types of FDI such as joint ventures or FDI from distant locations (Javorcik and Spatareanu 2011; Javorcik 2004; Damijan et al. 2008) which are more likely to engage with local firms than, as opposed to relying on established home networks.

The last observation suggests that the disadvantage of domestic firms is not only structural, but also institutional. On the one hand, their failure to break into the multinationals' value

chains is clearly related to their inability to raise a large amount of capital to expand their operations quickly enough, or the fact that they lack technology to compete with established suppliers. However, even when they are sufficiently capable and productive to take over some operations at least at the local or regional level, they have worse chances of gaining access to the carmakers. As already noted, decentralization of production has been accompanied by greater concentration of some other activities, such as research and development and purchase. Most vehicle manufacturers conduct centralized screenings for the bulk of components – very few affiliates have the competence to select suppliers independently, except for the most generic parts (Williams et al. 2008; Janovskaia 2008). Even before they get a chance to compete for a contract, the prospective applicants must live up to certain standards of production management, and have them certified by an independent audit company, at their own expense. The selection of such companies is if anything even more centralized than that of suppliers. For the latest quality management certificate in automotive industry, ISO/TS 16949:2009, the global association of vehicle manufacturers, International Automotive Task Force (IATF) granted the right to conduct audits and issue certificates to only 45 firms globally, all but four of which come from developed countries (the other three are from China, Brazil and India and Malaysia).

In other words, developing country firms are doubly disadvantaged in the game of transnational manufacturing: on the one hand, changes in international organisation of production had raised tremendously the barriers to entry of local firms, on the other hand they are also outsiders to the networks of private governance and information circuits which underpin this restructuring process. At the same time, as we have seen in the introduction, changes in the scope for public regulation of foreign investment did nothing to compensate them for these disadvantages.

While the governments now have fewer means to compel multinationals to take on local firms, it is also unclear whether they really feel the need to do so. With the changes in the international production organisation favouring a rise in exports from developing countries, the interests of domestic capital are less readily identified with those of the national economy. Indeed, difficulties of the local companies are almost precisely the reverse of the processes leading to successful localization of foreign capital – greater amounts of foreign investment on all levels of the supply chain, clusters of prominent transnational suppliers, and production of the latest models destined for exports, not for domestic markets. It follows that domestic capital would need to have much political clout in order to convince the governments that its own growth is worth interfering with the processes that appear to be solving of their own accord some of the most difficult problems of late industrial development.

4.2 Defeat at home: automotive suppliers in East Central Europe

While most of the tendencies outlined above are global in nature, East Central Europe probably comes closest to being a textbook example of the effects of international industrial restructuring. The opening of the region towards international capital practically coincided with the restructuring of automotive industry in Europe, and its proximity to the core European markets and integration into EU trade and investment regimes turned ECE into a very promising export platform. At the same time, radical market deregulation which accompanied transition from socialism plunged the region's own firms headfirst into the gales of international competition, giving them very little time to prepare for it.

The consequences have also been exemplary. On the one hand, automotive industry experienced tremendous growth, which was especially pronounced in the production of parts and components. Following the first wave of foreign vehicle manufacturers which

settled into the region in the early 1990s, the supplier firms had slowly taken over from the carmakers as the leading investors in the sector. By 2007, their activities accounted for an average of 50% of value added and 70% of all employment in automotive industry, well above the European averages of 35% and 42%, respectively. Some of this investment is clearly related to the suppliers' efforts to decrease production costs by moving to a low-wage location: between 2001 and 2008 alone, CEE's share of investment by global automotive suppliers rose from 10 to 14%, while in the same period the share of Western Europe declined from 32 to 21% (KPMG:2009). On the other hand, however, there is also clear evidence of agglomeration forces at work. The automotive cluster in ECE is highly integrated: although estimates vary from one manufacturer to another, and even between different models at the same plants, the local content of most assemblers is very high, in the range of 60 to 80%, and the regional content is probably even higher[9].

Part of the reason is the fact that East Central Europe has also been used as an experimental ground by some manufacturers to expand and perfect their efforts to increase scale economies by pooling model design – not only among different brands and models by the same manufacturers, but even between carmakers. One example is the Toyota Peugeot Citroën (TPCA) plant in the Czech Republic, which was set up as a joint venture by the three manufacturers to produce small entry-level cars - Toyota Aygo, Peugeot 107 and Citroën C1. The three models are practically identical, and also share many components with Peugeot 208 and Citroën C3 which are built in Slovakia. Suzuki in Hungary and Opel in Poland also produce a common car under different names (Opel Agila/Suzuki Wagon R), as do Kia in

[9] Although there is little systematic data, local content in the late 2000s has been estimated at around 65% for Škoda and Hyndai in the Czech Republic, 75% at TPCA, 50-70% at Volkswagen and above 75% at Kia in Slovakia, 70% for Fiat in Poland, and 50-60% for Suzuki in Hungary. Audi in Hungary has the lowest rates of local inputs of only around 10% but these are set to rise as its token annual vehicle production of 50 000 units is to expand to 125 000 from 2013. (Škoda Auto 2009; SupplierBusiness 2009; TPCA 2010; Jakubiak & Kolesar 2007; Antalóczy & Sass 2010; Domański & Gwosdz 2009; Kukely & Czira 2006)

Slovakia and Hyundai in the Czech Republic (Kia cee'd/Hyundai i30), increasing the number of orders and making the region more attractive for world-class suppliers. On the other hand, the region's proximity to Western Europe, and especially to Germany, allows even the smaller companies to avail themselves of lower production costs across the border: for a good number of German medium-sized parts makers which eventually settled in the region, East Central Europe was the first ever investment abroad (Interview DIHK CZ:2010). It certainly helped that they could count on friendly host governments, which extended incentive packages to foreign suppliers, and set up industrial parks, offering infrastructure to link up new investors with the already established firms. In addition to governments, foreign suppliers also received assistance from the international chambers of commerce of their home countries, some of which – such as the German or American one – have extensive networks of offices in the region. These collect information about the business environment, labour costs and regulation, help firms to settle in, provide them with legal advice, and facilitate contacts and cooperation between firms (Interview DHIK HU 2010, Interview DHIK CZ 2010).

At the same time, East Central Europe is also a stock example of the near-extinction of domestically owned firms. In the period 2003-2007, which were the boom years for the industry in ECE region, the revenues of the automotive sector increased by more than four times, but the foreign firms' share remained well above 90%, and even increased slightly (Figure 4.1). Most studies of the region evaluate the position of indigenous firms quite negatively, noting their relative underperformance and difficulties they have in breaking into the MNCs supply chains (see Szanyi 2001; Antalóczy & Sass 2010; Rugraff 2010; Domański et al. 2008; Pavlínek 2008). Hardly any ECE company has managed to carve a place in the top supplier tier, even with the carmakers whose local supply networks have been well established for many years. A 2007 study of Škoda's supply networks found that

only three majority Czech-owned companies could be found on the top of the supply chain, while the rest were mainly to be found among distant sub-suppliers of more basic components (Pavlínek & Janák 2007). Although more than 62% of Škoda's parts are locally sourced, 80% of its suppliers have their headquarters outside of the Czech Republic (Škoda Auto 2009).

The reasons for this are almost exactly the same as those which turned the region into a hotspot for the growth of foreign-led industry. The mechanics of decentralization and agglomeration, as well as ECE's proximity to the West bring in competition even on the lower levels of the value chain. The region is very tightly integrated into the broad European automotive networks, but the domestic firms lack capital to match the production scale of the booming regional industry, let alone to deliver components to the older production sites across Europe. Even when they are able to offer the requisite scale and technology, they have a harder time gaining access to the multinationals.

In fact, what the East Central European firms have experienced is the disappearance of the one advantage which developing country firms typically have against their foreign competitors: better knowledge of the local markets. With the rapid integration of East Central Europe into the European trade, production and regulatory regimes, it is they who are now the real outsiders in their home markets. Because the bulk of regional production is for export, local firms have no advantage of better knowledge of consumer preferences. They are even less familiar with their direct customers, and have less chance to develop contacts, as most purchase decisions are partly or wholly centralised in the headquarters. The pattern of centralization varies from one manufacturer to another, but while some local subsidiaries can make decisions on allocation of new contracts, an approval from headquarters is usually needed to replace an "old" supplier (Roland Berger 2008). The situation is only slightly better at the lower rungs of the value the chain, because the same

autonomy problems hold for the affiliates of large suppliers. In Slovakia, out of around 30 first-tier suppliers in automotive industry, only three make their purchasing decisions locally, and two of them are themselves Slovak companies (STC 2006). Similarly, a survey of large MNC affiliates in Hungary found that only two out of 40 had full autonomy in deciding on local purchases, and the procurement decisions were made locally for only about 20% of turnover, most of it in non-production services (Szanyi 2001). Although some studies indicate that the situation is slowly changing, (e.g. Domański & Gwosdz 2009; Janovskaia 2008), the instances of foreign firms displacing local suppliers are far more common than evidence to the contrary.

The problem of access is crucial, because a firm's upgrading prospects depend very much on its position is in the supply chain. Those at the lower rungs typically experience greater cost pressures, and have fewer possibilities to demonstrate their technological capabilities. They are also less likely to receive assistance from their customers, and when they do it is usually of lower quality (Lorentzen et al. 2003). The same is true of capital: firms which already supply a large foreign multinational are more likely to receive bank loans for new investments (Javorcik & Spatareanu 2009a). This is especially the case since none of this is balanced out by other means of support. Industrial credit in the region is relatively sparse – at the peak of the growth period, in 2007, domestic lending to the private sector was around 50% of GDP in East Central Europe, less than half of the capitalization rate in Belgium, which at the time was the lowest in Western Europe, and around 60% of it was consumer credit (Šćepanović 2011). The banking sector is also almost entirely foreign owned, and because foreign banks face greater information obstacles in a new environment, especially with the riskier customers, for a long time smaller domestic companies had more difficulties to obtain loans than their larger foreign counterparts (Revoltella et al. 1998; de Haas & Naaborg 2006).

At the same time, regional governments have shown limited initiative in supporting domestic firms. Investment incentives have been strongly targeted at large foreign firms: although investment thresholds are falling, they still range between 2 and 5 million euro in the Czech Republic (depending on the region) and 10 million in Poland. At the same time, support to large investments and employment account for the largest chunk of state aid to the private sector, typically over 50%, while categories such as aid to SMEs and provision of risk capital only account for between 3% of all aid in Slovakia and 8% in Hungary (Figure 4.2. Czech Republic, with 16% for SMEs is a huge outlier).

This is not to say that there haven't been more systematic attempts to promote links between indigenous producers and the multinationals. The Hungarian government was one of the first to implement a supplier integration programme already in the late 1990s, and although the policy has yielded very little results, the programme was renewed in 2001 as Pannon Automotive Cluster (PANAC), and most recently as part of the 2010 Szécheny Plan for development of the national economy. Similar initiatives exist in Slovakia and some parts of Poland: they mostly consist of databases of potential local partners, information fairs and matchmaking events. However, according to the domestic suppliers, their impact is very limited, as they offer little tangible assistance (Szanyi:2002, Interview RABA 2011). Foreign multinationals make similar symbolic concessions by holding occasional information events for potential suppliers and frequently expressing their regret that so few local firms meet their production standards (Audi 2009).

It is true that the rigorous state aid regime of the European Union rules out most other policies which could be used by the host governments to promote the growth of a domestically owned industry. However, foreign dominance is also a price of success, because it allows multinationals to run their operations smoothly and efficiently. Raising even smaller national champions would inevitably require more effort and funding by

authorities and greater transaction costs of selecting, training and monitoring of new suppliers by the multinationals, and the local firms lack the political clout to impose such costs on any of the two parties. Although "local ownership" is a popular symbolic buzzword with many nationalist governments, in practice the question of domestic capital is much more problematic. In the post-socialist economic context, larger industrial firms with some potential to shoulder their ways into higher ranks of international suppliers were mostly either inherited by insiders tinged with the socialist past, or acquired by nouveau-riches catapulted into the ranks of industrialists by the murky ways of transition. This means that while some of them can still use these networks to curry favour with one or another government, a large-scale effort to support "national" capital is unlikely to mobilize much popular legitimacy. On the other hand, newer firms are typically too small to be able to significantly influence the direction of government policy.

It is easy to see why in these circumstances the notion of spillovers is a fortunate solution: it allows governments to maintain that support to large foreign firms will eventually trickle down and benefit the "local firms" in general, while absolving themselves of the thornier tasks of helping specific firms directly. It also shifts the responsibility back to the firms themselves, emphasising the importance of "absorptive capacities". Due to the somewhat circular nature of the discussion of spillovers, it is always easy to point out that they will manifest eventually, once the domestic firms are ready to learn and catch up with the multinationals' productivity standards.

I have argued so far that this promise is a fairly empty one in the context of developing countries, because the key disadvantage of local firms is not so much in their insufficient knowledge of modern technologies or familiarity of up to date production processes, but is determined by much more structural factors: access to capital, size, and access to the decision-making bodies within the multinationals' networks. In other words,

"spillovers" in the traditional sense of technology transfer and productivity growth are not the real problem – local firms which survive find ways to learn, and can even be quite productive. However, to the extent that productivity is also determined by factors such as size and capital intensity, they have limited space for manoeuvre. The following section tests this proposition formally. It contrasts the performance of foreign and domestic firms in terms of productivity and attempts to identify, within the limits of available data, the sources of this difference, i.e. whether they are a consequence of structural disadvantage, or of softer factors related to technology and know-how which could be expected to eventually spill over to indigenous firms.

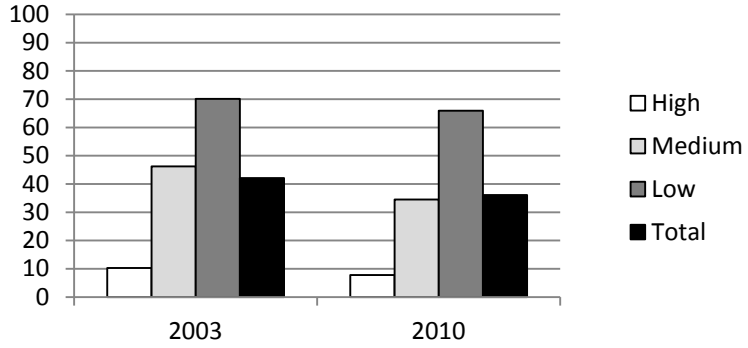
4.2.1 The place of local firms in the ECE automotive cluster[10]

The disadvantage of domestically owned firms in East Central European automotive industry is readily apparent from the simplest ranking of firms according to their gross value added. Between 2003 and 2010, on average only 8.5% of firms in the highest value-added segment were domestically owned, and close to 60% of all domestically owned firms fell into the low value-added category. To some extent, this is a consequence of the composition effect: foreign firms going abroad should by definition be among the most productive in their home economies, while the domestic firms are highly heterogeneous. For the same reason, higher productivity and market advantages of foreign entrants are even found in the most developed countries, such as the UK (Davies & Lyons 1991; Griffith 1999), and even the US (Doms & Jensen 1998) or Germany (Temouri et al. 2008). What is remarkable about East Central European automotive industry, however, is the degree of disproportion: while domestically owned firms represent on average 70% of companies in

[10] This section is based on analysis of a unique sample of automotive suppliers developed on the basis of data collected by Bureau van Dijk (Amadeus database, online version 2012). For details of the sample characteristics see methodological note no.1 in Appendix 1.

the lowest value-added segment, their share is only about a third even in the medium value-added third (Figure 4.1). Most remarkably, their share in the overall sample has declined in *each* category in the course of the decade. Between 2003 and 2010, the rate of entry of foreign companies into the sector systematically exceeded the number of domestic entrants, who also suffered a much sharper decline during the crisis, with the consequence that at the end of the decade domestically owned firms constituted a little more than one third of the whole sample population[11].

Figure 4.1 Share of domestic firms in each value-added segment (percent)



Note: "High", "medium" and "low" denote the top, middle and bottom third of the value-added distribution
Source: author's calculations based on Amadeus database

The model below examines the sources of this enormous disadvantage. Since both the survival rate and the market success of the firm are related to its productivity, productivity enters as the main dependent variable, and is then related to ownership as the main explanatory variable, controlling for observable firm characteristics such as age, size, and labour costs. The period under analysis is limited to the years 2003-2007, due to a drastic drop in the number of firms during the crisis period. Since the survival of firms is strongly related to their productivity, and possibly ownership (to the extent that foreign

[11] Of course, the sample cannot be taken to reflect faithfully the whole firm population. Nevertheless, a comparison with the Eurostat's Structural Business Statistics suggests that the selection used here covers most of the economic activity in the ECE automotive industry (see Appendix II).

firms would have an easier time accessing liquidity in crisis times), the assumption of data missing at random cannot be maintained, so these years are excluded from the analysis.

Productivity is measured as log of labour productivity (*lnLprod)*, i.e. value added per employee. Also, because the same firms are observed over a number of years, each firm is understood to exhibit some random variation in both initial productivity and productivity over time due to unobserved factors which are unrelated to the explanatory variables, and are accounted for via firm-specific effects. This also means that observations across time are not independent, and the standard regression methods are inappropriate for this analysis. I therefore examine the effect of ownership on firm productivity via hierarchical linear model, where characteristics idiosyncratic to each firm are controlled for by random effects[12].

In addition to this, firm size and human and capital intensity enter the model as fixed effects. The rationale behind this choice of variables is that each of them represents a useful proxy of a firm's position within the value chain. As discussed above, the current set up of international automotive production reinforces the scale economies, but also requires suppliers of important components to extend their operations in order to follow the customer, which means that larger firms are typically found closer to the top of the value chain. The same is true of capital intensity, as the production of more complex components requires more investment in sophisticated equipment, but also greater human capital, i.e. highly skilled labour. At the same time, firm size and fixed and human capital can be classified as structural determinants of productivity: they are related to the firms' market power, its ability to access capital and its product niche. In other words, they are not the kind of factors that can be easily "learned" or will "spill over" from foreign to local companies, because they depend on the amount and quality of inputs, and not on the way in

[12] Unlike a fixed effects model, this also allows estimation of the effects of the main covariate, ownership, which is time-invariant.

which they are used by the firm. If the above argument is correct and there is indeed little hope for spillovers, we should expect most of productivity gap between the foreign and domestic firms to be explained by these factors. Conversely, if foreign firms are found to be more productive even after controlling for external inputs, then the gap can be ascribed to their internal characteristics such as better production organisation or greater efficiency, which could eventually be learned by the firms around them. The same proposition – that productivity gap declines over time as firms learn from each other – is also tested directly, through interaction between ownership and time during the observation period, and by controlling for the age of the firm.

The model consists of two components, the first of which describes within-subject productivity, and the second identifies differences in productivity between subjects. The first, level-1 model

$$lnLprod_{it} = b_{0i} + b_{1i}YEAR_{it} + b_{2i}lnR_{it} + b_{3i}lnCap\_Int_{it} + b_{4i}lnWAGE_{it} + \varepsilon_{it} \quad (1)$$

describes labour productivity of a firm *i* at a time t as a linear function of the firm's intercept β_0 and a firm-specific rate of productivity growth β_1 per unit of time *YEAR*, controlling for increases in size (measured by the firm's total turnover *R*), capital intensity (*Cap_Int*, measured as the amount of fixed assets per employee and human capital (measured by the average per-employee personnel costs, *WAGE*). Level-1 residual ε_{it} is assumed to be normally distributed, with a mean of zero and a constant variance σ_ε^2. To facilitate interpretation, the time variable *YEAR* is centred on the initial year of observation, 2003.

Size, capital intensity and human capital are all expected to be positively related to productivity: larger firms can spread the labour input over a larger number of units, and since capital and labour are considered to be highly substitutable, greater amount of fixed assets leads to greater efficiency of labour, other things being equal (see e.g. Arrow et al.

1961; also van Biesebroeck 2005; Griliches & Regev 1995; Sleuwaegen & Goedhuys 2002). Although the effect of human capital is supposed to be similarly straightforward (i.e. firms which employ more skilled workers are more productive), in absence of a direct measure of workers' skills the proxy usually employed in the literature – wage – entails a number of interpretative problems. The most crucial one is causality: on the one hand, higher wages are meant to reward greater skills, and are thus simply an indicator of better quality of labour inputs, and not a direct cause of greater productivity. On the other hand, however, higher wages could lead to productivity improvements in more endogenous ways: for example, by motivating workers to exert more effort. This is important for the discussion on the possibilities for catching up: if the productivity advantage of the foreign companies is due to tangible differences in human capital, it would mean that they operate in different markets, which place a greater premium on skill than on price. On the other hand, if they simply use their market advantage to woe away the best or the most committed workers from a relatively similar skill pool, it would leave more possibilities for the local firms to compete by increasing the wages or finding other ways to motivate their workers. Since the available data do not provide any possibility for controlling directly for the workers' skill, I simply assume that the human capital variable reflects some combination of the two, but that a very large effect would probably indicate structural differences.

While the level-1 submodel specifies each firm's trajectory in terms of its intercept and slopes, level-2 component models inter-firm differences in intercepts and slopes by taking into account other predictors. Here the level-2 submodel consists of five parts, one for the intercept and one for each slope given by the time-varying predictors.

$$
\begin{aligned}
b_{0i} &= \beta_{00} + \beta_{01}OWN_i + \beta_{02}AGE_i + \beta_{03}COUNTRY_i + u_{0i} \\
b_{1i} &= \beta_{10} + \beta_{11}OWN_i + \beta\gamma_{12}AGE_i + \beta_{13}COUNTRY + u_{1i} \\
b_{2i} &= \beta_{20}lnE \\
b_{3i} &= \beta_{40}lnWAGE
\end{aligned} \qquad (2)
$$

The fixed factor of foreign ownership (OWN) is assumed to influence both the initial difference in productivity between foreign and domestic firms (β_{0i}) , and the difference in the rate of productivity increase over the observed period(β_{1i}). Given the standard assumptions of the spillover literature, where the foreign firms bring in new technologies and practices and the local firms either absorb them or exit, we would expect the foreign firms to be more productive, but the domestic firms to increase productivity faster, as they converge to the technological frontier. The effect of time is also tested through the age of the firm (*AGE)*. *AGE* is a static variable, measuring the number of years between the company's date of incorporation and 2010. Due to the effects of truncation (firms established in 1990 and before are grouped together), the distribution of age is strongly skewed to the right, so the model below uses a dummy version for *AGE,* where 0 stands for firms established before 2000 and 1 for the firms established after 2000 (for descriptive statistics on each variable see Methodological note in Appendix II). Older firms are expected to be more productive on average, due to the learning effects and accumulated capabilities, while younger firms should be less productive but with higher growth rates. Productivity differences between older and younger firms should be even larger for domestic firms, as the older ones had more opportunities to become part of the international supply networks in the 1990s, before the large-scale entry of foreign competitors. The final model below therefore also includes an interaction term between ownership and age. To control for potential heterogeneity in firm behaviour between the four countries that make up the sample, country dummies are also added as level-2 predictors. The stochastic part of level-2 submodel includes error terms u_{0i} and u_{1i}, representing individual firm's difference in intercept and slope from its population average[13]. The last two equations represent the

[13] The same assumption of normal distribution around a zero mean applies as in level-1 residuals, with respective variances denoted as σ_0^2 and σ_1^2 and a covariance between the two σ_{01}^2.

population average difference in productivity over time relative to the size and human capital intensity. The two factors are assumed to have a constant effect across the firm population, therefore no further level-2 residuals are included.

Finally, substituting level-2 submodels into level-1 model yields the following multilevel growth equation:

$$TFP_{it} = \beta_0 + \beta_{01}OWN_i + \beta_{02}AGE_i + \beta_{03}COUNTRY_i + \beta_{10}YEAR_{it} + \beta_{20}lnWAGE_{it} + \beta_{30}lnE_{it} + \beta_{11}OWN_i \times YEAR_{it} + \beta_{12}AGE_i \times YEAR_{it} + \beta_{13}COUNTRY_i \times YEAR_{it} + u_{0i} + u_{1i}YEAR_{it} + \varepsilon_{it} \quad (3)$$

which is estimated via the maximum likelihood function using xtmixed command in Stata.

Table 4.1 shows the results of the analysis. Columns A and B represent the basic means and growth models without conditional variables. The intra-class correlation coefficient ρ in Model A is 0.68, indicating that about two thirds of variance in labour productivity within the sample is due to differences between firms. Adding the measure of time, *YEAR*, shows a steady average increase in labour productivity by an average 10% per year between 2003 and 2007, with linear time explaining around 33% of within-firm variance in productivity. Model C adds the main substantive predictor, ownership, testing for its effects on both the initial productivity and the rate of growth. The estimated difference in initial total factor productivity between foreign and domestic firms is around 62%, in other words, without controlling for other factors foreign firms are on average about one and a half times more productive than their local peers (about 13000 euro in value added on average per worker per year). However, there is no significant difference between foreign and domestic firms in the rate of productivity growth, so even though the domestic firms start from a much lower base, we observe no sign of catching-up. Similar results are obtained when controlling for age of the firm – AGE variable is not significant either on its own or in interaction with ownership, so there is no indication that with time

domestic firms converge with their foreign competitors in terms of productivity (see Column D in table 4.1, also Column C.1 in Table 4.2A in Appendix III).

Column D adds all the substantive predictors, including size, wage, and capital intensity, but without country controls. When these controls are taken into account, the independent effect of ownership disappears, which means that the advantage of foreign firms can be explained by such observable factors, and is not due to their greater internal efficiency or softer forms of know-how. In fact, ownership becomes insignificant even when we merely control for size or capital intensity, and in presence of the wage variable alone its impact is reduced to some 30% (see Columns C.2 through C.4, Table 4.2A in Appendix III). In the combined model, the effect of wage is very large, from which we can conclude that it probably reflects a structural difference in skill requirements and quality of inputs rather than an endogenous effect of effort. Independent effect of time also disappears, which suggests that productivity increase over the years is due to changes in size, human capital and capital intensity, not to learning.

Adding country effects in Column E does not dramatically improve the performance of the model – the reduction in between-firm variance in productivity is only around 10%, and only the firms in Poland show a significant difference in labour productivity, about 20% more. Neither the significance nor the magnitude of other variables changes with the inclusion of country dummies: size, wage and capital intensity still explain most of the productivity difference, there is no independent effect of either ownership or time, and no evidence of any catch-up process. The reduced model in column F removes the insignificant effects from the previous model and is more parsimonious, but it does not change significantly either the size of the parameters or the degree of the model fit.

Table 4.1 Linear growth model, fixed and random effects, dependent variable lnLprod

		A	B	C	D	E	F
Fixed Effects							
Composite model	Intercept	2.743***	2.464***	2.191***	-0.410**	-0.549***	-0.575***
		(0.028)	(0.043)	(0.063)	(0.135)	(0.128)	(0.100)
	Foreign			0.488***	-0.085	-0.019	-0.007
				(0.084)	(0.091)	(0.055)	(0.055)
	Foreign x Age				-0.094		
					(0.107)		
	Age				0.077	-0.041	
					(0.085)	(0.091)	
	Size(R)				0.107***	0.100***	0.098***
					(0.012)	(0.012)	(0.012)
	Cap_int				0.136***	0.129***	0.129***
					(0.013)	(0.013)	(0.013)
	Wage				0.863***	0.900***	0.901***
					(0.027)	(0.028)	(0.028)
	HU					0.206	
						(0.182)	
	PL					0.271***	0.272***
						(0.058)	(0.054)
	SK					-0.028	
						(0.083)	
	Year		0.105***	0.111***	0.020	0.046	0.026*
			(0.011)	(0.016)	(0.025)	(0.026)	(0.011)
	Foreign x Year			-0.014	-0.024	-0.024	-0.025
				(0.022)	(0.013)	(0.013)	(0.013)
	Age x Year				-0.013	-0.018	
					(0.024)	(0.024)	
	HU x Year					-0.055	
						(0.047)	
	PL x Year					-0.051***	-0.048***
						(0.014)	(0.013)
	SK x Year					-0.011	
						(0.021)	
Variance Components							
		0.195***	0.132***	0.132***	0.082***	0.083***	0.083***
Level 1	Within-person, εij	(0.008)	(0.007)	(0.007)	(0.004)	(0.004)	(0.005)
		0.416***	0.667***	0.603***	0.219***	0.195***	0.196***
Level 2	In initial status, ζ0i	(0.029)	(0.063)	(0.060)	(0.027)	(0.025)	(0.025)
	Covariance between		-0.076***	-0.073***	-0.021**	-0.016**	-0.016**
	ζ0i and ζ1i		(0.014)	(0.013)	(0.006)	(0.006)	(0.006)
			0.023***	0.022***	0.003*	0.002	0.002
	In rate of change, ζ1i		(0.004)	(0.004)	(0.002)	(0.002)	(0.002)
Pseudo R2 statistics and goodness of fit							
ρ [a]		0.68					
R^2_ε [b]			0.33		0.38	-0.01	-0.01
R^2_0 [c]				0.10	0.63	0.11	0.11
-2Loglikelihood		3346.877	3142.521	3076.206	1693.807	1666.644	1675.466
AIC		3352.877	3154.521	3092.206	1721.807	1704.644	1701.466
BIC		3369.372	3187.51	3136.193	1798.783	1809.118	1772.944
L-ratio p-value			<0.000	<0.000	<0.000	<0.000	

**p<0.01 ; **p<0.05, ***p<0.01. Standard errors are in parenthesis.*

[a]Proportion of variance attributable to differences between firms; [b]Reduction of variance in within-firm variation relative to the previous model; [c]Reduction of variance in between-firm variation relative to the previous model

4.2.2 A short biography of survivors

The above analysis has confirmed the argument put forth at the beginning of this chapter: that the disadvantage of domestic firms is due to structural factors stemming from the changes in the international organisation of automotive production, and that we should not expect the kinds of spillovers which are commonly understood to drive development in FDI-dependent countries. In East Central Europe, after almost two decades of strong foreign capital inflows into automotive industry, there is practically no evidence of existing or prospective productivity convergence between domestic and foreign firms. The two groups of companies appear to operate in different market segments, with different skill and capital requirements and different prospects for advancement in the supplier hierarchy.

If the disadvantage of local firms in East Central Europe is indeed structural, and the traditional spillover mechanisms are unlikely to improve their position, is there any way for domestic capital to trick the system and still succeed in the difficult globalized markets? This section looks at a handful of East European firms which belong to the topmost value-added segment of the above supplier sample and examines some of their common characteristics, in order to identify possible pathways of success for local firms. In the period 2003-2007, only about 23 domestically owned firms were to be found in the upper third of firms classified by their value added - 9 from the Czech Republic, 4 from Hungary, 7 from Poland and 3 from Slovakia. Of these 23, three disappeared during the crisis: one Slovak company (Jas-Elmont) went bankrupt, another (AVC. a.s., now AVC Raková), went through bankruptcy proceedings which resulted in a much smaller entity, and another Czech firm (Buzuluk) was acquired by a Chinese investor, Dalian Rubber and Plastics Machinery[14].

[14] The firms were selected using same database as in the above analysis (see Methodological note in Appendix II). Additional information on individual firms comes from interviews and e-mail communications with companies themselves, company websites, historical records in the national business registers and media sources.

The sample is too small to draw very strong conclusions about the characteristics which allowed these firms to succeed, but some patterns are nevertheless discernible. One remarkable finding is that firms in this group operate in a variety of industries - including metal stamping and casting, electronics, textiles and rubber – so there doesn't seem to be a common product niche that sets them apart. However, the level of product complexity is usually medium to low: some of them deliver directly to the vehicle manufacturers, but none could be really ranked as a Tier-1 supplier in the sense that most of them specialise in relatively simple sub-components and not in integrated component systems.

On the other hand, however, many of these firms share a similar historical background. A large majority (18 out of 23) are firms which descended from the former socialist industrial conglomerates, often still controlled by the former management which sometimes also owns the company (see Table 4.2). These firms all existed well before the entry of foreign capital, had access to technology and production experience, and, in the case of brownfield takeovers, often had already established links to the final customers. In some cases, this meant they had more time to link up with the arriving multinationals before the foreign competition intensified, and those who did manage to keep the supply contracts often remained dependent on their first partners for a significant part of sales. However, even provided this initial advantage, surviving as an independent supplier was neither easy nor, in fact, the most common choice.

Among other, the degree of this initial advantage also depended on the conditions of entry of the multinational, as well as on its global production strategy. As discussed in Chapter 2, Škoda in the Czech Republic and Suzuki in Hungary, for instance, were bound by investment agreements, and in Suzuki's case by the EU rules of origin, to take on a certain number of domestic suppliers. In the case of Škoda takeover, Volkswagen committed to continuing production of the all-Škoda model Favorit for a few years before moving to its own models, which gave a breathing space to the suppliers and a chance to impress the management and perhaps secure further cooperation. The honeymoon was soon over, however: in 1999 a shift from Favorit's successor Felicia, to Fabia, derived from the same platform as VW's Polo, at once

reduced the local content from 70% to 40% (Dörr & Kessel 2002). The greenfield investments were even harder to crack, the most notorious being Audi in Hungary, which remained at a low 10% local content well into the 2000s. Itself an engine plant, it had little use for the small accessories usually supplied by domestic firms, and although it lies more than 600 km from the Audi headquarters at Ingolstadt a direct railway connection allows it to effectively function as an outpost of the German cluster. For almost twenty years, Audi has been sitting back-to-back on the same plot of land with Hungary's largest automotive supplier, Rába, but in this case the proximity didn't result in a single supply contract.

If the origin of the successful domestic suppliers is quite similar, their subsequent trajectories are far less so. Being in the right place at the right time didn't guarantee that these firms could survive as independent suppliers. In fact, the more successful they were the greater the chances that they would be taken over by foreign competition. Some of the current "domestic champions" in the industry are in facts bits of former socialist giants which the foreign investors weren't interested in[15]. Others are a matter of managerial stubbornness or historical accident. In Hungary, for instance, the general policy of selling key companies to the foreign buyers to rally new capital was quite exceptionally suspended for both Videoton and Rába – in the first case because of the new owner's political connections, and in the second because of Rába's perceived strategic importance as an army supplier.

Sometimes, the necessary breathing space or the opportunities for upgrading could be found in the more "peripheral" markets. The market for commercial vehicles, for instance, with its smaller economies of scale and greater customisation requirements, accounts for a sizeable share of sales of about half of the firms in Table 4.1. Former Škoda supplier Motorpal, for instance, exited the passenger vehicle segment altogether, after dropping out of a joint venture with Bosch in 1996 due to its inability to match the increase in investments (Pavlínek 2008).

[15] For example, Ateso, now part of Brano Group, groups together the remaining facilities of the former Czechoslovak brake manufacturer Autobrdzy Jablonec, after its most promising plants were taken over by Knorr Bremse and Lucas in the early 1990s. The largest Polish manufacturers of ball bearings, FŁT Kraśnik, has been desperately looking for a foreign investor for more than a decade, but so far the government only managed to sell a small part of the company to the Japanese concern Tsubaki Hoover.

Although it remains one of the largest independent companies in the motor vehicle industry in the Czech Republic, Motorpal's operations have been confined ever since to the less competitive segment of commercial vehicles and agricultural machinery. Unlike Motorpal, both Magneton Kroměříž and Brisk Tábor eventually regained their contracts with Škoda which they lost after Favorit was phased out - the first in 1998, the second only in 2005. Nevertheless, Magneton's main orientation remains the commercial vehicle segment, while Brisk Tábor built up its international position on an early breakthrough into another „peripheral" market - Russia. In fact, going East is a more or less common strategy among these firms, which try to compensate for their lack of global outreach by breaking into the promising nearby markets that have not yet fully opened up to Western multinationals. Of the six firms which have a subsidiary abroad, four have them in Russia or Ukraine. Another strategy is to build up a regional, if not global network, by establishing subsidiaries in other Visegrad 4 countries (Matador, Brano) or setting up joint ventures with other local producers (e.g. Matador-Karsit).

So far, the portrait of successful domestic producers carries little promise for the new entrants. These are hardly examples of firms starting small and climbing up the value chain: in fact, for many of them the story of success in the internationalising automotive industry is a story of radical downsizing which sometimes included moving down the value-added ladder to supply simpler and less profitable components. This trend is best summed up in the bitter joke by Rába's CEO:

> "*I can tell you the secret... how to become a really successful third-tier supplier. Start as a first tier supplier!"* (Interview Rába 2011)

If they remained in domestic hands and succeeded in winning a supply contract, the second Herculean task was to keep it. This usually meant stepping up the restructuring process and upgrading technologies, but often involved a downward adjustment in product complexity in the face of sharp competition at the top. Rába, for instance, began its activities in the passenger car industry as a supplier of complete seats to Suzuki, but with the arrival of Suzuki's own Tier-1 supplier in that sector, Toyo Seat, it went on to manufacture stamped metal components for

the seat frames instead. This was not necessarily a result of Raba's inability to meet the quality, technology, or even design standards – in fact, the company maintains a sizeable R&D centre for its commercial vehicle activities and manufactures entire vehicles for the Hungarian army. Rather, it lacked the ability to meet the investment requirements for more internationalized design and production, and therefore had to scale back to the activities available in the local market (Interview Raba 2011). Raba is no exception: although many have succeeded in expanding output and improving the technological content of their products, moving into more complex product categories seems to be a closed road. Instead, the more common strategy of increasing value-added is to integrate backwards, i.e. expand from simple production of components into production and design of own tools and machinery (i.e. Videoton, Matador).

This brings us to the second type of successful domestic companies, which is probably of more interest to the newcomers, although even in this category there is a remarkable absence of any firm established after 1993. Unlike the previous group, these are independent firms set up by private capital from scratch. However, also unlike the previous group, with a significant exception of Inter-Groclin, these firms are not suppliers in the usual sense of the word. Instead, they either specialize in tooling and small-batch precision casting of prototypes, and in that sense occupy a special category of production services, or function as large-scale producers of generic components for the aftermarket (for a similar observation see Domański & Gwosdz 2009). Importantly, however, all four firms belonging to this subgroup are from Poland, suggesting that success in this segment might be conditional upon a large internal replacement market.

Finally, the somewhat unusual example of Matador in Slovakia, points at another mode of entry, which may not be available to many firms, but which bypasses some of the institutional and network-related barriers outlined in Section 4.2. Originally, Matador comes from the rubber tyre industries and was a large Slovak subsidiary of the Czechoslovak rubber giant, Barum (later

Table 4.2 Domestic companies in the top value-added segment

Company		Turnover[a]	Product	First founded	Ownership[b]	Main customer	% sales	Foreign subsidiaries
CZ	Brano Group	126.72	locks, pedals	1826	Private (MB)	Škoda Auto	12%	SK,RU
PL	Inter Groclin Auto	95.14	seat covers and textiles	1977	Publicly listed (OP)	Faurecia	60.8%	UA(2)
SK	Matador Automotive Vráble	88.15	welded parts	1971	FDI in 1993, sold to Matador in 2004	VW Slovakia	28%	CZ (2)
PL	FŁT Kraśnik	76.49	ball and roller bearings	1948	State owned	PSA	n.a.	
HU	Rába Alkatrészgyárto Kft.	61.03	seat components	1905	Publicly listed	Toyo Seat	n.a.	
HU	Videoton Autóelektronika	59.77	auto electronics	1938	Private (SD)	Valeo	n.a.	BG, UA
CZ	Karsit Holding	56.38	pressed and welded parts	1992	Private (MB)	Johnson Controls	37%	
CZ	Motorpal	47.27	fuel injection pumps	1946	Private (MB)	Deutz, Zetor	n.a.	
PL	Kuźnia Polska	43.78	forged steel	1772	Private (SD)	Fiat	n.a.	
CZ	Magneton	34.61	starters	1926	Private (VP)	John Deere	n.a.	IN (JV)
PL	ZAP Sznajder Batterien	34.54	accumulators	1925	Private (SD)	Aftermarket		
CZ	Buzuluk	32.07	piston rings	1902	Holding company (VP)	Kolbenschmidt Pierburg	34%	
CZ	Gumárny Zubří	27.84	rubber parts and accessories	1935	Publicly listed (VP)	n.a.		
CZ	Brisk Tábor	25.45	spark plugs	1935	Private (MB)	Škoda Auto	n.a.	RU
HU	Tauril Kft.	23.32	rubber products	1938	Private (MB)	n.a.	n.a.	
PL	Polmostrów	20.27	exhaust systems	1977	Private (OP)	Aftermarket		
CZ	Motor Jikov	19.31	casting	1911	Private (VP)	Brose	22%	
SK	AVC Raková	17.39	gearboxes	1944	Private (VP)	Renault Trucks	n.a.	
HU	Csaba Metál Rt.	14.95	brake and engine parts	1993	Private (OP)	Continental Teves	32%	
PL	Lumag	14.14	break linings and pads	1988	Private (OP)	Aftermarket		
CZ	Kovovýroba Hoffmann	11.05	tools and prototypes	1990	Private (OP)	Škoda Auto	n.a.	
PL	FPT Prima	11.05	piston rings	1945	Private (SD)	Aftermarket		
SK	Jas-Elmont	6.21	wire harnesses	1972	Private (MB)	Yazaki	100%	

[a]Average annual turnover, 2003-2007

[b]Letters in parenthesis indicate mode of privatization: MB=management buyout; VP=voucher privatization, SD=sale to domestic capital; O=originally established by a private owner.

Source: Amadeus, company websites and annual reports, national business registers

sold to Continental). The Slovak branch was privatized by the management in 1993, and for a while operated as an independent tyre producer. In the face of pressure on the highly concentrated tyre market, it established a joint venture with Continental in 1997, and with the commodity prices soaring in the mid-2000s, it gradually sold all shares in the rubber business to Continental between 2007 and 2009. However, Matador used the profits and later income

from the sale of joint venture to go shopping: in 2004, it bought a plant already supplying stamped and welded parts to Volkswagen in Bratislava from a Dutch supplier Inalfa. This allowed it to get a foothold in the Volkswagen supply chain, and in 2008 Matador established another plant in Liberec, Czech Republic, to supply Škoda Auto, and bought a small Czech design and prototype maker Aufeer Design. Similar in spirit if not in financial scope was Rába's decision to establish a joint venture with Germany's Fehrer Automotive which was looking to move to Hungary in anticipation of increased production by Audi and Mercedes. Fehrer is a relatively small Tier-2 supplier, and lacked the funds to establish an international subsidiary on its own, but its previous connections to Volkswagen and Audi might finally allow Rába to break into Audi's supply network[16].

To sum up, although success is not entirely impossible, it appears to be a result of historical curiosity rather than a coherent pathway that can be successfully imitated by the new entrants. Although the quantitative analysis found that firms' age has no impact on its productivity, all of domestic firms found in the top value-added segment of this sample are at least 20 years old. Most of them have an equally long experience in vehicle manufacturing, although a minority has joined the booming sector from adjacent industries such as chemicals, rubber or electronics, almost always by buying up other firms, which would mean that they had, unusually for East Central European companies, access to a large amount of capital. Finally, even those that can be considered success stories locally are very small players in international terms: all of them are strongly regionally based, and even the most successful ones operate in the product markets of low to medium technological complexity.

[16] A much more radical version of this strategy was recently demonstrated by the Polish investment group Boryszew, otherwise active in chemicals and non-ferrous metals, which found itself with a lot of cash on hands as the crisis hit Western automobile suppliers. In 2010 it purchased the Italian automotive pipes producer, Maflow, complete with subsidiaries in 8 countries, and subsequently took over two smaller German Tier-2 producers. In late 2010, Boryszew announced more acquisitions, saying it intended become part of the world's Top-100 suppliers (Automotivesuppliers.pl, 15/11/2010).

4.3 Consequences for technology development

The previous section has demonstrated thorough marginalization of domestic suppliers in the otherwise rapidly growing automotive cluster in ECE. Unlike in the independentist variety of late development, where the local firms are the main focus of industrial policy, and even unlike the older forms of integrationist development, where they are an equal partner and an important balancing agent, in the hyper-integrationist model of late development they are simply sidelined. There are also strong reasons to believe that this marginalization is neither temporary nor merely driven by the foreign firms' superior technology and production skills which will eventually spill over to domestic companies. Instead, it appears to be a direct consequence of the position the domestic firms came to occupy in the automobile industry value chains, as lower-tier producers of relatively simple components. The mechanism of exclusion of local companies which the Section 4.1 traced to international reorganisation of automotive value chains is clearly reflected in the recent histories of even the most successful domestic suppliers, who often survived the investment boom only by moving down the value-added ladder or retreating into the less demanding market segments. Similarly, the analysis above revealed little mobility through the hierarchical networks of vehicle manufacturers: of all the domestic firms that belonged to the highest value-added segment in the mid to late 2000s, none was established after 1995, and most descend from the former socialist manufacturing giants, inheriting the initial access to the region's automotive producers.

Importantly, however, this marginalization of the domestic firms is also part and parcel of the successful development of the externally driven production cluster. Huge influx of foreign capital and opening of the markets to international competition created more pressure than the local firms could cope with, especially as they received very little support from the authorities. Local institutional arrangements such as business associations, public support for small and medium enterprises and access to finance remained underdeveloped, while the foreign companies can count not only on the home country resources, but also on the assistance of host

governments. Also, we have seen in Section 4.3, the resulting developmental alliance between ECE states and the multinationals, which is responsible for the growth of local production, is supported by the multinationals' private coordination networks, as well as by the semi-public organisations of foreign chambers of commerce. The existence of this transnationalized institutional framework only reinforces the exclusion of domestic companies, but it also adds a degree of stability to the localized clusters of foreign firms, reinforcing network and agglomeration effects.

In this context, it is hard to put forth a convincing defence of domestic capital, especially where, like in East Central Europe, it also commands very little political leverage or popular support. Compared to the multinationals, domestic companies usually also offer much lower wages, and are not necessarily a more stable source of employment. So far, there is little evidence for the common argument that foreign firms are more likely to relocate than the nationally owned ones: relocations in automotive industry have been few and far apart, and there is no reason to expect domestic companies to react differently to the cost pressures. In fact, Videoton in Hungary was among the first firms to move the most labour-intensive jobs out of the country in the face of radical restructuring in the industry (Radosevic & Yoruk 2001). While it is probably unlikely that they would take their entire operations out of the home country – if for no other reason, than for the lack of funds – as argued above, their greater "commitment" to local production had so far been easily counterbalanced by the higher probability that they would downsize or disappear altogether. However, there is one aspect in which the lack of large domestic firms might eventually have detrimental consequences for the future development of regional manufacturing: the ability to move beyond improvements in production to development of new products and processes – in other words, from technology transfer to technology development.

In the model outlined in Chapter 2, I defined technology transfer as appropriation of modern technologies by a developing country, in order to increase local industry's productivity and make its output internationally competitive. This transfer has been considered a major

challenge by most theorists of late development, who understood it to mean transfer of technology between companies, i.e. from foreign to local firms. We have seen, however, that in East Central European hyper-integrationist variety of late development this challenge all but disappeared, because the bulk of transfer took place within foreign firms, through establishment of local affiliates. Technology transfer to domestic firms was much more problematic, but due to the large-scale influx of foreign capital which substituted the missing production capabilities, its economic impact appears to be marginal.

On the other hand, there is a concern that this rapid transplantation of foreign production networks, however efficient, might have detrimental consequences on the economy's ability to move towards more knowledge-intensive activities, such as research and innovation. Indeed, marginalization of domestic companies as described above had a particularly negative effect in this area. Even for the most successful firms, the priority for a long while was to acquire up-to-date foreign technology, not to develop their own, and surviving in the lower ranks of the multinationals' value chains often meant abandoning complex research activities (Radosevic & Yoruk 2001; Pavlínek 2012). Where the local firms were taken over by their foreign competitors, they usually lost existing R&D capacities, which were transferred to the MNC's home country (Pavlínek 2012). Flexibility, which remains among the main advantages of the local producers, can also be detrimental to their innovative capabilities: as we have seen in the case of Matador, a timely switch into a new product niche to avoid the price squeeze in an over-concentrated market might mean abandoning decades-old accumulation of research experience.

But if the domestic firms are unlikely to serve as the engine of technology development, could their weakness be sufficiently compensated by foreign investment, like we have seen in the case of production? In other words, is the integrationist path inevitably a no-technology path, as Amsden had feared, or can we expect the process of fragmentation of global value chains to also bring the knowledge-intensive activities to the peripheries?

To date, the recent literature has no conclusive answer to this question. According to the more optimistic arguments, new information technologies have facilitated rapid internationalization of corporate R&D, and as research and design comes to account for an ever larger share of the total product cots, they will become a likely target for outsourcing (Narula & Guimon 2010; Bruche 2009; Karlsson 2006; Moncada-Paternò-Castello et al. 2011; Criscuolo 2009). Others are more sceptical. A survey by UNCTAD (2005b), for instance, has shown that internationalization is limited to certain industries and countries, and that although more R&D investment has been going abroad, most of it is concentrated in other developed countries, or in the largest developing countries where market conditions require extensive product adjustments (also Puga & Trefler 2010).

The evidence available for automotive industry in Europe generally confirms that internationalization pressures described in Section 4.1 only reinforced centralization of higher-level competencies. Research and development in automotive industry is fairly capital intensive and usually concentrated in the largest firms. In spite of extensive decentralization which took place in the recent years, final vehicle manufacturers are still responsible for around half of all corporate R&D in the industry (ILO 2005), which is mainly performed in their home countries, or in other developed countries (Calabrese 2001, Lung 2004). Since the automotive industry is still regionally organised, some R&D goes to the countries at the centre of other regions of the Triad, to ensure that the locally produced vehicles are adapted to the consumer demands and public regulation (e.g. in the case of American investments in Europe, whose research and development activities are mainly located in Germany). Exceptionally, these transfers of capabilities can also benefit less central locations, especially when they come from the newer, less established and more price-conscious firms: thus, for instance Visteon, a major Tier-1 supplier which was spun off from the Ford's component division in the late 1990s decided to establish its European lighting centre in the Czech Republic (Pavlínek 2012).

The process of devolution of research and development to the suppliers has also been quite limited: the top 100 firms now account for three quarters of all R&D investment in the

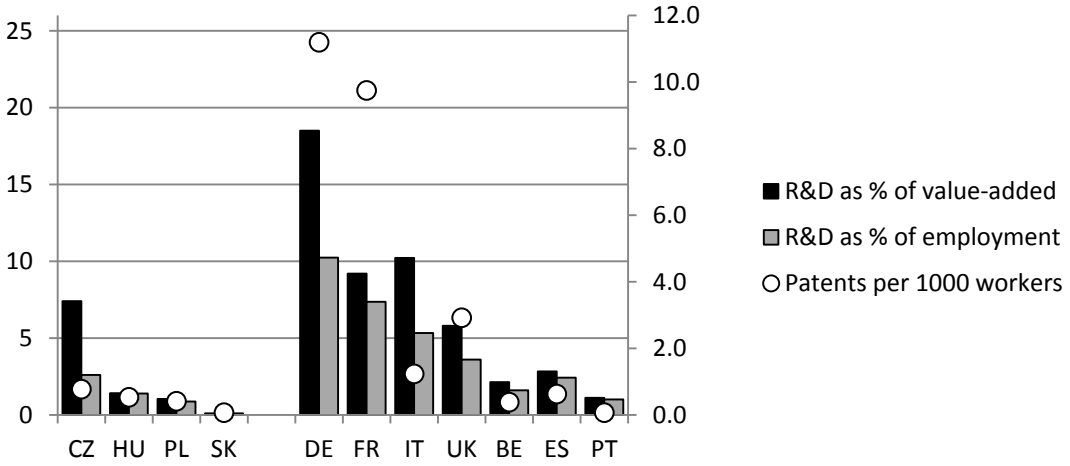
sub-sector (Dannenberg and Burgard, c.f. Pavlínek 2012). Also, in spite of the spread of information technologies and "virtualization" of exchanges, the collocation pressure in research and development are very strong, and most vehicle manufacturers require their key suppliers to situate research capacities close to those of the lead firm. In consequence, central regions' share of R&D investment and employment even increased in the course of late 1990s and 2000s (Lung 2004; Pavlínek 2012; also Criscuolo & Narula 2005). An illustrative example comes from one of the most successful Spanish suppliers, the Ficosa Group, which in the early 1990s faced the pressure of rapidly internationalizing and expanding its capacities or being pushed down in the value chain. A traditional supplier of Ford in Spain, Ficosa had to keep up with its customer's plans to integrate all European production, and it consequently invested in research and development centres *abroad,* in the UK and Germany, in order to be able to profit from proximity in the decisions on design and development of new products. (Durán Herrera 1996; Margalef Llebaría 2005).

In East Central Europe, investment in research and development has certainly not kept pace with the development of production, and the share of R&D in total expenditure and employment remains below the levels of the "core" producers (Figure 4.2, see also Pavlínek et al. 2009). The measure of R&D output, such as the number of registered patents, shows a very similar picture. In the course of the 1990s, the number of automotive patents skyrocketed in France and Germany, but remained stagnant in most other European countries, confirming the above mentioned tendency towards concentration. In the ECE, all countries registered a small increase over the course of 2000s, but remained at very low levels compared to the European core. The number of annual patents per 1000 workers in the late 2000s was less than 1 in all countries of the region, although the Czech Republic came closest with 0.8. By comparison, France and Germany record on average 10 new patents per thousand workers, but this pattern seems to be strongly correlated with the location of corporate headquarters. Other West European countries, which are far more developed and have more experience with

international automotive production – such as Belgium or Spain – show similarly low levels of patent activity in this industry (Figure 4.2).

This is not to say that some R&D has not found its way into the regional automotive cluster, but its real impact is very difficult to judge. Pavlínek et al., for instance, document around 40 research and development centres in the region, most of them established by the international Tier-1 suppliers. They also show that such investments have increased in the recent years: more than half of these centres were established after 2004 (Pavlínek et al. 2009). Most of them are adjacent to the local manufacturing plants, and focus on development and adaptation of components for the models produced specifically in the region (Domanski et al. 2008). Although small in international terms, given the demise of large domestic firms these investments now constitute most of automotive R&D performed in the region: in the most comprehensive survey to date, Pavlínek (2012) finds that almost 80% of all R&D employment in

Figure 4.2R&D in automotive industry in ECE and selected WE countries[17]



Note: averages for 2005-2007
Source: own calculations based on Eurostat, EPO Worldwide database

[17] The patents were compiled based on priority numbers, which correspond to the application number of the document in respect of which the priority is claimed. The figure includes patents registered under IPC codes B60B, B60D, B60G, B60H, B60J, B60K, B60L, B60N, B60P, B60Q, B60R, B60S, B60T, B62D, E01H, F01L, F01M, F01N, F01P, F02B, F02D, F02F, F02G, F02M, F02N, F02P, F16J, G01P, G05D, G05G, based on Eurostat NACE-IPC concordance tables. Since the IPC codes describe technological content of innovation and are not directly comparable to the classifications based on economic activity, the patents above cover a more broadly defined vehicle industry (e.g. including agricultural, construction and military vehicles).

the Czech Republic is in the foreign-owned firms, even if the largest investor, Škoda, is excluded from the count. At the same time, these figures indicate the scale of dependence on a few large investors: Škoda alone accounts for more than 75% of R&D expenditures in the Czech industry (see also Narula & Guimon 2010). The content of these activities is even more difficult to judge then the scale. Much of it consists of technical support to production, and the differentiation is further compounded by high levels of automation in vehicle manufacturing, inducing a shift from manufacturing to programming and maintenance. The European Union regulation on state aid, which prohibits assistance to capital investments but allows generous support to research and development has likely led to some inflation of the concept of "R&D", pinning this prestigious title on even the relatively simple technical and business support activities (see also Pavlínek 2012).

Some of this discrepancy becomes visible if we look more closely into the source of automotive industry patents. Clearly, this is an equally imperfect measure, as the number of patents does not necessarily say much about their market value or the extent of innovation. Nevertheless, if we exclude private individuals and restrict the analysis to those entities which in the period 1990-2010 registered at least ten patents, as an indicator of sustained innovation activity, the picture is a lot less encouraging. Over the two decades under consideration, there were altogether 55 such entities in Central and Eastern Europe, three in Slovakia and Hungary, 18 in the Czech Republic and 32 in Poland. Of these, only 9 were foreign owned, and 26 were universities or public research institutes. In Hungary, all three such entities were domestically owned vehicle and component manufacturers, and two of them (Csepel Auto and Ikarus) went bankrupt in the course of the 1990s, allowing us to trace the decline of innovation activity in Hungary directly to the disappearance of even these second-class national champions. Similarly, in Slovakia the highest number of automotive-related patents was registered by Matador, all of them in the rubber industry which the company in the meantime abandoned.

Among the foreign-owned companies with a consistent patent activity, six were to be found in the Czech Republic, and three in Poland. Only one of them – Škoda Auto – is a vehicle

manufacturer, which shows that even with the strong pressure for R&D collocation, investments by supplier might be easier to attract than those by the carmaker. However, without a carmaker leading the way, they are unlikely to be very extensive. A local lead firm that acts as a hub creates demand for R&D from localizing suppliers, and allows local suppliers to prove their ability to supply such R&D before they can extend their services to other manufacturers. In the Czech Republic, Škoda has been able to play this role because its separate brand within the Volkswagen concern allows it autonomous design and development functions for at least some parts of the vehicle (Dörr & Kessel 2002; also Pavlínek 2012). Consequently Czech Republic has been the most successful country in attracting FDI in research and development, and the patent analysis reveals extensive innovation activity not only by Škoda, but also by Visteon, Robert Bosch and Siemens, among others. At the same time, Czech Republic also has the most patent activity among domestic suppliers. This, and the experience of some more successful countries of the relative "periphery", such as Spain, suggests that far from being substitutes, research and development activities by foreign and domestic companies are in fact the result of the same set of favourable conditions, not the least of which is the existence of a relatively autonomous local lead firm.

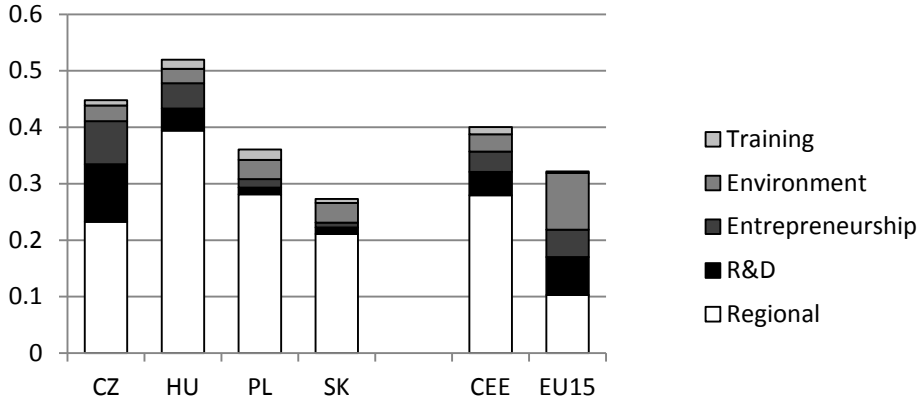
It would thus appear that successful local development of technology in late starters requires a degree of insulation, or other kinds of regulatory pressure that favour innovation over import of technology. There is, however, a degree of trade-off between this focus on development of local capabilities and rapid increase in competitiveness driven by substitution. Exceptionally, demand for local investments in knowledge-intensive activities can arise even in absence of explicit regulatory intervention, for instance as a consequence of a large and specific market (as is the case in some BRICs), or from a historical accident and path dependency, such as has produced Škoda's unique position within the Volkswagen concern.

If the costs of insulation are too high, and technology development is unlikely to arise in response to demands of the local markets (either by final consumers or by local assemblers), an alternative for the host state would be to supply the right institutional incentives to convince

foreign firms to undertake some research and development in the location. This is a pattern familiar from R&D investments between developed countries, as when the foreign firms set up research centres in the Silicon Valley in order to profit from the local talent and networks. In the case of developing countries, however, this strategy is vulnerable to the same kind of circular reasoning we encountered with respect to spillovers: in order for the foreign capital to engage in technology development, the host state must create an institutional infrastructure conducive to production of cutting-edge technologies.

In its absence, the most common strategy among the East Central European governments is to persuade the multinationals to undertake at least some research, hoping that these seeds will eventually expand into full-scale innovation clusters. Low wages can help to attract the more labour-intensive research activities, such as testing, and these are indeed on the rise in a number of industries in ECE (Domański et al. 2008; Pavlínek 2012), but they are often performed in isolated outposts and are considered quite footloose (Gunther et al. 2009). In addition to that, national investment agencies are aggressively advertising both real and symbolic engineering potential of the region (references to the late 19th and early 20th century innovators are a staple fare of all promotional materials), and the governments are offering generous subsidies to all innovation-related activities. Nevertheless, these essentially come *in addition to* and not instead of, traditional support to capital investments. Even with EU pressure

Figure 4.3 State aid in ECE and EU-15 per type of activity, 2004-2011 (%GDP)



Note: "Regional" includes aid to capital investments and employment, "Entrepreneurship" aid to SMEs and provision of risk capital for new undertakings.
Source: Own calculations based on EC State Aid Scoreboard 2012.

to steer state aid from mere employment to higher value-added activities, between 2004 and 2011 the bulk of public subsidies to industry in ECEs (between 50% in CZ and 75% in Hungary) still went to support regional development and employment, compared to about 30% in EU-15 (Figure 4.3). Although ECEs give on average more subsidies than the old EU members relative to GDP, they are less likely to spend them on research-related projects, and the level of business expenditure on R&D is generally among the lowest in the OECD world (OECD 2012).

While there are not many ways for the ECE governments to force foreign firms to discover the advantages of local skill supply, they have also been trying to promote R&D from the other side – by either helping or bullying the national research institutions into partnerships with the multinationals. Starting in 2000, Hungary called on the universities to establish so-called "Cooperative Research Centres", and provided special funding to those institutions which managed to assemble a consortium of private firms for joint research. The scheme was a relative failure, however, and only yielded a number of short-term projects, but in 2004 the Hungarian government launched its successor, this time with more generous funding and with a clause that any partnership established under the programme should last for at least ten years (Inzelt 2008). Nineteen regional Knowledge Centres were subsequently established, three of them in the automotive industry. The most successful one, Advance Vehicle Control Knowledge Centre, is a partnership between the Budapest Institute of Technology (BME) and Knorr-Bremse and Thysen-Krup, both of which already have large research centres in Hungary. A much less gentle attempt to create more linkages between public and private research was demonstrated by the Czech government, which in 2009 announced that its funding to the academy of sciences will be cut by 45% over the next three years. In exchange, research institutions were urged to focus on more applied and commercial research and find alternative financing from the private sector (Government Office of the Czech Republic 2009).

So far, even this approach has yielded modest results. Most leading automotive firms have some cooperation with local universities: Volkswagen in Slovakia cooperates with technical universities in Bratislava and Kosice, and Audi in Hungary has a long standing

cooperation with the local technical college, where it has helped to establish a special department on internal combustion engines. However, apart from the already mentioned knowledge centre at BME and some joint projects between universities of Prague and Liberec and a number of large Tier-1 suppliers (Honeywell, Bosch), these are not strictly research partnerships – rather, they involve occasional lectures, equipment donation and science fairs, and serve rather as information and recruitment channels than as sites of technology development.

CHAPTER V

5 Shifting gears: ECE between low-wage and high-skill roads

We have seen so far that the development of East Central European automobile industry has been fuelled almost entirely by direct import of foreign resources – capital, technology, and even institutional arrangements of inter-firm coordination. This does not mean that this process unfolded automatically: host governments played an active, although not always successful role in attracting and channelling foreign investment activities. However, so far the hyper-integrationist development model was shown to rely very little on local inputs, which it substitutes, rather than develops. There is, however, at least one element of production which cannot be easily substituted by external resources, and which constitutes the key developmental assets of East Central European latecomers: their labour force.

In a typical model of late development, an abundance of cheap labour force is at once the main competitive asset and a key obstacle to catching-up. It gives developing countries an edge for the production of low-technology, labour-intensive goods, but the lack of skills and the resulting low productivity levels mean that even the low wages cannot offset the comparative disadvantage in more complex industries. In order shift their production model towards higher value added activities, developing countries must therefore increase the skill levels, while ensuring that the wages do not grow so fast as to outpace productivity increases and endanger competitiveness.

One peculiar feature of East Central European region in early 1990s is that it did not really share this common problem of all late developers. The legacy of socialist development has left these countries with exceptionally high levels of education: the percentage of population with upper secondary schooling was even above some of the West European countries. Much of this was technical and vocational education, and although the workforce had little knowledge of the latest technologies, high levels of basic technical training ensured that compared to most

developing countries the investments required to bridge the skill gap were relatively minor. On the other hand, the economic crisis which accompanied implosion of state socialism and the ensuing transitional recession had brought the wage levels in the region far below even the lowest rates on offer in Western Europe (Table 5.1). The advantages of this unusual combination have been noted by most observers of FDI-led transformation, who unanimously, if somewhat vaguely, describe ECE labour force as "cheap, but skilled" (Van Tulder & Ruigrok 1998; Bartlett & Seleny 1998; see also Krzywdzinski 2008; Frigant & Layan 2009; Pavlínek et al. 2009; Nölke & Vliegenthart 2009). The investors themselves have praised the level of human capital in the region, and until the mid 2000s workforce skills were ranked towards the top of the list of attraction factors in investor surveys. Combined with the inflow of new capital and technologies, labour productivity soared, boosting region's competitiveness and promising a lasting trend towards upgrading.

However, only a few years after ECE's accession to EU, the mood suddenly changed. The investors began to sound alarm bells, warning about skill shortages and complaining about both quantity and quality of available labour. The more recent surveys now cite the lack of skilled workers as one of the main obstacles to expansion (Rutkowski 2007; Dokoupil 2007; DHIK SK 2008). At the same time, partly as a side effect of shortages and partly in response to growing union pressures, manufacturing wages in the region continued to rise rapidly, and the international business press has been rife with warnings about the loss of competitiveness in East Central European manufacturing (see e.g. Spiegel 2007; Condon & Cienski 2007).

Although the sense of urgency had abated somewhat due to the international economic crisis, the East Central European states should not take these warnings lightly. In absence of own capital and technology, labour is the only asset that is locally created and thus constitutes the main lever to push ECE's manufacturing towards further upgrading. This is all the more important since the wages are bound to rise over time due to limited labour supply, and to preserve competitiveness the governments must find a way to convince the investors to move towards a "high road" strategy of higher wages and increasing productivity. This also means

that severe skill shortages could be very dangerous in an industry so thoroughly dependent on mobile foreign capital, which may easily choose to move elsewhere rather than to make costly investments to ramp up the local skill supply.

Such a danger is probably still remote, as despite rising wages the ratio of costs to productivity in the ECEs remains higher than anywhere else in Europe. In the meantime, however, the theoretically relevant question is whether the hyper-integrationist development model contains mechanisms to produce adequate skill improvements for long-term upgrading. What incentives does it create for the workers and the firms to invest in skills? More specifically, why was the initial skill advantage of ECE so quickly eroded? And what strategies are being employed by the multinationals or the governments to restore this advantageous configuration?

The remainder of this chapter examines the factors which underwrote the rapid rise in productivity over the first decade and a half of development of automotive industry in the region, and the change in the balance of strategies to control wage growth, improve skills and increase productivity over time. The first section analyses the early "productivity coalitions" and the way the multinationals, host states and the workers combined their forces to bring about an increase in competitiveness and upgrading. Section two then looks at the tensions currently observable within the model, which manifest in the combination of wage pressures and skill shortages, and traces the source of these tensions to conflicting incentives at the heart of the hyper-integrationist development model. The third section examines in more detail recent strategies to limit the rise in labour costs and develop skills in line with industry needs, and offers a tentative evaluation of the consequences for further upgrading of East Central European automotive industry.

The argument, in short, is that the initial combination of high skills and low wages was reinforced by productivity coalitions between workers and the multinationals, which exchanged highly dedicated, skilled labour for above-average wages and a promise of future investments. However, these coalitions took place in the broader context of low wages and extremely flexible labour markets, which created disincentives for the new generations of workers to invest in

highly specific manufacturing skills and rendered localised cooperation more expensive once the labour markets tightened. ECE governments are trying hard to uphold both ends of the bargain: they continue to invest in technical education and have further reformed their tax systems to ease the burden of rising wage costs. However, their efforts are limited by the lukewarm participation of private sector. Although individual firms are experimenting with a variety of strategies – from attempts to import cheaper unskilled labour from abroad to genuine engagement with local institutions of vocational training - overall most of them appear reluctant to fully embrace the "high road" to development.

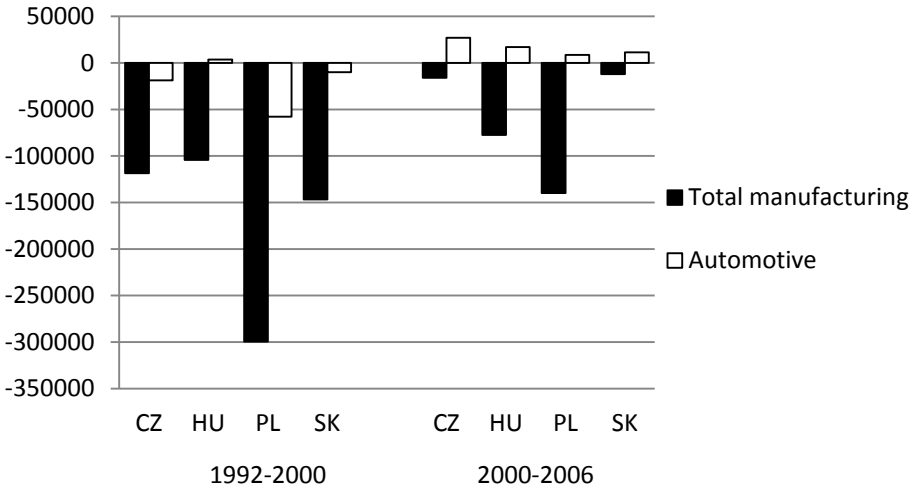
5.1 Early productivity coalitions

When the foreign investors arrived into East Central Europe in the early 1990s, they were met by a relatively well educated, but cheap and largely powerless labour force. The collapse of the socialist manufacturing left behind a vast pool of industrial workers with dire employment prospects. Even in the motor vehicle industry itself, the expansion of foreign investment came on the heels of substantial restructuring, which was shedding workers by the thousands. In spite of the overall recovery, the same trend continued on a smaller scale well into the 2000s, when it was partly offset by the tremendous expansion of automotive manufacturing. (Figure 5.1). High unemployment and low wages in the local economies left the workers with practically no bargaining power. The flurry reforms designed to render regional labour markets more flexible quickly brought the levels of employment protection far below the OECD average. In this environment, there was little the trade unions could do to shore up the workers' bargaining power, even if they were not too busy grappling with troublesome political legacies and collapsing membership rates (see Ost 2005; Crowley & Ost 2001).

All of this created a strong pressure for wage moderation. In the circumstances, jobs offered by the foreign investors in automobile industry, especially by the flagship carmakers, were indeed among the most attractive on the market. They could afford wage rates which were well above the regional average – well into the mid-2000s, Škoda was still the sixth best-paying

employer in the country, and wages at VW Slovakia were only below those in the banking sector (Janovskaia 2008; Mikulikova 2002). For the investors, however, this was small change. In the mid-1990s, the hourly rates in the automobile industry in East central Europe were three times lower than even those in the cheapest West European location, Portugal, and about ten times lower than those in Germany (Table 5.1).

Figure 5.1 Change in employment levels, automotive industry and total manufacturing



Source: WiiW

However meagre by the international standards, higher wages in automotive industry were further balanced by long working hours and flexible deployment of labour. This did not mean only simple transplantation of flexible working practices from the manufacturers' home countries: the region also served as an experimental ground for new patterns of work organisation. The GM/Opel engine plant in Hungary, for instance, was the first GM plant in the world to introduce a fourth shift, and the Škoda plant in the Czech Republic one of the first Volkswagen plants to outsource parts of assembly on its own shop floor to the employees of supplier companies. By the end of the 1990s, continuous, 24-hour production in three or four shifts became relatively standard practice in the region (Janovskaia 2008; Sperling 2004; Mikulikova 2002). Working Saturdays and Sundays are also more common in ECE than elsewhere in Europe (Krzywdzinski 2008), resulting in overall longer working hours in the region. In 1997, automobile industry workers in ECE worked on average nearly 400 hours more

per year than their counterparts in Germany, and were putting in longer hours than anybody else in Europe, except UK and Portugal. Adding to the greater flexibility of deployment was also the age of the workforce: in East Central Europe, close to 35% of all workers in the late 1990s were younger than 30 (Table 5.1).

Table 5.1 Selected workforce characteristics in automotive industry, 1997

	Hourly labour costs (EUR)[a]	Workers below 30 years of age (%)	Workers with at least upper secondary education (%)	EPL[b]	Hours per worker (annual, 000s)
Czech Rep.	3.5	29.4	88.8	1.9	1.92
Hungary	3.5	33.6	82.8	1.3	2.05
Poland[c]	3.2	33.4	95.2	1.4	1.81
Slovakia[d]	2.2	47.5	95	1.8	1.67
EU10 average	23.7	24.2	57.1	2.7	1.73
max.	34.1 (DE)	44.1 (PT)	78.2 (DE)	3.5 (IT)	1.95 (PT)
min.	8.8 (PT)	21.8 (FR)	30.4 (PT)	0.6 (UK)	1.51 (DE)

Source: Column1-VDA (adapted from Blöcker & Jürgens 2008)*; Columns2/3 - EU LFS; Column 4 - KLEMS; Column5 - OECD*

[a]Including taxes and contributions; [b]Whole economy; [c]LFS data reference year 2004; [d]LFS data reference year 1999

This is not to say that the ECE employment model was built on coercion. Although the workers' bargaining power was limited by the lack of alternatives, labour relations at the multinational automotive firms were often examples of cooperation. The workers readily embraced "Western" human resource practices, which favoured teamwork and flat hierarchies, and stood in their stark contrast to the highly hierarchical socialist model of work organisation (see especially Ost 2005). The management often accepted and even fostered plant-level organisations of workers, in order to ensure better communication and a smooth and flexible production process. In exchange for their cooperation and commitment, the local workforce got relatively good wages and a promise of work security through continuous investments. However, this did not mean that the firms were happy to engage independent unions in these partnerships, and even less that these were to be struck on equal terms. In the large brownfield establishments, which had kept parts of the old workforce (i.e. Škoda, VW Slovakia), local unions sometimes became part of the coalition, but in many greenfield plants the management

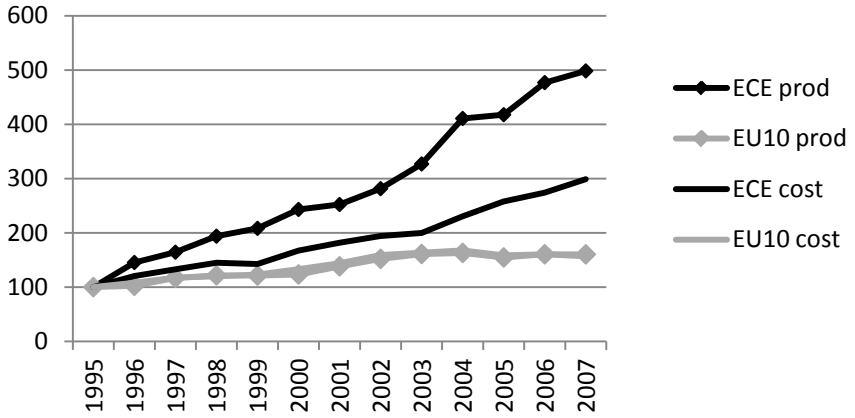
initially resisted unionisation (Keune et al. 2004; Galgóczi 2003; Tóth & Neumann 2010). GM/Opel in Poland and Audi in Hungary, for example, preferred to set up works councils or consultative bodies of employees, fostering a kind of localized paternalist compromise in what Galgóczi had dubbed "productivity coalitions" (Galgóczi 2003). These ensured rapid productivity improvements, with practically no industrial conflict, and delivered wage moderation in exchange for the promise of future investments (Bernaciak 2010; Janovskaia 2008).

Higher wages and cooperative labour relations also helped multinationals to attract the best of the crop of skilled local labour. It was already noted that in the early 1990s East Central Europe boasted highly educated workforce, well above the standards of most developing countries and nearly on par with West European levels. This is especially true with regard to the rates of achievement of upper secondary education, which is also strongly biased towards technical training. In the late 1990s, the proportion of vocational schooling among high school graduates was between 70% in Poland and 83% in Slovakia. This is also reflected in the composition of the labour force in automobile industry: more than 90% of the workers have at least upper secondary education, and the share of low-educated workforce is far below the West European average (Table 5.1). It does not, of course, mean that the skills delivered by the ECE schooling system fully matched the needs of incoming investors. For the most part, the workers had little experience with the new advanced manufacturing technologies. Nevertheless, whatever failures of formal education there were, they were easily compensated by the employers' ability to cherry-pick the most able out the pool of available workers, and the high level of basic technical training ensured that they could be equipped for the work with minimum extra training. Adding to the attractiveness of this arrangement was the fact that the incoming firms acquired these skills at practically no cost. Socialist vocational education relied on a version of dual training where practical skills were acquired through industry apprenticeships, but most of these disappeared as the existing firms collapsed or were taken over by foreign owners. Instead, the governments took up the full burden of vocational training,

and also bore the costs of restructuring, retiring from the workforce the older and less skilled workers who could not easily adapt to demands of the changing industry.

The consequence of this combination of ECE's skilled and dedicated, but cheap and flexible workforce with the steady inflows of new capital and technology was a rapid increase in productivity, which grew exponentially by more than 10% in nearly every year between 1995 and 2007 (Table 3.2). Wages also increased, but not as quickly. In 2007, average value added per person employed in ECE automotive industry was around half of EU10 levels - up from only 14% in 1995. The wage gap shrunk much more slowly: in 2007, labour costs in the region were still around 26% of EU 10 average.

Figure 5.2 Personnel cost and productivity growth in ECE and EU10, 1995=100



Note: Value added and total cost of labour divided by number of persons employed. EU 10 represents the average of all West European countries with a significant automotive production (more than 10 000 units/year).
Source: own calculations based on KLEMS database

These trends are somewhat reminiscent of the catch-up pattern that historically accompanied the East Asian independentist model of development: wages and productivity increase together, fuelled by paternalist developmental partnerships, and the wages lag slightly behind productivity in order to produce a steady rise in competitiveness. There are also, however, some crucial differences, which cast doubt on the long-term viability of this arrangement. The first comes from the fact that the productivity surge in ECE is not a product of a development model that had built up the skills of its workforce from a low level, but the result of collapse of an altogether different system, which both produced the region's skilled workers

and left them helpless to contend with the vagaries of global capitalism. The second lies in the weakness of the ECE productivity coalitions, which are much more limited than their East Asian counterparts – not only are they highly localized, in the context of extremely flexible labour markets, but they also do not provide the same scope of employment security or welfare.

As a consequence, in spite of its tremendous success so far, the East Central European employment model does not seem to have an internal mechanism that would sustain further productivity growth once the initial conditions change. In fact, it has created a structure of incentives which discourages both the employers and employees for making the investments necessary to stay on the path of upgrading. The employers profited from the dual advantage of the region – they could choose to move towards more skill-intensive activities, but they could also profitably operate in the more cost-sensitive market segments. As long as the wages remained low enough that there was no pressure to upgrade in order to amortize the costs, there was also no reason for the firms to move towards higher value-added activities, especially where this would require additional investments, for instance in training. On the other hand, with highly unstable employment prospects in manufacturing, which were barely attenuated by the localized productivity coalitions, there was equally little incentive for the workers, especially new generations of workers, to invest in development of manufacturing skills. With new opportunities in the reviving economies, the booming service sector and even abroad, they were becoming ever less docile and cooperative. The very success of the early productivity coalitions, which catapulted the region to the very top of investment competitiveness rankings also highlighted the differences in pay and working conditions between the "old" locations and the newcomers, and fuelled new ambitions and resentments among East Central European workers. Thus, by the time the ECE officially joined the European club of nations, the model which had carried the region's industry on an upward trajectory for more than a decade began to reveal deep tensions.

5.2 Tensions in the hyper-integrationist employment model

Tensions within the East Central European "productivity coalitions" manifested in two ways: on the one hand, in the ever-louder demands of the workers for better wages and working conditions, and on the other in the employers' dissatisfaction with available workforce and warnings about growing skill shortages. What is particularly remarkable in both cases is that the complaints were not so much a consequence of radical changes in the composition of skills or in working conditions, but rather of the changing expectations and external conditions surrounding the East Central European employment model.

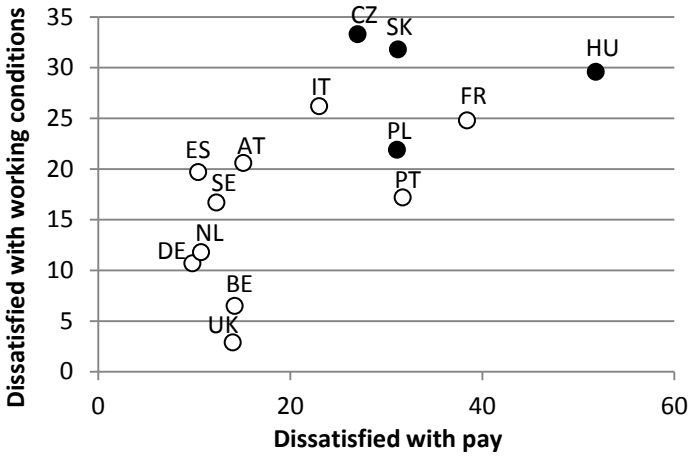
Whatever the ECE workers might have thought of their lot in the early productivity coalitions, by the mid-2000s they certainly appeared to be quite unhappy with it. In 2005, European Working Conditions Survey found that around one third of ECE respondents employed in motor vehicle manufacturing were dissatisfied with their working conditions, and about the same proportion was unhappy with pay, ranging from 28% in the Czech Republic to more than 50% in Hungary. With the exception of France, Portugal and Italy, most of the EU-15 countries were on average more satisfied (Figure 5.3).

Employee dissatisfaction also led to a more active role of trade unions, which gradually picked up the courage and resources to step up their demands on the management. Union membership rose in almost all automotive plants in the region, and on several occasions negotiations erupted into open industrial conflict (Meardi 2007; Mrozowicki et al. 2009). For the most part, this only occurred when the unions could be sure that they won't jeopardise future investments (Bernaciak 2010), and the scale of confrontation remained relatively modest, with industrial action generally limited to strike threats or symbolic one-hour stoppages. Nevertheless, the industrial relations climate had clearly become more confrontational. At the main Škoda factory in the Czech Republic, strike threats have accompanied nearly every collective agreement since 2001, most of the time concerning wage clauses (Veverková 2010). Even in the midst of the global economic crisis, which is still taking a

high toll on the European car markets and forcing a major restructuring drive around Europe, wage demands in East Central Europe have not abated. In 2010, pay issues had led to a strike alert even at Volkswagen Slovakia, which had not witnessed any industrial action in almost 20 years of its existence, and similar threats accompanied the signing of the collective agreement two years later (Cziria 2010; TASR 2012). In 2007, trade unions at GM/Opel in Poland engaged in an almost 9-month dispute with the management over pay and working conditions of employees on temporary contracts, which included multiple strike threats and was only concluded through mediation by the representatives of the GM European Works Council (Bernaciak 2011; Towalski 2007; Czarzasty 2008). Most of the conflicts on record involved pay-related issues, including bonuses, overtime payments and variable pay shares, but working time arrangements also featured on the list of workers' grievances, especially when a surge in demand resulted in intensified shift and Saturday work (see Table 5.2, also Towalski 2006).

What is particularly remarkable about this surge in dissatisfaction is that wages actually rose fairly rapidly. Average wage in automotive industry in the region doubled between 1997 and 2007, and the region began to narrow the gap with the West European production locations: over the same period, the hourly wage rates rose from around 10% of EU average to around 20%. However, the wage growth has lagged far behind the perceived increase in competitiveness. One of the key tendencies of the hyper-integrationist development model is precisely the close integration of peripheral locations into the overall production network of multinational firms, which often use the opportunities present in the new location to optimise profitability along the production chain. This has led, among other, to an increase in internal competition for investments, with many companies engaging in open benchmarking procedures and internal tenders to decide on the future allocation of production (Greer & Hauptmeier 2008; Sperling 2004). The main purpose of this benchmarking is to strengthen the hand of management vis-à-vis the workers in core production sites – in the European automotive industry, the threat of relocations to ECEs has indeed resulted in major concessions in terms of

Figure 5.3 Share of employees dissatisfied with pay and working conditions, 2005[18]



Source: EWCS, 2005

Table 5.2 Examples of industrial action in automotive industry in ECE

Year	Company	Country	Type of action	Issues
2001	VW/Škoda	Czech Republic	Strike threat	Pay
2005	VW/Škoda	Czech Republic	Strike.	Pay
2005	Suzuki	Hungary	Demonstration in front of factory gates	Working time, union rights
2007	VW/Škoda	Czech Republic	Strike	Pay and wage structure
2007	Fiat/GM Powertrain	Poland	Strike threat	Pay, shift work
2007	GM/Opel	Poland	Dispute, several strike threats	Pay, working conditions
2009	Hyundai	Czech Republic	One-hour wildcat strike, followed by strike alert	Working time
2010	VW/Škoda	Czech Republic	Strike threat	Pay
2010	VW	Slovakia	Strike threat	Pay
2011	Hankook Tyre	Hungary	Strike threat	Pay, working conditions
2011	VW/Škoda	Czech Republic	Strike threat	Pay
2012	VW	Slovakia	Strike threat	Pay
2013	VW	Slovakia	Protest	Pay (bonuses)
2013	Kia	Slovakia	Strike threat	Pay

Source: EIRO, press reports

wages and employment flexibility (Jürgens et al. 2006). In East Central Europe, the effect was precisely the opposite. At the very least, it demonstrated to the workers that they were now playing in the same league, accentuating the inequality of pay and working conditions between

[18] Vertical axis: Share of respondents in NACE DM 34 who answered "not very satisfied" or "not at all satisfied" to the question: "Are you very satisfied, satisfied, not very satisfied or not at all satisfied with working conditions in your main paid job?" Horizontal axis: Share of respondents in NACE DM 34 who "disagreed" or "strongly disagreed" with the statement: "I am well paid for the work I do".

locations which often share the same product line. As the orbit of comparison shifted from the dismal conditions in local manufacturing to those offered to their peers in Western Europe, the case for productivity coalitions weakened. Increasingly, such comparisons are explicitly evoked in the union's demands for wage increases – the 2011 strike threat at Škoda, for instance, came after a wage agreement was already reached at the end of the previous year, was fuelled by the rumours of bonuses distributed by Volkswagen to its other plants (Veverková 2011).

In addition to internal benchmarking, another tendency arising from ECE's integration into EU added to this shift: migration. This has helped to undermine the employment compromise in the region in two ways: on the one hand, directly, by decreasing labour supply in sending locations, and on the other hand indirectly, reinforcing comparisons between the pay and working conditions in ECE and abroad. In other words, not only were the workers doing similar jobs elsewhere better off, but the ECE workers could also be better off doing similar jobs elsewhere. The migration opportunities were, of course, restricted by the moratoria imposed by a number of EU countries on labour migration from ECE: most importantly Germany and Austria as the most likely recipients of manufacturing labour. Nevertheless, they were enough to add to the dissatisfaction with local conditions, and in some countries, notably Slovakia and Poland, the scale of outflows was enough to tighten the local labour markets[19].

But the workers were not the only ones who felt that the labour conditions in the region no longer met their expectations. By the mid-2000s, employee skills that attracted so much praise in the early years became a target of urgent complaints by investors. Part of the reason was the improvement of the labour markets, as the recovery of region's industries reduced excess supply of manufacturing workforce. A survey by the American Chamber of Commerce in Slovakia found than 50% of respondents face difficulties in finding qualified workforce (AmCham SK 2009). Similarly, in the Czech Republic a poll of German investors in manufacturing industries found that two thirds (68%) had problems filling the vacancies,

[19] According to some estimates, between 4 and 5% of active labour market force left these two countries in the period between 2004 and 2007 (Kureková 2011; Kaczmarczyk & Okólski 2009), many of them blue-collar semi-skilled and skilled manufacturing workers (see also Brücker & Damelang 2007).

especially in selected categories of skilled manual workers (DHIK CZ 2008). Overall, region-wide surveys of investors conducted by the German Chamber of Commerce and Industry now rated workforce availability extremely low, ranking it 20th out of 25 items on a list of local attractiveness factors (AHK 2008). While the region's labour markets had undoubtedly become tighter, the changes in unemployment numbers hardly merit the sense of panic that transpires from the investor surveys. Unemployment rates had peaked out around 2000 in most countries of the region, and were coming down steadily, especially in Poland and Slovakia where they had reached nearly 20% around 2000/2001. However, at around 10% they were still well above European average, and even higher for the younger cohorts of labour force.

In any case, investor complaints were not targeted so much at the overall availability of the labour force, as at the failure of the system to provide adequate skills. These typically came in two guises: the first concerned the *level* of skills, specifically the problems of vocational training in the region, which according to investors has been churning out workers with the skills too obsolete to be useful to the employers:. The second, however, was directed at the changing *type* of available skills, namely the perceived shift away from technical training into more general, and especially higher education. The following two quotes from interviews with the German chambers of commerce in the region are illustrative, because they help to situate these complaints in the larger context of the changing economic environment in ECE:

> "*Everybody now wants to go to the university, everybody wants to sell something or be a lawyer or work in an office*, *nobody really wants to do vocational training*" (Interview DIHK HU, 2010)

and

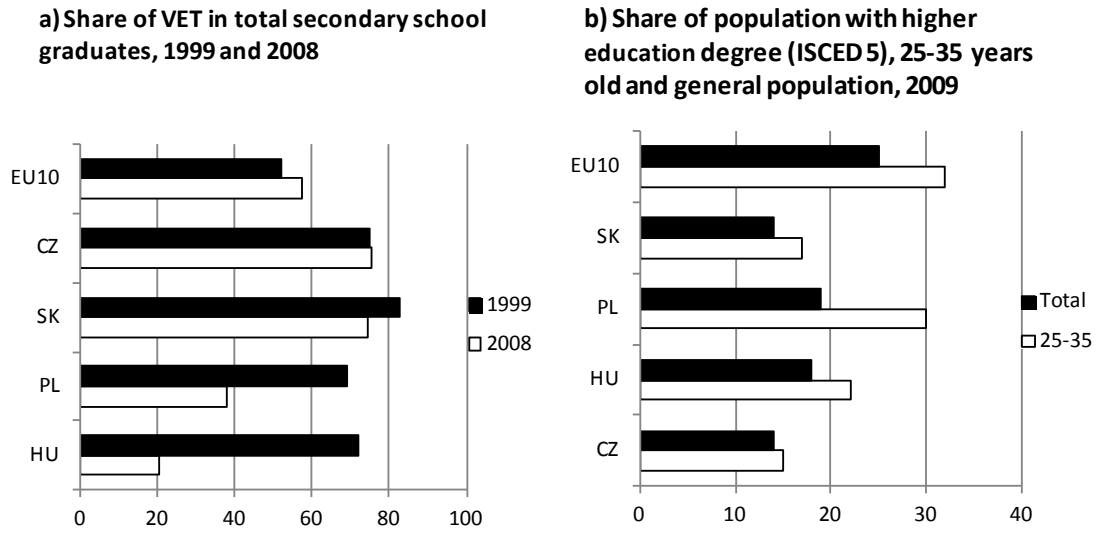
> *"For example, in the automotive field, the automotive technicians have no idea about the up to date technical developments. When they come to Škoda to work there, the only thing they have learned in school that they would recognize is the Škoda logo, because [...] they are working with these communist cars that are from the '70s, '80s and this is what they practice on. This is something which is really not useful to the companies, and a lot of money is wasted"* (Interview DIHK CZ, 2010).

The first quote is interesting because it links skill shortages in the region to the loss of prestige of vocational training and a general reorientation towards academic tracks. It also reveals adverse incentives for the acquisition of specific manufacturing skills, which stem from the same environment that ensured the success of early productivity coalitions. Recall that the accelerated growth of a small set of export-oriented manufacturing industries in the region was set against a background of general *de-industrialisation*. What constituted the initial advantage in attracting foreign investors at the same time created a stigma of instability for manufacturing employment. The kind of medium-level technical skills that the industry requires are not easily transferrable to other occupations, which makes the young people wary of investing in them (Iversen 2005). This perception is only reinforced by the ever-present threats of relocations, which are no less troubling for the fact that the region has so far been at the receiving end, as well as by the high level of employment flexibility which has served the employers in the region so well. It is indicative that in spite of all complaints about workers shortages in the years preceding the crisis, within a year and a half from the start of the market downturn in mid-2008 the automobile industry in Central and Eastern Europe laid off nearly 12% of the workforce, even though many of them have subsequently been re-hired (see Bernaciak & Šćepanović 2010, Table 5.3). It is therefore hardly unexpected that vocational training is looked upon as a second-rate educational choice, in spite of the growing demand: a 2005 survey by Eurobarometer found that the citizens in the new member states were much less likely to recommend a vocational training track as a career choice than those in EU15 (EC 2005).

In the circumstances, the real surprise is that there has actually been relatively little shift in the profile of recent graduates. The governments have expanded the access to general and higher education very cautiously – for the most part, enrolment is strictly regulated by quotas, limiting the shift towards more general tracks (Šímová & Czesaná 2009; Vantuch et al. 2009). The enrolment rates in tertiary education have increased, but it will take a while until the educational structure of the population begins to approximate even those West European countries with a strong vocational tradition, like Germany or Austria. Except for Poland, where

the numbers of young people attending university nearly doubled since the late 1990s, the share of persons with tertiary education in the younger age cohorts (25-35) is actually not much higher than that of the general population (Figure 5.4b). The same is true if we look at the shifts within levels, i.e. from vocational to general education in upper secondary schools: the only large reduction in the share of graduates from vocational programmes happened in Poland, with the other ECE countries at or well above the EU10 average. What did change, however, was the content of education in vocational training schools, which all increased the proportion of general subjects in order to open up previously unlikely paths from vocational training to higher education. In Hungary, the start of real vocational training in secondary technical schools was shifted upwards to age 18, with only pre-vocational courses taking place on upper secondary level.

Figure 5.4 Graduation rates from VET schools and higher education attainment



Source: own calculations based on Eurostat: Education and training database (2011), OECD Educaton at a glance, 2011

This brings us to the second complaint of investors, which concerns quality of education. In late 2000s, barely a fifth of investors in the region evaluated educational systems as satisfactory (AHK 2009; AHK 2011), and there have been repeated calls on the governments to reform vocational training. Most of the complaints refer to the outdated technologies taught at the schools, lack of practical training and generally the failure provide skills which are "workplace-

ready". These are especially interesting in the context of evolution of vocational training in the region in the last two decades, since few such complaints were to be heard in the early 1990s, although the content of technical instruction was if anything even more outdated than today. Moreover, as noted in the previous section, the investors preferred to hire young workers with higher levels of general education and ability (including foreign languages) who could learn the new technologies relatively quickly, than the skilled workers formerly employed in the socialist companies who were already acquainted with the production processes (see also Jürgens & Krzywdzinski 2008). In fact, what seems to have changed is not so much the average quality of the skill pool, but the ability of employers to easily attract the best and the brightest. As the wages have gone up, the skills which were once considered perfectly satisfactory at the lower price levels have began to look a lot less appealing.

This is not to say that the educational system in East Central Europe does not leave a lot to be desired. Local experts agree with the investors that the practical training component is one of the weakest links of the ECE schooling system. After the states took over industry school following the break-up of socialist manufacturing conglomerates, the number of apprenticeship shrunk, and unless they received support from the private sector the schools rarely had the funds to invest in a wide range of advanced equipment (Vantuch et al. 2009; Strietska-Illina 2001). There are few reliable estimates of the extent of practical training in the region, but research by the Hungarian Chamber of Commerce suggests that the number of hours of practical training undergone by the Hungarian students is approximately one third of the German levels (Interview MKiK, 2011). Much of the vocational training reform in Eastern Europe has gone into reducing the number of specialisations, and making the vocational training itself more general and theoretical, which in some sense might have raised the general levels of knowledge and ability, but has reduced the capacity for immediate deployment of these skills.

The problem, however, is that this is more or less within the limits of what the public education can do to produce "specific" industry skills. The ability of authorities to predict skill

demand at detailed occupational levels is practically impossible without active involvement of the private sector, and the costs of up-to-date practical training in school-based workshops are far beyond what the region's investor-friendly, taxation-light public finances can afford. The investors' concern with regional vocational training systems is encouraging in that regard, but is not, as we will see, always matched with the same willingness to invest in their improvement.

5.3 Strategies to balance skills and costs

By the late 2000s, the combination of high skills and low wages which had earned East Central European automotive industry a stellar reputation among foreign investors began to lose some of its shine. Dismal employment prospects in the transition period ensured that the jobs offered by the newly arrived multinationals were considered among the most attractive on the market, and the companies could afford to cherry-pick the best of available workforce. However, as the economies recovered, labour markets tightened and the workers began to demand higher wages. Decreasing attractiveness of manufacturing jobs, and growing opportunities elsewhere – in the industry itself, abroad, as well as in the booming service sector – meant that the employers now faced a stiffer competition for skilled workers. What had once seemed like a great choice of skills for a good price now began to look less appealing on both counts.

The employers' first response was to increase wages in order to keep up with the competition, which quickly set the wages on an upward spiral. In the mere six years between 1998 and 2004, the wages in automobile industry soared by more than 200%, and for some occupations, such as welders, the increase was far beyond the regional average (Interview DIHK CZ:2010). On their own, wage increases need not spell a collapse of competitiveness in the region. As we have seen in the example of East Asian export industries, they can even act as a "productivity whip" which forces the employers to safeguard their profits by introducing higher value-added products, shifting the employment model onto the "high road" of high wages and high productivity. In the short run, however, this requires additional investments to improve

the skill profile of the labour force, which not all investors will be willing to make, especially in the region which for many of them primarily holds the benefit of lowering production costs in the most sensitive segments. So far, the firms have responded to rising wages and recruitment difficulties in the region by a combination of different strategies, some of which include greater efforts at workforce training, but many of which strive to preserve the advantages of cheap, flexible labour, sometimes at the expense of skills.

Among the tools most commonly employed to control the rise in labour costs is the familiar pattern of workforce segmentation. Some firms have tried to strengthen "productivity coalitions" offering greater employment security and additional perks such as housing and loan schemes in order to retain or attract highly skilled workers. This is a strategy that is most typical of the larger manufacturers and those at the top of the production chain, for whom the labour costs anyway constitute a very minor share of total production costs. Even here, however, the "high-road" compromise is limited to a select core of workers, in an environment of generally high employment flexibility. It is interesting that even in the years of rapid growth and employment expansion, contrary to the actual investment trends, automobile industry workers in ECE were on average more afraid of losing their jobs than their counterparts in the "old" member states. According to the 2005 European Working Conditions Survey, as many as 40% of respondents in the Czech Republic and Poland, and more than a quarter in Hungary were thought they might lose their jobs in the next six months, compared to less than 20% in Spain and as few as 5% in Belgium or France – countries which at the time appeared to be the primary targets for investment relocations (Parent-Thirion et al. 2007).

These fears were fully borne out by the industry's response to the onset of global financial crisis: within the first 18 months of the crisis, automobile companies in the region laid off more than 10% of their ECE workers (Table 5.3). Nor were the lay-offs restricted to the smaller, cost-sensitive companies. Suzuki in Hungary is probably the worst example, having laid off 1200 workers early on and subsequently forcing another 800 workers to accept redundancies by abolishing company bus transport for distances longer than 30 km. This was in

spite of the fact that the Hungarian government offered a scheme subsidising labour costs (both wages and contributions), as well as the costs of commuting and housing (Frey 2010)[20]. Škoda also reduced the production run to four days per week and dismissed some 3,500 workers, most of them anyway employed as a "flexibility buffer" on temporary contracts (Galgóczi & Glassner 2009). Some companies made an effort to use internal adjustment options, such as redistributing idle hours through work-time accounts, re-scheduling holidays etc. Volkswagen in Slovakia had been lobbying the Slovak government for several years to introduce a work-time accounts scheme, which was promptly adopted as anti-crisis response and allowed Volkswagen to keep most of its skilled workers on board (Interview VW Slovakia:2010). Others, however, agreed to similar employment-preserving schemes only in exchange for pay reduction: also in Slovakia, KIA only offered 60% pay for the days when the factory was shut due to slacking demand, and in Audi Hungary the workers accepted bonus cuts and temporary wage freezes (Neumann & Boda 2011; Antalóczy & Sass 2010). Interestingly, the lay-offs took place in circumstances which were much less dire than in the rest of EU, as the output remained more or less stable, and a large majority of workforce was soon rehired (Interview ITDH 2010, see also Table 5.3).

Table 5.3 Job loss and job creation in the crisis

	CEE	DE	EU9
Job loss mid2008-2010			
Thousands	35895	15128	67724
as % of employment in the sector[a]	8	1.4	5.6
% lost in the first 6 months	*44.5*	*22.5*	*49.6*
% jobs lost through relocations	*10.9*	*4.9*	*2.8*
Job creation mid2008-2010			
Thousands	15482	0	2194
as % of employment in the sector[a]	3.5	0	0.2

Source: European restructuring monitor, Eurostat
[a]Employment reference year 2007

[20] According to the Hungarian Government, some 30 000 jobs were preserved through this schemes, however, the beneficiaries were mostly very large companies, as only 500 entities actually applied for the funding. A similar scheme in Poland recorded an equally disappointing turnout (see Cedefop 2011).

Another element of the segmentation strategy can be found in the efforts to ease the pressure of tightening local markets by importing labour from elsewhere. This strategy is particularly indicative of the drive to preserve price advantage, even at the expense of skills, as the imported workers are typically less skilled than the resident workforce (Interview DHIK SK:2010). Such imports usually take place via temporary work agencies, with the consequence that such workers are employed on more precarious terms and for lower pay (Krebs & Pechová 2008; Novák 2008). Suzuki in Hungary "imports" up to one third of its workers from the neighbouring Slovakia as well as Romania, and these were also the first ones to be let off at the start of the crisis. Volkswagen Slovakia boasts of a workforce that consists of "8 nationalities", 40% of whom reside more than 50 km away from the factory, and 15% more than 100 km (Interview VW SK:2010). In the Czech Republic, where the low unemployment levels have made the concerns over workforce shortages especially acute, the recruiting agencies have brought in workers from as far as afield as Vietnam and Mongolia (Gomez & Dudikova 2008; Horáková 2007). Much less is known about the use of imported workforce in smaller firms in the industry, but it seems that this option has been considered by a fair portion of employers, as evidenced by active lobbying by industry associations for laxer immigration rules (e.g. Veverková & Hála 2008; Ďurianová 2006)

Other lobbying efforts are directed at the measures that decrease costs directly: these include demands on the governments to make the labour markets even more flexible, and to reform the tax systems in order to decrease the non-wage portion of the costs. Even though East Central European countries rank among the lowest in OECD on employment protection legislation, the associations of foreign investors, such as the German and American chambers of commerce routinely put forward requests to the governments to further increase flexibility of labour regulations (Drahokoupil 2008; Kolesár 2006). They have also contributed very actively to the discussions of tax reforms (see Chapter 3). In the last few years, personal income taxes have followed the pattern of competitive deregulation previously seen in relation to corporate income taxation. Slovakia introduced a flat 19% income tax already in 2004, a move seconded

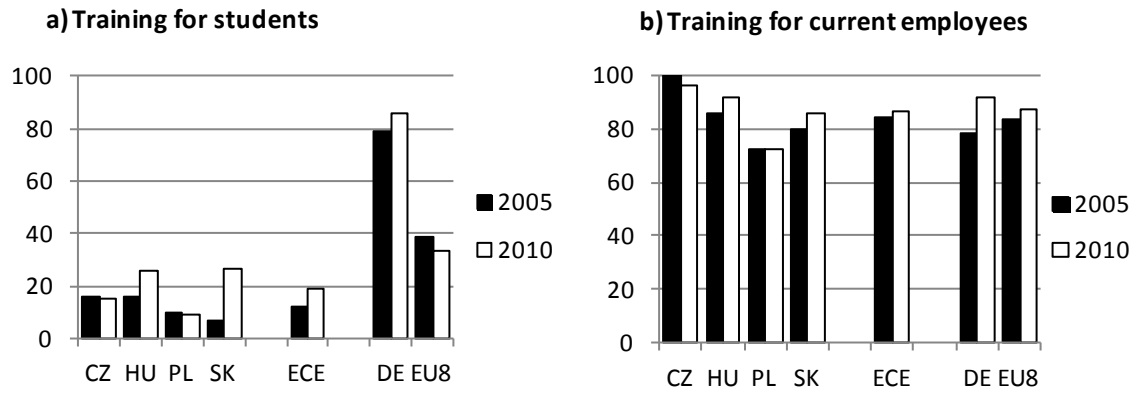
by the Czech Republic in 2008 with a flat tax of 15% and by Hungary in 2010 with 16%. In 2009, after several rounds of tax reforms, Poland introduced a similarly low personal income tax of 18% – nominally the system is progressive but the second marginal tax of 32% rate kicks in only at incomes above PLN 85.528, about 20 times the average wage in the country.

Such strategies of cost control are hardly a specialty of East Central Europe. Segmentation and flexibilization have become common trends even in the core locations (e.g. Jürgens et al. 2006), and the pressure for lower taxes is palpable all across Europe. The difference, however, is that both workers and governments in ECE start from a weaker bargaining position – the unions have fewer resources to protect employees with more precarious contracts, and the governments have so far proven to be much more responsive to investors' demands than those elsewhere in Europe. In spite of that, we have seen that there are also powerful pressures in the opposite direction: barring a severe, protracted recession in the region, overall demographic trends and alternative employment opportunities at home and abroad will keep nudging the wages upwards. This is why, from the standpoint of the future prospects of the region's automotive industry, it is all the more important to look at the extent to which the firms combine cost control with the strategies to strengthen mechanisms for skill provision.

As already noted, this was far from an automatic response of the new investors, who were happy to let the governments take care of skill reproduction, and the first signs of firms' interest in workers' future skills did not appear until the early 2000s. Results of the 2005 Eurostat survey show that even in the large firms the proportion of companies providing initial vocational training in ECE is negligible compared to Germany or other West European countries. In spite of the shortage scare, there was also very little increase in the number of large enterprises providing initial vocational training between 2005 and 2010 (Figure 5.5a). The results are almost equally poor for all ECE countries, in spite of the variation in institutional incentives. The proportion of training companies is thus virtually identical in the Poland, where there are no fiscal pressures or incentives for the companies to provide training, and in

Hungary, which collects a mandatory training levy which the companies are able to recover in full if they train their own apprentices. A recent review of the allocation of the training levy in Hungary shows that although the proportion used by companies for their own training is increasing, still only about 20% of the funds are used for this purpose (Bükki et al. 2009). The research in Poland and Hungary suggests that the largest numbers of apprenticeships are provided by the small craftsmen, in trades where the apprentices can quickly become productive (Luck et al. 2009). Although the balance in Hungary has been shifting in favour of larger enterprises, in 2006 it was still estimated that around 90% of placements were provided by majority Hungarian-owned companies, not by foreign investors (Köpeczi Bócz & Bükki 2006). On the other hand, the share of companies providing some form of training for existing employees is as high in ECE as in Western Europe, or higher, which can be considered a form of compensation for under-performance of initial vocational training. For the employers, this is a more cost-effective approach, because they can limit the training to the specific skills required by particular jobs up to a point where the employee is deemed sufficiently productive, instead of providing a potential future worker with a full set of skills that can be equally useful to other companies.

Figure 5.5 Percentage of large manufacturing enterprises which provide training



Source: own calculations based on Eurostat, CVTS3/CVTS4. Shows only enterprises with 250 employees or more

It should also be born in mind that continuous education is widely subsidised in the region as part of investment incentives – up to 25% of total costs if the skills are firm-specific, and 50% if they are deemed to be more generally applicable.

Automotive companies in the region are somewhat ambivalent towards the imperative to improve training in order to relieve shortages. German companies and associations in particular have been calling for the introduction of dual vocational training, which would signal that they are ready to commit themselves in some way, but they also insist that training organisation, apprenticeship financing and monitoring of skill needs is the "job of the state" (Interview DIHK HU 2010; also Degenkolb 2010). The private sector has so far resisted all attempts on the part of the governments break the voluntaristic model and impose training obligation on all companies. In 2008, a proposal by the Slovak government to introduce mandatory training levy to support initial vocational training was fiercely opposed by industry association and eventually abandoned (Vantuch & Jelínková 2008). On the other hand, most of the large carmakers have developed some training arrangements with vocational schools in their vicinity, but the scale and extent of training vary considerably even among the affiliates of the same company. Škoda, for instance, is probably the only case of a company privatised by a large foreign investor that also took over the school previously attached to the Škoda concern in Mladá Boleslav. The school is effectively run by the company, which covers the costs of tuition, provides the equipment and even offers a dorm for the students from other towns. The school has more than 900 students, and approximately 300 graduates leave every year with specialisations in around 20 automotive-related professions (Škoda Auto 2009). Most of them are, however, absorbed by the company itself, and the spillovers to the rest of the industry are relatively small (Interview ŠKODA 2010). Another VW subsidiary in the region, Audi Hungaria, took much longer time to even begin training: in the early 2000s some observers still complained that the company was following a "defensive human resource policy" and importing workers from Slovakia instead of investing in the local labour force (Galgóczi 2003). Since 2001, however, Audi has developed cooperation with the local vocational school in Győr, providing

the school with up-to-date equipment and accepting apprentices on six-month practice. The number of work placements has been growing, but is still comparatively small: at about 100 per year, this is little more than 1% of Audi's workforce, and more than 80% of students are subsequently employed by the company (Audi Hungaria 2011). Volkswagen Slovakia also has its own training centre, which is run in cooperation with the Electro-Technical Secondary Vocational School in Bratislava, but the scale of apprenticeship training is even lower than in Audi, although much more intensive: every year, the company selects around ten students enrolled in the first year of the school to continue their training at VW, where they complete the second and the third year of studies. Another 10-15 graduates of higher education are also offered work placements as part of 12-month training programmes (Interview VW SK 2010). At the other end of the spectrum, VW Poznań in Poland pursues an even narrower strategy: since 2005, it provides around 25 apprenticeships each year in a single profession – mechatronic, which take place over a two-year period in cooperation with two local schools. Although these attempts are definitely encouraging, with the exception of Škoda they still suggest a reactive adjustment strategy to immediate skill needs and local circumstances, rather than a systematic company policy.

Moreover, while there is a lot of anecdotal evidence of tentative ties forming between large OEMs and Tier-1 suppliers and local schools, the overall numbers suggest that this is limited to the few companies that can afford equipment and spare employee time to train potential future workers. As a long-term strategy, company involvement in initial training would be preferable to investments in current workers for both companies and the host states. For the host states, it would take off some of the financial burden of vocational training, while ensuring that the students acquire a broader range of skills. For the companies, on the other hand, it might help to reverse the shift away from manufacturing vocations, providing students with a promising link to the labour market. In the short run, however, so long as the public system provides them with acceptable basic skills, continuous training can be more appealing and cheaper, because they can focus the training on the types of skills immediately required,

and only on those workers who are most likely to contribute more to the overall productivity of the company. For the smaller firms which are not leaders in the field and cannot count on apprenticeship loyalty, competition for skills further dampens the incentive to train because of the risk of other companies free-riding on their training efforts (Becker 1993 (1964); also Hancké & Kureková 2008).

Recently, the ECE governments also started experimenting with various schemes to prop up vocational training and secure more involvement of the employers. In the Czech Republic and Poland, these are largely limited to information campaigns to collect data on skill shortages and assess the skill needs (Cedefop 2011; Kaňáková & Němeček 2012). In 2009, the Slovak government established tripartite councils for coordination of vocational training, which are organised on the national, sectoral and regional levels. In the automotive industry, these have led to the creation of regional training centres, where the employers can directly contribute to curriculum development, provide equipment or training, and deduct these costs from their tax base. There is some promise that in a large and successful industry such as the automobile these regional training centres might in time develop into more extensive dual training (Interview ŠIOV 2011). In Hungary, regional VET councils were established in 2008 on the regional level. In cooperation with local employers, each council can designate up to 10 shortage occupations, which are then also eligible for special vocational scholarships for students to enter apprenticeships, and the employers can deduct the costs of training up to 40% of the minimum wage (Bükki et al. 2011). Similar tax incentives are in preparation in the Czech Republic (Kaňáková & Němeček 2012).

As in the area of technology development, however, government efforts are limited to the provision of incentives, as they lack the tools to effectively compel the firms to participate in training. Only Hungary has a form of mandatory training contribution, levied at 1.5% of total labour costs. Recent strategies to uphold vocational education therefore also include a more controversial element: an attempt to force the other side – the students – to stay in vocational tracks, and reverse the drift towards more general education. In Hungary, the new educational

act of 2010 allows students to leave compulsory education earlier (at age 16 instead of 18), and also decreases the age at which practical vocational training begins from 16 to 14. An agreement between the Government and the Hungarian Chamber of Commerce also introduced new fast-track vocational programmes for 86 occupations, which begin at age 14 and last only three years. They are supposed to have a much higher proportion of work-based training and prepare students better for the labour market, although some experts worry that that this will actually have a negative impact on the school leavers' reading and learning skills (Bükki et al. 2011). In 2012, Slovakia similarly tried to force a larger proportion of students to stay in vocational training by making the entry into more general tracks conditional on a grade point average in lower secondary education. From 2014, an 8-grader would need a grade point average of at least 2 (on a scale from 1 to 5) to enter academic track in upper secondary education, and at least 2.75 even for the more general secondary technical schools (Cedefop 2013). Access to higher education in Hungary and the Czech Republic is also made more difficult by the recent decisions (2011/2012) to introduce tuition fees and reduce the proportion of state-funded places. In Hungary, the reduction of state funded places by almost 20 000 (from around 54 000 in 2010) is disproportionally targeted at general programmes in social sciences, in an effort to channel more students towards technical degrees.

5.4 At the crossroads

As we have seen from the above overview of strategies, there is as yet no clear indication of the future direction of the regional employment model. Employers and the governments alike are trying hard to restore both original advantages that have made the ECE industry so successful in the first decade and a half: control wage growth as much as possible, while also trying to improve training and prevent the loss of manufacturing skills. Either of these tasks is hard enough on its own: together, they represent an extremely difficult challenge, because of the conflicting incentives they imply for the employers and workers, respectively. In the context of European integration and growing opportunities in other sectors, wage restraint

in the manufacturing discourages capable students from acquisition of vocational skills, but the cost of additional training investments and rising wages is likely to alienate investors who see East Central Europe primarily as a reservoir of cheap labour.

On the one hand, some degree of wage convergence appears to be almost inevitable in the long run. ECE's success in international competition and constant benchmarking with the West European locations have made the workers in the region restless, and workforce shortages have added to the wage pressures. Given the demographic outlook of the region, it seems unlikely that the initial conditions of ample labour supply can be restored, and large-scale workforce imports are equally unlikely, if for no other reason than because of EU's restrictive immigration policy.

On the other hand, large-scale investments in training, and production adjustments which would accommodate rising wages through a shift towards more skill-intensive activities are equally difficult to orchestrate. In spite of some encouraging signs, it is clear that the region lacks adequate organisation on the industry level which would compel all, or at least the majority of companies to contribute to systematic investments into skills. Competition among the firms, the threat of free riding, and the costs of training all discourage the private sector from greater involvement (Hancké 2012; Finegold & Soskice 1988), with the result that most such initiatives have remained limited to the largest and most successful firms.

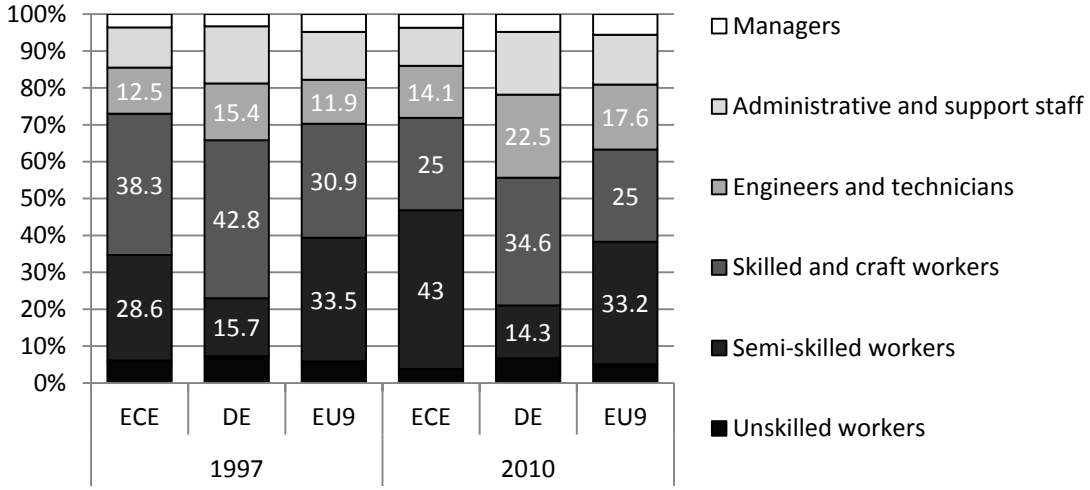
More importantly, however, manufacturers in East Central Europe are loath to relinquish the local cost advantage, and there appears to be a large majority of firms which actually prefers low skilled but cheap workers over the higher skilled, more expensive ones, perhaps with the exception of a small segment of the labour force in the highest skill echelons. It is not difficult to imagine that cooperation problems of the kind noted above could be overcome in the same way the industry has overcome problems related to the organisation of suppliers – through hierarchical enterprise networks or by importing institutional superstructure from their home countries. On the margin, there is some evidence that the firms are perfectly able to cooperate when they see a common interest in doing so. In the Czech Republic, for instance, two large

German suppliers recently solved the problem of shortage in a particular skill niche by jointly founding a post-graduate programme in automotive industry management at the nearby University of Liberec in Western Czech Republic. The programme was co-designed and the teaching staff trained by the German Chamber of Commerce and Industry from across the border in Dresden (Interview DHIUK CZ 2010), and co-funded by the Czech government. As we have seen, most of the governments in the region are more than eager to involve private actors in training activities, and most provide some form of subsidy for that purpose.

If there is underinvestment into skills then, the cause is more likely found not in the lack of tools, but in the lack of will on the part of companies for whom the region fulfils a different purpose. We have seen that in spite of the shortage scare of the mid-2000s, the crisis quickly turned industry's attention back to cost considerations (Interview DIHK SK 2010, Interview CzechInvest:2010). Structurally, most of automotive employment in East Central Europe is concentrated in supplier firms – almost 70% compared to the EU 10 average of 40% - where labour costs constitute a much larger share of production costs than in final assembly (Šćepanović 2011). Changes in the occupational profiles of ECE workforce show little tendency towards an employment model that would rely predominantly on skills. On the contrary, between 1997 and 2010 the number of jobs in the category of semi-skilled plant operators grew twice as fast as the number of positions requiring skilled workers, engineers and technicians. As a consequence, the number of workers in occupations which require relatively little to no training accounted for around half of all employees in automotive industry in the late 2000s, compared to a little less than 40% in EU 9 and only 20% in Germany (Figure 5.6).

Equally worryingly, the EU 9 average actually obscures a great diversity of employment structure among the West European countries. Countries with their own manufacturing industries, such as France and Italy, are somewhat closer to the Germany type, with a larger share of skilled workers, and especially of engineers and technicians. Countries like Portugal, Spain and Belgium, on the other hand, where the industry is almost entirely foreign-owned,

Figure 5.6 Composition of automotive workforce by occupation, 1997 and 2010[21]



Source: author's calculations based on LFS, 3-year averages. Data for Poland only available since 2002

follow a pattern more similar to East Central Europe, with a larger proportion of semi- and unskilled workers. This suggests that hyper-integrationist model of development might be limited by the multinationals' desire to optimise division of labour within their production networks, which leads them to disregard the potential for local upgrading even if the required investments are not very large.

In the medium term, in spite of the growing dissatisfaction with skills and wages, the East Central European automotive complex is likely to remain highly competitive for a number of years. Wage costs in ECE are still at around one third of the West European levels, and the convergence is estimated to take between 20 and 70 years (PwC 2007; Bilbao-Ubillos & Camino-Beldarrain 2008). The combination of prices and skills offered by the ECE labour markets is still among the best on offer in Europe. The "old" periphery in the European south, which attracted similar investments in the 1980s, has on average a much less educated workforce, and is still more expensive than East Central European region – although most recently the sharp internal devaluation and soaring unemployment seems to have brought an

[21] Categories based on 3-digit ISCO 88 classification. "Managers" include codes 110, 120, 130, "engineers and technicians" 210, 310, 220, "administrative and support staff" 230, 330, 240, 340, 410, 420, 510, 520, "skilled and craft workers"700, 710, 720, 730 and 740, "semi-skilled workers" 800, 810, 820 and 830, and "unskilled workers" 910 and 930.

uptick in automotive investments in Spain after years of gradual employment losses (ANE 2013c). However, it is precisely the example these countries which should worry the governments in ECE: in spite of being prime locations for automotive investment for many years, they experienced little upgrading of local production factors, and still depend heavily on low costs for their competitiveness.

These examples also make it all the more unclear whether it is at all possible to fully move towards skill-based production in the conditions of external dependence for capital and technology. What is clear is that it will demand a lot of commitment and coordination efforts by the governments, and that these countries will likely have to accept some loss of investment by firms for whom labour costs constitute a binding constraint. In that sense, the future of the employment model in East Central Europe may not be decided by majority of firms, but by a handful of key industry players, who have the power to influence direction of upgrading along the production chain. Some of them have already proven willing to enter into partnerships for skill development with local authorities, although the scale is still very limited – the larger task would be to use the influence and the hierarchical networks of these firms to promote training among a larger segment of suppliers. The good news is that a recent change of heart in European education planning could be a source of additional support for such partnerships. Since the crisis started, soaring levels of youth unemployment have led even the European Commission, which has long insisted on expanding higher education as a path to knowledge economy, to call on the member states to take heed of the successful German model of dual vocational training, and promised additional EU-level funding for apprenticeships (EC 2012). In the following months, six EU member states, among which Slovakia, have signed a cooperation agreement with the German Ministry of Education to receive direct assistance in setting up vocational training systems in their countries (BMBF 2013).

While there is no guarantee that any of this will help the ECEs reach the high-wage, high-skill model, it is almost certain that doing nothing will push ever larger numbers of young people away from manufacturing employment. In the 1990s, manufacturing jobs at the newly

arrived Western multinationals had been considered among the most attractive on the market, and the companies could afford to employ the workers wither higher skill and ability profiles than is absolutely necessary for the kind of jobs they performed. As the ECE economies recovered, however, equally appealing opportunities have opened up elsewhere – abroad, in higher education, and in the service sector. Higher education still carries an enormous wage premium in the region: wages of tertiary-educated employees are on average almost twice as high as those with only upper secondary education – between 73% in Poland and 111% in Hungary, compared to the OECD average of 52%, and the wage gap has only increased since 1997 (OECD 2009a). Even on the level of upper secondary education, graduates of general academic tracks earn on average more than their counterparts from vocational programmes, although they usually take somewhat longer to find the first job (Kogan et al. 2011). Even if on the macro-level the shift out of vocational tracks has been limited by the state policy, without individual-level incentives there is nothing to keep young people in local manufacturing trades. An analysis conducted by the Czech National Institute for Vocational Training in 2002 already noted that more than 40% of recent graduates from technical schools worked in jobs and branches that had little or nothing to do with their educational background (Festová 2003) and this is all the more likely to happen if they go abroad (Kureková 2011).

Moreover, unless the firms are willing to offer more attractive employment prospects in manufacturing industries, government efforts to tailor education to the needs of investors can become politically explosive. This is especially true of the proposed reforms of higher education: tuition fees and limits on university enrolment have been met with furore in both Czech Republic and Hungary. Financing is not the only thing that worries the students: plans of the Czech government to replace university senates by tripartite boards consisting of representatives of the government and businesses was immediately denounced by students and teachers alike as abolishment of university autonomy and the entryway for “economic lobbies” into higher education (Velinger 2012).

It also does not help that for the last twenty years the ECE states were actually urged by most international observers to expand general, and especially higher education, in order to meet the exigencies of the rising "knowledge economy". EU's Lisbon Agenda explicitly stipulates that by 2020 persons with higher education should account for at least 40% of the population of EU member states, and the same metric is used in the construction of EU Innovation Scoreboard the World Economic Forum Global Competitiveness Index. So far, Poland is the only country in the region which has made a clean break from the legacies of vocational training, with the general tracks accounting for close to 80% of secondary education, and more than 40% of recent cohorts enrolled at higher education institutions. For the same reasons, Poland, as well as Estonia, are often held up as bright examples of flexible educational systems in the region (e.g. WB 2010; OECD 2011; see also Zahorska & Walczak, 2005). In these circumstances, it is no wonder that the efforts of other regional governments to hold on to the manufacturing skills are easily perceived as anachronistic, if not outright wasteful. The difficulty of building up a reliable system of cooperative training, and the perception of manufacturing as too competitive and unstable have even sown the seeds of doubts among the local vocational experts:

> *"Somebody should think, what should Slovakia really look like in 2020? Really, still only automobile and electronics? But these are very strongly cyclical industries, and we have nothing to counterbalance it [...] I am very sceptical about vocational education. I think we need to say [to the employers]: I am not making you your plant operators, I am giving you just general education and then it's up to you. It's a bit like the Irish model, the World Bank likes that. Of course it was not possible to do in Slovakia in the 1990s because Slovakia was an industrial country and you cannot come to a country which has the strongest VET-based system in Europe and say "you should forget these schools". But now, after 20 years of decay, I would not be able to say what is better…"* (Interview ŠIOV 2011).

CHAPTER VI

6 Driving East

In this dissertation I have argued that the role of foreign investment in the development of East Central European countries is best understood as a form of response to the problems of late development in the context of early 21st century world economy. Placing the experience of ECEs in the framework of late development theories focuses the research on the key areas in which FDI could be expected to contribute to economic growth of host countries - by increasing the amount of available capital, modernising the technological base, and closing the gap in labour productivity. At the same time, this approach allows for a structured comparison of their performance with those of the previous generations of late developers, as well as to highlight the differences in the way foreign capital is incorporated into the solutions to each of these challenges. As demonstrated in the previous chapters, these differences are sufficiently large as to constitute a new variety of late development, which I have called *hyper-integrationist*. The previous chapters explored each of these solutions in greater detail, analysing the relationships between the key actors, the balance of power between them, and the way in which their choices are both constrained and enabled by the changing patterns of international competition. This chapter summarises the main argument of the dissertation, evaluating the achievements and the shortcomings of the hyper-integrationist development model, and outlines some suggestions for further research.

Section 1 offers a concise summary of the findings so far: the main mechanism linking FDI and growth of the hyper-integrationist development, the structure of alliances between FDI and local forces, and the importance of the international context for the development and stability of this model. Section 2 looks at the relative success of the East Central European development model in comparison to other sub-types of late developers, using the standard measures of upgrading and export competitiveness. Section 3 then scrutinises more closely some of the identified shortcomings of hyper-integrationist development development:

problems in the reproduction and upgrading of workforce skills, difficulties in moving from technology transfer to technology development, and the dubious potential of this model to produce real convergence with the West European "ideal" of development. Finally, Section 4 looks at the possibilities for generalization of the present findings, and outlines some promising venues for further research.

6.1 Summary of the hyper-integrationist variant of late development

The analytical framework employed in this dissertation builds on a large body of late development theories, and on the work of Alice Amsden, who was the first to offer a concise typology of late development varieties. Based on the way different countries construct solutions to the three main problems of late development, Amsden divides them into two types: independentist East Asian and integrationist Latin American model. The two are distinguished in the first place by the degree of their reliance on foreign resources, especially foreign capital, and in the second place by the mechanisms that the state as the primary orchestrator of development uses to guide private actors towards national development goals. In the independentist version of late development, states maintain a guarded stance towards foreign investment and continue to shield domestic capital through a wide array of trade and industrial policies, helping it to become internationally competitive. However, they also keep a tight grip on domestic firms through a "reciprocal control mechanism" (Amsden 2001), ensuring that they deliver good performance in exchange for protection and support. The role of foreign capital is minimal: it either enters the economy indirectly, through borrowing and purchase of licences, or through limited partnerships with domestic firms geared towards technology transfer. By contrast, in the integrationist variety foreign investment plays a more direct role as a source of both capital and technology. The state, foreign capital and domestic firms form a "triple alliance", in which the state does not set the performance targets directly, but uses industrial policy selectively to either increase the competition between the two strands of capital, or force them into partnerships which facilitate transfer of technology from foreign to domestic actors.

Much of the current understanding of the role of FDI in development is derived from the experiences of these earlier types of late developers. Foreign capital is seen primarily as a source of new technology and skills which are then emulated by local actors, and most of the disagreement in the literature revolves around the appropriate degree of government action to foster such "spillovers" (see e.g. Narula & Dunning 2010; Moran et al. 2005b; Chang 2006; Blomström et al. 2000). One of the main contentions of this dissertation is that this is an obsolete view of FDI, which does not hold up to scrutiny under the conditions of hyper-integrationist development.

The enormous increase in the volume of transnational investments in recent years, and the changes in international trade and investment regulations which limit governments' ability to control these flows, have created an environment in which foreign investment plays a much more central role. In the hyper-integrationist variety of late development, the key channel through which the FDI advances growth in the host economy is not so much by stimulating the growth of local capabilities as by substituting them. This form of development requires a different form of arrangement to govern the relations between key actors, and also carries a specific constellation of advantages and disadvantages.

On the one hand, substitution of capabilities through transnational investment networks can lead to a much faster modernisation of production and increased export potential. As I have shown on the example of automobile industry, East Central European states have achieved in less than a decade a complete reversal in their export profiles, shifting from a negative trade balance and a specialisation in low value-added exports to a structure of output that is practically indistinguishable from that of the most successful late developers from previous generations, and at least equally competitive.

On the other hand, the effect on development of local production factors has not been equally positive. Domestic firms have been all but eliminated from the competition, and the region continues to rely on its low-cost advantage, with limited investments in workforce skills. Even if the consequences on ECE's competitiveness may not be apparent in the medium term,

this arrangement does fail to create the conditions for long-term autonomous growth. Without a large cluster of successful domestic firms, domestic capital markets are likely to remain shallow, and the local demand for technology development low, perpetuating the need for external inputs. Thus, contrary to the customary arguments about spillovers, in the hyper-integrationist development model FDI is not a self-obsolescing seed of development, but its permanent fixture.

This also means that the task of the state as the main orchestrator of development has changed from that of facilitating transfers of technology and skills to local firms to attracting and directing the flows of foreign capital towards the most promising activities. Unlike independentist developmental states, they do not command sufficient power to directly influence the decisions of private actors. However, they are also more constrained than the states of the integrationist variety, having fewer tools to restrict the playing field of foreign companies, and without a strong domestic sector to be used as a balancing factor. Instead, the states in the hyper-integrationist development variety draw on a more fragmented set of alliances, many of them transnational in nature. Their commitment to international integration limits the range of tools they can use to impose performance targets on foreign companies, but provides them with new mechanisms to resist the more onerous demands on their part. Transnational investment regimes, taxation agreements, as well as the international norms on labour regulation, for instance, can be used to set a floor to the concessions offered to the multinationals in exchange for bringing in the necessary capital and technology. The same mechanisms can sometimes be used, albeit to a lesser extent, by local labour, who can forge transnational alliances with their counterparts in the multinationals' home countries in order to improve their bargaining power in the home market (e.g. Bernaciak 2011). These alliances are quite fragile, however: as much as the local actors have an interest in bolstering their position vis-à-vis the incoming multinationals, the pay-offs for defection are high where they conflict with the main goal of attracting more investment. In the case of East Central Europe, this system of fragmented alliances is somewhat stabilized by their membership in the European Union, although its impact varies from one area to another. In some areas, defection is limited by a

strict regulatory regime, as in the case of state aid. In others, e.g. labour relations, the transnational regime merely offers a "soft" set of norms and a credible forum for negotiation (Greer & Hauptmeier 2008; Arrowsmith & Marginson 2006; Bernaciak 2011).

The changing international environment thus both restricts the ability of developing countries to successfully employ old solutions to development problems, and provides them with alternative resources to create new ones. In the 1990s, international trade and investment agreements in general, and those of the EU in particular practically ruled the recourse to industrial policies once common among the independentist and integrationist states, and imposed high penalties on the states which chose to defy these arrangements. At the same time, what made the costs of non-compliance so high was precisely the fact that a membership of these international regimes conferred substantial new advantages on participating countries. In the case of ECEs, becoming a part of EU's integration regime meant a much easier access to FDI - although by no means costless - as the foreign capital considered it a guarantee of regulatory stability. Similarly, it provided the ECE states with preferential access to the EU's large internal market, increasing their attractiveness as export locations and protecting them against external competition.

This suggests that a hyper-integrationist road to development is more attractive, and likely to be more successful in the presence of a strong transnational integration regime (see also Bruszt & McDermott 2009). This is all the more true for ECEs, to which the European Union offered not only higher pay-offs for full integration, but also a degree compensation for the perceived losses. For example, EU's programmes for support of small and medium enterprises can dampen the potential resentment over the takeover of local industries by foreign multinationals. In the EU policy documents as in the national rhetoric, the SMEs are frequently extolled as the key to economic growth, although the actual financial commitments fall far below the amounts targeted at large investors. Indirectly, association with the European Union also strengthens the legitimacy of the hyper-integrationist development model by making the promise of development more credible. For the citizens of ECEs, accepting the EU's rules was

seen as a sort of guarantee that they will eventually become more similar to the successful "old" members of the block.

The flip side of this arrangement is that close integration between developing and developed countries within the same transnational integration regime makes it all the more obvious when this promise is not fulfilled. Foreign investors are powerful purposeful actors whose interest is not simply to transpose the resources and institutions from one jurisdiction to another, but to combine them creatively in order to achieve maximum profitability across different markets. This means that even as developing countries catch up with their more developed peers on some dimensions, such as export competitiveness, they may fail to converge on others, such as employment relations or wages. At the same time, close integration through multinationals' production networks only strengthens these comparisons, emphasising the mismatch between expectations and the reality of catch-up development.

In East Central Europe this conflict has become especially apparent in the relationship between foreign investors and labour. While the foreign multinationals consider ECE primarily as a source of cheap qualified labour, the workers have grown increasingly discontent with the fact that they are receiving much lower pay for the same kind of work than their counterparts elsewhere in Europe. The discontent resulting from mismatched expectations should not be dismissed lightly. Although we are unlikely to see the kinds of policy swings away from integration that have been experienced by some Latin American countries, it nevertheless represents a fertile ground for various populist and Eurosceptic political movements. Nor is the perception of relative failure the only problem of the hyper-integrationist development model. As we have seen in the previous chapters, development through substitution of missing domestic capabilities is efficient in the short run, but also has some very real limitations in terms of skill and technology development, which could eventually slow down the catch-up process.

6.2 The road test

In the previous chapters, I have argued that giving FDI a central role in the process of East Central Europe's reindustrialization led to remarkably rapid growth and improvement in their export performance. This outcome is best explained by a process of substitution arising from large scale inputs of foreign capital. Foreign firms bring in cutting edge technology and face fewer capital limitations than domestic companies, and are thus able to raise their productivity much faster. In the absence of trade barriers, they also have a ready access to external markets and inputs through their intra-firm networks. While the firms in the "independentist" development variety engage in a long and ardours learning process to build up these capabilities from the scratch, hyper-integrationist late developers profit from external resources to substitute the missing capabilities. This section evaluates the outcomes of this model of development, by comparing the achieved level of upgrading in ECEs to that of the more successful representatives of independentist and early integrationist development models – Korea and Mexico.

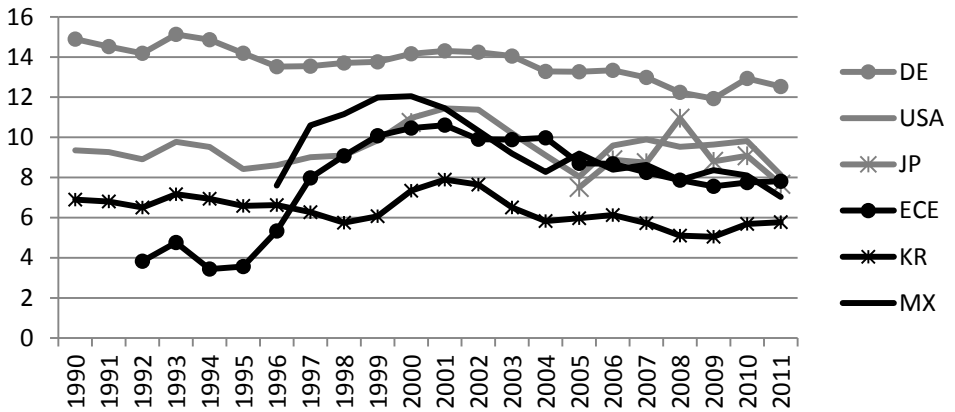
"Upgrading" is defined as the increase in complexity of production that takes place in a given export location (Porter 1990; Humphrey & Schmitz 2002). In the analysis below, the extent of upgrading is evaluated on several dimensions: the relative value of the final output, the ability of a country to produce a full range of complex components instead of simply assembling the cars from imported inputs, and the degree to which the resident firms engage in the more skill-intensive, non-production activities such as research, design, and brand development..

The comparison below should not be seen as representing the full range of performance of different ideal types. South Korea is by far the most successful example of late development in any category: since the middle of the 20th century, practically no other latecomer has succeeded in developing an own automotive industry that would be equally competitive. The later generation of East Asian "tigers" which have followed a similar path of independentist development in the more recent decades has not been nearly as successful, and many of them have moved closer to the integrationist development model (Wad 2009; Fujita & Child Hill

1997). Mexico, in the meantime, has shifted further towards the hyper-integrationist pole, following its accession to NAFTA in 1994, which gradually eliminated most limitations on transnational trade and investment.

Nevertheless, the comparison of their patterns of upgrading still reveals some important differences in the structure of advantages of different development models. The difference is least obvious with regard to the value of final product: all of the countries under examination specialize in smaller vehicles in low- to medium product range, although in both East Central Europe and Mexico there are examples of companies assembling a small volume of top-range luxury products. Although Korea's independist approach to development has led to a successful breakthrough into international markets, its manufacturers have not managed to capture the most lucrative segments, and their specialization has not changed much over the last two decades. By contrast, both Mexico and ECE show a strong catch-up trend in the 1990s, which coincides with their greater opening towards foreign investment. By the 2000s, the average value of their vehicle exports was practically identical to that of most core exporters, except Germany (Figure 6.1).

Figure 6.1Unit values of exports of finished vehicles (in constant 2005 USD)



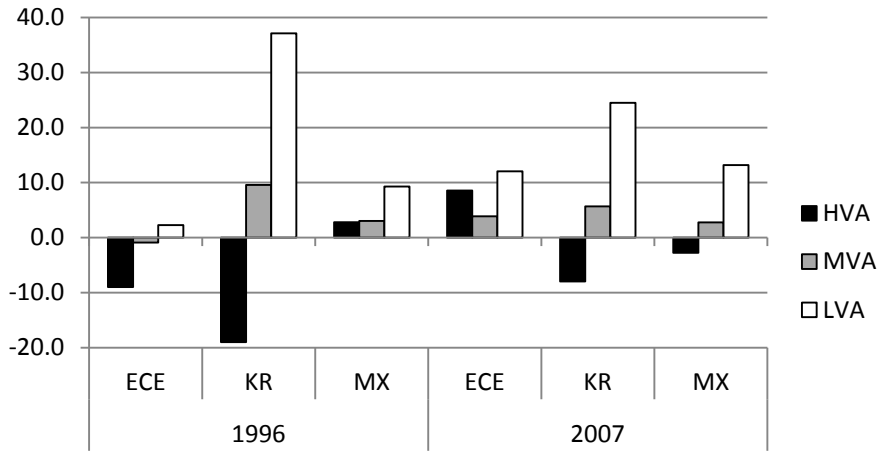
Note: Data for HS 8703 - Motor vehicles for transport of persons (except buses). Data for Mexico only available from 1995.
Source: own calculations based on COMTRADE database

The differences become more apparent once we turn to the structure of component exports, which reflects the ability of the country to competitively manufacture parts of different

degrees of complexity, instead of simply importing them from the outside. It also elucidates the finer aspects of the structure each country's comparative advantages. Figure 6.2 shows tha the mid 1990s, all countries under examination had a clear advantage in the production of low-value added components, which accounted for more than 50% of their exports and constituted the main source of export earnings. However, while Mexico also maintained a positive trade balance in the medium and high value-added segments, in South Korea the large trade surplus from exports of simple parts served to offset a sizeable deficit in more complex parts. In the ECEs, exports of low-cost products were not enough to compensate for the import of high value-added imports, leading to an overall negative balance in component trade (Figure 6.2).

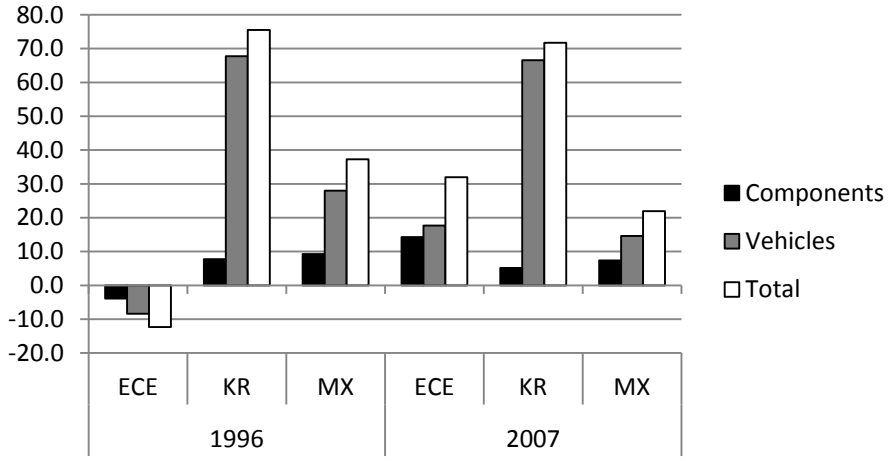
This situation changed dramatically in the course of the following decade. As the ECE's automotive cluster grew, the total value of exports increased nearly 17 times to 41 billion dollars in 2007, twice the total value of component exports from Mexico and 6 times more than those of Korea. The region also quickly acquired competences in exports of more complex parts, which now nearly rival the output of low value-added components, with the overall trade surplus reaching a quarter of total trade. South Korea also moved away from its original specialization: rising wages reduced the profitability of low value-added exports, but the country stepped up its exports of higher value added ones, and the total balance remained practically unchanged. In the meantime, however, Mexico began to show some signs of the weaknesses of hyper-integrationist development. With the accession to NAFTA, the Mexican government was forced to withdraw trade compensation requirements which originally obliged resident multinationals to balance every dollar of imports by 1.75 dollars of export. The ratio was reduced to 0.8 dollars in 1994 and completely phased out in 2004 (Hufbauer & Schott 2005). As a result, the balance of high value-added components turned negative and the country's specialization shifted more strongly towards the low value-added segment.

Figure 6.2 Trade balance in components by value-added category, % component trade[22]



Note: three year averages.
Source: Authors' calculations based on COMTRADE

Figure 6.3 Trade balance in automotive industry, % of total trade in the sector



Note: Vehicles refer to products under HS code 8703 (Motor cars & vehicles for transporting persons, excluding busses). For the list of products included in "components", see footnote 2 in this chapter.
Source: Authors' calculations based on COMTRADE

These differences in the structure of components output are more meaningful in the case of Mexico and East Central Europe than in the case of South Korea, which remains linked to the world markets primarily through exports of finished products. While in both ECEs and Mexico export of automotive parts account for around 50% of total automotive trade and have a

[22] Based on HS trade classification. High value-added components comprise engines, transmissions, steering and breaking systems (HS92 840731, 840732, 840733, 840734, 870894, 870600, 870840, 870839, 840820), low value-added ignition harnesses, seats, bodies and their parts, exhaust systems and silencers, wheels, seats, wipers etc. (HS92 401110, 401120, 401310, 700711, 700721, 830120, 851240, 870810, 870821, 870829, 870870, 870891, 870892, 940120, 854430, 830230, 870710, 870790), and medium value-added axles, clutches, accumulators and other components not included in the above two categories (841520, 851220, 851230, 851290, 870831, 870850, 870860, 870880, 870893, 910400, 850710, 841330, 852721, 852729, 700910). See also (Pavlínek et al. 2009).

large impact on the overall trade balance, in Korea they make up a mere 16% of industry exports. In spite of extensive trade liberalization in the course of the 1990s, the country has remained almost impervious to foreign imports, with an export surplus of nearly two thirds of total trade (see also Lee 1997). In both Mexico and ECEs vehicle exports also contribute positively to the overall trade balance, but while in Mexico this advantage has been somewhat eroded in recent years, the ECEs have experienced a tremendous growth in export competitiveness (Figure 6.3).

Overall, it would appear that as far as export upgrading and competitiveness are concerned, the hyper-integrationist variety of late development has served the ECEs exceptionally well. They have managed to build up a solid trade advantage in a mere decade, and there are definite signs of upgrading of the end products as well as of the production process, as reflected in the composition of component exports. On both accounts, ECEs perform as well, or better, than some of the most successful examples of other development types. However, their method is clearly different from that of the paragon of independentist development, South Korea, which concentrates primarily on exports of locally developed finished vehicles. By contrast, ECEs have focused more on conquering the international markets "from below", gradually appropriating higher production competences within the automotive value chain. However, the example of Mexico shows that this process is not irreversible. Although Mexico is still one of the most successful automotive exporters among developing countries, growing integration has eroded rather than enhanced its export advantage, and has pushed Mexico more strongly towards specialisation in low value-added inputs.

All of this suggests that hyper-integrationist development can be an efficient way to achieve external competitiveness and growth, but also that these measures can reflect different constellation of underlying factors. In other words, in a world of strongly integrated transnational production networks, the complexity of output is not necessarily a meaningful sign of overall upgrading of the domestic production factors: the same outcome can be achieved by countries with very different skill levels and technological capabilities. The problem becomes

obvious once we compare our examples of different development varieties on the dimension of functional upgrading. As already noted in Chapter 4, although the structure of output in ECEs is very similar to that of the core European producers, the level of innovation in the sector is very low. ECEs are able to quickly transpose new technologies through the multinationals' production networks, but produce practically none of their own, with barely one patent per 1000 workers per year. The rate of innovation in Mexico is even worse, with about one patent for every 30 000 workers. South Korea, on the other hand, shows very strong signs of domestic innovation, with almost as many automotive patents as Germany relative to the size of the workforce[23]. The difference is easily explained by the structure of incentives for the lead firms in the two models. South Korean automotive industry is dominated by indigenous firms whose own profitability depends on their ability to develop new higher value-added products. In the process of hyper-integrationist development, such firms are pushed to the margins through high-level competition with the more productive foreign firms. Multinationals which dominate production networks in ECEs and Mexico do not face the same urgency to invest in technological developments in host locations, since these can be easily imported from their home countries. In other words, the very same process of substitution that accelerates upgrading in production seems to be responsible for the disappointing performance with regard to technology. This is not to say that functional upgrading in the independentist development model is simple or automatic: late developers, almost by definition, are strongly constrained by limited availability of local resources. In the hyper-integrationist development model, an equally important constraint lies with the overall, externally determined strategy of the lead firms.

6.3 Clutches and breaks

The previous chapters had already shown that hyper-integrationist development does not seem to contain an internal mechanism that would push for upgrading of local skills or technology. As we have seen above, however, these shortcomings have so far not translated into a worse

[23] Data from the World intellectual property organisation (WIPO) obtained through European Patent Office, Espacenet.

performance on the international markets. On the contrary, the sophistication and competitiveness of ECE's automotive exports has increased tremendously, in a very short period of time, with the foreign transplants making up for the lack of indigenous skills. In the long run, however, the development of the region is likely to depend on its ability to overcome these limitations, either by steering multinationals towards more technology-intensive activities, or by finding an alternative strategy for development.

The former approach seems to be more likely than the latter. As discussed in Chapter 4, domestic capital in the region is already too weak to support large-scale technological investments. In the most competitive manufacturing industries, local firms operate on the margins of the value chain, where they mostly supply simple generic components. This problem is compounded by the fact that sourcing key investment capital from the outside has not contributed to a deepening of local capital markets. Although both stock market capitalisation and bank credit increased in the ECEs in the period before the crisis, capital to GDP ratio remains much lower in these countries than in most West European economies, and most of the increase in domestic lending was channelled into consumer loans, not capital investments (Šćepanović 2011; Bohle 2013). This casts serious doubts on the claims that the relative disadvantage of domestic firms is of a temporary nature and that in the long run the overall growth fuelled by the export boom will contribute to a healthy growth of local enterprises (see Chapter 4).

As noted above, this may not necessarily have a negative effect on these countries' ability to remain competitive, so long as they continue to attract sufficient amounts of foreign capital. However, this continued dependency can easily become fodder for nationalist rhetoric, especially in times of economic downturn. Nowhere has this become more evident than in Hungary in recent years, where the contrast between the successful foreign owned sectors and the struggling domestic economy brought forth calls that the multinationals should be brought into check and forced to surrender "excessive profits" they have harvested in the country (for a recent example see Orbán 2013). While such resentment can result in a worsening relationship

between the host authorities and the multinationals – a relationship which, as argued in Chapter 2, has been instrumental in building up the successful transplants in the first place – it is difficult to see how it could lead to a full reversal of the hyper-integrationist approach to development. The ECE governments are fully aware that the dominance in key export industries has been the price of success. In spite of the inflammatory rhetoric, the Hungarian government's show of strength has been mainly targeted at the sectors where the attractiveness of the domestic market can still compensate for the more onerous terms imposed on the multinationals, such as banking or retail. The export industries, in the meantime, have continued to enjoy favourable treatment, and the efforts to nudge them toward more cooperation with domestic firms and research institutions have been limited to highly publicised, but ultimately non-binding "partnership agreements".

It is therefore unlikely that even a nationalist backlash will disturb the balance of power in the export sector. In the meantime, major changes in the structure of international competition which floated up the hyper-integrationist model in the first place could make these countries' inability to move towards more technology intensive investments even more costly. The unprecedented rise of automotive industry in ECEs was closely linked to the restructuring of European, and especially the German vehicle manufacturing in the early 1990s, which coincided with the internationalization of the region. The perceived exhaustion of Germany's "quality production" model (Womack et al. 1990; Streeck 1995; Jürgens 2004) in the last decade of the 20th century, and the near collapse of the European markets in the crisis of 1992 forced German carmakers to seek aggressive internationalization (Pries 2003; Pries 2004). The ECEs have profited disproportionately from this spatial fix – over the course of the 1990s and 2000s ECEs received more automotive investment from Germany than all other developing regions put together, including China and India (see Figure 6.1A in Appendix III). However, while they have been instrumental in improving the competitiveness of German exporters, their contribution as markets has been very limited. The more recent crisis has revealed new problems with the global race to expand production and cut costs. Especially in the developed world, the market

glut, as well as the changing demographics and climate considerations are now pushing the manufacturers towards a different strategy that would involve a radical change in vehicle technologies. Experiments with electronic mobility are already changing the nature of the markets and putting a higher premium on technological innovation. It is unclear to what extent the ECEs will be a part of this new strategy, as they lack both the technological background and the market power to participate in the new industry shift.

Another problem with the lack of technological upgrading is that it limits the space for improvement of domestic skill profiles, and subsequently the possibility of moving the employment model from one based primarily on lower cost to one which balances high wages with highly skilled and productive labour. As shown in Chapter 5, expansion of the ECE's automotive cluster has mainly resulted in growing numbers of semi-skilled plant operatives, with only a few jobs reserved for highly skilled engineers and technicians. While the region now exports more or less the same products as the core West European countries, it does so by relying on a much cheaper, more flexible and less secure workforce.

This conflict between the catching up in production profiles and lack of convergence in employment relations and skill content of production has already created some tensions in the ECE's model of hyper-integrationist development. On the one hand, it has led to a widespread discontent among the ECE's workforce, which manifests as a growing pressure on wages. On the other hand, the employers' response has mainly focused on preserving the cost advantage, through various strategies of workforce segmentation, and only marginally on helping to improve the skill levels. In the short run, rising wages are unlikely to severely affect the region's attractiveness to foreign investment, as its ratio of productivity to cost remains higher than that of any other production location in Europe. However, changes in the rest of the European economy might diminish this advantage. The crisis in the South European countries, for instance, has already led to falling real wages, and after many years of losing investment to Eastern Europe, Spain has recently managed to win a number of headline projects, many of

them intended for production of the new generations of electric vehicles (see ANE 2013b; 2013a; 2013c).

The conflict between catch up and convergence has also added to the disenchantment with the horizons of development offered by the strongly export-oriented growth model. We have seen some signs of it in the rising militancy of the existing workforce, but even more in the reluctance of the new generations to take up careers in manufacturing. Limited convergence in wages and working standards, as well as the perception of manufacturing as inherently unstable, due to the ever-present threat of relocations, has increased the attractiveness of alternative paths – on the one hand migration, and on the other reorientation towards the service economy (Chapter 5). In some cases, this disenchantment can culminate in widespread opposition to the government policies designed to support the existing development model. The best example is probably the conflict over educational policy in ECEs, which has pitted the governments insistent on maintaining vocational training demanded by the multinationals against the students who fear that these tracks limit their career options to low-paid, insecure jobs. For their parts, the governments face an equally difficult choice of continuing to finance the shift towards mass tertiary education, in the hope that it may eventually attract more skill intensive investments, and risking an outflow of skilled workers due to migration if the economy fails to offer them adequate employment.

All of these are localized problems, which could yet be solved by the means available within the hyper-integrationist model. This would require some changes in the relationship between governments and investors, and a concerted policy effort to redesign incentives in order to steer foreign firms towards the new development goals. On the other hand, they are also indicative of a deeper discontent which arises from the mismatch between expectations of convergence which the integration was expected to bring, and the current achievements of the model. This expectation of convergence - of institutions, life styles and social contract that prevails in developed "West" - was for a long time the ultimate goal of ECE's development, and the source of legitimacy which justified the costs of transition. Once these countries had become

members of the European Union, it had become obvious that integration alone could not deliver on all these promises. It is yet to be seen how this realisation will affect their developmental paths in the future. It may well be that the current crisis in the European Union will force the citizens of ECEs to revise their expectations. After all, the strong manufacturing core in the region has held up surprisingly well in the crisis, which may have added new legitimacy to their chosen path. On the other hand, the crisis, and especially the downfall of the South European member states, has also made the promise of integration less appealing. The current political turmoil in some of the ECE states could well be a sign that they are beginning to seek an alternative path to prosperity.

6.4 Lessons for further research

This dissertation offered a detailed analysis of solutions to the problems of capital, technology and labour productivity that created in East Central Europe over the last decade under conditions of hyper-integrationist development. It main aim was to examine the role of foreign direct investment in development, and outline the novel mechanisms through which FDI is incorporated into these solutions. The case study format of the research makes it largely exploratory: more work will be necessary to assess the degree to which the findings of this dissertation can be generalized to other examples of late development in the 21st century.

I have argued in the introduction that ECE represents a strong case for the study of hyper-integrationist development, due to high levels of foreign involvement in these economies. However, their experience is by no means an isolated one. The increase of foreign capital flows over the last two decades has made it a highly salient element in the development efforts of most developing countries. Most of the manufacturing today is organised along the lines of highly integrated transnational chains, which are controlled by a small number of large multinationals, most of them from developed countries. This makes the kind of autonomous development seen in the independentist development model a very unlikely path, especially in industries with high technological barriers and large scale economies. Changes in the

international regulation of trade and investment also limit the ability of developing countries to shield domestic producers from foreign competition, and make integration into the international production networks the most attractive approach to development.

That said, there are a some of factors which restrict generalizability of the hyper-integrationist model as presented here to a specific profile of late developers. The likelihood of success of integration into the international value chains increases with the degree of industrialization the country has already achieved: most specifically, with its ability to offer sufficiently large pool of skilled manufacturing labour (see also Greskovits 2005; Bohle & Greskovits 2012). It is also a path more suited to smaller developing countries – large countries such China or India have more space to experiment with alternative solutions, as their market size and political influence make them a more equal partner in the negotiations with foreign investors. Countries which rely on a strong regional integration regime with more developed countries also have a different choice of options than those who are more weakly bound to the international regulatory networks, or in the cases where the balance of power within the regional integration regime is more equal, as in the cases of Mercosur or ASEAN.

These differences in the patterns of international integration suggest that more can be learned about the prospects of hyper-integrationist development by comparing a larger set of developing countries which find themselves in a similar position today. Although this researched focused on the experiences of four countries in East Central European region, the similarity in their backgrounds, location, and external conditions results in a very limited variety of development outcomes. Extending the comparison to other transnational integration regimes would allow us to draw more definite conclusions about the importance of external institutional structures for this model of development (see also Bruszt & McDermott 2009; Bruszt & McDermott 2012). Similarly, comparing a more diverse set of countries within the same regional integration regime, such as ECEs and South European countries within EU, would allow us to pinpoint with greater certainty the limits of upgrading that can be achieved within this model of development, as well as the array of policies these countries can employ to

overcome under-investment in skills and avoid being locked into a long term low-skill, low-technology path. Finally, such comparisons would also help to advance some of the theoretically less developed aspects of this research, such as the importance of horizons of developmental expectations for the choice of developmental approach, and its consequences on the perception of success or failure of a particular model.

Another limitation of this research, in addition to its exploratory nature, is the relatively narrow empirical focus which traced the responses to various development challenges in a single manufacturing sector. The automotive industry has been chosen based on its exceptional weight in the economies of East Central Europe, and its contribution to their overall growth. Nevertheless, the conclusions can be easily extended to the rest of the manufacturing in the region, most of which is foreign-dominated and governed by similar imperatives of international integration. Moreover, complex manufacturing industries, and automotive in particular, have been long seen as the hallmark of development, which facilitates the comparisons with other late development varieties. At the same time, however, an equally large share of FDI in ECEs has been directed at the service sectors and many of them – from banking to retail – are similarly dominated by foreign firms. It is one of the weaknesses of development literature as a whole that such trends have remained relatively underexplored. It is unclear to what extent the same concepts of development and upgrading are applicable to this sector of the economy – it is even less clear what of our knowledge of how foreign investment operates can be applied to them. With the service sector accounting for an ever larger share of employment and GDP in most developing countries, more research remains to be done to properly integrate these sectors in our understanding of development.

Appendix I – List of Interviews

1. AmCham SK (2010). Interview with Eva Majernikova, American Chamber of Commerce in Slovakia, 10 May 2010.
2. AmCham HU (2011) Interview with László Metzing, coordinator of Labour and Education Committee in the American Chamber of Commerce in Hungary, 22 March 2011
3. BRANO (2012) Interview with Pavel Juříček, CEO of the Czech automotive supplier company Brano Group, 17 May 2012
4. CZECHINVEST (2010). Interview with Tomáš Hanáček, CzechInvest, 13 May 2010.
5. DIHK CZ (2010). Interview with Sebastian Holtgrewe, Head of Corporate Communications Department in German-Czech Chamber of Commerce (DIHK CZ), 25 May 2010.
6. DIHK HU (2010) Interview with Dirk Wölfer, German-Hungarian Chamber of Commerce, 4 July 2010
7. DIHK PL (2011) Interview with Wojciech Fabian, office for education and training of the German-Polish Chamber of Commerce, 25 September 2010
8. DIHK SK (2010) Interview with Markus Halt, Deputy Executive Director of the German-Slovak Chamber of Commerce, 21 May 2010.
9. EC (2010). E-mail communication with András Tari, Directorate-General Competition, European Commission, 30 April 2010.
10. FIAT (2012) Notes from the visit to FIAT factory in Katowicze, Poland, 23 June 2012
11. GM (2010) Interview with Grzegorz Smołka, personnel director at GM Poland, 20 September 2010
12. ITDH (2010). Interview with Dora Dweik, Hungarian Investment and Trade Development Agency (ITDH), 4 February 2010.
13. KCOV (2011) Interview with Katarina Grandova, head of the Coordinating Centre for Vocational Training at the Technical University of Bratislava, 29 March 2011

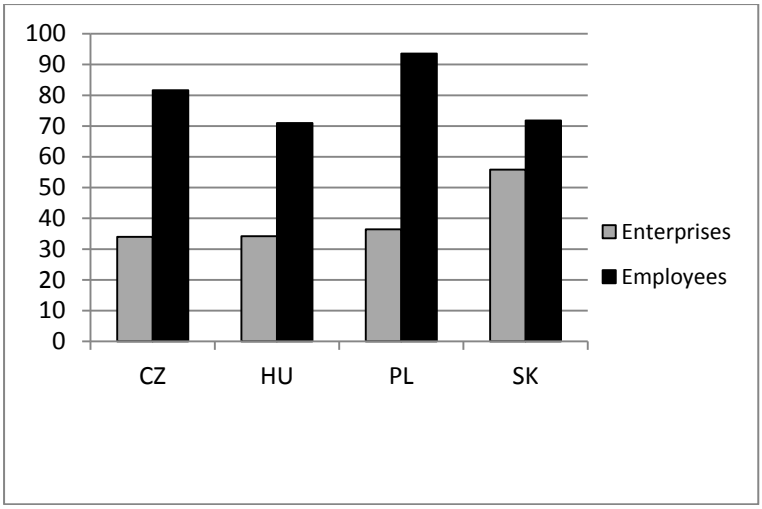
14. Knorr Bremse (2011) Interview with László Palkovics, Head of the R&D centre of Knorr Bremse in Budapest and Secretary General of the Hungarian Association of Automobile Industry (MGSZ), 3 May 2011
15. MATADOR (2010) Interview with Štefan Rosina, CEO of the Slovak automotive supplier company MATADOR, 30 April 2012
16. MKIK (2011) Interview with Csaba Zsolt Ferencz, VET advisor in the Hungarian Chamber of Commerce and Industry, 24 March 2011
17. SARIO (2010). Interview with Pavol Matejka, Slovak Investment and Trade Development Agency (SARIO), 4 May 2010.
18. NIVE (2011) Interview with István Kiszter, head of teacher training department and Gabriella Lipka Baskiné, head of office for coordination of regional vocational training centres. Hungarian National Institute of Vocational and Adult Education (NIVE), 5 May 2011
19. RÁBA (2011) Interview with István Pintér, CEO of the Hungarian automotive supplier company RÁBA Automotive Holding,
20. SAP CZ (2010) Interview with Ešner Pavel, Internal Deputy Manager of the Czech Automotive Industry Association, 22 June 2010
21. ŠIOV (2011) Interview with Juraj Vantuch, Slovak State Institute of Vocational Education and Training (ŠIOV), 29 March 2011
22. ŠKODA (2010) Interview with Radek Špicar, head of external relations at ŠKODA AUTO, 21 June 2010
23. VIDEOTON (2012) Interview with Ottó Sinkó, CEO of the Hungarian electronics company VIDEOTON, 21 March 2012
24. VW (2010) Interview with Milan Petruš, assistant to the HR Member of the Board of Volkswagen Slovakia, 14 June 2010.
25. ZAP SR (2010) Interview with Ľudovít Ujhelyi, Vice President of the Slovak Automobile Industry Association ZAP SR, 12 May 2011

Appendix II – Methodological note to Chapter IV

Description of the sample

The sample of automobile supplier firms used in this chapter is drawn from the online version of Bureau van Dijk *Amadeus* database, which provides detailed balance-sheet information for firms from EU countries. *Amadeus* is available on commercial basis, and the version used in htis research is the 2012 online version accessed through the CEU library. The data is compiled from various public and private records, and the quality of coverage varies between countries. To check for validity, the data on the number of firms and employees in NACE rev.2 subsectors 2931 and 2932 (manufacture of electrical and electronic equipment for motor vehicles and manufacture of other parts and accessories for motor vehicles) from the *Amadeus* database was contrasted with the data on the same subsectors from the Eurostat SBS database (which is based on national business registers). Figure A4.1 shows that the *Amadeus* sample captures on average around 1/3 of companies in the sector, but corresponds to between 70 and 93% of employment. This means that the firms in the sample analysed below are on average larger than those in the subsector as a whole, but they cover a significant share of economic activity in automobile supply industry.

Figure A4.1 Sample coverage, employment and number of enterprises



Note: The bars represent the proportion of enterprises and employees in the NACE rev.2 subsectors 2931 and 2931 as derived from the Amadeus database against the numbers reported by Eurostat Structural Business Statistics. The data is for 2008

As the automobile supply networks extend into various auxiliary industries, the relevant companies may not always be captured by the primary industry code. To broaden the coverage, I also included manually the records for companies which were not coded under NACE rev.2 2931 or 2932 subsectors, but were listed as automotive suppliers by the relevant supplier databases in each country[24]. Only companies with more than 10 employees were included. The companies were coded as foreign or domestic depending on the nationality of ultimate parent

[24] For the Czech Republic and Hungary, I used online supplier databases maintained by the respective investment promotion agencies CzechInvest and ITDH (http://suppliers.czechinvest.org/web/gateway.nsf/G?OpenForm&lang=en#automotive and http://www.itdh.org/engine.aspx?page=Itdh_Priority_Sectors_Automotive). For Slovakia, the supplier database www.ipdap.sk is ran in cooperation with the Slovak Association of Automotive Industry. The data for Poland are from the 2010 catalogue of automotive parts producers published annually by the consulting firm Polska Izba Motoryzacji, available at http://www.pim.pl/firmy/index.php?option=com_content&view=article&id=1403%3Acatalogue-eng&catid=47&Itemid=41.

entity holding more than 50% of the shares, or, where no such entity could be identified, according to the nationality of immediate shareholder. Where no information was provided by *Amadeus*, it was complemented by data from company websites or national business registers. Removing outliers and unusual observations[25], this resulted in an unbalanced panel of 825 firms over 8 years (2003 to 2010), with a total of 3405 observations. Distribution of companies according to ownership and country is given in Table A4.1A.

Table A4.1. Distribution of firms according to ownership and country[a]

	Domestic	Foreign
Czech Republic	127	161
Hungary	53	86
Poland	105	161
Slovakia	49	82
Total	**334**	**490**

[a] *Data for the full panel, 2003-2010*

Table A4.2 offers descriptive statistics on key variables used in the analysis in Chapter 4, in each ownership group, for the main period of analysis (2003-2007). It shows that the foreign firms are on average much larger than their domestic counterparts, both in terms of revenues and the number of employees. The raw labour productivity (value added per worker) is also shown to be 1.5 times larger in foreign then domestic firms, but the foreign firms also show a much larger dispersion around the mean. The difference is even larger with regard to capital intensity, whereas the difference in terms of age appears to be negligible.

Table A4.2 Descriptive statistics, main variable

	Foreign		Domestic	
	Mean	Std. Deviation	Mean	Std. Deviation
Revenues[a]	74777.11	132820.23	9581.55	16472.80
Employees	631.22	881.66	201.41	304.09
Value added per employee[a]	25.28	23.37	14.97	13.82
Fixed capital per employee[a]	41.90	71.57	16.95	27.62
Average cost per employee[a]	10.99	7.14	8.59	4.60
Age	13.42	3.83	15.35	4.09
Valid N (listwise)	1050.00		755.00	

[a] *Thousand EUR, constant 2005 prices. Averages for the period 2003-2007*

[25] I removed all observations which appeared to be due to mistakes in entry, such as negative values for capital, employment and intermediate inputs, as well as those where the value added was greater than output. I also removed all observations for the newly entering firms in their 1st year of existence, in order to remove the possible bias in productivity growth for younger firms, as the preliminary analyses showed a disproportionate increase in productivity between the first and second year as the firms grow to full production potential.

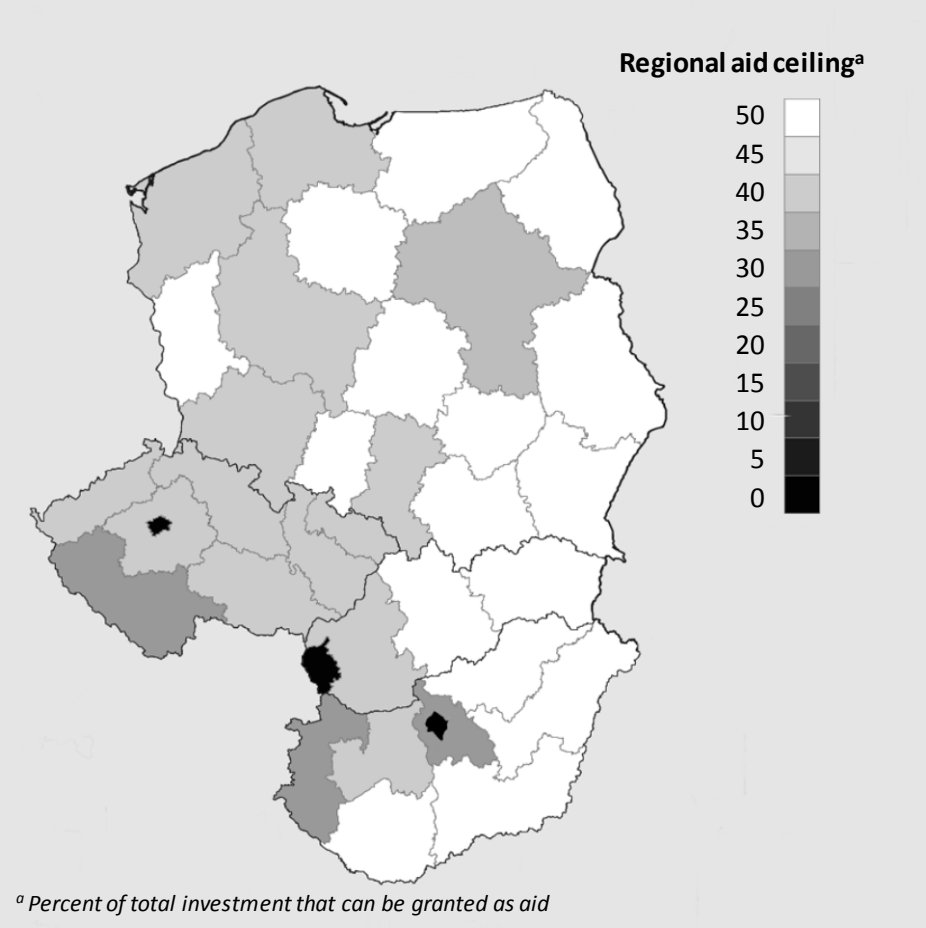
Appendix III – Data

Table A3.1. Maximum aid rates, mobility comparisons and actual award rates for selected cases in automobile industry, 1996-2002

Year	Country	Company	Regional aid ceiling	Regional cost handicap	Actual aid intensity	Comparator site
1996	Spain	Mercedes	25%	11.0%	7.9%	non-assisted area
1996	France	Mercedes	17%	3.6%	16.6%	non-assisted area
1996	Portugal	Opel	60%	19.0%	11.6%	non-assisted area
1996	France	EAH	17%	12.2%	9.8%	non-assisted area
1997	UK	GM	20%	11.7%	10.2%	non-assisted area
1997	Germany	VW	33-35%	20.8%-22.3%	20.8%-22.3%	Metz, France[a]
1998	France	Toyota	28%	10.2%	7.9%	Burnaston, UK
1998	Germany	Daimler	28%	**35.0%**	33.0%	**unnamed, PL**
1999	UK	BMW	20%	**50.0%**	17.0%	**Tatabanya, Hungary[b]**
1999	Italy	Fiat	40%	16.6%	12.4%	Arese, Italy[a]
1999	Italy	Fiat	10%	15.4%	4.3%	Rivalta, Italy[a]
1999	Italy	Fiat	21.2%	18.7%	14.9%	Desio, Italy[a]
1999	Italy	Fiat	10%	**65%**	4.2%	**Tychy, Poland**
2001	Italy	Fiat	27%	**50.7%**	15.3%	**Tychy, Poland**
2000	UK	Nissan	20%	22.7%	19.4%	Flins, France
2001	Germany	Daimler	35%	**31.9%**	30.9%	**Nyergyesujfalu, Hungary**
2001	Germany	Volkswagen	28%	13.3%	12.3%	Prague, Czech Republic
2001	Germany	Volkswagen	35%	**59.9%**	19.4%	**Kvasiny, Czech Republic**
2001	Italy	Iveco	35%	**45.3%**	35.8%	**Bielsko Biala, Poland**
2001	Spain	Ford	35%	10.8%	5.7%	Bridgend, UK
2001	Spain	Renault	35%	24.5%	14.3%	Mioveni, Romania
2001	Spain	Volkswagen	20%	5.4%	5.4%	Bratislava, Slovakia
2002	Portugal	Opel	65%	**34.6%**	32.5%	**Gliwice, Poland**
2002	Germany	BMW	28%	**31.1%**	30.1%	**Kolin, Czech Republic**
2002	UK	GM	15%	11.8%	6.0%	Antwerp, Belgium
2003	UK	Peugeot	10%	12.4%	9.8%	Trnava, Slovakia

[a]"Virtual" comparator site. The company considered a different location
[b]Withdrawn
Source: European Commission Competition Reports, decisions, press releases.

Figure A3.1. Regional aid ceilings in East Central Europe



[a] Percent of total investment that can be granted as aid

Table 4.1A Selected studies on FDI spillovers in East Central Europe

Study	Country	Measure of FDI	Period	Performance	Spillover	Result
(Djankov & Hoekman 2000)	CZ	% assets	1992-1996	TFP	Inter	-
(Kinoshita 2000)	CZ	% employment	1995-1998	TFP	Intra	n.s., except for firms with R&D
(Konings 2000)	BG, PL, RO	% output	1993-1997	TFP	Intra	BG, RO -, PL n.s.
(Zukowska-Gagelmann 2001)	PL	% output	1993-1997	TFP	Intra	-
(Schoors & Tol 2002)	HU	FDI dummy	1997-1998	TFP	Intra	+
					Inter	+
(Damijan et al. 2003)	BG, CZ, EE, HU, LV, LT, PL, RO, SI, SK	FDI dummy	1995-1999	TFP	Intra	CZ, PL, RO, SK +, rest n.s.
					Inter	n.a.
(Sabirianova et al. 2004)	RU, CZ	Share of output	1993-2000	TFP	Intra	-
(Javorcik 2004)	LT		1996-2000	TFP	Intra	n.s.
					Inter	+ (JVs only)
(Javorcik & Spatareanu 2005)	CZ,RO	% output	1998-2000	TFP	Intra	RO+, CZ n.s.
					Inter	n.s.
(Geršl et al. 2007)	CZ, HU, PL, SK, SI, EE, LT, LV, BG, RO	FDI dummy	2000-2005	TFP	Intra	CZ, LT, BG, RO-; PL+
					Inter	SI, EE, RO+; LV-
(Damijan et al. 2008)[a]	BG, CZ, EE, HR, LT, LV, PL, RO, SI, UA	% value added	1995-2000	TFP	Intra	BG, CZ, HR, RO, SI, UA +; PL n.s.; LV, LT n.a.
						CZ, RO+; HR-; BG, EE, PL, SI, UA n.s.; LT, LV
					Inter	PL, SI + backward, CZ, PL, SI negative forward
(Görg et al. 2009)	HU	% equity	1992-2003	TFP	Intra	early+, later-
(Altomonte & Pennings 2009)	RO	Cumulative FDI stock	1995-2001	TFP	Intra	non-linear
(Ayyagari & Kosová 2010)	CZ	% sales	1994-2000	Entry	Intra	services+, manufacturing n.s
					Inter	services+, manufacturing n.s
(Javorcik & Spatareanu 2011)	RO	% output	1998-2000	TFP	Intra	+

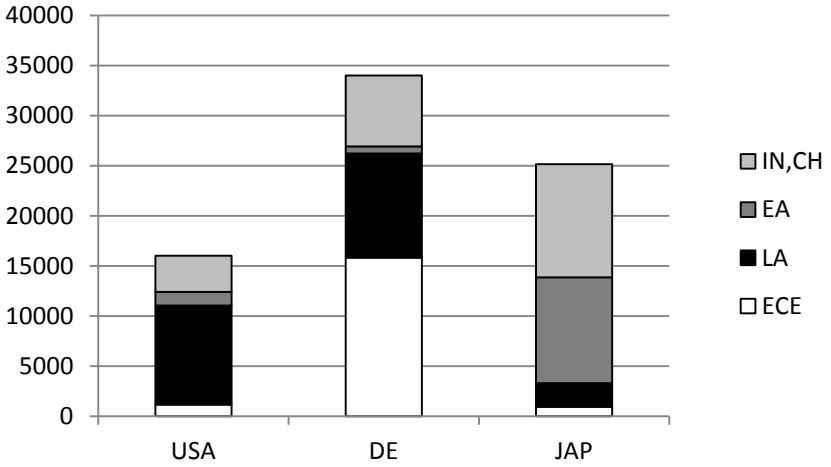
[a] *results for NACE2 disaggregation, controlling for human capital as "absorptive capacity"*

Table 4.2A. Linear growth model, fixed and random effects, tests for individual variables

	MODEL	C	C.1	C.2	C.3	C.4	C.5
Fixed Effects							
Initial status, π0i	Intercept	2.191*** (0.063)	2.024*** (0.162)	0.050 (0.144)	1.523*** (0.062)	0.277*** (0.064)	2.205*** (0.076)
	Foreign	0.488*** (0.084)	0.499** (0.145)	0.027 (0.083)	0.103 (0.75)	0.275*** (0.058)	0.483*** (0.083)
	Age		0.180 (0.165)				
	Foreign*age		-0.008 (0.140)				
	Size(R)			0.269*** (0.017)			
	Cap_int				0.350*** (0.015)		
	Wage					1.050*** (0.026)	
	HU						0.537* (0.264)
	SK						0.021 (0.131)
	PL						-0.080 (0.091)
Rate of change, π1i	Intercept	0.111*** (0.016)	0.163*** (0.037)	0.072*** (0.016)	0.071*** (0.015)	0.027* (0.011)	0.106*** (0.020)
	Foreign	-0.014 (0.022)	-0.016 (0.022)	-0.024*** (0.020)	0.014 (0.019)	-0.034* (0.014)	-0.013 (0.022)
	Age		-0.057 (0.036)				
	HU						-0.122 (0.068)
	SK						-0.003 (0.034)
	PL						0.016 (0.023)
Variance Components							
Level 1	Within-person, εij	0.132*** (0.007)	0.133*** (0.007)	0.118*** (0.006)	0.120*** (0.006)	0.083*** (0.004)	0.132*** (0.007)
Level 2	In initial status, ζ0i	0.603*** (0.060)	0.600*** (0.060)	0.515*** (0.051)	0.432*** (0.047)	0.287*** (0.032)	0.589*** (0.059)
	Covariance between ζ0i and ζ1i	-0.073*** (0.013)	-0.072*** (0.013)	-0.062*** (0.011)	-0.060*** (0.011)	-0.027*** (0.007)	-0.070*** (0.013)
	In rate of change, ζ1i	0.022*** (0.004)	0.022*** (0.004)	0.018*** (0.003)	0.015*** (0.003)	0.005** (0.002)	0.022*** (0.004)
Pseudo R2 statistics and goodness of fit							
			0.006	0.14	0.28	0.52	0.02
-2Loglikelihood		3076.21	3073.764	2829.458	2606.223	1912.517	3070.161
AIC		3092.21	3095.764	2847.459	2624.223	1930.517	3098.161
BIC		3136.19	3156.246	2896.943	2673.708	1980.002	3175.138
L-ratio p-value[b]			0.118	<0.000	<0.000	<0.000	0.418

[b]Relative to the baseline Model C

Table 6.1A. Foreign investment stock in automotive industry in 2010, EUR million



Note: East Asia includes data for Korea, Taiwan, Thailand, Malaysia, Indonesia and Philipines. ECE: Czech Republic, Hungary, Poland, Slovakia. LA: Brazil, Argentina, Mexico.

Source: own calculations based on data provided by Bank of Japan, Deutsche Bundesbank and US Department of Commerce Bureau of Economic Analysis.

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