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INTERNATIONAL OPENNESS IN

TRANSITION COUNTRIES

Further Evidence on Foreign Direct Investment

Presentata da: Gerussi Elisa

Coordinatore Dottorato

Leoncini Riccardo

Relatore

Leoncini Riccardo

Abstract

The thesis focuses on the process of international openness of Transition Countries. This study provides a theoretical analysis based on reference literature, and an empirical analysis which is aimed at estimating some main effects of Foreign Direct Investment. Transition has represented a highly complex phenomenon, characterized by several aspects, whose interaction has shaped the developmental path of each country involved. Although the thesis focuses on economic issues it is outstanding to underline that Transition implies political, institutional, and even social deep changes, which must be taken into consideration in the general overview of the context. The empirical part has been developed along two different ways: a country analysis and a firm analysis, thus allowing to widen the study and delve deeper into the use of econometric instruments. More specifically, in the first empirical stage both static (Fixed Effects) and dynamic (LSDV Corrected) methodologies have been implemented, whereas in the second stage the Cox Proportional Function has been chosen in order to handle with censored data.

Thanks to all people who made this work possible.

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Introduction

On the 9th of November 1989, the Berlin Wall fall inaugurated a new phase for the international political relations, and the world geopolitics that so far had been focused on the two blocks was deeply disrupted. The gradual disintegration of the URSS followed the Berlin Wall fall, and it ended in December 1991 kicking off a long process of significant changes under all perspectives. Twenty-nine Eastern countries undertook the way of the so called Transition, a term referring to the shift from planned to liberal economy, at least according to a scarcely thorough and preparatory definition. Nonetheless, in real terms this new historical phase would be characterized by the interconnection of several critical aspects each representing a priority in the development of the ex-socialist countries, usually called Transition Countries (TCs). Thus, the economic system is just one of many elements that took part into the general restructuring of these countries; also legal, political, institutional, educational and social scenarios underwent a drastic revision, in order to adapt to the “Western” model. The economic system working before the collapse (*planned economy*) was defined by rigid rules implying that the whole functioning was controlled by the State. Such rigidity hampered a full development of the whole national territory and fostered a decentralization managed by a peripheral inefficient bureaucracy. When the collapse of Socialism occurred, TCs to different degrees lacked in the basic structures needed to implement a liberal-type economy. There was neither proper legal framework, nor the entrepreneurship or cultural background that would allow the growth of a market economy.

Many steps forward have been done since the beginning of the Nineties, and these results are particularly evident for the European Union New Member States (NMS), among which Poland, Hungary and Czech Republic are deemed as the most successful ones in executing the Transition reforms. Contrariwise, many other countries still lag behind on the developmental way cause of the deep structural distortions (Commonwealth of Independent Countries) or internal non economic factors (Balkans). One of the most striking changes in the evolution of TCs was about the openness of their economic systems, through the liberalization of trade and investments, both inwards and outwards. This process represents a fundamental point within the study of TCs, since it allowed the entrance of foreign capital affecting the still ongoing process of restructuring. Furthermore,

the normal effects of both trade and Foreign Direct Investment (FDI) which are outlined by the general literature concerned may have affected TCs economies in a more pronounced way than in the Western Countries. At the beginning of the Nineties, the international openness in TCs added to other radical changes required by the passage from planned to market economy, that is **privatization, stabilization measures, liberalization of prices and wages, and institutional frame restructuring**, especially in the legal field.

With regard to these general premises, the present thesis aims at delving deeper into the international openness of TCs with particular attention to Inward FDI. All ex-socialist countries have been considered within the study, even though it is well known that a quite high degree of heterogeneity among them exists. Nonetheless, in a way, Transition may be viewed as a transformation process imposed from outside. If the internal political and social conditions at the end of the Eighties (together with the no longer sustainable economic situation in some cases) led to the following collapse of the socialist block, the model that was supposed to be applied came from the West. All TCs, regardless of their specific economic conditions or structure, looked at the Western market economy and tried to implement the same features within the national context. For this reason, Transition shows very similar general elements in all TCs, but the concerning measures have been implemented differently, thus triggering different effects. All along the thesis, the analysis will try to consider this heterogeneity by stressing the Countries specificities relatively to the transitional process. TCs have also been divided into four “groups” (CEECs, BCs, SEECs, CIS) according to their socialist past and the way they adapted the economic system to the new order. Furthermore, the economic perspective is mostly considered in the present study, even though the political and social aspects are not neglected, due to their relevance with regard to the high complexity of Transition.

The thesis is composed of two parts, the first one includes theoretical considerations stemming from the main contributions of the literature, whereas the second part is based on the empirical analysis. The study is structured as follows. *Chapter 1* focuses on the main features of Transition after clarifying what the word “Transition” itself means. This section aims at putting on evidence both the economic situation under the planned system and the one emerging afterwards since the beginning of the Nineties. Among all the factors characterizing Transition a particular attention has been paid to privatization, according to different forms and Country specificities. The Chapter concludes with the discussion above the economic consequences of the transitional path with the analytical

contribution of some data. Chapter 1 allows outlining the general framework for the following empirical analysis, and the close examination of Transition gives the tools for analyzing the conditions and effects of TCs international openness.

In *Chapter 2* the analysis moves to Inward FDI in TCs. The main aim is describing the trend of foreign penetration in these countries over time, by using data and comparative graphs. The second part of this section concerns the determinants of Inward FDI in TCs through a structured speech based on literature references.

Chapter 3 and *4* compose the empirical section of the thesis, concerning the economic impact of foreign penetration in TCs. Since many FDI effects, both positive and negative, have been identified so far by the economic authors, two specific fields have been selected. This choice is related to the attempt of giving more originality to the study, and, at the same time, it leads to focus on different aspects and to implement different analytical instruments that allow to better understand the object. Both Chapters have been processed as Working Papers, so that each of them is composed of a literature review and the description of data, the reference theoretical model applied, the econometric methodology implemented and the results obtained through the empirical analysis. *Chapter 3* draws on a co-authored article, and analyzes the effects of Inward FDI on income inequality on 17 TCs between 1990 and 2006. Empirical results on FDI have been compared with those on trade, after disaggregating the general measure of trade into exports and imports according to their origin and destination (macro-regions have been considered). The analysis starts from a model by Aghion and Commander (1999), later drawn on by Figini and Görg (2006), testing the non linearity of the openness-inequality relationship and the role of education in fostering the positive effects coming from the openness. The final results confirm what already obtained by a part of literature, that is the non-relevance of FDI impact on income inequality, while stressing the stronger influence by trade flows. According to the analysis, education might channel and contribute to spread over trade benefits.

Finally, *Chapter 4* aims at estimating the effect of FDI on the development of local entrepreneurship in TCs. A survival analysis based on the Cox Proportional Function has been implemented on two final samples of the Czech Republic and Estonia, respectively, over the period 2003-2008. The choice of these two countries among all TCs allows to compare two different transitional experiences. The results show that foreign penetration

exerts positive effects on local firms survival through vertical linkages only in the Estonian case, whereas in the Czech Republic FDI brings about negative pecuniary externalities on domestic firms. This situation may stem from both the method of privatization implemented in each country considered, as pointed out by previous works, and the way and timing in which FDI entered the economic system.

Chapter 1

What is Transition?

What is Transition?

1.1. THE CONCEPT OF TRANSITION

According to the standard definition the expression *Transition* refers to “an economy which is changing from a centrally planned economy to a free market”. Although this definition is somewhat simplistic it catches the basic mechanism which has been characterizing the Post-Socialist Countries since the beginning of the Nineties. Literature pays low attention to the complexity of the concept of Transition, and it is easier to find articles which explain all the reforms that this process has been bringing about than an author wondering about its real nature. Finding a proper definition of Transition is far beyond the scope of the present thesis, other than too ambitious; nonetheless it is desirable to make the context of our study as clear as possible in order to broaden the range of viewpoints and reduce the margins of distortion. Thus first of all, it is necessary to specify that Transition is not only an economic condition, and it implies several social and political changes. Even without any close examination of the topic, it is hardly simple to forget the dramatic political events which marked the collapse of the socialist block. Thus we can say that the Transition began in 1989, when the Berlin Wall fell down, and it evolved as long as the concerned countries needed to rebuild a new, independent reality¹. The openness of the borders, the prevision of freedom, and the evident weakness of the State are part of that Transition which is not strictly economic but equally important in order to ensure a solid development. Furthermore, even the narrowest viewpoints which focus on the economic character of the Transition reassert the importance of the institutional changes, along with the macro-stabilization and the micro-liberalization, sustained by the International Monetary Fund (IMF) policies. It is nevertheless true that the interconnection between all the spheres involved does not always allow to distinguish the final effects of each. On the purpose of the current work the Transition will be here considered mainly in its economic acceptance, however without underestimating the relevant political and social issues.

First of all Transition can be taken as a process of events, reforms, changes which involve those countries - in our case the Central-Eastern (CEECs) and the South-Eastern

¹ This statement leads to think that Transition might be still in progress, which is a controversial debate and an open question, certainly linked to the specific meaning given to the term (Svejnar, 2002).

Europe (SEECs), the Baltic Countries (BCs) and the Commonwealth of Independent States (CISCS)² – shifting from a Command to a Market economic system. A market economy is the basis of capitalism, which is mostly associated with the Western World. This standpoint has been crucially affecting the study of TCs so far, other than the implementation of reforms often dictated by the international institutions. When the socialist block collapsed, it seemed obvious that this broad geographical region should take the Western European countries as an example, and the main features of the “developed” capitalism had to be applied there in order to start the reconstruction. The heterogeneity between countries that, apart from the geographical closeness and the implementation of the communist model showed different cultures, histories and choices, was not the focus of the debate. Nowadays it is possible, and maybe easier than twenty years ago, to notice that capitalism does not give the same results when applied in any corner of the world. Neither, by looking at the Chinese experience for instance, it is straightforward to affirm the existence of only one type of capitalism³. Nonetheless, after the disintegration of the URSS it seemed that the international community - and in particularly the Western World - cancelled the long sequence of events that, since the XVIII century, led to the modern Western capitalism. In the post-socialism Eastern Countries considered the situation was very different and what occurred was not at all evolutionary; contrariwise the political events triggered a “revolutionary” process, whereby the need of a liberal system required also a new economic structure, which was soon identified with capitalism (Bunce, 1995).

For this reason Stark (1992) underlines the necessity not to neglect the specific paths of the ex-socialist countries, which are undoubtedly very different from the Western ones, and that cannot be subject to any “capitalism transplantation”. A *path dependence* approach grants countries the possibility to choose their own departure point, and to define following steps according to their available resources. Thus, the local development might be fostered by endogenous instruments, and the existing forces should not be seen as the main obstacles to reforms (Surdej, 2009). In this regard, by referring to the Evolutionary Economics, the term “Transformation” is sometimes preferred to

² In the thesis clustering based on geographical areas has been considered. CEECs: Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovak Republic. SEECs: Albania, Bosnia-Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Slovenia. BCs: Estonia, Latvia, Lithuania. CISCS: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

³ Buravoy and Krotov (1992) for instance, who write still at the beginning of the Transition, identify in this process some elements typical of the “merchant capitalism”. According to this view the ongoing transformation will result in the further reinforcement of some features of the previous system, and the loss of the State power will strengthen the existing regional monopolies through the use of direct bargaining.

Transition, in order to emphasize the focus on the process rather than on the final destination of the path itself (Blokker and Dallago, 2009; Stark, 1992).

1.1.1. From command to market economies

Before delving into the implementation of the Transitional reforms it is preferable to look through the general economic features of the so-called **command** or **planned systems**, in order to catch the core of the succeeding changes. Since the analysis of the typical socialist economy is not the main purpose of the work, the following paragraphs take into consideration only those elements which are fundamental for our consideration. A deeper study of the pre-transition period would in fact require the study of further issues that are not actually covered in this context.

The first element to be stressed is the “over control” of the State, represented by the Party and the governmental entities, whose orders were channeled through a tight bureaucracy⁴. The State was the owner of all natural resources and means of production, and most of the productive apparatus was composed of State-Owned Enterprises (SOEs) and collective firms, whereas the private sector was very limited, and restricted to a small number of activities (e.g. art and crafts, small scale agriculture, private housing construction) (Ericson, 1991). Private activities existed, both in the agricultural and in the cooperative sectors, but they were hardly counted since not independent at all and mainly connected with the shadowed and irregular economy (Kolodko, 2000). It is noticeable that being almost the entire capital in State’s hands, State itself played a role of entrepreneurship, depriving individuals of their natural attitude of creating and transforming reality (Hillman and Milanovic, 1992). It should also be obvious that in the absence of a developed private sector Small and Medium Enterprises (SME) – broadly recognized as a fundamental piece along the developmental path of a society – were totally neglected. A few large firms in the strategic industries (defense, military and heavy industries) represented the core of the economy, leading to a strongly unbalanced exploitation of the territory. Contrariwise, the sector of services was unproductive according to the Marxism, and consequently it was almost inexistent. The limited number of firms allowed the State to exercise its control on the whole economy in a more direct way.

⁴ For a more comprehensive framework of the overlapping hierarchies within the soviet power sphere, see the concise but detailed description by Ericson (1991).

The functioning of the economic system, both in terms of production and distribution, was totally ruled by the central organs and the planning⁵, which defined the precise quantity of inputs and output to be produced. Command economies focused on quantities, rather than quality of production; they were based on extensive production, whereby growth was to be given by the increase of the amount of resources, instead of a concrete improvement in efficiency. If firms achieved the quantities imposed, afterwards the threshold was raised; however the production was generally quite below the maximum limits, because of the scarce correspondence between inputs available and inputs required for firms necessities. Even when possible, it was not properly desirable to achieve limits higher than the threshold, as the following step of the new planning would be much more difficult. The whole system, including the huge hierarchy in charge of controlling its implementation, revolved around the central planning, and the aims required were so high that information was highly distorted. It was a common habit that reports by subordinates, having in practice a low autonomy, were far from reality just in order to meet the central approval, whereas the more detailed operational plans were often unreliable (Ericson, 1991). In a context where the productive actors had almost no autonomy relatively to the organization of production, firms were forced to work under the level of maximum efficiency. De facto, as pointed out by Kornai (1979) command economies were based on a resource-constrained system, whereas constrains typical of capitalist economies depend on demand. Nevertheless it does not mean that in a socialist economy firms could exploit the totality of available inputs, since the limited quantities of some resources undoubtedly implied the limited use of some others. If it is straightforward to conclude that these inefficiencies could threaten the survival of firms, it is also necessary to consider the relevance of the soft budget constraint; in command economies firms were not subjected to strict financial constrictions, and in case of critical losses they could rely on State's instruments (e.g. subsidies or exemptions).

Together with the industrial quantities also prices, wages and salaries were decided and fixed by the centre. Managers had no decisional power relatively to labor retributions, and promotions (very often given randomly) soon became the only instrument to motivate workers (Roland, 2000). This kind of internal mobility undervalued personal real improvements, and did not lead to efficiency upgrading. In addition, money did not play the same role we expect from a market economy; while in the limited private sector it was

⁵ Two types of plans were implemented: five-year plans conveying the general objectives to be achieved, and yearly plans with more detailed instructions.

only used for wages payments and purchases, in the State sector it functioned as counting unit in the books of the State bank. The imposition of administrative criteria and the release of economic variables from market mechanisms led to a general disequilibrium within the production system. The allocation of goods and services did not meet the needs of consumers, that is to say that demand and supply followed parallel or divergent trajectories. **Shortage**, given by the fact that demand was always higher than supply, is the word that best represents all the distortions of the time. Individuals found on the market neither the quantity nor the quality of goods they needed; even the essential commodities were often not sufficient, causing frequent queues outside the shops. Shortage was accompanied by the increasing phenomenon of the shadow economy, a parallel system based on private networks that allowed consumers to bypass the system in order to satisfy their needs. It obviously represented an adaptation mechanism in order to face the unbalance between demand and supply. Irregular economy led to higher availability of both factors of production and final goods; in addition, since there was a full employment of resources, hidden networks of redistribution allowed a better allocation between individuals and firms (Dallago, 1994). The phenomenon was spread across all the social strata, nonetheless its higher and worst expression involved the emergence of a middle class (*Nomenklatura*⁶) very close to the local governments and the police. Thus, this middle class played the role of intermediate between the Party and the influent economic élites, by providing scarce inputs (Estrin et al., 2005). **Full employment** was a further peculiarity of the system; it stemmed on the one hand from the level of wages and salaries which were much higher than the labor productivity, and on the other hand from the soft budget constraint (Kornai, 1979)⁷.

Finally, it is important to approach briefly the relationship between planned economies and international trade, in order to better develop the succeeding sections on TCs openness. As a matter of fact, the expression “international trade” may appear not appropriate for this kind of economies, since the commercial connections with foreign countries were very limited and strictly linked to the functioning of the *Council for Mutual Economic Assistance (CMEA)*, better known as **Comecon**. Comecon was an organization created in 1949 which aimed at representing the reference point for the economic

⁶ The term *Nomenklatura* refers to a list of labor positions which were considered relevant within social life, and therefore prestigious; those who wanted to occupy these positions had to receive the Communist Party approval. In most of literature the term is used as synonymous of member of the Party, or everyone integrated in the Party hierarchy (Harasymiw, 1969).

⁷ The soft budget constraint led to persisting increasing demand of resources; nonetheless since inputs were scarce, the only resource further exploitable was labor.

cooperation between the socialist countries⁸. It was an instrument to coordinate the developmental path of each country involved in order to act within a common project, that could bring about the maximum results through the minimization of costs. Three research institutes (*the Institute of Standardization, the Institute of Economic Problems of the World Socialist System and the International Centre for Scientific and Technical Information*), two banks (*the International Investment Bank and the International Bank for Economic Cooperation*) and a number of specialized agencies were attached to Comecon. In reality, although the project was quite ambitious, the internal mechanisms did not allow an efficient implementation of the whole system.

Several features added up to the muddled functioning of the Comecon. The foreign trade of each country was defined within the general economic plan and balanced over a certain period of time, usually five years. It is difficult to consider the trade within and outside the Comecon area as added value for the regional economic growth, since it was merely supposed to fill the gaps in the production of countries: only scarce goods were imported and only surplus goods were exported (Buttino, 1980). Also trade followed the general economic mechanisms described in the first part of the paragraph; the benchmark for the exchanges were the physical quantities of goods, rather than their prices. The so called “hard” goods (foodstuffs, fuel, raw materials) could be exchanged only with goods of that category, and the same was to be for “soft” goods (poor-quality consumer goods or machinery). Trade with the rest of the world was related mainly to the exports of “hard” goods, whereas the external demand for “soft” goods, whose technological level did not meet the international standards, was much lower. The volume of trade within the Comecon area was limited also by the price system, since *prices were fixed* accordingly to administrative criteria, and they created distortions within the trade balance, since exports were paid according to the internal prices. Generally, prices of the world market were higher than the ones imposed within the Comecon area, and the consistent exports of “hard” goods did not lead to exploit the comparative advantage related to their production as their economic value was underestimated. Not only prices were fixed, but also *money played a minor role*, since the Rouble⁹ was not convertible. This feature made impossible to operate in a multilateral market and those countries with a commercial surplus could not

⁸ It included Albania, Bulgaria, Czechoslovakia, Poland, Romania, Hungary, the German Democratic Republic and the ex-URSS, other than Mongolia, Cuba and Vietnam. The Former Yugoslavia was not a member but just an associate state, although this position allowed it to participate as a member in some organs of the organization.

⁹ In 1964 the Rouble became common currency transferable (although not convertible) within the Comecon area.

use it to trade out of Comecon. In that case, countries had to make do with goods supplied by the other Comecon members, even though they might not meet their real economic needs.

Practically, trade within this area was mainly based on *bilateralism* which favored the accumulation of debts and credits. In order to get around the problem, it was necessary to limit the volume of the exchanges between countries. Since 1964 multilateralism was introduced, but the system remained centralized as every country had to settle accounts with the *International Bank for Economic Cooperation* (Ausch, 1980). In addition, all the exchanges hinged on the capacity to export of URSS which supplied basically fuel and raw materials, so that the other countries were totally dependent on their imports from URSS relatively to their agricultural and manufacturing production. Such features did not contribute to the economic growth of the countries, on the other hand the inefficiency of the system prevented its natural development. The whole trade with foreign countries was handled by the plan and *there were no direct contacts between internal and external firms*. Even though, since the Fifties, some firms were allowed to directly export, the number of reforms which were introduced in order to increase the autonomy of enterprises was still too small, and it was not accompanied by proper improvements in the administrative, institutional and legal fields. At the same time, this attempt to liberalize the commercial activity of some firms was counterproductive since the ones gaining more autonomy were attracted by the high quality of foreign products; while they required more responsibility relatively to their direct connection with foreign commercial partners, their opportunities to increase in competitiveness was hampered by the rigid system to which they belonged (Gumpel, 1980). Thus, not only the productive structure of these countries was responsible for the internal economic distortions, but also trade mechanisms led to the creation of a “second choice” market, where firms could not maximize their real potentialities.

A further important feature of Comecon was the **specialization of production** within the area. This mechanism was based on the socialist concept of “international division of labor” which was supposed to bring about economies of scale and cost advantages. Nonetheless, specialization was conducted not always according to the comparative advantages of each country, and this recklessness led to distorted economic integration. Soon after the Second World War, when specialization started to be conducted, it reflected the inequality between countries relatively to their level of development. In order to satisfy the common needs of Comecon, many countries were forced to change

their productive specialization: for instance Czechoslovakia, which used to supply equipment for the consumer goods industry, was prompted to produce machinery for the heavy industry. Later on, the division of labor involved also intermediate goods within the same sector, in order to foster economic cooperation between countries, and compensate the existing productive shortfalls; for instance, Hungary was asked to increase its production of aluminum, that was later exported to URSS to be transformed, and exported again to Hungary (Buttino, 1980). This mechanism had nothing different from the actual productive specialization occurring all over the global market, unless for the fact that it did not follow the logic based on comparative advantages.

1.2. THE ESTABLISHMENT OF TRANSITION

Transition basically rests on four processes:

- **Macroeconomic stabilization** that was implemented through tightening monetary and fiscal policies in order to restore price stability and external balance, while fostering a consistent rate of growth. Stabilization programs were quite broad; nonetheless the most important reforms concerned: *reduction of credits*, to the State-owned sector and, in a lower extent, to firms; *reduction of government subsidies* in order to decrease the public deficit; *increase of the interest rate* so that loans are more expensive and investments are stimulated; *devaluation of currency*, a common strategy of the past aimed at fostering competitiveness by increasing exports (Bhaduri, 1994). *Wage control reforms* were also included in the stabilization package since wages, previously set by the centre and almost fixed, had to be linked to a free market mechanism (Fischer and Gelb, 1991).
- **Liberalization of prices**, that was applied to all goods categories except those of housing, energy and basic consumption goods. It was one of the most critical measures undertaken, since the first effect was a drastic increase of the prices level, causing inflation; therefore these policies were supposed to be strictly connected with the macroeconomic stabilization measures responsible for the price equilibrium, especially monetary policies in charge of adjusting the quantity of money, wages and the exchange rate (De Melo et al., 1996). Liberalization also concerns *market opening*, in order to improve the allocation of resources and revitalize competitiveness. Besides the concrete dismantling of Comecon, which

leads to the demise of protectionism, a first shift from quantitative to price restrictions occurs.

- **Privatization**, the central instruments to shape the figure of the “entrepreneur”, through the development of SMEs and the concept of *corporate governance*.¹⁰ Privatization was to transfer proprietorship of firms and institutions from State to individuals, and it was implemented in heterogeneous ways and speed depending on the country considered.
- **Institution building**, which was a crucial step along the process of transformation of TCs. After the political events that accompanied the dismantling of the socialist block, an *institutional vacuum* arose in the society. Such a situation was very dangerous for the stability of the new regimes, and it could favor the old Nomenklatura to take back their old privileges (Bunce, 1995); that is exactly what occurred in Romania, Russian Federation and in the CIS, where the Transition started later and gave weaker results, cause of the political impasse. On this purpose, new institutions, or renovated ones, had to be established in order to support the reforms, while facing uncertainty of the change and prevent the negative consequences of the macroeconomic policies. Besides the market and non market (both political and social) structures existing in all democracies, the concept of institution building also refers to the legal system which should safeguard individuals and protect private property rights. It is to underline that the privatization programs contributed to create a new sector in TCs, which was supposed to be run no more by the State; rules and laws consistent with the liberal market structures helped preventing encroachment attempts from the centre and the rent-seeking behavior typical of command economies (Roland, 2000).

The first three blocks of reforms (macroeconomic stabilization, liberalization and privatization) fall into the logic of the Washington Consensus supported by international institutions, such as the International Monetary Fund, the World bank, and later on the European Union. On the other hand, the section on institutional building measures was the reference point by a minority group of experts. This distinction is not negligible since it reflects the different paths of transition that were implemented across countries. On the

¹⁰ According to the definition of the World Bank the corporate governance is the set of structures, including rules and laws, and processes working for the functioning and control of a company (http://www.ifc.org/ifcext/corporategovernance.nsf/Content/DFI_Statement).

one side the international institutions pushed for a **shock therapy**, in order to overturn the critical situation stemming from the fall of the previous regimes. This strategy, followed by most countries¹¹, was based on a neoclassical economic approach, and focused on the establishment of an irreversible change, which was to be achieved by the total and immediate dismantling of the old system. Countries were on the way to the market economy, so that it was necessary to neutralize all the existing forces which had interfered with the economic system so far. In other words, economy had to be subjected to a “depoliticization”, aimed at preventing any State intervention (Roland, 2000). The instruments most valuable according to the shock therapy concerned the micro and macroeconomic reforms mentioned above. Speed of adjustments was a crucial issue to be given attention, since it enabled to keep under control the interdependence of economic relationships, in order to prevent the strengthening of some measures at expense of some others. Certainly, changes such as the launch of price liberalization were expected to trigger consequent mechanisms that required further measures, i.e. the convertibility of currency and the opening of the market. Thus, simultaneity of reforms was required by supporters of the shock therapy, and it was this simultaneity that was supposed to counteract the negative consequences of Transition (Marangos, 2002). Furthermore, the supporters of this approach tended to underline that a rapid and comprehensive change would increase supply, that in turn would diminish inflation, one of the main distortions of the early transitional period caused by price liberalization. Nonetheless this conclusion appears too simplistic: although in planned economies demand was higher than supply according the Keynesian theory it is the demand that must be fostered in order to boost the economic growth (Jeffries, 2002). The institutional sphere was not totally neglected, considering the legal and financial apparatus a relevant support for the new rising economic system; nonetheless the institutional change took the second place as for importance, just below the economic revolution.

Poland and Russia represent two emblematic cases under the shock therapy, both because they implemented transition policies based on a radical approach, and reported very different results at the same time. The history of Polish reforms was basically characterized by continuity, which later on contributed to the economic and social equilibrium of this country. Poland undertook alternately shock therapy measures, thus

¹¹ Given the obvious differences a sort of “shock therapy” was implemented especially in Eastern Germany and the Baltics. The case of the Russian Federation and CISCs is more complex and peculiar, since in those countries Transition began much later and the reforms had to face several difficulties both due to the political situation and the structural macroeconomic problems.

allowing to stem economic damages to society; in this way we can also refer to Poland as a “controlled shock transition economy”, using the expression of Gomulka (1994). What is very important to underline is the early start of reforms, dated to the Eighties, and based on the reduction of centralization and the strengthen of external relationships, through exports and the law enabling joint ventures between firms. The first step of the shock therapy began at the very end of the Eighties, in correspondence with the weakening of the Communist regime; in 1988 the government awarded the right to compete equally in all economic activities, thus fostering the rise of private entrepreneurship, especially of “small type”. The measures concerned mass privatization, strong price liberalization and a radical modification of the wage distribution. This first “attack” to the existing system was followed by a continuous process of reforms, in which strong interventions alternated with more moderate ones. The attempt was to maintain the cohesion of society which could be negatively affected by the impact of new policies interventions, as it will deepened in the following paragraphs dedicated to the consequences of transition reforms. On this purpose the Solidarity government (*Solidarność*)¹² went on more gradually with the attempt of bringing the budget into balance, by pursuing both price and trade liberalization, and by implementing monetary devaluation in order to stimulate exports. Again this attitude was substituted by a new shock intervention, and later on, from the end of the Nineties, gradualism was established again by reducing the narrowness of monetary and fiscal policies. The decision of pursuing a constant but systemic path of reforms, which was not a priori choice but derived from the capacity of Poland of catching the economic and social needs of the moment, gave the country the possibility to recover from the decline periods and restore the disequilibrium (Murrell, 1993). In this sense, Poland is often taken as a successful example of TC implementing a shock therapy strategy; nonetheless the real facts put Poland in the middle way between those countries which implemented a strong radical range of reforms, and those which opted for a moderate one.

In Russia the situation was very different, mainly because of the starting point of the country which had not already previously implemented economic reforms, or it had

¹² *Solidarność* is a trade union federation born in 1980, which undertook a crucial role in the political development of Poland. Its strength were the solid catholic support and the non-violent attitude, taken as instruments against the absolutist centralization of the communist power. Only in 1989 the movement was legalized and it participated to the national elections. *Solidarność* obtained a surprising popular support and in 1990 Walesa, the leader of the movement, became the new President of Poland.

proceeded in a inefficient way¹³. Moreover, the approach adopted relatively to the transition measures can be deemed as even more radical than the one observed in Poland. The change path of Russia was characterized mainly by radical interventions, yet with scarce results; for instance by the end of 1991, liberalization and privatization programs had been largely implemented but the “new” private sector was still strongly linked to the State sphere. Nonetheless the real attack began in 1992 and the Yeltsin presidency gave the reforms the go-ahead with a strong price liberalization, the removal of the old supply system, the convertibility of Ruble and the other policies included in the classical stabilization approach. The negative consequences that followed the shock therapy measures was much more impressive than the concrete positive gains, and, more important, lasted longer than in the Polish case. Although the government tried to counteract the critical situation by weakening the impact of reforms, on the example of Poland, the gradualism was based on inappropriate decisions, such as the introduction of state subsidies in order to recover firms in difficulty. A part from the different starting position of Poland, more oriented towards international markets and more exposed to external economic theories, Russia showed great difficulties in understanding the real meaning of some important policies, for instance the restrictive fiscal and monetary measures which had never been implemented before. Furthermore, in the attempt to demise the old system especially from the administrative standpoint, Russia did not paid enough attention to the reinforcement of the new market-oriented institutions, other than to the redistribution of property rights. This was a big problem arising in the implementation of the shock therapy in general, and in Russia it led to a controversial increase of influence from the old interest, such as those related to the largest heavy industrial groups (Murrell, 1993; Roland, 2002).

On the other side there was the **evolutionary approach**, already mentioned in paragraph 1.1., based on a more gradual shift to a new economic order. This position gathered less consensus than the **shock therapy**, and was supported principally by new academics. Reforms had to be conducted starting from the institutional context¹⁴ considered as an important basis for the development of market and the growth of entrepreneurship. Furthermore, reforms had not to be settled all at once. This was a fundamental issue in the opposition between the two theoretical groups. For the

¹³ Gorbachev in 1987 introduced the Law on Individual Labor Activity, and in 1988 the Law on Cooperatives, within a primordial program of privatization. Nonetheless the measures had a very weak impact since cooperative could not own productive assets, yet (Gerber and Hout, 1998).

¹⁴ The focus was especially on legal environment, property rights and development of business services.

international institutions changes had to occur as soon as possible; for most academics speed depended on each country context, and basically a process based on a “boom and boost” approach would hamper the natural development of local economies (Surdej, 2009). According with this viewpoint it was not worth to introduce all the reforms at the same moment and in the same way, in order to have the possibility to modify them in case that consequences were negative. In the evolutionary approach the complementarily across reforms, so much envisaged by the Washington Consensus strategy, was however important but in the background, since every change was supposed to be first partial, and afterwards it could be eventually integrated with further measures. Thus, one of the most relevant features was the consequential order of reforms that enabled to implement measures on the bases of previous results (Marangos, 2002). The total disruption of the existing institutional system was not always necessary, and in some cases it could even become a starting point toward the prevention of disorder.

A prime example, other than successful case of Transition, can be viewed in Slovenia. This small country adopted a gradual approach to reforms and obtained very good results in terms of stabilization of the economic systems, so that nowadays Slovenia can be still distinguished for its solid growth and slow inflation rate. The starting point of Slovenia, which had already implemented some reforms in the pre-transitional period, certainly contributed to the good outcomes of the Nineties. The country showed a good initial level of economic development, much higher than those registered in the other Balkan countries; in order to preserve this economic situation drastic measures were avoided. On the one hand, it is noticeable that gradualism was favored by the democratic turning point that Slovenia was able to welcome and consequently develop. A legal framework aimed at reinforcing the system was established, and a general popular support fostered the political pluralism, the latter mainly stemming from the self-management participatory organization typical of the Balkan command economy (Bebler, 2002). On the other hand, the persistent gradual path adopted by Slovenia may have caused controversial effects, such as a loss of competitiveness and macroeconomic imbalances. Nevertheless, price and trade liberalization in the financial and infrastructure sectors was, especially at the beginning of the transition, very slow, and a few efforts were made to reduce at minimum level State intervention. In spite of a solid socio-economic stabilization of the country (and also a political one, relatively to the other countries of the area), gradualism may have provoked a low level of dynamism, which should be deemed as the engine of future growth

and development (Simoneti et al, 2005). The Slovenian experience is one of the empirical manifestations of the theoretical debate between supporters and opponents of gradualism.

1.3. THE PROCESS OF PRIVATIZATION

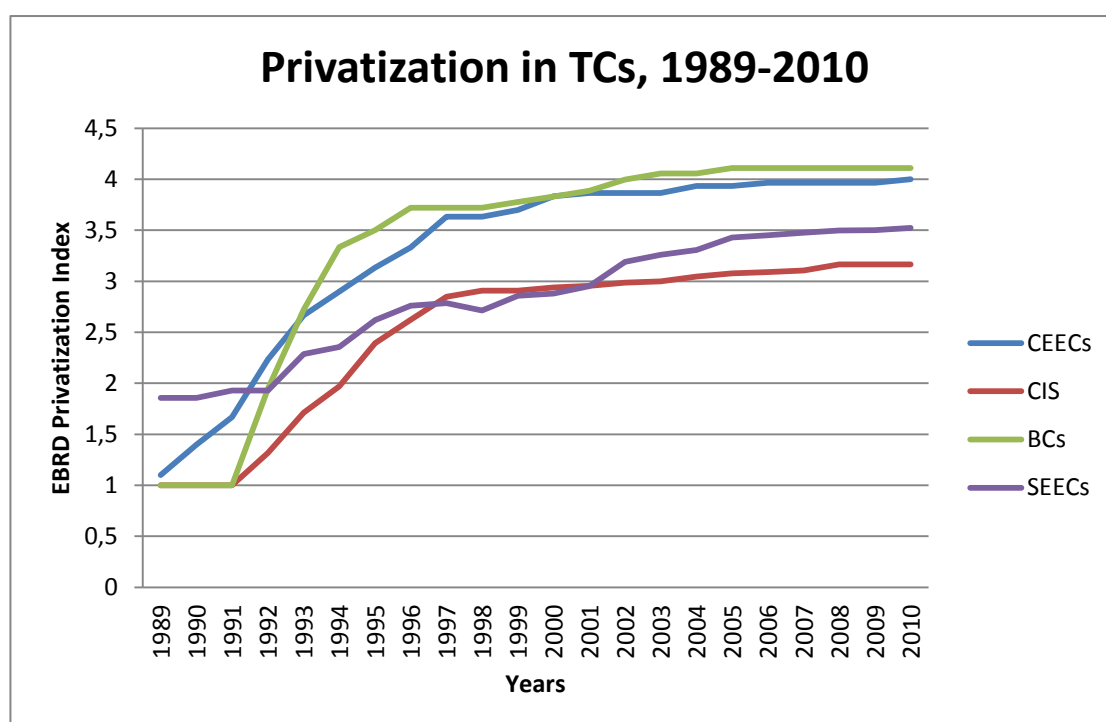
Among all the reforms that were applied in TCs during the shift from command to market economy, it is quite interesting to delve deeper into the privatization methods implemented in order to reduce – or eliminate – the monopoly of the State in the economy. Also in this case it is possible to distinguish radical approaches to privatization from others which were less drastic; the classification depends on the specific features of each country, and the way in which privatization measures were undertaken led to different final consequences, still evident nowadays. Thus privatization approaches must be studied within the economic framework in which they were implemented, and it is quite hard to state which is the most suitable one, since each strategy reported both advantages and disadvantages. Moreover, although it is possible to individuate a leading privatization method, it is also true that each TC often chose to implement more than one. Poland, for instance, adopted a diversified range of privatization methods, and this issue allowed the government to compensate for negative consequences following some less appropriate strategies (e.g. sales to insiders). The main aims of privatization programs was to remove the limits to private sector, which had to become the engine of growth. In command economies State was the owner of most economic system, so the shift from public to private ownership and management of production and everything that was related to it, had to be irreversible. Furthermore, it had to guarantee individual economic agents equal rights and treatment for public and private sectors (Hillman and Milanovic, 1992).

Fig. 1.4.1. shows the trend of privatization in TCs, grouped into areas (CEECs, SEECs, BCs, SEECs), from 1989 to 2010. The so-called Privatization Index has been computed from the European Bank for Reconstruction and Development (EBRD) transition indicators, which range from 1 to 4+ and include the following nine fields of reform: - large scale privatization; - small scale privatization; - governance and enterprise restructuring; - price liberalization; - trade and foreign exchange system; - competition policy; - banking reform and interest rate liberalization; - security markets and non-bank financial institutions; - infrastructures. Indicators close to value 1 refer to low development from a centrally planned economy, whereas value 4+ reflects a situation very similar to a market system. The Privatization Index used in Fig. 1.4.1. is the average of the first two

EBRD indicators listed above: **large scale privatization** and **small scale privatization**. In all cases considered the Index shows an increasing trend, at least till 2005, when the curve seems to remain at constant levels. The Figure demonstrates that TCs have been steadily pursuing privatization policies, even though it does not mean that all of them have managed to achieve efficient results in reality. Nonetheless, it is noticeable that nowadays BCs are very close to industrialized market economies in terms of privatization (value of 4+), followed by CEECs (value of 4), whereas SEECs and CISCs are still far from this threshold, and the Index does not cross the value of 3.5. The lowest level, corresponding to the position of CISCs, indicates that in these countries a significant share of firms is still in State's hands. An interesting aspect of the graph is represented by the starting point of privatization processes in each group. CEECs, BCs and CISCs all report a Privatization Index of in 1989, and CEECs register the strongest increase in the first three years. Contrariwise, SEECs show a higher level of privatization already in 1989. When we look at the specific indicators related to each individual country, we can notice that initial small scale privatization is equal to 3 in all SEECs but Albania, whereas in the countries belonging to the other regions is either 1 or 2. According to the definition of EBRD level 3 of small scale privatization corresponds to a "comprehensive program almost ready for implementation". A part from the Privatization Act included within a wide program of reforms launched in 1989 which led to the creation of 160,000 Small and Medium Enterprises (SME) (Lazic and Sekelj, 1997), the Former Yugoslavia was characterized by the self-management system¹⁵ that, in a way, could have fostered, at least at the beginning of Transition, the process of privatization. This kind of structure based on the concept of "social ownership" (and not State ownership) enabled the Former Yugoslavia to place itself in a middle way between planned-type economies and market-oriented systems. Nonetheless, due to the following dismantling of the Federation, the critical politic facts and the structural economic difficulties, the privatization process became progressively slower and less efficient.

¹⁵ With the self-management scheme the Former Yugoslavia of Tito partially turned from the Sovietic centralized management of firms. Employees played a prime role in the decision making process within firms, and their power was channeled through the Workers' Council, an organ set up to important business strategies, such as the choice of managers and the allocation of surplus. While the enterprise policy making appertained to employees, the execution of policies was up to managers. The most important reform of this system occurred in 1952 with the establishment of the *Social Ownership*, according to which workers were allowed to appropriate the surplus of the firm (Estrin, 1991).

Fig.1.4.1. Evolution of Privatization in TCs, by groups of countries, over the last twenty years



Source: author's elaboration on data from the European Bank for Reconstruction and Development – Transition Index.

Note: the Czech Republic is not included since, due to its progress, it graduated from EBRD programs in 2007. CEECs: Bulgaria, Hungary, Poland, Romania, Slovak Republic. SEECs: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, Slovenia. BCs: Estonia, Latvia, Lithuania. CIS: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Privatization did not evolve in a quick transformation, even though some countries focused on the extension of the change, and it is well known that in some TCs this process is still in place. Equally, diverse constraints had to be faced, changing according to the privatization policy. Roland (2000) stresses the importance of five types of constraints, which have to be considered in the analysis of the efficacy of each policy. The availability of funds to invest is one of the main problems (**stock-flow constraints**), limiting the opportunity of individuals to buy shares of SOEs. On the other side, and related to the previous point, the **fiscal constraints** had to be taken into account since, given the quasi-inexistence of a tax system in former socialist economies, the revenues of the State were not sufficient to incur in a deep restructuring. In this sense privatization might represent a solution bringing flows to the centre.

Political constraints, mainly coming from managers, arose when rent-seeking¹⁶ habits were established and lobbies competed each other in order to obtain the largest shares from the State. Finally, on the one side it was hardly simple to identify the best managers who had to be responsible for the restructuring of firms (**informational constraints**), and on the other side the scarcity of good administrative skills led to long bureaucratic processes and waste of time (**administrative constraints**).

In literature there are several ways to classify the privatization strategies used by TCs since the early Nineties (e.g. Carlin and Landesmann, 1997; Hillman and Milanovic, 1992; Jeffries, 2002; Roland, 2000). The current paragraph will try to suggest a subdivision following the book of Jeffries (2002), giving a broader picture of the topic.

- The first type refers to the **sale to outsiders**, either in the top-down form or in the bottom-up one. In the former situation, common above all in East Germany and Hungary¹⁷, firms were given away both to domestic and foreign owners, by auction or tenders. This way led to collect funds for both the new privatized firms and the government, other than new knowledge and capital, especially when investors were foreign. The instruments of auctions and tenders allowed for a first selection of buyers, since it was very likely that the winners - or those who accepted to pay a specific price – were very interested and able to sustain a proper restructuring. De facto, the new ownership, although very interested in the investment, could be diffused instead of being related to one single person; in this case the risk that the management was inefficient and in old managers' hands was very high. Besides to this aspect, this method hid some other disadvantages. First, there could be a resistance from the insiders, the old managers not willing to lose their firm, causing an attempt to strip the assets before the sale. Second, the stock-flow constraint stressed the necessary availability of liquidity to invest, which was a big deal in TCs soon after the collapse of the regime. And third, cause of the stock-flow constraint, many firms were sold to foreigners, thus somehow increasing the risk of erosion of the domestic capital. Contrariwise, the bottom-up privatization, undertaken especially in Hungary, Poland and Estonia,

¹⁶ Rent-seeking refers to a corrupted attitude emerging when agents gain economic revenues as result of the manipulation of political leaders. Thus, since revenues do not stem from goods and services exchange, there is no productivity supply. Rent-seeking was a common practice in command economies, and it became a hard core to defeat also during Transition.

¹⁷ In Hungary most of the privatization program was based on sales to foreign investors (Kalotay and Hunya, 2000).

was based on the opposite principle, since it was the investor (domestic or foreign) the one making an economic proposal, in order to gain a specific firm. Generally this method was implemented through non-cash bids (i.e. leasing, partial purchase) and could have more advantages than the privatization from the top. Certainly, it was much slower, but it contributed to the development of a stronger corporate governance. In addition, although they allowed to bypass the stock-flow constraint, bottom-up privatizations favored the sale of the most efficient firms first, since the investor could choose the object of its offer.

- An additional strategy to give ownership to public hands was the **management and employee-buy out**, mainly implemented in Russia and CIS and in the Balkans. In this case shares of firms were transferred through vouchers (mass privatization to insiders – see the following point) or cash to the old managers and employee within the firm. It was a sort of sale to insiders, which allowed not to lose the internal human resources existing and, at the same time, to reinforce their role in the management of the firm. In fact on the one hand, insiders could boast a deep information about firm functioning, problems and potentialities, on the other hand, leaving the whole responsibility of the management, they could feel more motivated. Nonetheless management and employee-buy outs did not represent the best solution in order to foster entrepreneurship, since they favored the same entourage which could easily turn into an oligopoly. In such a situation the replacement of both managers and employees was very hard to occur and the influence of new external skills was prevented. Thus, due to a distorted allocation of resources, the whole society had to pay the inefficient management of the firm.
- With the **mass privatization** SOEs were given away through vouchers for free or at nominal cost; afterwards, the vouchers could be exchanged (for shares of the ownership) in the enterprises concerned, in private funds, or in government funds specifically created on this purpose. This method could refer both to outsiders and insiders (management and employee-buy outs through vouchers). The first case was preferable, since problems linked to the risk of establishing an oligopoly could be avoided. Mass privatization enabled the whole society to be involved in the process of transformation, facing the stock-flow constraint of the moment, and offering new capacities and skills. Nonetheless, this change was only apparent since such a privatization path led to a diffuse ownership, which in turn favored the old managers and employees of firms. Sometimes, SOEs managers themselves

suggested ministers to implement a voucher privatization, as they knew that the consequent dispersion would have favored a weak degree of monitoring (Roland, 2000). An additional negative consequence to this privatization could occur: due to asymmetrical information the poorest citizens could be induced to sell their shares in exchange for prices much lower than the real value of the vouchers. In a way, mass privatization to outsiders, contrary to bottom-up sales, was very quick to implement, totally in line with the shock therapy promoted by the international institutions. It was largely adopted by Bulgaria, Czechoslovakia, Lithuania, Romania, but also (in a lesser extent) in Poland, even though in the latter country the proposal was blocked in the Parliament for many years. Mass privatization to insiders, already discussed in the previous point, was common in Russia, and it can be deemed as one of the explanations for the maintenance of high levels of corruption and patronage still existing in this country.

- The last method of privatization that can be mentioned is the **restitution**, according to which firms ownership returned to previous proprietors. This action was significant, since the State engaged itself in promoting a fair development of the privatization process, while fostering entrepreneurship among population. However, it was not assumed that the ones subjected to restitution could manage properly a firm, due to their lack of previous business experience.

1.4. THE CONSEQUENCES OF TRANSITION: THE MARKETS OF GOODS, PRICES AND LABOR

The transitional reforms were applied according to the previous scheme in all the countries concerned, with some important differences. Svejnar (2002) makes a distinction between “Type I” and “Type II” reforms, which were adopted by every TC at different times and different ways, respectively. According to the author, Type I measures were the ones assuming primary importance within the shock therapy approach, basically:

- macro stabilization (through restrictive fiscal and monetary policies, wage control, fixed exchange rate...);
- strong price liberalization;
- dismantling of the communist system;
- reduction or removal of state subsidies;

- market liberalization.

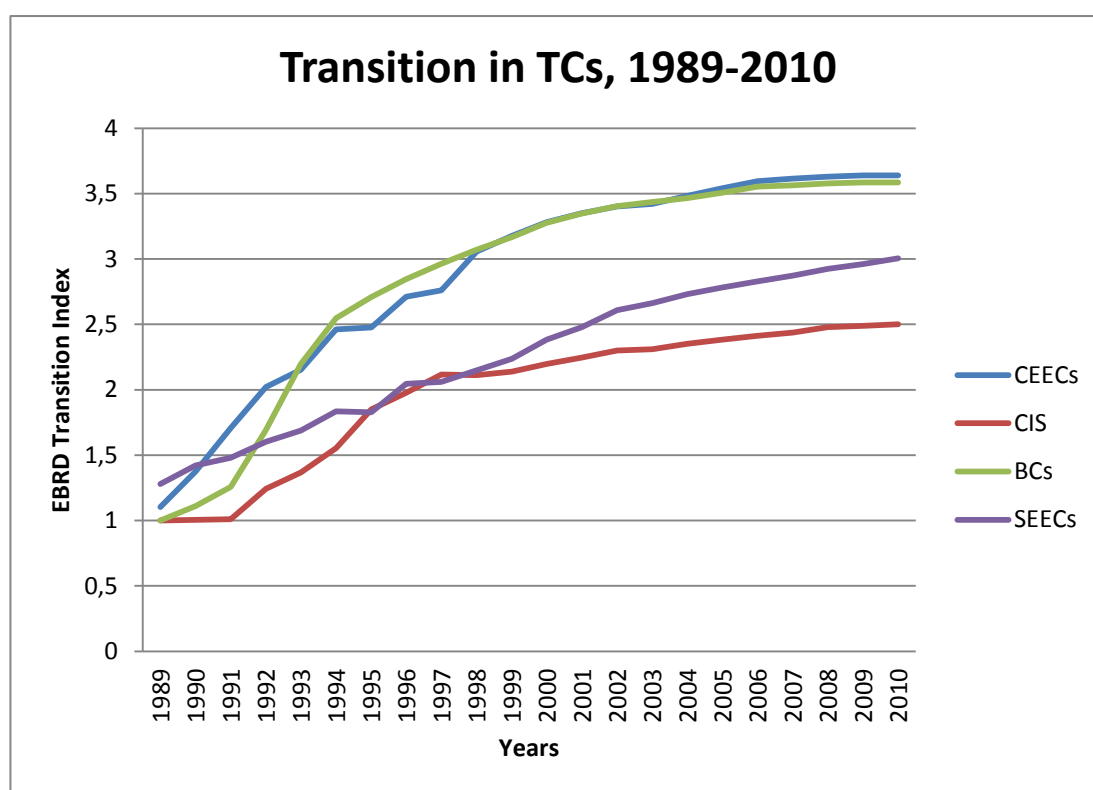
To these changes Svejnar (2002) adds other steps, such as the elimination of the mono-bank system, the introduction of social safety elements, and the small scale privatization. It is easy to understand that all these policies represented the first “package” of reforms that countries were prompted to realize, and almost all TCs implemented them; in a way, these reforms were also the most urgent (again according to the prevailing current of thought based on the shock therapy), and for that reason, they were required since the early begin of transformation towards a democratic and market-oriented economy.

At the same time there was an additional reforms package, the so-called Type II measures which, contrary to the previous case, was not implemented in all the countries considered. These reforms concerned:

- the development of a proper institutional and legal framework;
- the building of modern infrastructures;
- the regulation of the labor market;
- the introduction of commercial bank;
- and large scale privatization.

These measures were the focus of the gradual approach, as already mentioned, and considering the range of TCs in which they were soon implemented, it is clear that they represented the real engine of development. De facto, CEECs and BCs were quite successful in adopting the Type II package, whereas the SEECs and CISCs showed a more complicated path in this field. This situation is stressed in the following Figure 1.4.1 reporting the evolution of the EBRD Transition Index in TCs, dismantling by group. In this case the Transition Index, already described in the previous paragraph, is an average of all fields listed before (large scale privatization, small scale privatization, governance and enterprise restructuring, price liberalization, trade and foreign exchange system, competition policy, banking reform and interest rate liberalization, security markets and non-bank financial institutions, infrastructure). Although in all groups of countries the trend is increasing, showing a positive approach to transformation, the CEECs and the BCs are leading, and report a significant detachment from the CISCs and the SEECs.

Fig. 1.4.1 Evolution of the Transitional Path in TCs, by groups of countries, over the last twenty years.



Source: author's elaboration on data from the European Bank for Reconstruction and Development – Transition Index.

Note: the Czech Republic is not included since, due to its progress, it graduated from EBRD programs in 2007. CEECs: Bulgaria, Hungary, Poland, Romania, Slovak Republic. SEECs: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, Slovenia. BCs: Estonia, Latvia, Lithuania. CISCs: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

De Melo et al. (1996) compute a Cumulative Liberalization Index (CLI)¹⁸, in order to analyze both the depth and duration of the transition path. The authors divide TCs into four groups, according to the value of CLI: - advanced reformers (Czech Republic, Hungary, Slovak Republic, Slovenia); - high-intermediate reformers (Bulgaria, Romania, Albania, Estonia, Latvia, Lithuania); - low-intermediate reformers (Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation); - slow reformers (Belarus, Turkmenistan, Ukraine, Uzbekistan). A fifth category is identified in the case of the SEECs, since the economic performance of these countries was negatively affected by regional tensions occurring in

¹⁸ The authors first compute an annual liberalization index (from 1989 to 1994) based on data about internal and external markets, respectively, and private sector entry; this index ranges from 0, corresponding to unreformed countries, to 1, related to those countries implementing reforms in an extensively way. The CLI is the sum of each country liberalization indices over the period considered (De Melo et al., 1996).

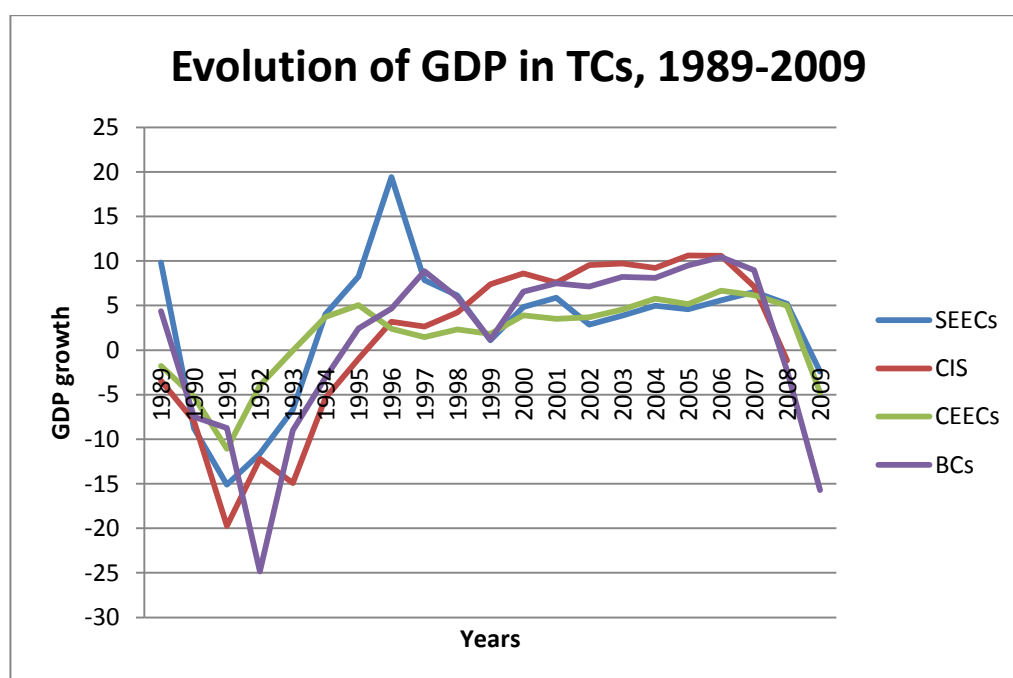
the first phase of transition. It is possible to notice that this categorization is very similar to the trends reported in the previous Figure 1.4.1.

While introducing this distinction, Svejnar (2002) explains the so different economic performance between TCs that, due to their specific structural features and degree of involvement in the previous communist system, handled differently the transitional path. Nonetheless, although initial conditions may matter, as pointed out by Heybey and Murrell (1999), the outcome of such a complex transformation process must be depended on the will of governments and their capacity of managing the changing political, economic and social system. Thus, TCs implemented differently transitional reforms and their following economic performances were different. However some consequences of the first part of this path were common to all countries. These consequences concerned the evolution of the market of goods, prices and labor.

In all TCs **a collapse of GDP** occurred in the first period of reforms, mainly due to the price liberalization policies implemented. These measures caused the reallocation of resources, through the change of price ratios. In particular, capital shifted from non-competitive industries with decreasing prices to competitive industries with increasing prices, leading to a strong unbalance within the productive system (Popov, 2007). This situation, together with the very low availability of investments necessary to restructure industries in crisis, caused a fall of output which was very deep, considering that most of these economies were non-competitive. Nonetheless, Transitional Economies registered different economic performances, although all negative; generally, the higher was the GDP before the Nineties, the deeper was the fall of the same during the first period of transition. Figure 1.4.2, reporting the growth rates of each group of TCs, shows the negative evolution of GDP between 1989 and 1995, shaping a sort of J-curve. The curve of the CEECs is the one with the least sharp trend, since both the initial fall and the following recovery are lower relatively to the other countries. The BCs and the CISCs show the lowest growth rates during the first period of Transition; these groups include all those countries whose pre-transitional economy was strongly linked to the soviet command system, so that they were less prepared to face the transformation of the Nineties, and the relative impact was very strong. It is noticeable that in the last ten years the trend of the CISCs is the best one among all groups, followed by the BCs, CEECs and SEECs. These latest show a sharp increase of GDP between 1995 and 1997, due to the end of the Balkan war (1991-1995). The conflict weighted heavily on the economic performance of these countries, and made

the initial implementation of reforms very difficult, thus affecting the consequent recovery. Nowadays, the Balkan territories are still far behind within the process of recovery and catching up of the EU although many important progresses have been achieved by national government and local societies. Finally, the Figure shows the significant decrease of output as a consequence of the international financial crisis in 2008; all TCs suffered the impact of that historical moment, especially in those sectors with high concentration of foreign investment, and their transitional path was put to the test.

Fig. 1.4.2 GDP growth in TCs over the last twenty years, by groups of countries.



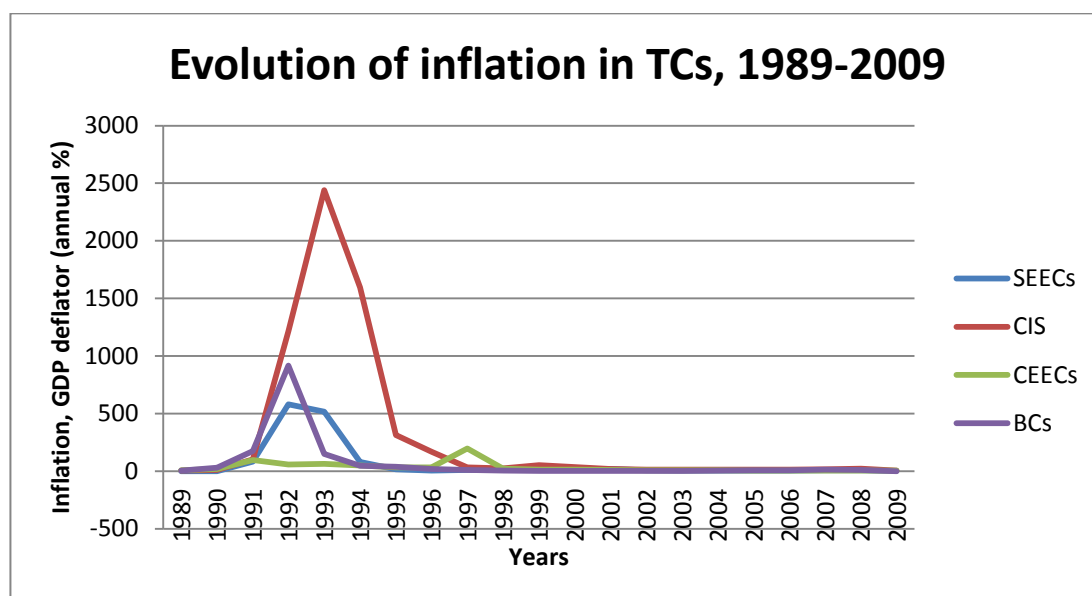
Source: author's elaboration on data from the World Development Indicators of the World Bank.

Note: CEECs: Bulgaria, Hungary, Poland, Romania, Slovak Republic. SEECs: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, Slovenia. BCs: Estonia, Latvia, Lithuania. CISs: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Gomulka (1994) stresses also the importance of cumulative effect of reforms of GDP evolution. In this case, along with the start of the collapse due to the introduction of transitional reforms, the specific structural constraints of each country should be take into consideration. According to this viewpoint the negative trend of growth occurred in TCs between 1989 and 1995, was the consequence of systemic distortions of these economies, unable to face the transformation. Gomulka (1994) occupies the opposite position to the supporters of the Keynesian theory who stated that the fall of demand was the prime cause of recession.

Liberalization occurring during the period of reforms also brought about an **increase of inflation**, due to the sharp disappearance of fixed prices system. In the graph below (Figure 1.4.3) all groups of countries show a peak of inflation (measured as annual GDP deflator) between 1991 and 1995-6. After this period a sharp drop is noticeable, so that it is difficult to distinguish the curves. The highest values are attained by the CISCs in 1993, followed by BCs, SEECs and CEECs. The evolution of GDP deflator within each group of countries confirms the positive relationship between prices rise and fiscal deficit, very high in the CISCs and lower in the CEECs. Price liberalization might not be the only cause of inflation; the attempt of maintaining high subsidies, and the consequent monetary expansion, during the first period of transition contributed to the persistence of inflation till 1995-6. In addition, depreciations in the real exchange rates, while sustaining external balance, did not drop price levels. De Melo et al. (1996), proving that the quickest reforming TCs boasted lower inflation rates, state that price liberalization helps absorbing monetary liquidity in the long run, thus leading to stabilization.

Fig. 1.4.3 Inflation in TCs over the last twenty years, by groups of countries.



Source: author's elaboration on data from the World Development Indicators of the World Bank.

Note: CEECs: Bulgaria, Hungary, Poland, Romania, Slovak Republic. SEECs: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, Slovenia. BCs: Estonia, Latvia, Lithuania. CISCs: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

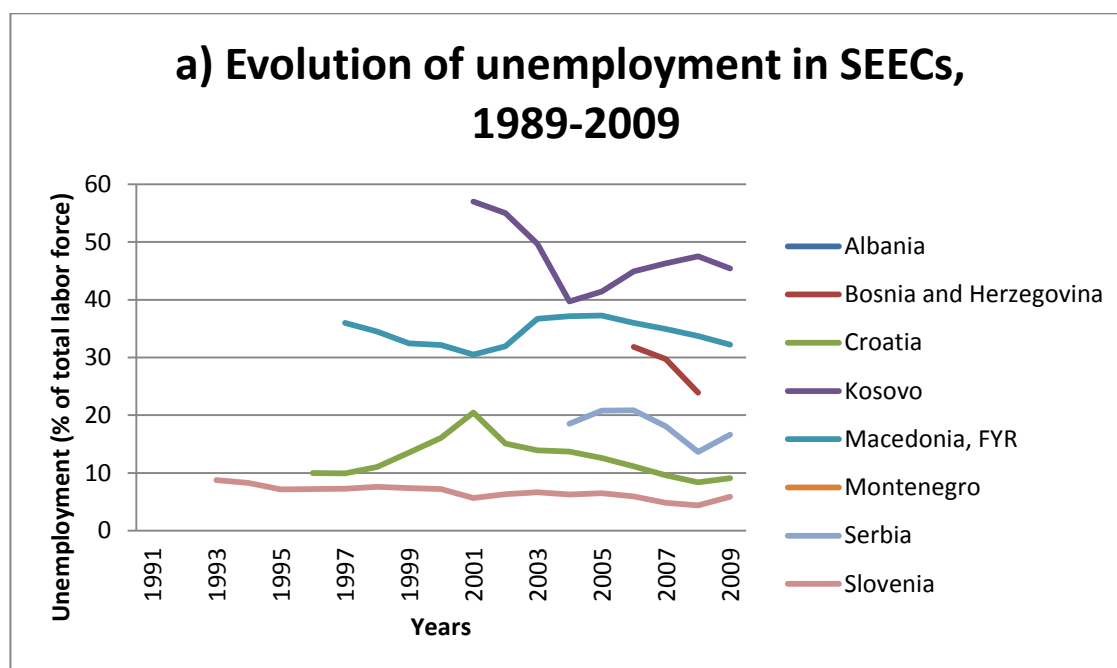
The third important consequence of transition was the **unemployment**. It is more difficult to analyze the situation of that time due to the consistent lack of data on

employment rates. Statistical surveys and researches represented a very inefficient instrument before the collapse of the command economy, since data were expected to reflect the compliance between the central planning and the real productive activity. With the beginning of Transition statistics, as a tool for the interpretation of reality and the development of appropriate policies, began to take on greater importance; nonetheless, the recovery in this field was very low, especially at the beginning of Transition, and required the support by international offices and experts. These shortcomings are particularly evident when considering the labor market of TCs, characterized by problems of registration, increasing informal employment, lower and lower participation rates and the so-called hidden unemployment, represented by workers doing part-time jobs, sometimes with no compensation, or in administrative leave (Keune, 2004). For these reasons, national statistics referring to the period of Transition cannot always show the real picture of countries, and unemployment is often underestimated¹⁹. This is the case of the CISCs, whose data are reported in Figure 1.4.4.b: in this graph all the curves (except for Armenia whose availability of data is however extremely limited) seem to show much lower levels than the ones reported in the other three Figures concerning the SEECs, CEECs and BCs. Other than the statistical issue, the relatively low level of unemployment in the CISCs is also linked to the resistance to change typical of these countries. At the beginning of Transition soviet rules still persevered in the area, and wages continued to be centrally determined both in private and state sector; in view of the limits imposed on the freedom of dismissal and the high payouts to workers made redundant, firms preferred to reduce the number working hours instead of laying off workers, limiting the reallocation of labor required by transition (Pavlova and Rohozynsky, 2005). In addition, CEECs and BCs adopted more social safety measures than the CISCs, devoting a consistent quantity of resources to non employment benefits and contributing to generate a sort of unemployment trap (Boeri and Terrell, 2002). Although the four graphs are in some cases difficult to interpret, due to incomplete information, in Figures 1.4.4.c (CEECs) and 1.4.4.d (BCs) it is possible to catch the evolution of unemployment characterizing TCs during the first years of reforms. The trend follows an inverted-U curve with high values between 1991 and 1995-6 and decreasing values in the immediate aftermath. CEECs show lower rates of unemployment than BCs, especially in the case of Hungary, the Czech Republic

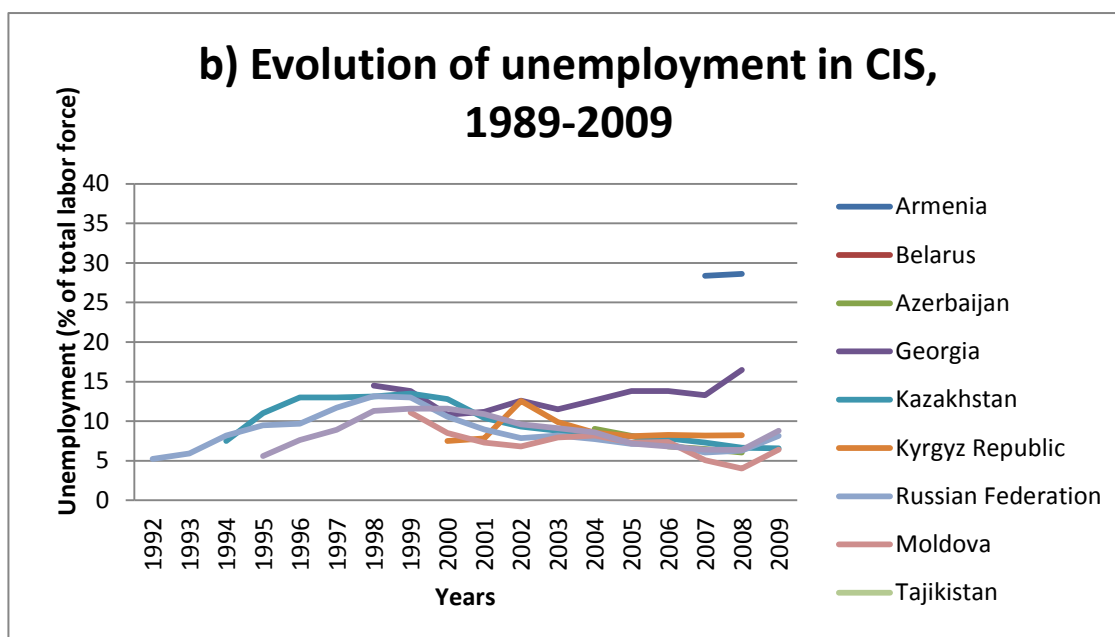
¹⁹ In order to take into consideration the lack of information on the labor markets in TCs, four different graphs reporting data on each country have been shown. Aggregated graphs, as in the previous cases of GDP growth and inflation, could not explain the situation efficiently, since many data are not available for the first period of transition, especially in the SEECs and the CISCs.

and Romania. The increase of unemployment in TCs since the collapse of the planned system is directly related to the privatization policies implemented during that period, and the reallocation of labor which followed. The dismantling of the state-owned sector brought about a large number of people looking for a new job who could not be totally absorbed by the limited number of private new born enterprises. Moreover, most people who had migrated from countryside to town in order to be employed in the SOEs, were now forced to go back to their original regions, thus increasing the agricultural unemployment (Crane, 1995). Certainly, the fall of GDP caused a decrease of labor productivity whose effect emerge in the initial persistence of unemployment (Boeri and Terrell, 2002). The highest levels of unemployment can be noted in Figure 1.4.4.a in the case of SEECs, with the exception of Slovenia which has always represented the most virtuous country in the Balkan area and the nearest one to the EU members from the structural aspect.

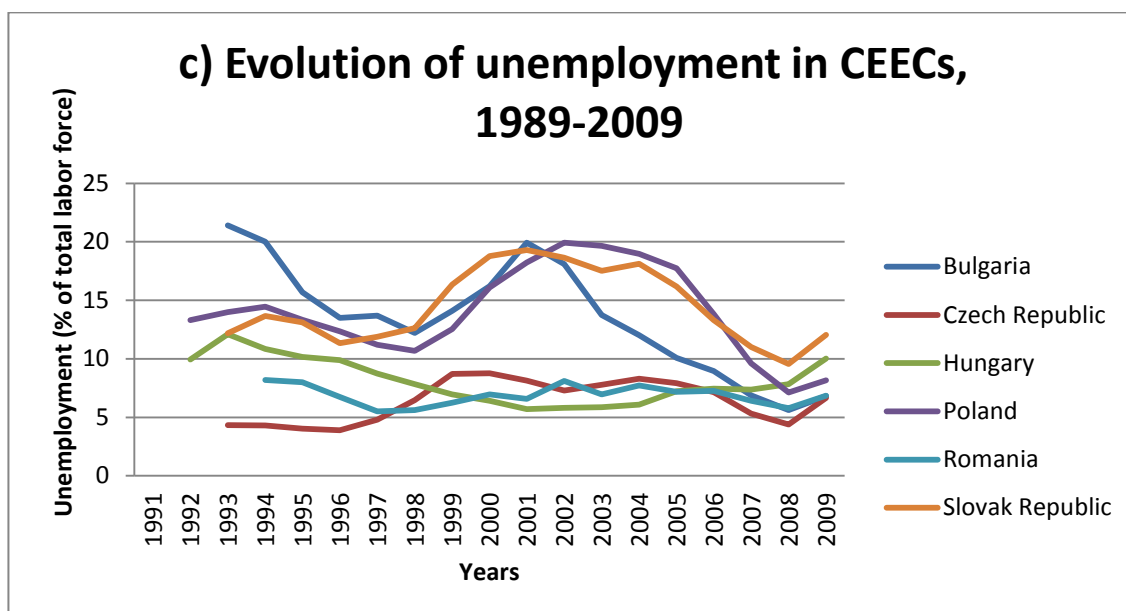
Fig. 1.4.4.a/b/c/d Unemployment in TCs over the last twenty years.



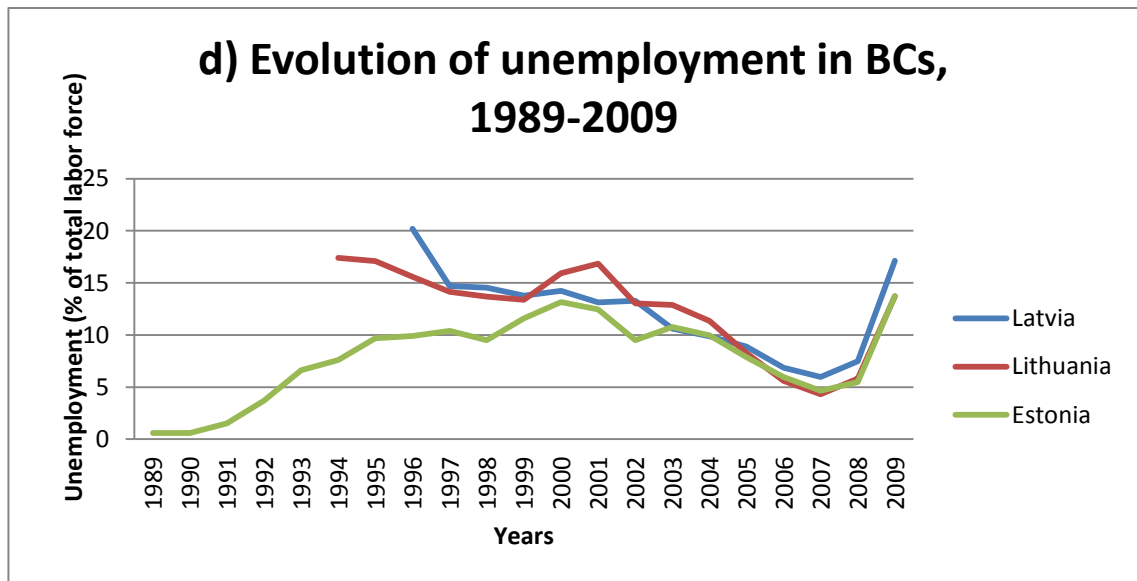
Source: author's elaboration on data from the World Development Indicators of the World Bank.



Source: author's elaboration on data from the World Development Indicators of the World Bank.



Source: author's elaboration on data from the World Development Indicators of the World Bank.



Source: author's elaboration on data from the World Development Indicators of the World Bank.

1.4.1. Other consequences of transition

The fall of GDP and the concomitant increase of both inflation and unemployment over the first years of Transition are the most evident features common to all countries. Generally, the range of reforms consequences is very wide, including both negative and positive effects stemming from the demise of such a rigid and muddled socio-economic system.

On the one side, transition brought about a **decreasing availability of social services** due to the forced dismantling of the State system. Since in the command economy the private initiative was extremely limited and the national production was run mainly by the industrial sector, social services were also provided by State through its SOEs. At that time, the social safety nets were quite efficient, and a discrete amount of resources was spent for health care and education. Contrariwise, in the first phase of transition, while the nascent private sector did not have yet the instruments for supplying social services, the state sector was becoming too weak, both in the financial and bureaucratic spheres. These problems were mainly connected with the pension system, which almost covered the entire population under socialism; since the collapse of the old system this measure was no longer sustainable, cause of the limited availability of State resources that now had to be spent for the whole restructuring of the economic and social context (Sveynar, 2002).

Privatization and the raise of prices due to liberalization increased **social inequalities**, also enhanced by the difficulties of finding a job. This aspect, deeply analyzed in the last part of the thesis, represents a phenomenon just as important as complicated to study, due to the lack of data in some countries on the one hand, and the tangle of causes on the other one. Privatization and price liberalization were not the only changes leading to more inequality; this term must be also referred to **earnings inequality**, due to the reallocation of labor retribution. The liberation of the system from the distorting planning led to a reallocation of resources and some industries, especially within the private sector, assumed an increasing relevance, or appeared for the first time. Imports also contributed to diversify the market, by favoring some industries instead of others. In particular, an improvement of high-skilled workers position occurred, whereas the socialism system gave more consideration to blue-collar workers, whose wage was relatively higher than the one of white-collars; this feature was the consequence of the very low demand of high skills in the command economies, related to the lack of innovation policies. De facto, Transition allowed the returns to education to increase, which notwithstanding was not accompanied by favorable measures for the oldest workers. This situation resulted in the **underestimation of labor experience** that people had accumulated up to the moment. TCs governments, stunned by the change, tended to go along with market requirements, still unable to distinguish between old features to remove and the ones to maintain in order to strengthen the functioning of the economy. The skill premium differential was even more remarkable regarding the comparison between the public and private sector, since in the second case, the higher level of competition attracted more high skilled workers, especially in those TCs which were more oriented towards the international markets (Rutkowski, 1996).

Certainly, security and paychecks were running out with Transition, and not everybody was able to grasp the new opportunities given by the market, as the institutional context was nearly absent and the transformation required competences that still lacked. The result was the emergence of poverty and the unequal distribution of incomes. In this situation, the **irregular economy**, which was a typical feature of the socialist countries, did not disappear, on the contrary it got stronger, although changing its form. Some activities such as the black market of currency and goods reduced their influence in favor of new ones, like the tax evasion and the partial registration of firms, according to which some businesses were kept hidden. Moreover, before Transition the competition between irregular and regular economy occurred especially on inputs markets, whereas after the

implementation of measures competition spread to the output side (Dallago, 1995). These channels were favored by the institutional vacuum and general uncertainty; where in a country neither the private nor the public sector intervenes agents are forced to search alternative solutions, and the irregular economy generally represents a better reallocation of available resources. At the same time the very weak nascent private sector could not even compete with the illicit counterpart, and the incentives for firms became not useful at all. At the moment, notwithstanding irregular economy is still one of the prior problems of TCs, governments and especially the EU (relatively to the New Member States and candidates) are implementing a more consistent number of policies aimed at challenging this phenomenon.

While considering the confusion created by Transition, some relevant positive changes occurring within the socio-economic system cannot be neglected. In particular, some of the features listed above (inequalities, irregular economy...) may hide interesting potentialities for the development of TCs. What should be remarked is that during transition, economy and society represented much more dynamic contexts than the political sphere, which showed a greater difficulty in breaking the linkages with the old structures and schemes. This lack of parallelism is the main cause of the slow and difficult path to capitalism followed by TCs; essentially, the political integrity should always be the reference point for the restructuring and growth of a country, and whenever it lacks, the creation of stable and balanced relationships between different social actors turns to be more risky. Thus, price liberalization and the gradual openness of trade relationships led to a **reduction of shortage**, given by a wider availability of goods and services, although the latest were still very limited at the beginning of transition. The constraints imposed by the State to production were eliminated, so that supply could respond to demand of consumers as in market-oriented economies. Moreover, the new regime entailed the possibility of choosing among much more varieties of goods than before, so that *consumers' tastes could be now satisfied* and became priorities within the new system. This is a revolution not to be underestimated, since new products coming partly from new firms, partly from imports, reduced queues at the shops and improved the quality of life of consumers.

As mentioned in previous lines, transition brought about a reallocation of factors of production, including labor and its retribution. While this change may have been the cause of earnings inequalities, it is not to ignore that the higher wage premium related to high skilled workers boosted people to work, especially young people who were looking for

future guaranties in labor markets. Thus, the unbalance between blue-collars and white collars wages can be viewed as an incentive for innovation and improvement of production, other than growth of services and higher standard of living, since TCs just opened to the international markets and needed to create their own potentialities against foreign competition. As a consequence, transition allowed to **increase incentives aimed at acquiring new skills and improving product competition**. Regarding to this aspect foreign penetration, made possible by the opening of the internal markets, was very important as a channel of new knowledge and technologies transfer. FDI will be deeper analyzed in the following section; for now it is just important to underline the significant impact that openness had in TCs economic development, at least at the beginning of transformation, especially thanks to the higher credit availability brought about by the increase of international reserves and the decrease of internal debt-export ratios (Gomulka, 1994).

Transition became finally very important for the relevance given to individual initiative through privatization policies. Irrespective of the implementation of different measures and final outcomes within each country - more or less successful - privatization gave TCs the opportunity to **develop their own paths of entrepreneurship**. This aspect was almost impossible before the Nineties, with some well known exceptions of countries that started to introduce forms of privatization before the collapse of the soviet system (e.g. Hungary, Poland, Slovenia). In a command economy the whole productive structure was in State hands, and private activity was extremely reduced. Thus, Transition represented a chance to emerge for those people who wanted to be protagonists of the current development of their country. The types of privatization discussed in paragraph 1.4 regarded big SOEs; privatization of Small-Medium Enterprises (SMEs) was much quicker and accompanied by an increasing number of new activities, especially of micro scale. SMEs were able to respond to market needs better than big firms, both because they managed to accumulate more capital and because their dimension allowed for a higher degree of dynamism, such an important feature in the first phase of market development.

Generally, SMEs are strongly linked to local development as these forms of entrepreneurship manage to wrap the cultural capacities of a community and, afterwards, canalize the same ones in concrete profiting activities. In the Schumpeterian view of innovation as a process of disruption and creation SMEs fit perfectly in a context of evolution, since their internal structure does not provide rigid links and hierarchies. In TCs

the reduced presence of SMEs before the transition was strictly related to the irregular economy, as pointed out previously. Private activity was often at the basis of shadowed trade flows supplying both final goods and inputs difficult to be found in the legal market. For this reason, the success of SMEs since the beginning of transition also depended on the way governments dealt with irregular economy, which is obviously counterproductive within a pure economic logic, but it can be handled in such a way as to obtain the final desired result. Most of irregular economy turned into informal activities with the launch of reforms, which represents a typical form of production and trade within countries undertaking a transitional path. Thus, just to mention the two most evident examples, while in Poland the informal economy was tolerated, in Romania strong measures were taken in order to suppress it; the outcomes related to SMEs were quite different, since the number of SMEs became much higher in the first case than in the second one (Kolodko, 2000). Nonetheless, the diffusion of SMEs has never been enough supported by TCs governments which tended to follow more foreign directives rather than their own local capacities. However, the private initiative in TCs is featured by characteristics directly stemming from the underdevelopment of entrepreneurial capacities and the neglect of implement specific policies aiming at filling these gaps. In regard to this issue Scase (2000) distinguishes two forms of private economic activity: *entrepreneurship* and *proprietorship*. Entrepreneurs work in order to increase their businesses, so they accumulate capital and invest their profits in new activities which should offer new opportunities of growth on the markets. The figure of proprietors is quite different, since these economic actors accumulate capital just to make profits for themselves, and there is no future re-investment in new activities of what has been previously gained. Unfortunately, the second case illustrates well the situation still now occurring in TCs, where proprietors may represent an opportunity for increasing employment, but they do not contribute to the national real growth. Certainly, local development in TCs is not run by proprietors, and national governments (especially under international pressures) are making efforts to favor the existing entrepreneurs, although it is not easy to identify in reality these two theoretical categories. Nonetheless, proprietorship can be related to different figures connected with the old soviet system: people who used to handle cash and received foreign currency through these relationships (i.e. men working in the hotels); members of former state bureaucracy; people involved in informal economy or illegal traffics; people who inheriting previous state owned activities providing social services (Scase, 2000).

Inequalities emerged especially between regions, due to the structural change undergone by economy. In his analysis on regional development focused on Central and Eastern Europe Gorzelak (1998) identifies different paths of evolution *across* countries, which are strictly connected with the complex transformation occurring during the transition. The author depicts a Central and Eastern Europe characterized by four types of countries. The first two categories, the *leaders* and the *strong followers* respectively, refer to those countries which managed to either catch or even surpass the level of GDP growth showing in 1989 before the implementation of reforms (all CEECs, Slovenia and Belarus). On the other hand, the last two categories include those countries whose economic performance still lacks in dynamism and capacity of recovery; the *strugglers* and the *losers* did not manage to restore their previous economic conditions (Latvia, Lithuania, Bulgaria) or their internal structural distortions, together with their weak progress in the legal and institutional field, led to a detrimental evolution (notably the CISCs). These inequalities also extend to the development *within* each countries, which is often unbalanced and concentrated in a few territories. Thus the *leader* and *winner* areas are usually the metropolitan and re-industrialized territories which were able to catch the positive spillovers coming from openness; contrariwise, whereas the “losers” are the ex-industrialized regions which lost their previous productive relevance, the “laggards” are the rural and peripheral areas in which development is still slow to come.

Chapter 2

The International Openness in Transition Countries: Inward Foreign Direct Investment

The International Openness of Transition Countries: Inward Foreign Direct Investments

2.1. SOME DATA

So far we have been focusing on the general context in which the international openness of the countries concerned took place, that is the *Transition* from planned to market-oriented economy. In the previous chapter the main features of this complex phenomenon have been discussed, trying to shed light on those mechanisms which contributed to mark the developmental path of TCs. With the fall of the Berlin Wall, the beginning of the socio-political transformations in each country and the establishment of the new economic reforms, TCs started to look beyond their national borders aiming at creating stronger linkages with the rest of the world. In 1991 TCs left behind the rigid functioning of CMEA (or Comecon, already discussed in Chapter 1), the organization which limited considerably the competitive capacity of each national economy and did not allow the full exploitation of the productive and exporting potential of firms.

Dunning (1993) analyzes the Inward FDI trend in TCs²⁰ and suggests three models that could explain the developmental path undertaken by these Countries, from the perspective of their integration into the world economic system. According to the author each of the Countries so far considered can be associated to a model, so that the study of its openness process may appear easier. The first model is the *Developing Countries* one. This label refers to countries like Brazil, Mexico, Korea, Thailand, Taiwan and Singapore that in spite of quite serious problems in the social and institutional fields, undertook an economic boom in the last ten years, and registered important rates of growth. Albania, Bulgaria and Romania could be likened to this first group, although the ex-socialist countries show levels of education higher than the Developing ones, so the same for the human capital endowment. The second typology discussed by Dunning (1993) is the *Reconstruction model*, and it refers to countries with enormous potentialities that can be exploited when the economic (but also the institutional and social) national system must be totally rebuilt. This

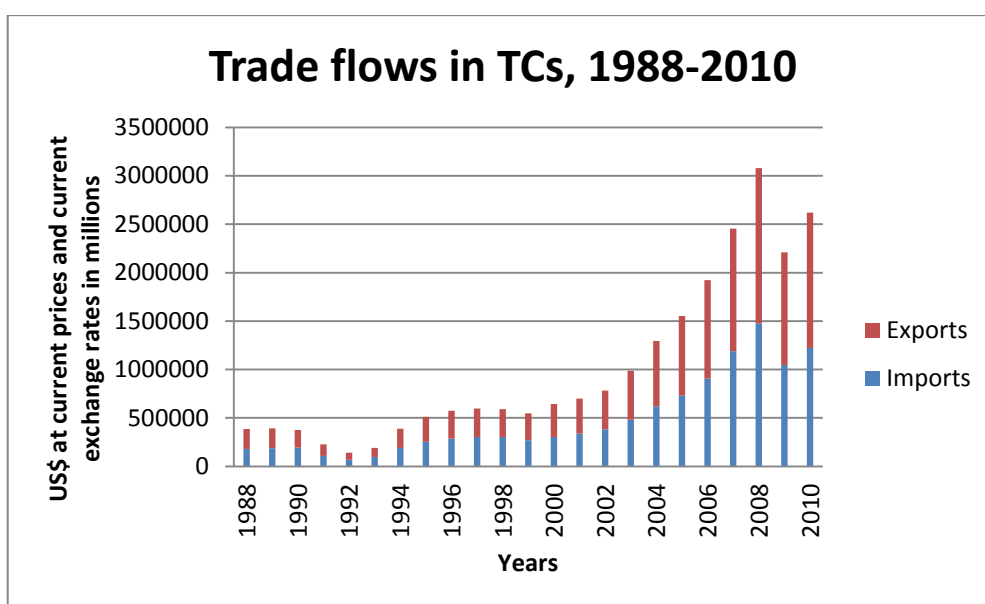
²⁰ The author does not account the CIS.

is a post-war situation of those countries, namely Japan and Germany, that achieved successfully the economic recovery thanks to their technological, organizational and management capabilities. While most of TCs still lack of these capabilities, or of tools to increase them, similar situation can be found in Hungary, Czechoslovakia and Poland, for instance. Finally, the last model is represented by the *Systemic* one, a combination of the best elements from the two previous typologies, added to macro and micro economic factors which are essential to carry out the economic progress. Since the first two models are at the opposite sides of the capacity of putting the Transition into practice, the systemic model should be the one adopted by all countries. In fact, it stresses the implementation of policies in favor of both structural and institutional changes that, in turn, foster the entrance of foreign investors. Even though this classification was proposed by Dunning in 1993 and many steps forward have been done by TCs, this reasoning allows to create a general image of the heterogeneity in regard with foreign penetration. Each model is associated to a specific set of elements that contributes to define the investment climate of a country; the way each country exploits its potentialities and triggers proper micro and macro structural changes in all fields, from economy to the institutional apparatus, strongly influences its future competitiveness on international markets.

The aim of this chapter is to give a picture of the ongoing openness of TCs, since the beginning of the transformation process, by focusing on FDI made by foreign investors within the economic system of the countries concerned. The choice of FDI, rather than trade, as measure of international openness enables to develop an interesting analysis on a recent trend with such an important impact of the future of these countries. In particular, due to the lack of data, only inward FDI are concerned, together with the elements leading international entrepreneurs to invest in TCs and the relevance of these business projects within the transitional frame. On the other hand, trade flows are not ignored, as the following Figures can show; imports and exports may represent an interesting benchmark to go deeper the effects of openness, as will be considered in Chapter 3, and they provide a valid starting point to make some initial considerations. In addition, the expansion and augmentation of trade flows represent the first expression of the openness of countries, which may not yet have the economic, financial and legal structures required by foreign investors.

On this purpose, Figure 2.1.1. shows the trend of imports and exports of all TCs, over the period 1988-2010. It is clear that both flows increase as the Transition takes place, with some downward picks, in 1992 and 1999 and finally in 2009, as a consequence of the international economic crisis which strongly affected most of these countries.

Fig. 2.1.1. Trend of TCs trade flows (both merchandise and services) over the last twenty-two years.



Source: author's elaboration on data from the UNCTAD Statistics Database.

Notes: the sample includes the following countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Estonia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Montenegro, Moldova, Russian Federation, Poland, Romania, Serbia, Slovak Republic, Slovenia, Tajikistan, Turkmenistan, Ukraine. In order to take into account the splits of some regions which occurred during the Nineties, data from Czechoslovakia, URSS, Serbia including Montenegro and Former Yugoslavia have been included. Missing data per country: Armenia (1992); Azerbaijan (1992-1994); Belarus (1992); Georgia (1992-1996); Kazakhstan (1992-1994); Kyrgyzstan (1992); Lithuania (1992); Moldova (1992-1993); Russian Federation (1992-1993); Tajikistan (1992-1995); Turkmenistan (1992-1994); Ukraine (1992-1993).

The next Figure 2.1.2. uses the same data but processed differently, showing the portion of imports and exports of TCs which became members of the EU and the other TCs, respectively. The pie charts refer to three years each corresponding to the beginning, the middle, and the end of the transitional path. It is to infer that during the Nineties the share of trade flows related to the so called New Members States (NMS) on the total of TCs increases, moving from 21% in 1990 to 38% in 2000 for imports, and from 24% to 33% in the case of exports. At the same time the percentages for the other TCs decrease. Contrariwise, in the following decade, from 2000 to 2010, there are no drastic changes, and the percentages remain almost the same, which means that the integration of ten TCs to

the EU occurred in 2004 (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia, the Slovak Republic) and 2007 (Bulgaria and Romania) did not significantly influence the trend of trade. Thus, while the last ten years may represent a period of stabilization for the trade patterns of the NMS, the Nineties gave those candidates the possibility to establish (or strengthen) their commercial relations within the world market, and in particular with the UE itself. Thus, we can deduce that although the UE enlargement has been important in order to strengthen gradually the economic linkages with the NMS, it was not the prime engine of their commercial upgrading. In this latter case, we would have obtained significant differences in statistics in the second period considered (2000-2010) rather than in the first one (1990-2000), and we did not. The higher degree of dynamism of the NMS must derive from other structural features of these countries, such as:

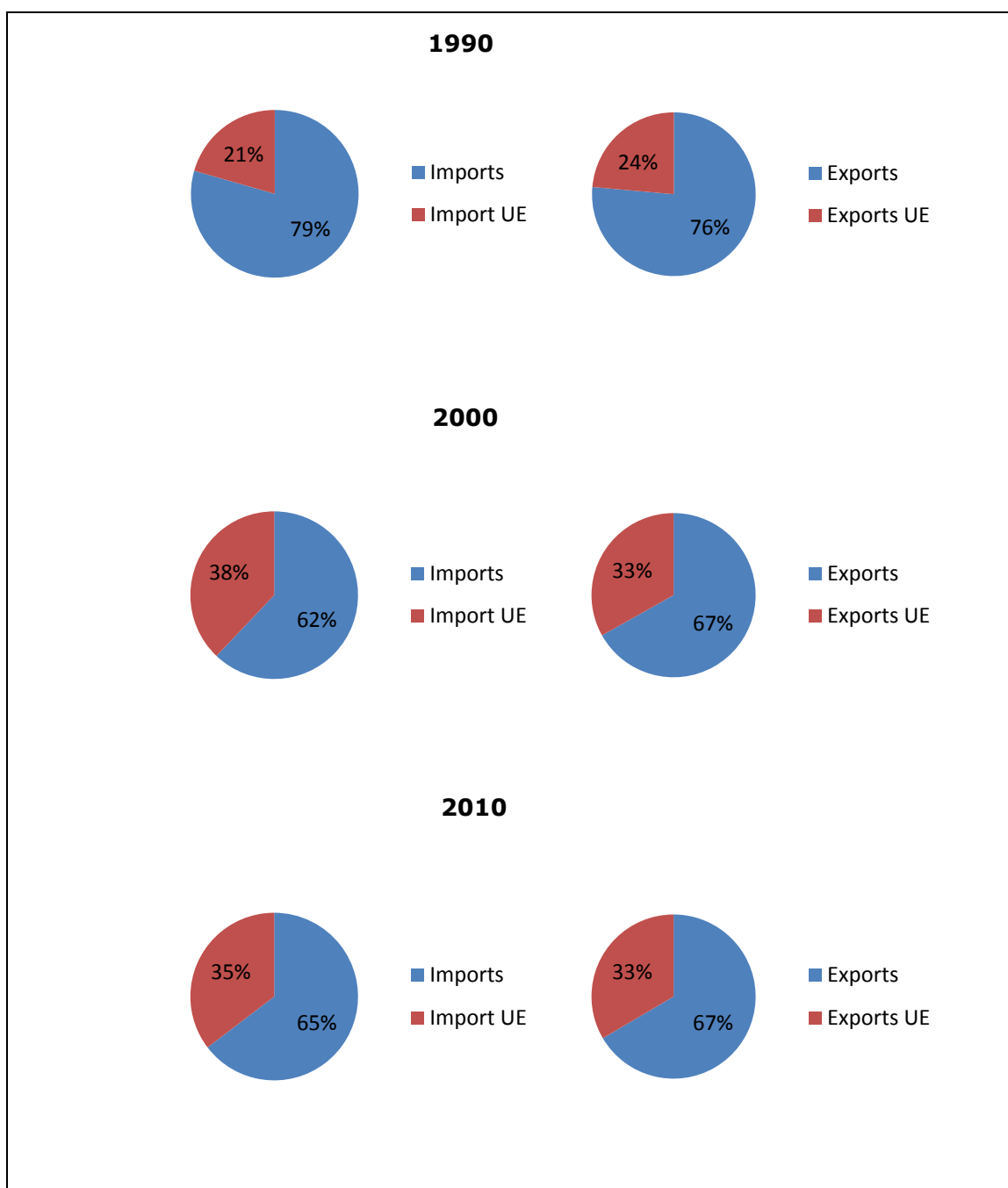
- the *transitional path* that the NMS launched earlier than the other TCs did;
- the *speed* and *efficiency* in the implementation of economic and institutional reforms;
- the large campaign of *privatization* sustained in order to reduce the share of economic activity in State's hands, which still represents a central issue in CIS economic development;
- the country endowment of *human capital*;
- the *geographical proximity* with the EU markets which represent most of the NMS trade.

These factors, and in particular the first four ones, may also explain the trade patterns of NMS and their evolution over time. Especially during the Nineties these countries managed to gain comparative advantages in manufacturing and high tech products, rather than natural resources and raw materials. In this perspective, they implemented a market re-orientation of production which tried to respond to the current needs of both the international and the close European market. In particular, the relatively high capital endowment still contributes to foster the reliability of these countries in the eyes of the international markets and allow to upgrade the quality of exports (Zaghini, 2005).

A different situation is depicted for the other TCs, which basically include the CIS and part of the SEECs. These countries are still characterized by strong distortions within their productive system which are reflected on their external balance. This is particularly true for CISCs; as for trade, the most relevant economies of the region are the Russian

Federation, Kazakhstan and the European CISCs. Since the beginning of Transition all these countries have not been able to upgrade their production to gain comparative advantages in sectors with high value added, so that raw materials, mineral, metals and chemical products remain the basic goods exported, in exchange of machinery and transport equipment (Kandogan, 1999). A further aspect to be taken into consideration is the evolution of spatial directories of CISCs during Transition. Before the beginning of the Nineties, the affiliation to the Comecon required a strong specialization both in terms of production and trade; most of trade flows occurred within the area of the now-called CISCs. With Transition the new commercial regime led to 90% decrease of that intra-CISCs trade, re-orienting exports/imports to/from the rest of the world (Shelburne, 2006). Intra-CISCs exports diminished more than imports (except for Belarus and Moldova), trend that occurred also in the SEECs, whose most of current flows are now established with the EU. The geographical re-orientation of CISCs trade occurred with Transition depended on the geographical position of each country, so that Caucasus strengthen the linkages with Turkey and Iran, whereas the European CISCs developed more flows with the SEECs. In general, while the intra-trade decreased commercial flows with international markets increased very slightly, thus leading to a negative total external balance (Freinkman et al., 2004).

Fig. 2.1.2. Trade flows of TCs in 1990, 2000, 2010.



Source: author's elaboration on data from the UNCTAD Statistics Database.

Note: CEECs and BCs enter the EU in 2004 (except Romania and Bulgaria in 2007)

Finally, it is noteworthy to take a look to the position of TCs in relation to the WTO, deemed as a further prove of the economic integration of these countries. Most of them entered the WTO after 1989; Table 2.1.1 shows that the first ones in 1995 were the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia, which belong to the CEECs group. The Table report also the current “observers”, which are now in

negotiations to access WTO. They are all countries from the CIs, except for Bosnia and Herzegovina, Montenegro and Serbia. The path of accession of TCs reflects the difference between the degree of economic development and implementation of the transitional reforms.

Table 2.1. Accession to WTO of TCs

COUNTRY	ACCESSION TO WTO	OBSERVERS
BULGARIA	1996	Azerbaijan
CROATIA	2000	Belarus
CZECH REPUBLIC	1995	Bosnia and Herzegovina
ESTONIA	1999	Kazakhstan
MACEDONIA	2003	Montenegro
HUNGARY	1995	Russian Federation
KYRGYZ	1998	Serbia
LATVIA	1999	Tajikistan
LITHUANIA	2001	Uzbekistan
MOLDOVA	2001	
POLAND	1995	
ROMANIA	1995	
SLOVAK	1995	
SLOVENIA	1995	
UKRAINE	2008	

Source: author's elaboration on data from the WTO website.

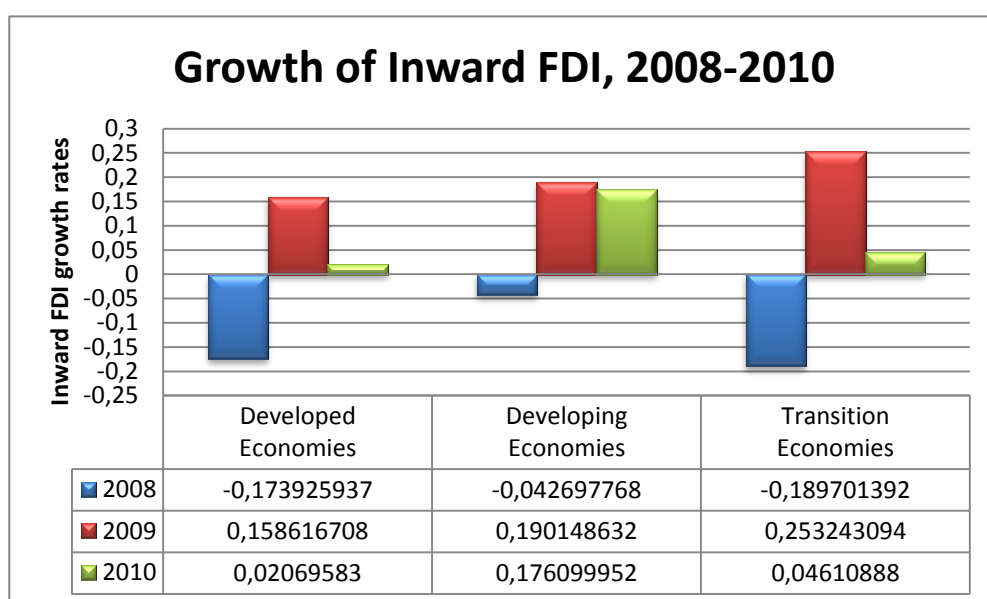
Transition also marked the signature of several trade agreements, both bilateral and multilateral, with European and international markets and regional agglomeration.

2.2. FDI IN TRANSITION COUNTRIES: A LOOK AT THE DATA

The attention on data is now focused on Inward FDI in TCs, measured as stocks, which is “the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprises” (WIR, 2009). While the stock measure shows the total amount of foreign capital within the host country, flow measure relates to the temporary entry of foreign investment, that is why the first one is generally preferred, especially for empirical comparisons (Bornschieer and Ballmer-Cao, 1979). Figure 2.2.3. tells us that the growth of Inward FDI flows in TCs has been quite drastic in the last 2 years. In 2008, the fall caused by the international crisis was more evident in TCs than in Developing and Developed Countries, although the rates of the latter and those of TCs slightly differ (- 0.174 in

Developed Countries and - 0.19 in Transition Economies). In the same way, the recovery in 2009 was stronger in TCs although followed by a further decrease in the last year. Contrariwise, Developing Countries have been keeping on attracting Inward FDI, and probably part of TCs stock deviated to them. This may be due to many factors, including the gradual catching up of TCs (or at least some of them, namely the CEECs and BCs) that persuades foreign investors to focus their businesses in those countries offering better cost advantages: the growth rate of TCs shifts from 0.25 in 2009 to 0.05 in 2010.

Fig.2.2.3. Inward FDI in TCs between 2008 and 2010, compared with Developed and Developing Economies.

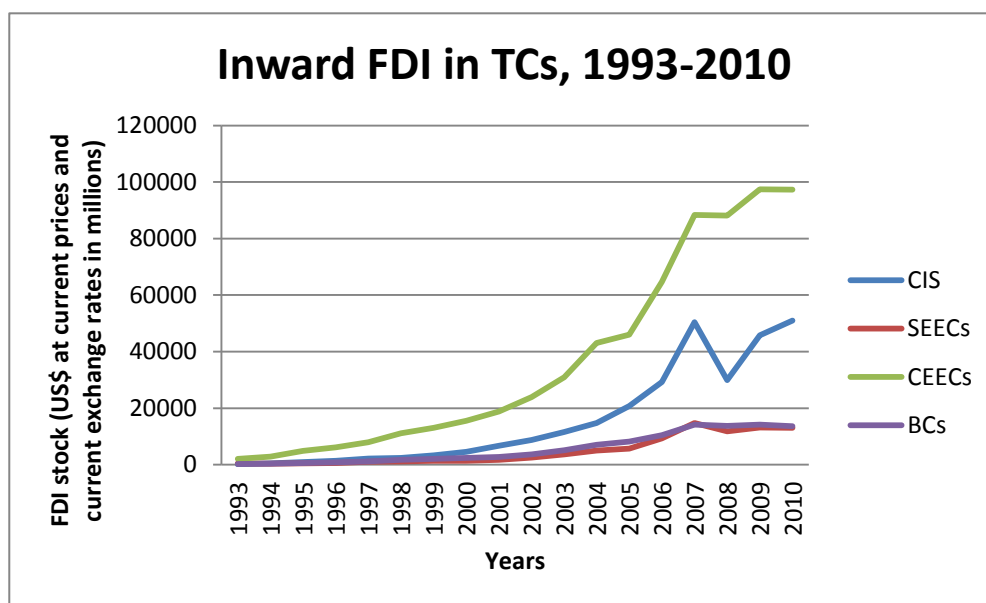


Source: author's elaboration on data from the UNCTAD Statistics Database.

Figure 2.2.4. shows how the amount of FDI in the countries considered developed since the beginning of Transition. Following the availability of data and in order to avoid too many missing years, statistics have been elaborated since 1993. In all four cases Inward FDI increases led by the CEECs and followed by the CISCs, BCs and SEECs. The trend is quite constant during the whole first decade of the period considered. According to the literature and statistical evidence, 1995 is the year of the substantial increase of FDI inflows, at least in the CEECs and BCs (Bandelj, 2002). In the following ten years foreign penetration keeps increasing but shocks are more frequent. Also in this case, the negative pick between 2008 and 2009 emerges and it must be related to the world economic crisis which curbed the international investors; due to the high volatility of the CISCs markets these countries shows on the graph the worst fall among all TCs. Nonetheless, it is

opportune to underline the important role of the Russian Federation within the CISCs that is evident in the following Figure 2.2.6.b; this huge country absorbs most of Inward FDI of the region, thus raising the level of total foreign business there.

Fig.2.2.4. Evolution of stocks of Inward FDI in TCs over the period 1993-2010, by groups of countries.



Source: author's elaboration on data from the UNCTAD Statistics Database.

Note: CISCs: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan. SEECs: Albania, Bosnia and Herzegovina, Croatia, Serbia and Montenegro, Slovenia, Macedonia. CEECs: Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia. BCs: Estonia, Latvia, Lithuania.

Transition offered an unique opportunity for Western countries (EU first) to enlarge their markets in Eastern Europe and beyond, in order to expand businesses to that part of the world where so far economic relations had been hampered by the complicated political situation. It is not easy to get sectoral data on FDI in TCs and the few available ones usually do not date back to the end of the Nineties.

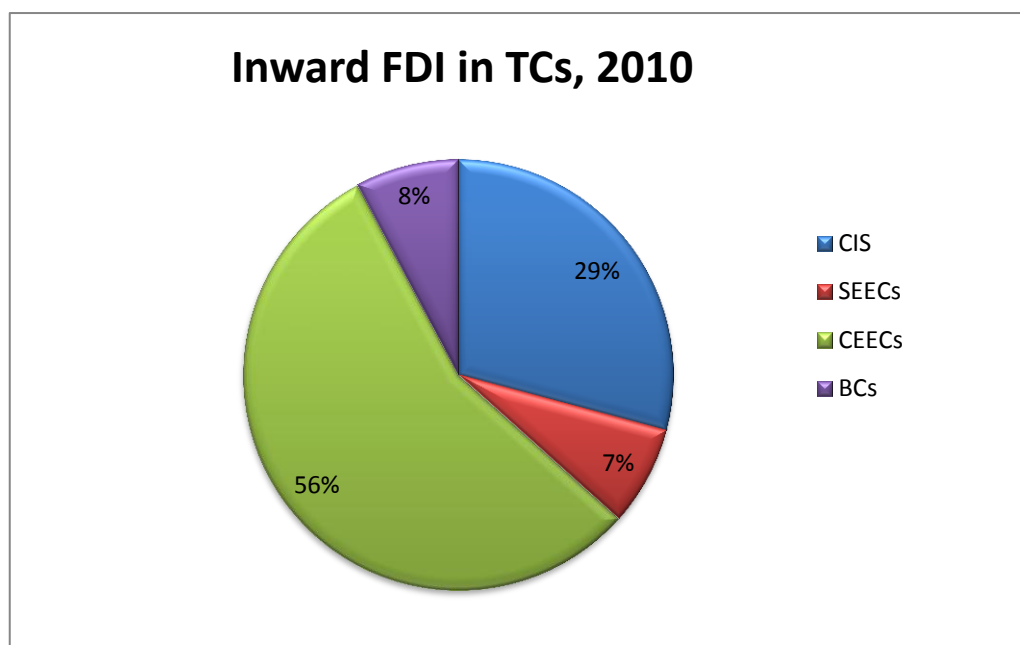
Till 1998 most of FDI had been concentrated in a few countries, namely Hungary and Poland; later on other countries emerged as concrete destinations for internationalization strategies, namely the Russian Federation and the Czech Republic. The investment occurred especially in manufacturing, in spite of the exponential growth of the services sector. In some countries (the Czech Republic, Hungary, Estonia, Poland) also the financial sector started to be attractive, thanks to the government attempt to give it a proper structure and functioning. (EBRD Transition Report, 1998). The CEECs have

always been the prime choice for international investors, represented mainly by the EU. This may follow the same considerations made in the previous paragraphs on trade flows evolution, and it can be related to the efficient implementation of the privatization policies²¹, together with the positive government attitude towards the future European integration, finally occurred in 2004 and 2007. The accession of some CEECs and BCs to the EU led to a shift of FDI, since investors could now choose among several countries which offered very convenient conditions for new business. Actually, in 2005 a fall of net FDI in Estonia, Hungary and Czech Republic was offset by increases in Latvia, Lithuania, Poland, the Slovak Republic and Slovenia; all these countries, except Poland, gave foreign investors the opportunity to expand their business activities abroad at lower prices. In 2006 in CEECs and BCs the FDI cover of the current account deficit generally started to decrease, although the inflows in the regions were still high. This trend gave way to increasing dependence in debt-creating capital flows, such as portfolio investment in Hungary and financing from foreign banks in the BCs (EBRD Transition Report, 2007). Inward FDI kept increasing also in the SEECs and CISCs, especially in the Russian Federation and Kazakhstan due to the rise of prices of imported gas. In 2007 the SEECs reached the highest peak of inward FDI (14735.17 US\$ millions), thanks to the slow but important progress in Transition that was mostly pushed by the governments will of taking part to the EU. Furthermore, it is to underline the progress in privatization which led to the acquisition of some National Banks by foreign investors. At the end of 2008 the fall of FDI due to the international crisis was already noticeable; previous levels started to be recovered only during 2010, and in the case of CEECs the amount of inward FDI (97271.14 US\$ millions) overcame that of 2007 (88321.82 US\$ millions).

Figure 2.2.5. summarizes what has been discussed so far, and clearly reports the current situation: CEECs attract 56% of total FDI of TCs, and it is followed by CIS with 29%, BCs with 8% and SEECs with 7%.

²¹ At the end of the Nineties the sectors objects to privatization were mainly the telecommunication on the one side and the banks on the other one; for instance in Czech Republic two large banks were privatized and given to foreign investors, the Ceska Sporitelna to the Erste Bank of Austria and the Cekoslovenska Obchodni Banka to the KBC of Belgium (EBRD Transition Report, 2000).

Fig.2.2.5. Shares of Inward FDI in each region on total of FDI inflows in TCs in 2010.



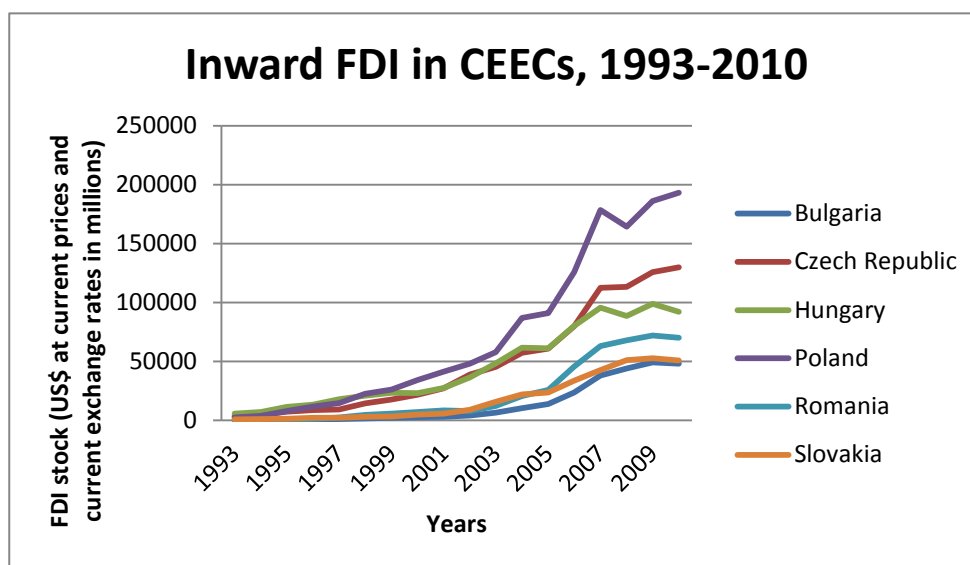
Source: author's elaboration on data from the UNCTAD Statistics Database.

Note: CISCs: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan. SEECs: Albania, Bosnia and Herzegovina, Croatia, Serbia and Montenegro, Slovenia, Macedonia. CEECs: Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia. BCs: Estonia, Latvia, Lithuania.

The following Figures report the situation for each country so that it is possible to pick out the different paths. From Figure 2.2.6.a. we can notice that Poland overcomes the other CEECs almost throughout the whole period, except for the very beginning of the Nineties: in 1994 FDI inflows in Poland accounted for 3789 US\$ millions, whereas Hungary and the Czech Republic received already 7086.816 and 4546.811 US\$ millions, respectively. According to the data from UNCTAD Database the amount of Inward FDI in Poland strongly increased in 1995 (7843 US\$ millions) and in 1998 overcame the one registered in Hungary (20732.84 US\$ millions), so reaching 22478.88 US\$ millions. This large amount of Inward FDI and its steady growth are connected with the stabilization program launched early on, other than the successful privatization policies concerning especially the creation of new firms, rather than the reduction of State properties. That factor represented an incentive for the local entrepreneurship, and a new dynamic economic society contributed to improve the investment climate within the country. The last places in the ranking are occupied by Romania, Slovakia and Bulgaria, whose transitional path has been slowed down by the quite high degree of corruption, other than the deep economic distortions. Nonetheless, a clear improvement is noticeable since 2005,

after their access to the EU (Slovak Republic in 2004) or in view of it (Romania and Bulgaria in 2007): in 2004 the stock of Inward FDI in the Slovak Republic increased from 30970.29 US\$ millions (2003) to 43008.45, whereas in 2007 similar growth occurred both in Romania (from 25816.44 in 2005 to 45452.07 US\$ millions in 2006) and Bulgaria (from 13850.97 in 2005 to 23482.62 US\$ millions in 2006).

Fig.2.2.6.a. Evolution of stocks of Inward FDI in CEECs over the period 1993-2010.

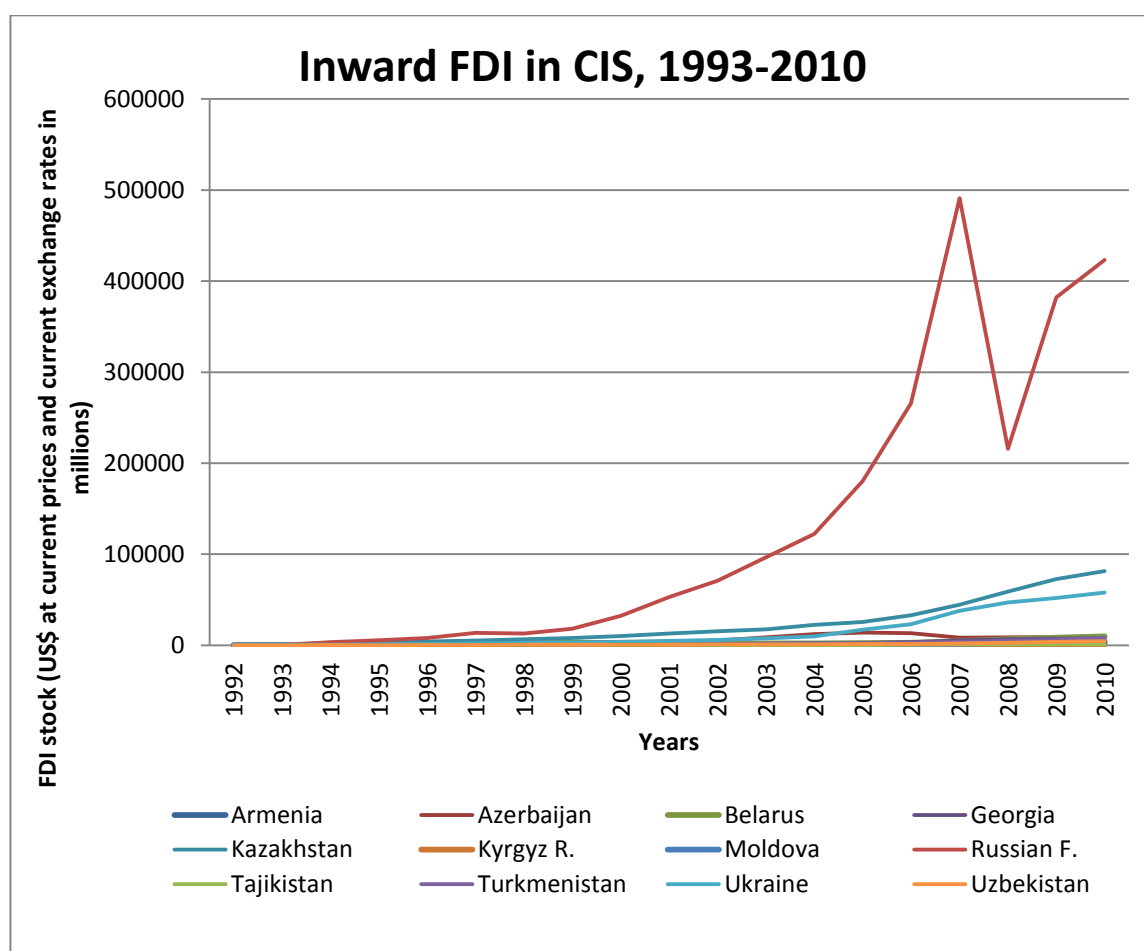


Source: author's elaboration on data from the UNCTAD Statistics Database.

In the CISCs foreign investors privileged the primary sector, fact that underlines both the institutional weakness along their transitional process (in regard to the privatization policies and incentives for private initiative), and their structural production distortions. Most FDI inflows are directed to the sector of natural resources extraction and all the activities connected, such as energy transportation infrastructures projects, through large privatization transactions and debt/equity swaps. Shiells (2003) distinguishes three groups of CISCs, according to the type and amount of Inward FDI: *group A includes the so-called energy-exporting countries*, i.e. Azerbaijan, Kazakhstan, Russian Federation, Turkmenistan; *group B is composed of energy-importing countries* which implement market-oriented reforms, i.e. Armenia, Georgia, Kyrgyzstan, Moldova, Tajikistan, Ukraine; finally, *group C refers to energy-importing countries* not pursuing market-oriented reforms, i.e. Belarus and Uzbekistan. This classification helps to better analyze the structure of FDI within the region, and the motivations why the degree of attraction on foreign investors is much lower than in CEECs. Fuel importers (group B and C according to Shiells' reasoning) draw more

diversified FDI including also banking and telecommunication sectors; this features presume a stronger similarity than group A with CEECs, showing a more evident productive shift, from manufacturing to services (Dubrovskiy and Ustenko, 2005). In Figure 2.2.6.b. we can see that the Russian Federation is the prime recipient of Inward FDI in the area, with a peak in 2007 of 491052 US\$ millions. Unfortunately, the Figure is not so clear for the other CISCs since they all show very low levels of FDI; it is still possible to distinguish the curves of Kazakhstan (in 2010, 81351.82 US\$ millions), followed by Ukraine (57985 US\$ millions), Belarus (9940.4 US\$ millions) and Azerbaijan (9592.882 US\$ millions), whereas the trends of the other countries are almost overlapping. In 2010, after the four countries mentioned above which attract most of FDI in the region, come Turkmenistan (8186.02 US\$ millions), Georgia (7821.129 US\$ millions), Uzbekistan (4459.5 US\$ millions), Armenia (4205.52 US\$ millions), Moldova (2837.48 US\$ millions), Kyrgyz Republic (973.7 US\$ millions) and Tajikistan (914.75 US\$ millions), respectively.

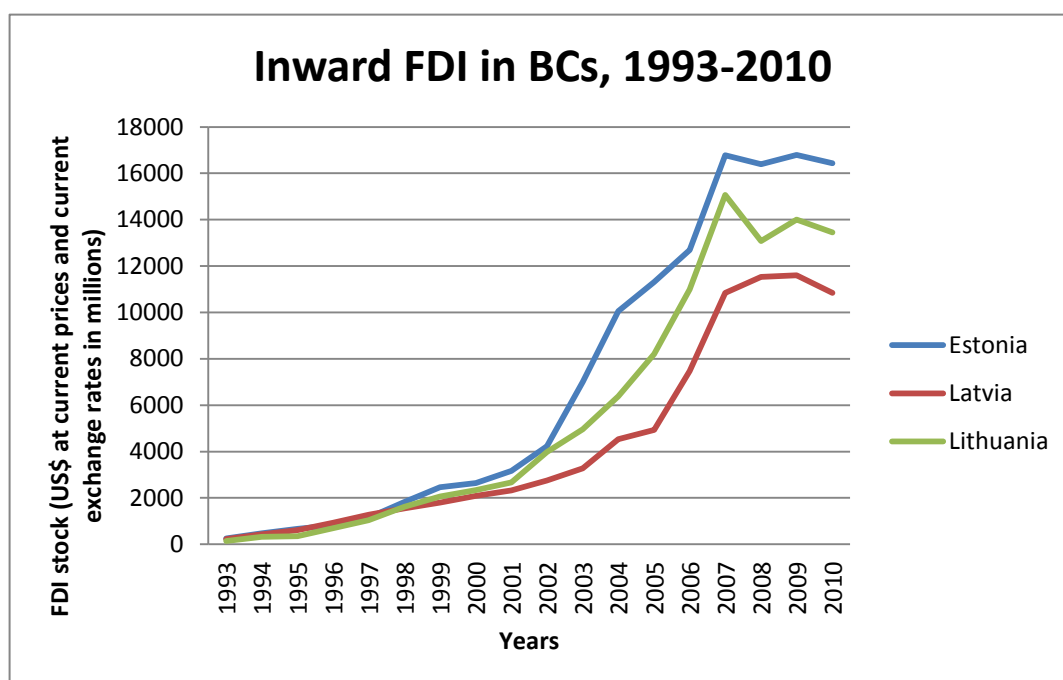
Fig.2.2.6.b. Evolution of stocks of Inward FDI in CIS over the period 1993-2010.



Source: author's elaboration on data from the UNCTAD Statistics Database.

In Figure 2.2.6.c. which refers to the BCs, it is possible to notice that at the beginning of the period considered the differences between values of Inward FDI in Estonia, Latvia and Lithuania are not so high. In 1994, 472.11US\$ millions entered Estonia, 435.84 US\$ millions entered Latvia and 321 US\$ millions entered Lithuania. Over time, although all three countries grew and attracted increasing amounts of Inward FDI differences in levels have been slightly increasing and Lithuania overcame Latvia at the end of the Nineties; in 2010 Estonia attracted 16437.93 US\$ millions, Lithuania 10837.76 US\$ millions, and Latvia 13448.62 US\$ millions. The position of Estonia in the ranking proves the engagement of this country in pursuing market-oriented reforms, liberalization and privatization stronger than in the other two BCs. The investment climate in Estonia attract FDI, and represents the departure point for foreign investors aiming at penetrating also Latvia and Lithuania. In general, most Inward FDI in this area are made by Nordic companies, whereas a more troublesome economic relationship occurs with the Russian Federation, clearly due to historical reasons. The service sectors represent the main focus of FDI: transport, storage, telecommunication, financial intermediation are the activities that have the highest presence of foreign business. At the same time, low-tech manufacturing sectors have been attracting more inflows (Hunya, 2004).

Fig.2.2.6.d Evolution of stocks of Inward FDI in BCs over the period 1993-2010.

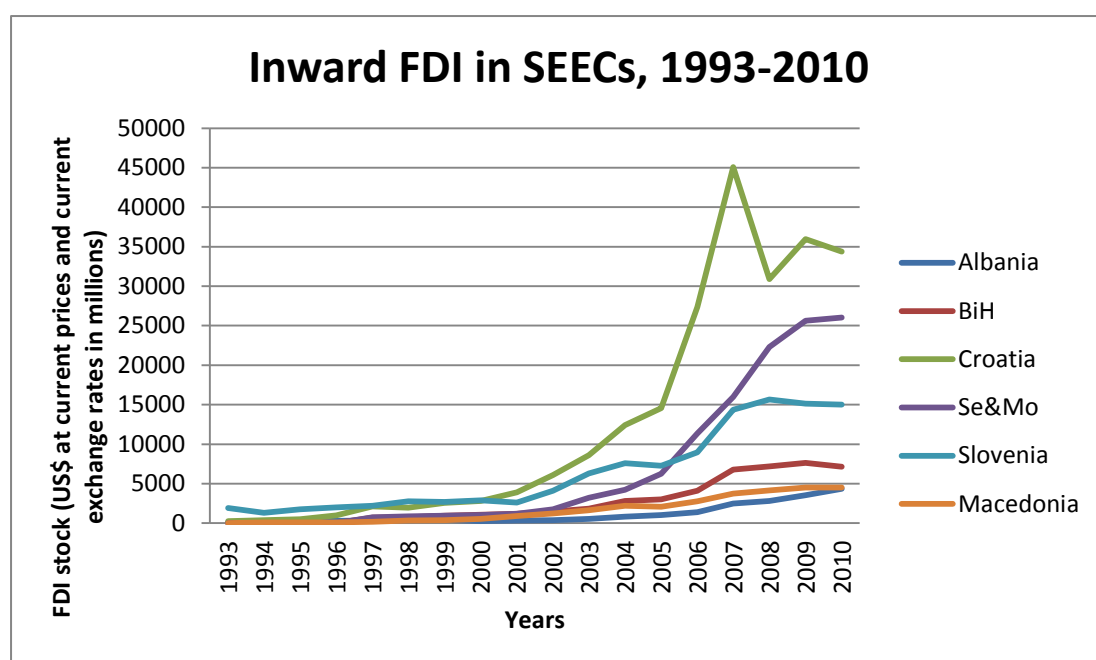


Source: author's elaboration on data from the UNCTAD Statistics Database.

The SEECS do not occupy the most favorable position in regard to Inward FDI, even though foreign investors, in particular coming from the EU, show now an increasing interest in the region. Actually, these countries have considerable opportunities due both to the progress along the transitional path and some structural features of the economic system (e.g. the human capital endowment, the availability of natural resources and young and dynamic labor). Although the region lags behind its Central-Eastern neighbors the comparison must take into account the political instability that hit the SEECS, other than historical and cultural factors which are peculiar within the transition. The conflict broke out soon after the dissolution of the Former Yugoslavia in 1991 and lasted till 1995, that can be seen as a crucial period for the transformation of TCs. Thus, the complicated political situation stopped abruptly the early process of Transition, and the consequences of the war were so heavy for all the countries involved that the recovery was very slow. Moreover, as for the privatization path, this process in SEECS produced less revenues for the State and low inflows of foreign capital (Hunya, 2000). From Figure 2.2.6.d. Croatia emerges as the first destination for FDI, with a peak in 2007 of 45063.19 US\$ millions. It is a candidate country for the EU, together with Macedonia, and this fact certainly favored the liability of the current economic system. In addition, Croatia implemented a slow but strong privatization program and growth-oriented measures that attracted many foreign investors since 1999. Looking at the graph we infer that now Croatia is followed by Serbia and Montenegro²² (26039.94 US\$ millions) (Režepagić and Richet, 2008). Although Slovenia is the only EU member among SEECS and its economy is the most solid one, the country does not show to receive the highest amount of FDI, and in 2010 it is placed in third position with 15022.09 US\$ millions. This is due its small local market and partly to the privatization policies adopted which, in spite of being quite successful, favor internal buy out rather than external purchasers. Bosnia and Herzegovina (7151.592 US\$ millions in 2010), Macedonia (4493.33 US\$ millions) and Albania (4354.736 US\$ millions) lag behind the other SEECS; the reasons may be found both in the difficult political and civil situation (especially regarding Bosnia and Herzegovina) and in the still uncompleted and slow privatization process.

²² The position is mainly due by the former one, since Montenegro has a small amount of FDI however increasing

Fig.2.2.6.d Evolution of stocks of Inward FDI in SEECs over the period 1993-2010.



Source: author's elaboration on data from the UNCTAD Statistics Database.

2.3. THE DETERMINANTS OF FDI

The previous paragraph has stressed an important feature of the recent TCs transformation: the relevance of foreign penetration into the economic system of these countries as well as its increasing trend over the latest years. In order to better understand the dynamics undergoing this process, this section will focus on the determinants of FDI in TCs, according to the main literature concerned and some of the most influential empirical works on this subject. The aim is to catch the principal TCs-specific features that attract FDI, while referring both to the general theoretical approaches and to the heterogeneous reality of each region. So far, a wide literature has dealt with identifying FDI determinants, and a thorough attempt to summarize all the diverse trends is given by Dunning (1993), starting from the theories developed prior to the Sixties and adapting the most interesting contributions to the characteristics of the current time, such as in Dunning (2004). As a matter of fact, globalization led to such a significant increase of internationalization that these changes must be taken into consideration when analyzing the Transnational Corporations (TNCs) production strategies. Furthermore, the focus here is on TCs which represent quite new economic subjects into the international scenario, and that, unwittingly, gave a further boost to the economic globalization. The transitional process itself must be related to the increasing attractiveness of TCs in terms of investments; but in what extent

has transition affected the relationships between those countries and the rest of the world? Can Transition be considered as one of the determinants of Inward FDI in these regions? Perhaps, some features of the transitional path are worth to be taken into account, rather than the phenomenon as a whole. In the current part, the thesis will try to identify these features.

FDI occurs with the simultaneous presence of three conditions leading to specific advantages: **Ownership advantages** favoring the investing MNEs over local firms; **Locational advantages** prompting MNEs to produce abroad; **Internalization advantages** which imply to create a subsidiary abroad instead of exploiting the host country resources through other channels and forms of business collaboration (e.g. licensing) (Dunning, 1993; Brenton 1999; Resmini, 2000). This is the so called “OLI Paradigm”.

Table 2.3.1, developed by UNCTAD and inserted into the World Investment Report (WIR) 1998, sums up the principal host country determinants of FDI discussed over time by the concerning economic literature²³. Three blocks are outlined: **policy framework of FDI, business facilitation and economic determinants**.

²³ The Table elaborated by UNCTAD has been integrated in the part of “Economic Determinants” with some points suggested by Dunning (1993).

Table 2.3.1. Main location-specific determinants of FDI.

1-POLICY FRAMEWORK OF FDI		2-BUSINESS FACILITATION	
<ul style="list-style-type: none"> • economic, political and social stability; • rules regarding entry and operations; • standards of treatment of foreign affiliates; • policies on functioning and structure of markets (especially competition and M&A policies); • privatization policy; • trade policy (tariffs and NTBs) and coherence of FDI and trade policies; 		<ul style="list-style-type: none"> • investment promotion (including image building and investment-generating activities and investment-facilitation services); • investment incentives; • hassle costs (related to corruption, administrative efficiency, etc.); • social amenities (bilingual schools, quality of life, etc.); • after-investment services. 	
3-ECONOMIC DETERMINANTS			
<p>A. Market-seeking</p> <ul style="list-style-type: none"> • market size and per capita income; • market growth; • access to regional and global markets; • country-specific consumer preferences; • structure of markets; • the relative costs of producing goods in different countries; • the lack of opportunities of expansion in the home countries • the need to diversify risks. 	<p>B. Resource/asset-seeking</p> <ul style="list-style-type: none"> • raw materials; • low-cost unskilled labor; • skilled labor; • technological, innovatory and other created assets (e.g. brand names); • physical infrastructure (ports, roads, power, telecommunication). 	<p>C. Efficiency-seeking</p> <ul style="list-style-type: none"> • cost of resources and assets listed under B, adjusted for productivity for labor resources; • other input costs, e.g. transport and communication costs to/from and within host economy and costs of other intermediate products; • membership of a regional integration; • agreement conducive to the establishment of regional corporate networks. 	

Source: author's adaptation on UNCTAD World Investment Report (1998) table.

In order to have a clear framework of the potential host country determinants of FDI, we discuss the principal points of each cluster, starting from the one of *economic determinants*, that can be deemed as the traditional ones identified by the literature. In turn, they are grouped into three categories according to the specific motivation driving the FDI. So, in the first case (**market-seeking based investment**) firms are supposed to invest abroad in order to find new markets in which to expand their productive activity or commercial businesses. In spite of the advantages offered by a large new market, it is necessary to evaluate its economic growth which largely represents the result of efficient national economic policies adopted. However, the size and growth of a specific product market may go in the opposite direction compared to those of the whole market. Investing in some countries can be a strategic decision to enter neighboring markets, by exploiting trade channels and preferential trade agreements with other countries²⁴. This is even more relevant when the national (or regional) market of the investing firms is in crisis or does not offer good opportunities to grow; another case occurs when host countries show dynamic markets where the demand of the good produced by foreign investors is high. *De facto*, proximity is an element often influencing market-seeking based FDI, since geographical and cultural affinity can push investors towards neighboring countries. The seeking of new markets is also connected with the costs issue, so that production may be cheaper when internationalized, through horizontal investments²⁵.

In the second case (**resource/asset seeking**) the aim of acquiring both resources and competences is stressed, so that firms chose the foreign location of their investments according to the quantity and quality of both natural and human resources available abroad. In both cases the availability of the production factor must be compared with its real cost, which is supposed to be lower than in the home country. Moreover, the typology of labor sought (skilled or unskilled) depends on the activities and the sectors implied in the investment project; FDI regarding high value added activities, such as in the service sector rather than in the manufacturing one, requires skilled labor, and investors may be attracted by the possibility of giving rise to innovations at lower prices in the host countries.

²⁴ For instance, Serbia is the only European country that signed free trade agreements with the EU, Russia and Belarus, condition that attracts many European investors (in particular from Germany, Austria and Italy) aiming at penetrating the Russian market.

²⁵ While horizontal FDI implies that “subsidiaries serve the local market in the host country” vertical FDI “concerns subsidiaries that add value to products that are not destined (necessarily) for the host country market” (Helpman, 2006). The former responds to a logic of market-seeking, whereas the latter can be related to the efficiency-seeking motive based on cost-advantages.

The third case refers to the opportunity for investors of profiting from cost advantages when producing in a specific foreign market (**efficiency-seeking based FDI**). Among these determinants some are related to the advantages stemming directly from cost differences, whereas some others refer to the benefits coming from the establishment of economies of scale (i.e. membership of a regional integration and agreement conducive to the establishment of regional corporate networks) (Dunning, 1993). In the first definition cost advantages are related to all resources listed in B (resource/asset seeking based FDI), but labor remains the most relevant factor influencing FDI choices. This is particularly evident in highly competitive labor-intensive industries, where the very low cost of labor in some countries (e.g. China and the South Eastern Asia) leads Western MNEs to invest abroad and extend the product value-chain.

The interesting point of the Table is that the evolution of international markets and globalization are considered in the process of classifying the determinants into diverse categories. Both group 1 and group 2 play an important role relatively to the improvement (or establishment) of a proper investment climate able to attract foreign investors. Nonetheless, while the first block is more focused on the general framework which is supposed to receive foreign penetration at the beginning, the second one pertains strictly to the attitude of the host country towards the new foreign business in its national system.

Group 1 mostly refers to **market liberalization policies** (i.e. *rules regarding entry of foreign firms and related operations, standards of treatment of foreign affiliates, policies on functioning and structure of markets, trade policy and coherence of FDI and trade policies*), including both trade and FDI. FDI liberalization is given by the removal of all restrictions applied to foreign investors, the strengthen of some existing treatments that favor foreign business and the introduction of market control mechanisms (WIR, 1998). Over the latest years, countries have adopted FDI liberalization policies more and more consistently, leading to a steady extension of firms value chains and a higher level of production internationalization. This is part of what we call economic globalization and the two processes are one another reinforcing. **Privatization** and **tax policy**, meant as tax reduction, are both very important in the eyes of foreign investors. The former, which has been largely discussed in Chapter 1, implies a reduction of the State interference in the economy and in many case channels the entrance of foreign capital (sales to outsiders). Tax policies are instead relevant cost-advantage determinants of FDI.

Nowadays, liberalization alone cannot attract FDI, but it must be reinforced by a set of governmental actions meant to improve the general entrepreneurial framework within each potential “host-country”, and that are included in group 2 – Business Facilities of Table 2.3.1. That is to say that all facilities needed to receive investments must be either introduced or consolidated, such as *promotion initiatives, incentives, policies or institutions for the reduction of costs related to corruption and lack of administrative efficiency, social services and agencies supporting foreign firms from beginning to end of investment operations*. **Incentives** are among the most important interventions in support of FDI, and include both fiscal and financial benefits. While the former consist of tax holidays, tax reductions, investment allowances, investment tax credits, preferential treatment of profits, the latter refer to cash grants related to the value of assets invested or the number of employees or training costs, and subsidies. In addition, it is more and more frequent that governments plan the creation of special areas in which foreign investors profit by advantageous measures. These are the Export Processing Zones (EPZ), Special Economic Zones (SEZ) and Free Trade Zones (FTZ) combining some fiscal and financial benefits among the ones mentioned with particular administrative systems. Other than simply attracting FDI, these incentives can be also seen as a tool for host countries (cost-effective FDI) to influence the choices of foreign investors towards sectors that are strategic for the national economy (Dunning, 1993). In TCs investment incentives have been increasing over time, especially in CEECs and BCs, whereas in SEECs (except Slovenia) and CISCs the application of these measures lag behind, although a positive and almost steady trend has been registered since the Nineties. Thus, these incentives still play an important role, and this was true especially at the beginning of the transitional path. Actually, in the early Nineties they represented very attractive markets for Western Countries but could not guarantee yet the efficient functioning of their economic systems, mainly featured by structural distortions and weak political organization. Incentives could fill the gap between the necessity to draw FDI and the lack of a proper framework that was totally under reconstruction. Moreover, incentives could offset the incertitude created by the noteworthy tax reforms²⁶ and leave foreign investors outside this internal transformation (Cass, 2003).

The **reduction of corruption** is another important task for the increase of TCs reliability in the eyes of foreign investors. In fact, corruption is part of the worst legacy of

²⁶ Tax reforms represented a crucial issue in TCs since under the planned system taxes on entrepreneurial activities were very high and represented an important share of GDP. With transition, privatization and restructuring policies led to a whole reorganization of the contribution system.

the communist past of these countries, and it does not seem to diminish, at least for the majority of them. Under the command economy the heavy bureaucratization of the State apparatus and the scarce autonomy of the economic actors fostered patronage mechanisms. Furthermore, the shortage, the distortions of the productive system, and the unbalance between demand and supply led consumers to look for goods through non official channels, enhancing all shapes of informal economy, from the households activities to the black ones. Contrary to what was expected, in many cases transition worsened the situation. Because of the macroeconomic and liberalization reforms some people found themselves poorer than before and could rely mainly on informal or illegal traffics, so corruption would be strictly linked to these transactions (Wallace and Latcheva, 2006). In spite of promises of change the inefficiency of the new political governance was not (and still not) able to reduce the privileges of the old bureaucrats, thus not implementing a real redistribution of wealth. Diverse can be the motives for increasing corruption, and not all necessarily connected with the transitional process. Nonetheless, this complex ongoing transformation should not be disregarded on this purpose. Kaufmann and Siegelbaum (1996), in studying the relationship between privatization and the current level of corruption, stress the gap between the holding of “control rights” (whether and how to use a good or resource) and the one of “cash flows rights” (benefiting from the use of that good or resource) occurring under the socialism when politicians had the former but not the latter, that was part of the State Treasure. This situation led bureaucracy to misappropriate the second right and exercise it in order to increase its own wealth on the one side, and to scarcely promote the growth of entrepreneurial profits on the other side.

Table 1 in the Appendix, with data from the survey by the agency “Transparency International” reports the scores of the Corruption Perception Index 2010 (CPI 2010), related to TCs. This index “measures the degree to which public sector corruption is perceived to exist in 178 countries around the world” (CPI 2010 Report), and it ranges from 0 (very corrupted) to 10 (very clean)²⁷. As it is possible to see, except for some CEECs and BCs placed in the first twenty positions of the ranking the general current scenario in TCs regarding corruption is not so bright.

²⁷ According to Transparency International corruption is the “abuse of entrusted power for private gain. This definition encompasses corrupt practices in both the public and private sectors. The CPI ranks countries according to their perception of corruption in the public sector. The CPI is an aggregate that combines different sources of information about corruption, making it possible to compare countries.

2.3.1. Evidence from Transition Countries

Starting from the general considerations stressed in the previous paragraph, the following task lies on the identification of the main determinants of Inward FDI in TCs. Why do international MNEs decide to invest in those countries? The attempt is to provide a coherent survey of the literature concerning with this issue, while considering the natural differences between all TCs. By the evidence on the main contributions of the economists, both in theoretical and empirical terms, it is possible to catch the common features explaining the location investment decisions regarding the TCs; likewise, some regions such as the CEECs and BCs have been studied more in depth than the SEECs and CISCs, due to the higher availability of data and the stronger relevance of the phenomenon itself. Some studies concern a pool of countries, whereas some others focus on one single transitional market. Nonetheless it would be quite difficult to separate literature according the region considered, due to the unbalanced information available.

One of the first contributions in this field comes from the work of Wang and Swain (1995) who make a comparison between Hungary and China, both countries undertaking outstanding changes between the last of the Eighties and the begin of the Nineties. **Market size** and **political stability** result as the most important location-specific determinants in the Hungarian case, over the period 1978-1992. Especially in the case of market size, almost all the contributions mentioned in the following rows identify it as one of the prime FDI motives, generally together with **market growth** (e.g. Pye, 1998; Benacek et al., 2000; Carstensen and Toubal, 2004; Janicki and Wunnava, 2004). The larger is the host country market, the higher are FDI inflows, and the same direct correlation can be seen between foreign penetration and political stability. Nonetheless, the expression “political stability” is meant as political situation preferred by foreign investors rather than disorder; in view of this clarification the estimates show that Hungary gained plausibility with political transition, after 1989. In the case of the SEECs political instability assumes a different meaning, related to the presence of institutional and social disorder in the area; it seems quite obvious that the conflict during the years at the beginning of transition led to heavy incapability of going on with the national path of transformation. In this regard political instability can be vied as a very important factor deterring FDI in SEECs (with the exception of Slovenia, which was the first country to exit the war and the first one to begin the recovery) (Brada et al. 2006). Finally, what is striking in Wang and Swain (1995) is the

non relevance of either growth or labor cost, the latest instead highly significant in the case of China.

In addition to the political situation, the **macroeconomic** and **legal stabilities** represent a crucial point in the attempt of restructuring the whole system. The lack of legal institutions appropriate to the passage from a command to a market economy and the existence of strong structural distortions may weigh heavily on investors decisions, which is particularly evident in the case of CIS (Baniak et al., 2005). The lower degree of attractiveness of TCs still unstable from the legal and macroeconomic aspect generally implies short run (rather than long run) inward FDI.

In their study on Hungary, Czech Republic and Poland between 1991-1993 Lansbury et al. (1996) stress on the importance of **privatization**, as one of the underlying elements of transition, that is confirmed by the forthcoming literature (e.g. Holland and Pain, 1998; Resmini, 2000). The final estimates show that other than the number of **patents** and the intensity of **trade** with the host countries, the method of privatization strongly influences foreign investors choices. In particular, in Hungary the *sale to outsiders*²⁸ (and especially foreign outsiders) was the most implemented way of privatizing State properties. The direct consequence, also evident in the reality, was the higher capacity of attracting investors than what occurred in the other two countries. While in Poland the majority of assets was assigned through tenders and auctions to insiders, the mass privatization with vouchers implemented in Czech Republic allowed the entrance of foreign investors only afterwards. These results are confirmed by following studies (Holland and Pain, 1998; Carstensen and Toubal, 2004). The same can be said for the Baltic region, where especially Estonia implemented forms of privatization (e.g. sales to outsiders) largely involving foreign investors (Hunya, 2004). Finally, the study stresses also the importance of **relative labor costs**, opposite to Wang and Swain (1995) results, suggesting that probably the comparative advantages stemming from different costs must be related mainly to the Czech Republic and Poland. These conclusions are in line with the evidence from the BCs where foreign investors show a greater sensitivity to labor costs, whereas the size and growth of the markets, together with the privatization process do not appear as the prime determinants of FDI (Holland and Pain, 1998). However, cheap labor costs that is ordinarily deemed as the main driver of the current production fragmentation, is quite controversial in literature, and hardly never indicated as the most influential one.

²⁸ See Chapter 1 for a revision of privatization methods.

Nonetheless, what should be pay attention to is the relativity of these costs. Labor costs in the TCs chosen as FDI location may be lower than in the investor country but higher than in other candidate countries, especially Developing Countries. Thus for instance, generally, it is found that labor costs relatively to other TCs are more important determinants than those relatively to other low-costs locations in EU (Benacek et al., 2002).

Beyond some factors already found in previous studies (market size and growth, relative labor costs, political stability of the host country), in the survey conducted by Pye (1998) by sending questionnaires to firms generated from Western FDI operations in CEECs new relevant elements emerge as potential determinants: the **availability of skilled labor** and the **gain of first mover advantages** on the market target (Lankes and Stern, 1999). Contrariwise, literature gives little attention to **tax policy** in the host countries, so that it is difficult to assess whether it could be among the relevant determinants. Woodward et al. (1997) prove that in CEECs special measures taken by the governments to reduce the fiscal burden to foreign investors were highly influential in attracting FDI (Cass, 2003). **Trade costs** (in the definition of tariffs applied to import and export flows) are neither frequent among the determinants tested empirically, but Carstensen and Toubal (2004) find that in CEECs tariffs exert negative influence on foreign investors, so that trade and FDI are complementary in the region. In the same study, the authors evidence also that the higher the **differences in relative labor and capital endowment** between the host country and the investor, the more likely is the FDI toward that country.

Resmini (2000) tests the role of **Transition** as FDI determinant on 10 countries²⁹ from 1991 to 1995. The study lies on the distinction of different activities³⁰ within the manufacturing sector. By using a proxy that measures the country business environment, the authoress obtains a significant coefficient underlying that those countries (notably CEECs) which are ahead in the transitional path attract the highest inflows of FDI, especially in science-based and capital intensive manufacturing sectors. Economic determinants, such as market size and labor costs are also important, even though they appear stronger in the traditional manufacturing activities than in the other categories considered. Transition acquires the same relevance also in Altomonte (2000) whose study aims at put on evidence the contextual transformation of TCs near the traditional determinants of FDI. As in the previous paper of Resmini (2000) the transition variable is a

²⁹ Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Lithuania, Poland, Romania, Slovak Republic, Slovenia.

³⁰ Scale-intensive, science-based, specialized producers and traditional activities.

proxy measuring the degree of influence of host country institutions on investors' expectations, and in this empirical analysis carried out by the author it shows the highest coefficient among the significant ones. In Lankes and Stern (1999), FDI in countries considered as the most advanced ones along the transitional process, is usually export-oriented or implies host countries local subsidiaries to supply the domestic market.

Resmini (2000) also finds that, in the traditional branches FDI is driven by the degree of openness of the host country and the eventual existence of **agglomeration economies**, whereas in knowledge-based activities the **proximity to EU** markets assumes more relevance. Likewise, in the analysis by Kinoshita and Campos (2003) agglomeration economies result as a driving determinant, however not in all TCs. Agglomerations are meant to be as a self reinforcing process usually based on specialization, and it implies several advantages deriving from positive spillovers, the establishment of economies of scale and a greater demand provided by the creation of a larger market. This study is interesting since aims at distinguishing the determinants according to FDI destination, both in terms of country and sector. So, the final empirical analysis on 25 TCs (CEECs, BCs and CIS) shows that in CEECs and BCs where the manufacturing sector accounts the majority of FDI, foreign investors ground their expectations on the quality of host **countries institutions**, the degree of **economic reforms** and the existence of agglomeration economies. Contrariwise, in CIS the main determinants are the large availability of **natural resources at low prices** and the **existence of good infrastructures** (Shiells, 2003). In CIS, FDI is often deterred by the high degree of corruption, the non full security of property rights, the bad tax administration and the macroeconomic instability, so that the extended presence of natural resources, especially in the energetic field, represents the prime motive for investors (Dubrovskiy and Ustenko, 2005).

Also Bevan and Estrin (2004) achieve similar results by analyzing a sample of 11 CEECs and BCs (plus Slovenia and Ukraine) over the years 1994-2000, where inward FDI is likely to be driven by the geographical **proximity** and **positive perspectives on the EU accession**, other than the market size and labor costs. Even though empirical literature has not paid enough attention to regional integration effects so far – except for Brenton et al. (1999) with no impressive results – this aspect is a crucial passage in the current increase of commercial and productive international linkages. The role of geography is stressed also by Deichmann et al. (2003), according to whom FDI in TCs is linked both to economic and social conditions and to the location of the host countries.

A quite different study is made by Bandelj (2000) who focuses on the role of embedness as determinant of FDI in 11 TCs³¹ between 1995-1997, explained as the set of social, political, economic, cultural relations between the investors and the host countries. With an economic sociological perspective, the author confirms his initial hypothesis according to which **political alliances, networks** and **cultural ties** can be very influential in the decision process on the investment location.

2.4. SOME FINAL CONSIDERATIONS

Table 2.5.1 sums up the principal studies concerning FDI determinants in TCs discussed in the previous paragraph. Theoretical and empirical contributions have been divided according to the principal factors driving investments choices that emerge in literature. The scheme allows to develop some conclusive remarks.

³¹ Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia

Table 2.4.1 Literature on FDI determinants in TCs: summary

POLICY FRAMEWORK		
<i>Determinants</i>		<i>Literature</i>
Political stability		Wang, Swain (1995); Woodward et al. (1997); Benacek et al. (2000); Brada et al. (2006)
Macroeconomic stability		Benacek et al. (2000); Carstensen, Toubal (2004); Janicki, Wunnava (2004); Baniak et al (2005); Dubrovskij, Ustenko (2005);
Legal stability		Baniak et al (2005)
Privatization		Holland, Pain (1998); Lansbury et al. (1996); Carstensen, Toubal (2004)
Tax policy		Woodward et al. (1997); Cass (2003); Carstensen, Toubal (2004)
Transition		Altomonte (2000); Resmini (2000); Brada et al (2006)
Trade costs		Carstensen, Toubal (2004)
Institutions (quality of)		Kinoshita, Campos (2003)
Economic reforms		Brada et al (2006); Kinoshita, Campos (2003); Hunya (2004)
BUSINESS FACILITIES		
<i>Determinants</i>		<i>Literature</i>
Policies promoting FDI		Brenton et al. (1999); Cass (2003); Hunya (2004)
Administrative efficiency		Dubrovskij, Ustenko (2005)
Political alliances/networks		Bandelj (2000); Dubrovskij, Ustenko (2005)
ECONOMIC DETERMINANTS		
<i>Determinants</i>		<i>Literature</i>
Market seeking	Market size and growth	Wang, Swain (1995); Woodward et al. (1997); Pye (1998); Altomonte (2000); Benacek et al. (2000); Resmini (2000); Bevan, Estrin (2004); Carstensen, Toubal (2004); Janicki, Wunnava (2004)
	Trade	Holland, Pain (1998); Benacek et al. (2000); Resmini (2000); Kinoshita, Campos (2003);
	Gain of first mover advantages	Pye (1998); Lankes, Stern (1999)
	Proximity	Holland, Pain (1998); Resmini (2000); Deichmann et al. (2003); Bevan, Estrin (2004)
	Accession to EU	Hunya (2004)
Resources/access seeking	Natural resources at low P	Kinoshita, Campos (2003); Shiells (2003)
	Availability of skilled L	Pye (1998); Lankes, Stern (1999); Carstensen, Toubal (2004); Lansbury et al. (1996)
	Differences in relative L and K endowment	Carstensen, Toubal (2004)
	Infrastructures	Shiells (2003)
Efficiency seeking	Unit L costs	Kinoshita, Campos (2003); Bevan, Estrin (2004)
	Relative unit L costs	Lansbury et al. (1996); Holland, Pain (1998); Altomonte (2000); Benacek et al (2000); Carstensen, Toubal (2004); Janicki, Wunnava (2004)
	Agglomeration economies	Benacek et al. (2000); Resmini (2000); Kinoshita, Campos (2003)

Source: author's elaboration

Economic factors are detected as the prime determinants of FDI, also in TCs. The majority of them refers to market seeking based FDI, such as *market potential* (inclusive of both market size and growth), the degree of *trade* relations with other countries and *geographical proximity*. In addition, also the *relative labor costs* (efficiency seeking based FDI)

and the availability of *skilled labor* (asset seeking based FDI) are usually considered by foreign investors. Although the lower level of productive factors in the host countries, especially labor, relatively to the investing countries matters it is not found to be the first driver of inward FDI in TCs, and not surprisingly the presence of skilled labor (whose price is however lower) is considered.

Due to the unbalanced availability of studies on TCs, the sources have not been split according to the country or region accounted; nevertheless, the relevance of each determinant strongly depends on countries heterogeneity. For instance, efficiency seeking based FDI and the higher sensitivity to labor costs occur more frequently in SEECs, BCs and CISCs than in CEECs. In fact, the latest offer favorable economic determinants, mostly connected with the *stable macroeconomic framework* and the efficient implementation of *economic reforms*. The empirical evidence shows that some countries, i.e. Hungary, the Czech Republic, Poland, Estonia, Slovenia, have been attracting more FDI than the other TCs whose cost of labor is much lower. The explanation lies on the fact that efficiency gains must be counterbalanced by the risk of the investment, so that MNEs first wish to go to the most developed TCs, and afterwards evaluate the cost advantages as well. In this regards *privatization policies* and the *transitional path* of each country matter significantly, and “policy framework” is given high importance by the literature concerned. Thus, initial conditions, both economic and political, can be seen as an useful parameter in the analysis of determinants. The structural differences among TCs and their capacity of develop the national economic system along with globalization, shape also their capability of attracting FDI. The considerable problem existing in the CISCs has to do with the macroeconomic instability of this area, which leads MNEs to short run investments. In the case of SEECs the main deterrent during the Nineties has been represented by the political instability, even though these countries have recently shown important recovery attempts and aspire to enter the EU. Nonetheless, both regions lag behind to CEECs and BCs in attracting FDI, and much more should be done in terms of both macroeconomic and business policies. It is clear that these difficulties are related in a sense to the condition of transition of the countries concerned, and to the instruments implied to face it, obtaining clearly very diverse outcomes.

Finally, from Table 2.4.1 is possible to notice that still scarce attention is paid by literature to “business facilities” determinants. Contrariwise, the channels aiming at promoting a favorable business climate at foreign investors’ eyes must be enforced and

added to policies for the increase of administrative efficiency and the reduction of corruption in the relationship between politics and economy.

2. 5. FURTHER STEPS

Now that a general framework of FDI in TCs has been given, the following chapters will focus on some consequences of foreign penetration in the host economic systems. The initial aim was to delve deeper into the real impact of TCs openness, and in particular their world integration through FDI, by implementing an empirical analysis of data. Thus, by keeping in mind the theoretical remarks of the first part and the main experts' contributions, Chapter 3 and 4 use econometric methodologies in order to deepen two very specific questions related to TCs and Inward FDI.

General literature on FDI impact in host countries is fairly wide and includes several studies, both theoretical and empirical, that show a heterogeneous scenario of final results. The low degree of convergence that we can find in this research field has to be related to some important factors: the host country taken (Developing Country, Least Developed Country, Developed Country), considering that economic conditions of each context matter in foreign investors' choices; the type of econometric technique implemented for the analysis; the quality and availability of data. Thus, it is very difficult to provide a general summary without considering this heterogeneity.

Very briefly, the main issues on FDI impact addressed by literature concern the following fields:

- **host country labor markets**, both in terms of wages and employment: the presence of MNEs can affect domestic labor markets both positively and negatively. As for wages, while the first case occurs when the MNEs wage premium leads to a general increase of wages, in the second case MNEs may hire only skilled local workers decreasing the potential of the market (Lipsey and Sjöholm, 2004). Yet, the starting point to be clarify concerns whether the MNE offers wages that are higher than the one given by domestic firms, which is particularly true in Developing Countries taken into consideration by most literature on FDI effects. When the level of employment is considered, the general conclusions often find a positive impact of Inward FDI, even though the demand of only skilled or

unskilled labour may cause distortions within the domestic market and, eventually, decrease the quality of its supply.

- **Productivity of the host country firms** regarding a large part of the literature. Positive effects can be detected, and they may be due to the establishment of technological externalities operating through spillovers from foreign to domestic firms. A consequent rise of host country firms productivity may also derive from the higher level of competition brought about by MNEs; in such a context local firms are forced to produce better and more efficiently. Nonetheless, it is to remark that in many countries MNEs take over the more efficient local firms causing an “impoverishment” of the domestic entrepreneurial context (Lipsey and Sjöholm, 2004).
- **Growth of the host country economy**, an argument on which there are very controversial positions. This aspect is strictly related to the previous point and the existence of technological externalities, since positives spillovers increasing the productive capacity of local firms may contribute to a general economic growth. This is the most analysed aspect so far. Nonetheless, growth may originate by higher competition or an enlargement of the market due to the “capture” of more consumers. Regarding to the TCs Kinoshita and Campos (2003) support the positive linkage between Inward FDI and growth by underling the good availability of human capital endowment in these countries, which would ease the transfer of know-how and knowledge.
- **Structure of the host country productive system** due to the introduction of new goods on the markets or new technologies. The entrance of a MNEs on a market certainly exerts some effects on the functioning of the internal economic relationships, across industries and between competitors. The degree of this change depends on the flexibility and dynamism of the host country; in Developing Countries foreign penetration may modify the domestic market more markedly.
- **Competitiveness of the host country market**; due to the likely increase of exports. This positive effect may occur thanks to the better knowledge of the world market that MNEs have in comparison to host countries firms, especially in Developing and Transition Countries. This higher awareness allows entrepreneurship to adopt proper instruments to face international markets and to implement good strategies in order to gain competitive advantages.

One of the main issues is related to the capacity of host countries firms to begin an independent developmental path based on local forces and competences. While on the one side there is a lack of entrepreneurship, on the other side FDI tends to concentrate on locations with higher quantity and quality of resources, which may correspond to specific sectors. Sometimes MNEs exploit the economies of scales deriving from existing industrial clusters in the host country, and add up to their local enlargement; or, FDI, especially in services, may be directed to big towns offering many facilities and advantages. Whether this process is important for the host country itself it depends both on the way it is established and the recipient. What is clear is that a polarization of investment occurs and it may lead to uneven and dependent development. Foreign penetration is very often linked to the establishment of a “dual economy” composed by two types of firms. First there are the local firms taken over by MNEs: they are able to catch the positive spillovers from them and are generally introduced into transnational networks; second, there are the domestic owned enterprises whose productivity capacity is lower than MNEs since it may be still dominated by old socialist linkages. For this reason this latest type satisfies a local and very vulnerable demand (Pavlínek, 2004). The lack of knowledge and know-how transfer causes that only some regions benefit from foreign presence, whereas the majority of the host country keeps living in the same conditions. Furthermore, this polarization comes with other relevant problems, such as the urbanization and poverty raise.

The following Chapters 3 and 4 attempt to deal with two effects which literature has not paid so much attention to: the impact of foreign penetration on host countries income inequality and how the presence of MNEs affects the domestic capacity of develop entrepreneurial initiatives. This two levels of analysis strongly differentiate both for the study perspective and the empirical methodologies used in data processing. The aim is to deepen the investigation on TCs along two fields which contribute to expand the knowledge of these countries, thus giving more originality to the work. At the same time, both income inequality and the degree of development of entrepreneurship, measured in this case as the capability of survival of domestic firms, go beyond the simple concept of “economic growth” often stressed by traditional literature. Rather, both arguments may be connected to a sort of “developmental growth” that combines social and economic factors. In regard to the specificity of TCs this kind of analysis allows to consider some features that are peculiar of the transition, using the first part of the work to interpret the results of the second one. Furthermore, while Chapter 3 uses a pool of TCs and country data,

Chapter 4 focuses on what happens only in two TCs by processing firm specific data and accounting for the issue concerned more in detail.

Chapter 3

International Openness and Income Inequality in Transition Countries

International Openness and Income Inequality in Transition Countries

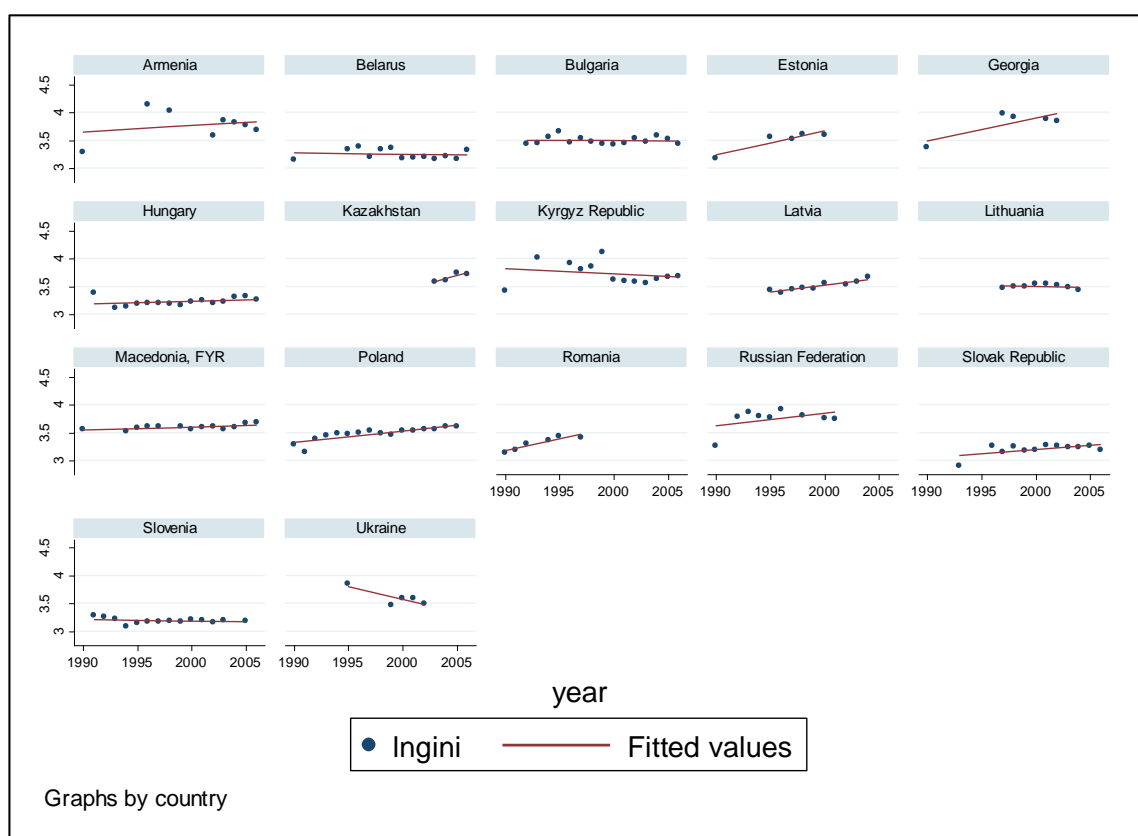
3.1. INTRODUCTION

In this chapter we will try to analyze the relationship (whenever it exists) between the openness process of TCs and the level of income inequality within each country. The attention paid to “within” inequality rather than to “between” inequality deals with the objective of identifying the well-being evolution of the population in TCs after the collapse of the Eastern bloc. There are several reasons to believe that there is a connection between the two phenomena, especially because Transition brought about radical changes in the economic sphere. The shift to a liberal system and the absence, at least at the beginning, of proper institutions together with the lack of a deep knowledge of the markets functioning, led to profound unbalances whose effects rebounded on the living conditions of people. Thus, if the first effects were on the economic structure of TCs, the most painful and visible consequences had to do with the social sphere, and the general unrest within it. Along with the analysis conducted in the previous two Chapters the focus is on FDI, compared with trade, as a potential determinant of social inequality, and a valid indicator of international openness.

All the mechanisms occurred since the beginning of the Nineties in the CEECs, SEECs, BCs and CISCs have been discussed in Chapter 1, and in particular with the drastic fall of output and employment and the rise of inflation, these countries entered a period of economic recovery which also corresponded to a radical structural transformation. The economic Transition supported by specific policy reforms was supposed to bring new opportunities of development, but transformation also hid threats whose impacts were harder in these “new born” economies. Before the collapse of the Soviet Union unemployment was nearly nonexistent and wages (as prices) were fixed; in this context inequality was very low and trade represented only a State monopoly. With privatization and liberalization, in spite of the large labor supply, demand was lower and, consequently, labor market was much more selective: at the beginning of Transition many SOEs were

being restructured whereas some others were simply dismantled, and the private sector was still too weak. In such a context, one of the most evident consequences of transition was a general rise of income inequality in all TCs, despite the differences among countries due to the heterogeneity of paths of reforms, especially in terms of speed and conditions (Gomulka, 1994; Svejnar, 2002). Fig. 3.1.1 shows the income inequality trend within some of TCs; the indicator used is the coefficient of Gini ranging from 0 (absence of inequality) to 1 (maximum level of inequality). The presence of just a part of TCs depends on the availability of data, which strongly influences the following empirical analysis as well. It is possible to notice that in almost all countries there is an upgrading trend of the Gini index, although in a few contexts this trend is barely perceptible and in some others it is downward; nonetheless, this latest case might be caused by the missing data in the middle years, as in the case of Ukraine, where the graph lacks of values between 1995 and 2000.

Fig. 3.1.1: Income inequality in TCs, measured by the Gini coefficient, 1990-2006



Source: UNU-WIDER World Income Inequality Database, Version 2.0c, May 2008 (WIID2)

Both theoretical and empirical literature has singled out several potential determinants of within country inequality relatively to TCs. Ferreira (1999) recognizes that

three factors are at the base of income inequality increase: privatization, the establishment of new markets in sectors that were previously under state control and changes in the returns associated to different skills. Following Ferreira's (1999) analysis, Milanovic (1999) underlines the relevant shift of workers from the state sector being dismantled to either the private one or unemployment; the result is a rising wage inequality among sectors. In the same way, Aghion and Commander (1999) shed light on price liberalization, changes in the level and structure of public spending, tax reforms and trade liberalization, assessing that in the long run the trend of income inequality depends basically on the differences between sectors productivity and wages concentration within each of them. With respect to external flows of knowledge that may be seen as potential determinants of inequality as well, we can notice from data the steady increase in FDI and trade flows in almost the whole area. The neglect of the planned system gave a boost to private initiative, opened countries borders and pushed them towards the international economic system. This trend represents the evidence of the higher foreign openness adopted since the first year of transition.

The investigation of the effects of openness on host countries has been at the center of the literature concerned from several points of view and using different theoretical backgrounds. In particular, the role played by FDI in fostering host countries growth has proved to be a relevant issue, even though the empirical results obtained are far from being conclusive (Smeets, 2008). Contrariwise, the effect on inequality has been to a certain extent disregarded from the analysis. In this respect the openness-inequality relationship was even less thorough in the case of TCs, since very few studies have tried to account for it so far (Bhandari, 2007; Grimalda et al., 2010; Barlow et al., 2009). In order to delve deeper into the analysis in this field and to offer further contributions to future studies, this chapter includes both a theoretical and empirical section. The use of econometric methodologies gives the opportunity to make a comparison with reality, while accounting all the features of Transition discussed so far. Thus, based on previous findings related to the general globalization impact on income distribution, the aim of this section is to find evidence of a causal relationship occurring from FDI to income inequality. For a more exhaustive comprehension of the causal dynamics, some attention has been paid also to trade flows taken as comparison point of FDI.

In particular, the theoretical underpinnings of our study are based on the model by Aghion and Commander (1999), later taken up by Figini and Görg (2006), in which it is considered the effect of inequality in the long run. The contributions we give to the

literature are mainly two: first, we provide new empirical evidence of the non linear effect of both FDI and trade in TCs by comparing an econometric static model, that is through Fixed Effects estimator (FE), with a dynamic one, that is through Least Square Dummy Variable Corrected estimator (LSDVC). Second, we consider the role played by education in mediating the effect of openness on inequality. The sample used is an unbalanced panel of 17 TCs³² with observations spanning over the period 1990-2006.

3.2. THE LITERATURE

The literature on the relationship between income inequality and international openness is not very rich and it is quite recent. In this section, we go through the main contributions about FDI and trade, respectively. Until now, only a few studies have attempted to analyze this issue in TCs, while focusing on much larger and heterogeneous samples of countries.

3.2.1. FDI and income inequality

Globalization era is characterized by an increasing and widespread inequality and this fact has probably led recent literature to focus on distributional effects of FDI rather than on those related to economic growth. Modernization and Dependency theories can be deemed as the first attempts to delve deeper into the matter; while those supporting the Modernization standpoint, closer to neoclassical positions, identify a positive effect of foreign industrial penetration on host countries, the *Dependistas* deny the idea of development transfer. Dependency theorists highlight the neocolonial mechanism (Chase-Dunn, 1975) or “development of underdevelopment” (Frank, 1969) which occurs when the internal élites linked to the export-oriented sectors favor foreign penetration and prevent the development of indigenous manufacturing (Rubinson, 1976). Consequently the result is an uneven distribution of wealth both between and within countries, which puts back, or even hampers, the economic growth process.

Nonetheless not all the analysis predicting negative effects on income distribution find statistically significant results (Kaufman et al, 1975), which suggests to take into consideration different factors that may filter the direct effects on foreign penetration, such

³² Armenia, Belarus, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia, Poland, Romania, Russian Federation, the Slovak Republic, Slovenia, Ukraine.

as the GDP growth, the original level of development or the role of the central government. In Bornschier and Ballmer-Cao's (1979) study the government intervention into the economy shows a negative and highly significant coefficient relatively to the Gini index. Further empirical analysis demonstrate that FDI tend to control over the power structure, eventually preventing the state from a greater intervention into the economy and a higher promotion of distribution policies which could damage FDI.

The literature on FDI and income inequality which follows the first Modernization and Dependency studies is quite heterogeneous, due to the introduction of new factors which allow for a deeper analysis of the economic mechanisms underlying inequality. According to Kholi (1984) the political regime assumes a greater importance than FDI in order to explain short term changes. FDI eventually affect the long-term structure of countries but, in the short run, the level of democracy is a better indicator for income distribution. Many authors focus on labor market structure and wages. Evans and Timberlake (1980) hypothesize that in Developing Countries FDI lead to a distortion of the local labor market and finally demonstrate that the effects on income inequality are mediated by the growth of the service sector. Bhandari (2007) uses a sample of 19 TCs recognizing that while FDI are not relevant and eventually may reduce income inequality, they affect negatively wage distribution. As a logic consequence, since the overall level of inequality does not seem to be altered by FDI, capital income inequality in selected countries should decrease. If the existence of some sort of labor market distortion due to foreign penetration is assumed, we have to investigate on the wage premium paid to local workers by Multinational Enterprises (MNEs) and on the decreasing returns to capital after its accumulation in the host countries which drives up wages (Jensen and Rosas, 2007).

All these issues are related to the distinction between skilled and unskilled labor. Feenstra and Hanson (1997) by analyzing the impacts of FDI and trade penetration in Mexico, find that skilled labor demand and wages increase in both countries through FDI and trade, leading to a more unequal distribution of income. In the USA the use of skilled labor is more intensive, whereas Mexico has a comparative advantage when the production processes require a more intensive use of unskilled labor. The shift of intermediate goods production from the USA to Mexico increases the demand of skilled labor in the latter one relatively to other Developing Countries and increases the demand of unskilled labor relatively to Developed Countries. Figini and Görg (2006), following the reasoning by Aghion and Commander (1999), find evidence of a non-linear relation between FDI and

income inequality in Developing Countries, due to the introduction of new technologies. The process outlined by FDI follows an inverted U-shape curve: at the beginning host country's firms need more skilled labor to adopt the new technology the demand and the relative price for skilled workers increases thus raising labor market segmentation and wage inequality. In the second phase, when the amount of FDI increases, local firms are able to shift to a higher technological level by imitating foreign companies, in this way reducing the wage gap between skilled and unskilled workers. At the end of the process only skilled labor is employed. Some authors have paid much attention to human capital as a measure of a country's capacity of adopting new technologies. Basu and Guariglia (2007) analyze this effect considering that the initial distribution of human capital may affect FDI outcomes in different ways; if the level of human capital is low, i.e. below the minimal threshold, the correlation between FDI and income inequality will be negative, because the country's growth rate is faster than the one occurring with higher levels of absorptive capacity (Basu and Guariglia, 2007). To take into account this effect, Figini and Görg (2006) include a variable representing the interaction between FDI and the level of education into their model: the new variable is significant and positively correlated to the Gini coefficient in OECD countries case, thus confirming previous assumptions.

Further studies have put forward interesting results by linking the analysis to the specific context considered. Geographical dummies are introduced into the models to show how the correlation between FDI and income inequality may vary according to geographical differences. For example FDI coefficients for Latin American countries seem to be generally significant and positive (Tsai,1995; Bussmann et al, 2002; Choi, 2006). As regards the analysis of economies in transition, Barlow et al. (2009), in their study on twenty TCs over the period 1990-2004, do not found any significant role of FDI in increasing inequality. More specifically, the significance of FDI vanishes when the time dummies and some specific institutional factors, like privatization and price liberalization, are added into the model. Nonetheless in their subsequent paper (Grimalda et al., 2010) the disaggregation of FDI according to their destination underlines relevant inequality-enhancing effects of FDI in the case of the EU NMS, relatively to CIS and SEECs.

3.2.2. Trade and income inequality

Literature on trade and income inequality relations is slightly richer and deeper, even though not necessarily more homogeneous concerning studies' outcomes. The topic

has been analyzed both by international and labor economists; recent literature has considered the two standpoints together, in order to explain the way in which openness affects wage distribution (Richardson, 1995). Nonetheless analysis cannot be limited to this issue since labor income does not represent the total income, as it is evident especially in Developing Countries (Spilimbergo et al, 2003). The starting point of the debate is to be found in the Heckscher-Ohlin and Stolper-Samuelson theorems assumptions. The theorems predict that a country exports (imports) the goods whose production employs the factor relatively more (less) abundant; since the income of this factor will increase, the consequence of trade is a shrink of inequality in Developing Countries and an increase in Developed ones. However, most of the theoretical and empirical studies, hardly support H-O-S reasoning. Reuveny and Li (2003) find only a partial evidence of the theorems since the empirical tests show that trade decreases income inequality in Developing Countries, but the same occurs in Developed ones. Davis (1996) states that the dynamics may be reversed if local, instead of global, country's factor abundance is taken. In this perspective a Southern country can be deemed as capital abundant relatively to its production cone, and it will see its wages reduced by trade. Both Cooper (2001) and Milanovic (2005) provide results that underline how trade increases income inequality in poorest countries and causes a decrease in middle income and rich ones. The same conclusion is drawn by Spilimbergo et al. (2003) whose study focuses on countries relative factor endowments. The authors find a negative correlation between inequality and the relative endowment of factors whose accumulation can be limited, such as the skill intensity. The introduction of variables of interaction between trade openness and those factor endowments allows the authors to test the negative effect of trade on income distribution in countries with a relatively high endowment of skilled workers and a positive effect of the same variable in those which are relatively capital-abundant. This is due to the fact that globalization and technological change in the skill-intensive sectors produce a multiplicative effect which increases income inequality (Learner,1994).

Several studies on this argument seem to differ in results depending on the measure used for openness. Lundberg and Squire (2003) find that the Sachs-Warner index on openness policies positively affects income inequality, whereas trade volume, measured by the sum of imports and exports as a percentage of GDP, is not significant. The same conclusions are drawn by Dollar and Kraay (2004). In Li et al. (1998) exports are taken as openness measure and they are negative; conversely, in their study on China, Wei and Wu (2001) find out that exports decrease rural-urban income inequality, which is the major

component of the overall *within* inequality. This divergence could be explained by accounting for the presence of new industrial agglomerates within Chinese rural areas. Meschi and Vivarelli (2009) show how trade can affect income inequality in Developing Countries through a skill bias technological change. Skill-intensive technologies shift from Developed to Developing Countries through trade channels and by increasing the skilled labor demand and the relative wage, as already predicted by Feenstra and Hanson's model on FDI (Feenstra and Hanson, 1997). More relevant, by disaggregating the overall trade by imports and exports according to the partner country, especially exports with Developed Countries appear to be significantly and positively correlated with income inequality. The authors test the initial hypothesis on two subsamples, Low Income Countries (LICs) and Middle Income Countries (MICs), and find that only in MICs, which have a higher technological catching up potential than LICs, trade negatively affects income inequality.

Similar results have been found in the case of Transition Economies, where the trade structure based on intermediate goods leads to a fall of unskilled labor demand and a consequent raise of inequality (Aghion and Commander, 1999). In Barlow et al.'s (2009) only exports show a significant and positive effect, whereas imports do not seem to be relevant. Nonetheless, the impact of both privatization and price liberalization is stronger than the one exerted by globalization. After combining globalization and institutional factors, the authors find that exports may eventually weaken the negative consequences of small scale privatization and price liberalization. Moreover Grimalda et al.'s (2010) study reveals again that the impact of both exports to and imports from EU is stronger in the case of the NMS than CISCs and SEECs.

3.3. THE CONCEPTUAL FRAMEWORK

The theoretical framework used to specify our empirical strategy follows the one employed in Figini and Görg (1999; 2006) that draws in turn on the model developed by Aghion and Commander (1999). The model is based on a production function in which output Y is given by using intermediate inputs x , and labor is the only factor of production in sector i .

$$Y = \left\{ \int_0^1 A_i^\alpha x_i^\alpha di \right\}^{1/\alpha}, \quad 0 \leq \alpha \leq 1 \quad (1)$$

In equation (1) A represents technology; if $A > 1$ new technology is adopted, whereas if $A = 1$ old technology is used. In Aghion and Commander (1999)'s model two different stages of domestic firms technological development are described. The authors envisage a process of adaptation leading the economy to switch from old to new technology, after the introduction of new technological knowledge into the system. It is assumed that the new technology requires skilled workers, but firms need time to adapt so that initially both unskilled and skilled labor is employed in the old-technology sectors. Workers from both categories are paid the same amount. At a further stage, if firms are successfully able to adopt the new technology, demand for skilled labor increases thus raising inequality. When technology is adopted by all firms, unskilled labor demand is non-existent, eventually only skilled labor is employed, and inequality decreases. Thus, a fragmentation of the labor market occurs, and it leads inequality to follow an inverted U-shape with an upward trend in the short run which turns downward in the long run.

We interpret this model by assuming that new technology can be introduced by both FDI and trade. *In particular, we hypothesize that when new technological knowledge is available to the domestic production system of the host country an initial rise in inequality occurs, as domestic firms, trying to adopt the new technologies, employ a higher ratio of skilled workers. However, inequality should progressively decrease as firms continue the process of imitation and raise the amount of skilled workers employed.* The speed of the adjustment described depends on the initial conditions of each country, so that a good absorptive capacity may shorten the transition period related to the technological adaptation. Different effects also depend on whether trade with Developed or Developing Countries is considered. In the latter case, trade flows may involve older technologies and cause an equalizing effect eventually reverted in the long term. Differently, trade flows with Developed Countries may show an early skill enhancing effect eventually weakened in the long run. Reasons are however different with respect to imports and exports. Countries import embodied foreign knowledge that, besides having a positive impact on productivity, may cause an increase in inequality. Specific skills may be required to absorb imported technologies thus causing higher wage differentials (Robbins, 2003). As for exports, if receiving countries require specific high quality standards, the increasing employment of qualified workforce still leads to the already mentioned fragmentation of the market (Fajnzylber and Fernandes, 2006). Nonetheless, these expected signs may change when the human capital endowment of receiving countries is taken into account. Indeed, as evidenced in Anderson (2005)'s review

the role played by human capital needs to be investigated further as it may result ambiguous: Spilimbergo et al. (1999) and Fischer (2001) ascertain that the greater the endowment of human capital of a country the stronger the effect of openness on inequality.

3.4 THE EMPIRICAL APPROACH

The empirical strategy carried out reflects the theoretical framework described in the previous section aimed at investigating a potential non linear effect of both FDI and trade on income inequality. The baseline of the empirical specification is the following:

$$GINI_{it} = \beta_0 + \beta_1 OPEN_{it-1} + \beta_2 OPEN^2_{it-1} + \sum \beta_k X_{ikt} + \eta_t + u_i + e_{it} \quad (2)$$

where *GINI* is the Gini index measuring *within* income inequality in country *i* at time *t*; *OPEN* represents the openness variable that is considered to be FDI and trade, alternatively. However, we also assume that trade can be decomposed to take into consideration that imports and exports, together with their origin and destination, may influence inequality in different ways. *OPEN squared* is added to test the non-linearity of the relationship with the Gini index. In all specifications both openness variables are included in the model lagged one year: in this way we are able to control for a delayed impact on inequality, also mitigating a possible problem of endogeneity.

X_k is a vector of control variables (GDP per capita, education, inflation, service sector), u_i is the idiosyncratic component that measures time invariant country specific effects and e_{it} is the traditional error term. Through the use of panel data we are allowed to account for individual country heterogeneity avoiding, or at least minimizing, potential misspecifications. Indeed, pooling all countries together may lead to potential wrong estimates as it omits unobserved country specific effects. For these reasons, in the first step of the empirical analysis we estimate the model by using the FE estimator. Indeed, the use of the simple pooled OLS model would produce unreliable estimates as the F-test demonstrates the existence of heterogeneity across countries³³. Two points are worth noting: first, we include time dummies (η_t) in order to account for business cycle effects, and *de facto* the F-test always rejects at 1% level of significance the null hypothesis of non

³³ The null hypothesis is always rejected at 1% level of significance.

relevance of those variables; second, through the modified Wald test of groupwise heteroschedasticity³⁴ we always reject at 1% level of significance the null hypothesis of homoschedasticity forcing us to estimate the model with robust standard errors.

In the second step of the empirical analysis, we include the lagged dependent variable to take into account a dynamic specification. In this way, we are able to control for the fact that inequality may be persistent across time, and furthermore it may be dependent on factors that change slowly. The model estimated is the following:

$$GINI_{it} = \beta_0 + \beta_1 GINI_{i,t-1} + \beta_2 OPEN_{it-1} + \beta_3 OPEN_{it-1}^2 + \sum \beta_k X_{ikt} + \eta_t + u_i + e_{it} \quad (3)$$

However, due to the inclusion of the lagged dependent variable we encounter problems of endogeneity. There are two possible methodologies to solve this problem: the first is that of using a LSDVC estimator (Bun and Kiviet, 2003) which can also deal with unbalanced panel, as it has been extended by Bruno (2005). Starting from an autoregressive panel data model, we suppose to adopt the LSDV estimator by applying a within transformation to wipe out individual effects. Nevertheless, the presence of a lagged dependent variable may bias the estimates. A way to tackle the bias is to measure it: through Monte Carlo simulations, Bun and Kiviet (2003) and Bruno (2005) calculate three possible nested approximation of the bias; in our regressions we use the one deemed to be the most accurate (B_3) in their notation. Thus the LSDVC estimator is equal to:

$$LSDVC = LSDV - B_3 \quad (4)$$

The procedure needs to be initialized by a consistent estimator that can be chosen among the Anderson-Hsiao, Arellano-Bond and Blundell-Bond: in this study, we initialize the bias correction with the Blundell-Bond estimator even though the three options are all asymptotically efficient. Furthermore, we test the significance of LSDVC coefficients using bootstrapped standard errors (200 iterations); this methodology may correct the poor approximation which is provided by the estimated asymptotic standard errors leading to unreliable t-statistics. However, one of the main limit of the LDVC estimator is that all independent variables need to be considered as strictly exogenous: besides variables

³⁴ This test is run after having estimated model with fixed effect.

measuring openness, this may be also the case for some regressors standing as proxies of the level of education or the level of GDP, as a reverse causality may actually be present (Benabou, 1997; Galor and Zeira, 1993)

Another method to deal with the endogeneity problem of both lagged dependent and independent variables is the Generalized Methods of Moment (GMM), and in particular the System – GMM estimator (SYS-GMM), as proposed by Blundell and Bond (1998). However, this econometric technique may not result efficient in the case of small sample, especially when the number of N is so low (N=17). For this reason, we report the results in Appendix bearing in mind to interpret them with caution. When using this estimation technique, we instrument possible endogenous variables by using their own lags. Finally, as Madariaga and Poncet (2007) sustain, we use the one step instead of the two step estimator, in order to prevent biased estimates even though the latter would be more efficient.

The final step of the empirical strategy tests whether the effect of education may result more relevant when we interact it with the openness measures. Our hypothesis is that higher levels of education may decrease inequality and accelerate the process of adjustment to the adoption of new technology. The panel we use is made up of 17 TCs observed over the period 1990-2006. The natural logarithm of all the variables is taken in order to interpret the coefficients as elasticities and to minimize the likely influence of outliers. Furthermore, we test the presence of unit roots following Maddala and Wu (1999) and finding that all series are stationary³⁵.

3.4.1. Data description

Income inequality is measured by the Gini index (*GINI*) which ranges from 0, when the income distribution is perfectly equalitarian, to 1, representing the highest level of inequality. This index is not necessarily the best and the latest measure available for such an analysis; nonetheless, both the set of countries included in our sample and the widespread use of the Gini index in literature, have strongly influenced the choice of this measure with respect to others. Data come from the UNU-WIDER World Income Inequality Database, Version 2.0c, May 2008 (WIID2). The WIID2 is an updated edition of the previous WIID1

³⁵ We always reject the null hypothesis of unit root at 1% level of significance.

Version 1.0, September 2000, and the sources for data, other than the national ones, are the Deininger & Squire database from the World Bank, the Luxembourg Income Study and Transmonee, the latter mainly concerning TCs. Since the database is quite heterogeneous in terms of inequality conceptual base and statistical unit used, a strict selection of data has been made to facilitate their comparison (Ivaschenko, 2002; Bhandari, 2007). The current sample contains 170 observations based on similar income definition (income disposable/gross, monetary income disposable/gross); the unit of analysis is the household, when considering a group of people who share some resources and a dwelling, or the family, when considering only natural linkages between components; the household/family per capita equivalence scale has been chosen to account for the size of the households/families; observations refer to the entire population of the whole national territory and to all ages. Finally, we keep those data with the highest quality rate. The index is reported in percentage points.

The variable *OPEN* (openness) includes data on inward FDI, overall trade, imports and exports. Data on FDI (*FDI*) come from the World Investment Report (2009) edited by UNCTAD. We decided to take the stock value of inward FDI, “which is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprises” (WIR, 2009). It is measured as percentage of GDP. As Bornschier (1978) notes, the choice of using FDI stocks rather than flows, is quite relevant; whereas the first measurement shows the total amount of foreign capital within a host country, the second one relates to the temporary entry of foreign investment. The measure of overall trade (*TRADE*) is represented by the sum of imports and exports as percentage of GDP and it is taken from the World Development Indicators (WDI, 2009) database of the World Bank. In further specifications, in order to deepen our analysis, trade is disaggregated into imports and exports as percentage of GDP, specifying the origin and destination of these flows. Goods coming from Developed Countries (*IMPED*) may be very different from those coming from Developing Countries (*IMPING*) and this difference is mainly concerned with the technological level embedded into the products. The same reasoning can be extended to exports towards Developed (*EXPED*) or Developing Countries (*EXPING*). Data on imports and exports from and to Developed and Developing Countries are taken from the UNCTAD Handbook of Statistics (2009).

GDP per capita (*GDP*), as a traditional measure of economic development, has been included into the model. Many papers test the linearity of the GDP-income inequality relationship in order to assess the existence of an inverted U-shaped curve as predicted by Kuznets (1955). Empirical evidence of the Kuznets curve is quite controversial and much of recent literature has not confirmed such theory according to which in the long run, as GDP grows, income inequality decreases, after an initial period of worsening of income distribution (Ivaschenko, 2002; Bussmann et al., 2002; Choi, 2006; Meschi and Vivarelli, 2009). For this reason, we decided not to include the quadratic value of GDP per capita into the model but to include only the GDP per capita variable. It is computed in terms of Purchasing Power Parity (PPP) with reference to 2005 constant international Dollars.

Based on previous theoretical specifications we add a variable measuring the educational level. The secondary school enrollment (*SEC*) is computed as a percentage of gross enrollment ratio. The relevance lies in the increase of skilled labor eventually caused by the higher level of education and connected with the decrease of inequality (Tsai, 1995; Bussmann et al., 2002; Basu and Guariglia, 2006; Jensen and Rosas, 2007). Due to the distributional impact of inflation (Ivaschenko, 2002; Ferreira, 1999), and considering that the first years of transition were characterized by high inflation rates, we include this indicator into the model (*INFL*). Instable macroeconomic conditions may influence inequality positively by raising wages, especially in the lowest part of the distribution. This variable is measured by the annual growth rate of the GDP deflator. The last variable included into the model is strictly connected with the particular economic structure and transformation undergone by TCs.

Liberalization and privatization policies laid down by the Washington Consensus “pack” contributed to the development of the service sector, which either did not exist before or was very limited and totally run by the State. The service sector represents an outstanding share of the entire privatized economy, where wages are linked to labor productivity (Bhandari, 2007). Moreover, before the collapse of the socialist system, wages were much higher than the labor productivity, and unemployment was nearly absent; changes in economic structure may be among the determinants of income inequality in those countries. For these reasons, we add a variable representing the added value of the service sector (*SERVICE*), which accounts also for the growing privatized share of economy. All these control variables are taken from the WDI of the World Bank. Some

descriptive statistics of all variables are presented in Table 2 in Appendix along with pairwise correlations.

3.5. THE RESULTS

The empirical analysis is built around two baseline models including openness measures in general terms and the specific components of trade, respectively. Before moving to more detailed analysis we make a first approach only with FE, in order to have a first impression of the possible interactions between the variables of the model. The regressions include the lagged term of those variables measuring international openness, which allows to take into account the dynamicity of the relations with the inequality phenomenon, as explained previously. In Tab. 3.5.1, in the first specification only FDI measures have been included; in the second one only trade measures; finally, in third one, both of them have been considered. None of the two variables results to be significant, whereas *GDP* and *SERVICE* are, both showing a positive coefficient. In particular, the significance of *SERVICE* and its potential negative effect on inequality is part of the evolution of TCs economy. This issue has been discussed in Chapter 1; in the planned system the service sector, as well as the whole private sector, was very restrained since it was deemed as an unproductive activity. Moreover, the dominant role of the state tended to weak the attitude of entrepreneurship (Hilman and Milanovic, 1992). Thus, even though services activities existed they were concentrated in the informal economy, and developed through informal networks. With the collapse of the command economic system, people had more opportunities to legally run into their own business, so that the service sector started to increase notably. From this first passage of the analysis the service sector can be deemed as a determinant of income inequality, since the availability of new business opportunities allows some people to gain more, especially at the beginning, within an economic context still not well defined under the economic and legal perspective. Also the empirical analysis of Evans and Timberlake (1980) stressed the negative impact of the service sector growth on income inequality.

Tab. 3.5.1 *FDI and trade effects on income inequality in TCs, 1990-2006. Fixed Effects regressions.*
(Dependent variable: Gini index)

VARIABLES	1	2	3
FDI	0.0674 (0.06)		0.0640 (0.06)
FDI(-1)	0.0237 (0.01)		0.0254* (0.01)
TRADE		0.1778 (0.19)	0.1170 (0.22)
TRADE(-1)		-0.0557 (0.08)	-0.0920* (0.05)
GDP	0.0511** (0.19)	0.1654* (0.16)	0.5250* (0.28)
INFL	0.0188 (0.02)	0.0178 (0.02)	0.0190 (0.02)
SEC	-0.2703 (0.31)	-0.1202 (0.42)	-0.2034 (0.33)
SERVICE	0.4256** (0.16)	0.1821* (0.30)	0.3788** (0.18)
Year dummies	Yes	Yes	Yes
Observations	99	103	99
R-squared	0.373	0.338	0.383
Number of countries	17	17	17
F test	162.78***	35.82***	16.79***

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

We go further with the empirical approach, by testing the initial hypothesis based on the conceptual framework.

In Table 3.5.2 columns represent different specifications of the models. First *FDI* and *TRADE* have been included separately, and the quadratic term of both has been added to test the non-linearity of the inequality-openness relationship, according to the theoretical premises; then *TRADE* has been replaced by specific flows according to their origin and destination, in order to deepen the analysis on the technological issue. On the one side we first note that, nor *FDI* neither *TRADE* variables (columns 1 and 2) are relevant in explaining the variation of the Gini index. It is also to be noted that, although not significant, the size of the coefficients is rather different, being much higher for trade than *FDI*. These results confirm what found in other studies, and especially in Meschi and Vivarelli (2009) who consider aggregate trade flows. However, we notice that, by isolating the effect of imports from Developed Countries (*IMPED* and *IMPEDSQ* in column 3) we see significant coefficients and an inverted U-curve as expected. The explanation lies on the fact that since TCs can be deemed as a middle way between Developed and Developing

Countries in terms of technological knowledge embodied in goods, imports from Developed Countries bring more sophisticated technology creating a gap between those firms able to upgrade their assets and the rest of firms. This mechanism follows the one described by Feenstra and Hanson (1997) in the case of trade between Mexico and the USA. To correctly interpret the size of the coefficients we have to compute the marginal effect. In this case, we need to calculate the partial derivative as follows: $\delta \text{GINI} / \delta \text{OPEN} = \beta_1 + 2\beta_2(\text{OPEN})$. As the marginal effect is not constant we calculate it considering OPEN at its mean. So the marginal effect of imports to Developed Countries is -0.155, which means that 1% increase in the level of imports decreases by 0.16% the GINI index. This value (16%) can be also considered the point of inflection, that is the level of the Gini index at which rising levels of imports to Developed Countries cause a decrease in inequality.

Instead, exports to Developed Countries both with respect to the single variable and the squared term, stress the existence of a non linear relationship with the Gini index, yet on the opposite direction. This result could be explained by the fact that requirements of higher technological export production may lead to an upgrading in TCs, causing a gap between skilled and unskilled workers, which is difficult to be filled in the long run. In this case, by calculating the marginal effect we obtain that 1% increase in exports to Developed Countries generates an increase by 0.62% in the GINI index. Finally, the quadratic term of exports to Developing Countries (*EXPINGSQ* in column 6) shows a significant and negative but small coefficient: indeed, the increase of exports to Developing Countries by 1% causes only a small decrease in the Gini index which is about 0.09 %. This result is due to the fact that exporting firms in TCs are not required to improve the technological level of goods when they export to Developing Countries, given that most of them are primary commodities, causing in the long run an equalizing effect. As for the other control variables of the model, none of them seems to be particularly relevant. However, we recognize that the GDP variable is usually negative even though significant only in column 5. This stands for the fact that a higher level of economic development may be associated with higher government effectiveness: this may smooth the negative consequences of transition attaining a lower level of inequality. The variable representing the service sector (*SERVICE*) is weakly positively significant in the model considering exports to Developing Countries (column 6). Contrary to expectations, education (*SEC*) seems not to affect at all the Gini index, as it is always not significant.

As a sensitivity analysis, we run the regressions by substituting the percentage of secondary education with the one representing tertiary education (*TIER*). This variable is measured as a percentage of gross school enrollment and it is also taken from WDI. We find that this variable is either never significant, appearing however always with a positive sign, except when we use as a regressor exports to Developing Countries in which it is positively significant at 5%³⁶.

³⁶ The signs and significance of the other openness variables remain the same except for the case of *IMPED* and *IMPEDSQ* that are no more significant. The table summarizing these results is available in the Appendix.

Tab. 3.5.2 FDI and trade effects on income inequality in TCs, 1990-2006. General trade variable disentangled in trade flows according to origin and destination. Fixed Effects regressions. (Dependent variable: Gini index)

VARIABLES	1	2	3	4	5	6
FDI(-1)	-0.0188 (0.049)					
FDISQ(-1)	0.0002 (0.002)					
TRADE(-1)		3.2296 (1.920)				
TRADESQ(-1)		-0.3466 (0.208)				
IMPED(-1)			2.1729** (0.987)			
IMPEDSQ(-1)			-0.2924** (0.134)			
IMPING(-1)				0.0598 (0.201)		
IMPINGSQ(-1)				0.0173 (0.042)		
EXPED(-1)					-2.0095** (0.687)	
EXPEDSQ(-1)					0.3246*** (0.091)	
EXPING(-1)						0.1065 (0.065)
EXPINGSQ(-1)						-0.0504*** (0.017)
GDP	-0.0735 (0.341)	-0.0585 (0.223)	0.0663 (0.208)	-0.1267 (0.197)	-0.4422** (0.200)	-0.1515 (0.195)
INFL	0.0290 (0.024)	0.0252 (0.021)	0.0222 (0.027)	0.0200 (0.026)	0.0385 (0.032)	0.0306 (0.024)
SERVICE	0.0048 (0.231)	0.0955 (0.111)	0.3657 (0.223)	0.0953 (0.103)	0.3201 (0.246)	0.5394* (0.287)
SEC	-0.0950 (0.315)	0.3751 (0.429)	-0.0577 (0.246)	0.1521 (0.266)	0.1445 (0.240)	-0.2698 (0.281)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	88	88	88	88	88	88
R-squared	0.375	0.388	0.397	0.416	0.474	0.487
Number of countries	16	16	16	16	16	16
F test	24750.66***	1204.26***	80445.92***	1420.59**	143.72***	74.57***

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

We also compare the estimates obtained with the FE method with a dynamic estimator. As explained in the empirical section, the need to control for the persistence of the Gini index leads us to estimate a model with the one year lagged dependent variable among the regressors. Table 3.5.3 summarizes the results obtained alternatively by using the LSDVC estimator. We notice that no variables show statistically significant coefficients; nevertheless covariates that were significant in the FE model (*IMPED*, *IMPEDSQ*, *EXPED*, *EXPEDSQ*, *EXPINGSQ*) report exactly the same sign, partially confirming our previous estimates. However, we also recognize how the coefficient of the lagged dependent variable is always positive and strongly significant, thus confirming the fact that a high degree of persistence affects the inequality phenomenon.

Tab. 3.5.3 FDI and trade effects on income inequality in TCs, 1990-2006. LSDVC regressions.
(Dependent variable: Gini index)

VARIABLES	1	2	3	4	5	6
GINI(-1)	2.0235*** (0.012)	1.4642*** (0.428)	1.8851*** (0.020)	1.8669*** (0.021)	1.9400*** (0.016)	1.9514*** (0.016)
FDI(-1)	-0.0371 (0.421)					
FDISQ(-1)	-0.0014 (0.078)					
TRADE(-1)		0.5379 (9.414)				
TRADESQ(-1)		-0.0609 (1.010)				
IMPED(-1)			1.5414 (4.152)			
IMPEDSQ(-1)			-0.2361 (0.606)			
IMPING(-1)				0.1405 (0.263)		
IMPINGSQ(-1)				-0.0057 (0.063)		
EXPED(-1)					-0.9027 (1.346)	
EXPEDSQ(-1)					0.1493 (0.199)	
EXPING(-1)						0.0807 (0.310)
EXPINGSQ(-1)						-0.0261 (0.061)
GDP	-0.4682 (0.876)	-0.2046 (0.797)	-0.2852 (0.620)	-0.4452 (0.583)	-0.6569 (0.779)	-0.4509 (0.622)
INFL	-0.0061 (0.058)	0.0015 (0.091)	-0.0025 (0.055)	-0.0067 (0.052)	0.0158 (0.055)	0.0004 (0.054)
SERVICE	0.7005 (0.643)	0.4826 (0.580)	0.7981 (0.604)	0.7734 (0.483)	0.9765* (0.528)	0.9437* (0.547)
SEC	0.3708 (2.126)	0.4355 (2.267)	0.2842 (1.957)	0.4670 (2.174)	0.2105 (1.949)	0.1445 (2.033)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	88	88	88	88	88	88
Number of countries	16	16	16	16	16	16

Bootstrapped Standard errors in parentheses (bias correction initialized by Blundell-Bond estimator)
*** p<0.01, ** p<0.05, * p<0.1

When the specifications are tested with the SYS-GMM estimators³⁷ (Table 3 in Appendix) we find confirmation that the lagged dependent variable is always positive and highly significant, meaning that inequality is path dependent; however, as we can see, whereas this is the only variable which results to be relevant by using the LSDVC estimator, in the case of the GMM we also find a significant and negative result relatively to exports to Developing Countries. Moreover, we confirm the negative sign for the coefficient of *GDP* and a positive and sometimes significant coefficient for *SERVICE*. With respect to the educational variable (*SEC*) we would have expected that the relative coefficient was negatively significant; on the contrary we find no relevant results in none of the tables commented so far. On this purpose, we go deeper into the analysis by focusing on the role of schooling and education in influencing income distribution through openness.

Following Figini and Görg's (2006) study, in Tables 3.5.4 and 3.5.5 we report the regressions with the interaction variables composed by *SEC* and each of the openness measures³⁸. By using the FE estimator (Table 3.5.4), FDI variables now turn to be statistically significant, even though only at 10% level of significance, and more importantly, estimates shape a U-curve that only partially confirms (on the non linearity of the relationship) Figini and Görg's model. In the short run the absorptive capacity of TCs labor, also developed by study careers, may enable firms to catch the positive spillovers coming from foreign firms. In the long run, when foreign companies require more advanced competencies, a deeper distinction between skilled and unskilled workers may occur, due to the absence of specific skills needed. However, the variable interacted with *SEC* is not significant, while only the squared interacted term is negatively significant indicating that an equalizing effect is present as expected. When we consider the trade

³⁷ The reliability of the SYS-GMM estimator depends on the validity of the instruments used in the regression. In order to check it, we consider two specification tests. The first, the Sargan test on over-identifying restrictions, is based on the analysis of the moment conditions in the estimation process. Under the null hypothesis instruments are uncorrelated with the error term. Due to the fact that the Sargan test may not be reliable when the number of instruments exceeds the number of regressors, instruments are collapsed and we limit the use of lags (from the second to the third) for those variables which are used as instruments (Roodman, 2009). In some specifications the Sargan test rejects the validity of instruments at 1% level of significance. In these cases, we lag the instruments one year limiting their use to (3 4). In the second test under the null hypothesis the error term e_{it} is not serially correlated. We do not reject the absence of correlation at first and second order. Taken together, these two specification tests support the use of the GMM estimation.

³⁸ From pairwise correlations we can see that values are never higher than 0.7%, indicating no serious problems of collinearity. However, as the interacted variables may present problems of collinearity, we estimate our specifications by orthogonalizing interacted variables and use the Gram-Schmidt procedure. We find that the results, both in terms of size and significance of coefficients, are similar to the original variables, thus confirming the reliability of the estimates presented.

variable, we find that only when interacted with education it is positively and weakly significant denoting that, even through this channel, the amount of inequality may first increase in the short run and then decrease. In this case the calculation of the partial derivative is a bit more complicated as we have to consider the partial derivative also with respect to terms interacted with education: $\delta\text{GINI}/\delta\text{OPEN} = \beta_1 + 2\beta_2(\text{OPEN}) + \beta_4(\text{SEC}) + 2\beta_5(\text{SEC}*\text{OPEN})$. We find that 1% percentage increase in the FDI level decreases inequality by only 0.03% once we account for the role played by education.

Tab. 3.5.4 FDI and trade effects on income inequality in TCs through education, 1990-2006. FE regressions. (Dependent variable: Gini index)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
FDI(-1)	-3.2730*					
	(1.602)					
FDISQ(-1)	0.7752*					
	(0.371)					
FDISEC(-1)	0.6021					
	(0.349)					
FDISECSQ(-1)	-0.1540*					
	(0.080)					
TRADE(-1)		-4.6129				
		(4.358)				
TRADESQ(-1)		1.1693				
		(0.946)				
TRADESEC(-1)		1.6553*				
		(0.938)				
TRADESECSQ(-1)		-0.3285				
		(0.210)				
IMPED(-1)			-1.9924			
			(4.055)			
IMPEDSQ(-1)			0.5558			
			(0.916)			
IMPEDSEC(-1)			0.8221			
			(0.972)			
IMPEDSECSQ(-1)			-0.1743			
			(0.213)			
IMPING(-1)				-1.8516		
				(3.103)		
IMPINGSQ(-1)				0.6639		
				(1.027)		
IMPINGSEC(-1)				0.4175		
				(0.696)		
IMPINGSECSQ(-1)				-0.1439		
				(0.228)		
EXPED(-1)					-1.1744	
					(3.435)	
EXPEDSQ(-1)					0.0970	
					(0.771)	
EXPEDSEC(-1)					0.0086	
					(0.809)	
EXPEDSECSQ(-1)					0.0167	
					(0.180)	
EXPING(-1)						-0.4466
						(2.277)
EXPINGSQ(-1)						-0.1760
						(0.590)
EXPINGSEC(-1)						0.0933
						(0.512)
EXPINGSECSQ(-1)						0.0409
						(0.133)
GDP	-0.4089	-0.4348*	-0.3917	-0.3627	-0.3510	-0.3896
	(0.273)	(0.218)	(0.334)	(0.231)	(0.292)	(0.260)
INFL	0.0030	0.0045	0.0032	0.0001	0.0042	0.0045
	(0.014)	(0.011)	(0.014)	(0.015)	(0.016)	(0.015)
SERVICE	0.0008	-0.0830	0.1758	0.0796	0.0360	-0.1309
	(0.226)	(0.147)	(0.247)	(0.144)	(0.157)	(0.178)
SEC	-0.3705	0.0877	-0.3329	-0.1045	-0.3446	-0.3786
	(0.475)	(0.527)	(0.380)	(0.449)	(0.403)	(0.363)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	73	73	73	73	73	73
R-squared	0.695	0.637	0.625	0.619	0.635	0.607
Number of countries	15	15	15	15	15	15
F test	157.84***	92.53***	85.73***	211.39***	339.23***	113.24***

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Again we check the robustness of our results by estimating, through FE estimator, the interaction effect with the variable measuring tertiary education (Table 4 in the Appendix). In this case, we confirm, as before, that there are no significant results, with the exception of exports and imports to and from Developed Countries. This could indicate that a higher quality (rather than level) of education may have an important effect with respect to these trade flows. In particular, by finding significant and negative results when TIER is interacted with *IMPED* and *EXPED* we can say this variable contributes to decrease inequality in the short run. This may be due to the fact that being this resource less widespread among population³⁹ it may actually contribute to increase inequality in the long run because there is a shortage of this resource, while, in the short run, it contributes to accelerate the adoption of the new technology due to specific skills needed. This shrinks the period of new technology adoption causing a decrease in inequality.

Table 3.5.5 presents the results obtained using the LSDVC estimator: we first note the highly significant coefficient of the lagged dependent variable, confirming what found previously. The results obtained with the educational interaction term confirm the non linearity of the FDI-income inequality relationship, already stressed by the FE methodology. However, contrary to fixed effects estimations we find that all variables referring to FDI (*FDI*, *FDISQ*, *FDISEC*, *FDISECSQ*) are always significant at 1% confirming our expectations of non linearity of the relationship. The value of the marginal impact is -0.18, meaning that 1% increase in FDI may lead inequality to decrease by 0.18%, higher than what found in the static model. With the respect to the interaction terms, it seems that at first sight, higher education leads to higher inequality but this effect disappears when the squared term is considered. We explain this result by arguing that foreign penetration seems to exert a negative redistribution effect, although it is to remark that this increase in inequality is less consistent than the previous decrease following the implementation of FDI. With respect to trade flows, we find a highly significant coefficient for *EXPING*. While in the short run exports to Developing Countries decrease inequality, in the long run (*EXPINGSQ*) the relationship between the two variables becomes positive. Beyond the use of a different estimator, the interaction with *SEC* can bring out the indirect effects of education, and human capital in general, on export to Developing Countries. In the short run the production of low-medium technology goods to be exported may deepen the separation between skilled and unskilled labor through the channel of education

³⁹ TIER has a mean of 38.87 % and standard deviation of 17.05

causing an increase in inequality because a higher amount of unskilled workers is needed. This effect can be followed by a decrease in the long run. The second interesting result matching the one highlighted before with respect to exports is relative to imports from Developing Countries: again, secondary education contributes first to increase and then decrease inequality. We have to note that by calculating the marginal effect of exports to Developing Countries, the value obtained is positive meaning that a 1% increase in exports leads GINI index to rise by 0.22%. The marginal effect is lower if calculated with respect to imports from Developing Countries which is equal to 0.19%.

Tab. 3.5.5 FDI and trade effects on income inequality in TCs through education, 1990-2006. LSDVC regressions. (Dependent variable: Gini index)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
GINI(-1)	2.3008*** (0.003)	1.3270 (0.825)	1.8349*** (0.022)	1.9655*** (0.012)	2.1058*** (0.005)	2.1772*** (0.004)
FDI(-1)	-14.1745*** (4.880)					
FDISQ(-1)	3.2783*** (1.154)					
FDISEC(-1)	3.0276*** (1.072)					
FDISECSQ(-1)	-0.7133*** (0.253)					
TRADE(-1)		8.6483 (21.136)				
TRADESQ(-1)		-2.0716 (3.828)				
TRADESEC(-1)		-1.6949 (3.566)				
TRADESECSQ(-1)		0.4242 (0.743)				
IMPED(-1)			-10.2936 (6.741)			
IMPEDSQ(-1)			1.8523 (1.420)			
IMPEDSEC(-1)			1.9226 (1.311)			
IMPEDSECSQ(-1)			-0.3767 (0.295)			
IMPING(-1)				-16.4913*** (5.987)		
IMPINGSQ(-1)				5.3631*** (2.001)		
IMPINGSEC(-1)				3.6363*** (1.318)		
IMPINGSECSQ(-1)				-1.1779*** (0.439)		
EXPED(-1)					-9.2262 (6.879)	
EXPEDSQ(-1)					1.6520 (1.526)	
EXPEDSEC(-1)					2.1900 (1.500)	
EXPEDSECSQ(-1)					-0.3935 (0.337)	
EXPING(-1)						-15.2975*** (4.757)
EXPINGSQ(-1)						4.5880*** (1.437)
EXPINGSEC(-1)						3.3822*** (1.072)
EXPINGSECSQ(-1)						-1.0098*** (0.322)
GDP	-0.5653 (0.560)	-0.4432 (1.059)	-0.8117 (0.516)	-0.3324 (0.458)	-0.3457 (0.512)	-0.4962 (0.487)
INFL	-0.0262 (0.028)	-0.0027 (0.067)	-0.0075 (0.031)	-0.0198 (0.028)	-0.0321 (0.030)	-0.0452 (0.028)
SERVICE	2.7532*** (0.396)	1.4005 (1.351)	1.4282*** (0.425)	2.7853*** (0.342)	2.1935*** (0.368)	1.8957*** (0.406)
SEC	-0.6354 (0.953)	-0.0775 (1.896)	0.2660 (1.067)	-0.3809 (1.015)	-0.6360 (0.876)	-0.0318 (0.883)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	73	73	73	73	73	73
Number of countries	15	15	15	15	15	15

Bootstrapped Standard errors in parentheses (bias correction initialized by Blundell-Bond estimator)

*** p<0.01, ** p<0.05, * p<0.1

By running estimations with TIER we never find significant results except for the lagged dependent variable resulting always positive and significant. Estimates are available upon request. Furthermore, we need to note that, contrary to regressions with FE, we find the coefficients of *SERVICE* to be almost always positive and strongly statistically significant, thus underlying the relevance of the service sector growth in rising inequality in TCs (Evans and Timberlake, 1980). The other variables are not all significant, even though they appear with the negative sign, confirming that higher inflation, GDP and education may lead to lower inequality.

Table 5 in the Appendix reports the results relatively to the GMM estimations: in this case, while confirming the persistency of inequality, we find that variables displaying some effect on the Gini index are imports and exports from and to Developed Countries. In particular, *EXPED* shows a significant non-linear relationship with inequality index when interacted with *SEC*: it signals a positive correlation with income inequality in the short run and negative correlation in the long run. More importantly, SYS-GMM highlights the relevant equalizing role of education in the long run relatively to trade between TCs and Developed Countries. However, this effect is probably due to the endogeneity of some variables, such as *SEC* and GDP per capita that we are able to take into consideration through this estimation technique. Interestingly, we note that *SEC* in most of the specifications is positive and significant. As highlighted before, due to the weakness of the GMM estimators we need to interpret these results with cautions.

3.6. SOME FINAL CONSIDERATIONS

This chapter analyzes the results of a study on the openness-income inequality relationship with respect to a sample of 17 TCs over the period 1990-2006. We hypothesize that both FDI and trade might be significant determinants of income distribution within these countries, due to the increasing level of openness since 1989. The collapse of the socialist system led to a deep structural transformation of TCs, mainly based on privatization and liberalization; we add variables that could embody the potential distortions following such a radical change. Both stationary (FE estimator) and dynamic models (LSDVC estimator) are used. Our results partially match our theoretical expectations. As in the case of Bhandari (2007), Barlow et al. (2009) and Grimalda et al. (2010) FDI does not seem to be relevant in affecting income inequality in TCs when considered as single variable. We observe the same for the trade variable. For this reason

we try to dig deeper into the analysis by disaggregating trade in imports and exports, and by specifying the origin and destination of each flow. Both imports and exports lead to significant results, but they put into evidence different capacity of affecting inequality.

Imports from Developed Countries emerge as the most significant flows; they are positively correlated with income inequality in the short run, and negatively in the long run. In a way Grimalda et al. (2010) report similar results, showing that imports from EU have a positive and relevant impact on the Gini index, at least in the case of the New Member States. A potential explanation is connected with the benefits spreading from Developed Countries due to the technological differential embodied in goods which enter TCs and raise the demand of skilled workers. Thus, if the initial increase in inequality may be traced back to the time needed to local firms to upgrade, later on new technological knowledge spreads through the imitation process, and inequality decreases.

We test also the role of education, which is supposed to be crucial in countries characterized by a deep economic, social and institutional transformation. As TCs occupy a middle position between Developed and Developing Countries with respect to technological capabilities, their absorptive capacity is quite high and education alone does not contribute to create high differentials between skilled and unskilled workers; thus it is not among the main causes of within inequality. Nonetheless we find that this variable might channel and contribute to spread over trade benefits, especially in the case of exports to and imports from Developing Countries, over the long run. Contrariwise, in the short run an increasing inequality trend seems to appear. This result, however, seems to be sensitive to the way we measure the education system, as some opposite results seem to emerge when we consider the tertiary education; in this case the variable reduces inequality when interacted with openness variables.

We can identify some limitations of the study that may be interesting avenues for further research. Firstly, even though we are able to investigate the disentangling of trade flows we are not able to distinguish FDI according to its different motivations. Indeed, asset seeking or asset exploiting FDI may actually cause a different effect on inequality. Furthermore, as we differentiate between secondary and tertiary school enrollment finding partially different results for interaction variables, further research could account for more precise measures of this variable seeing whether results change. Indeed, our results show

that the quality of policies aimed at improving and increasing the number of recipients of the educational system certainly plays a significant role.

Chapter 4

Foreign Direct Investment and Firm Survival in Transition Countries

Foreign Direct Investment and Firm Survival in Transition Countries

4.1. INTRODUCTION

4.1.1 Entry, exit and survival of firms

The aim of this section is to consider TCs international openness from the standpoint of local entrepreneurship growth and development. The demographic trend of a country firm population may be a valid indicator of economic growth of that country, measured both in terms of production and entrepreneurship dynamism. Especially in TCs this kind of analysis allows to consider and weigh the changes that have occurred since the Transition to the market economy has started; as underlined in the previous chapters planned economies are characterized by very large firms, and the private initiative is poorly promoted, when not hampered. Firms and entrepreneurs, as well as governments and policies aiming at creating a more favorable environment for restructuring - and somehow reconstruction – are all important actors of this process, and so must be taken into consideration. We can distinguish two mechanisms behind this path. First a relocation of resources occurs through the movement of labor and capital to more productive firms. These firms are also more capable to adapt to the new higher level of market demand. One of the effects is the reduction or even the exit of those plants whose supply is higher than the existing demand. The second mechanism is related to the restructuring of existing firms leading to a renewal of the business environment; State owned enterprises (SOEs) in low competitive sectors are the most affected by these policies (EBRD Transition Report 1999).

Liberalization and privatization reforms launched during the Nineties have strongly favored the above-mentioned mechanisms and promoted the private initiative as well as the creation of new firms. New firms, not only in TCs, represent the most important driving force for employment, productivity growth and the introduction of innovations. However the entry of new firms and the exit of old scarcely competitive ones are strongly connected, although these devices occur differently between TCs. Data from the “Business Environment and Enterprise Performance Survey” within the “Transition Report 1999”

(EBRD, 1999) show that Poland, Hungary and Estonia have the highest ratio between the entrepreneurship increase and the state sector dismantling, among all TCs. At the bottom of the ranking we can find Azerbaijan, the Slovak Republic and Belarus. The uneven distribution of services (whenever they are available) aiming at supporting firm creation and growth, the lack or weakness of proper fiscal and legal systems, the lack of credit channels, the high level of corruption, the large share of the economic system occupied by the informal sector; these are among the main factors that may hamper the development of a strong and dynamic business environment in TCs (Aidis, 2005). If we look at the normal bureaucratic procedures required to launch a business activity we can see that the way is very long and full of obstacles, which discourage new potential entrepreneurs. The following figures show the average cost of business start up, measured as percentage of GNI. The graphs compare data related to TCs and the European Union-27 (EU27)⁴⁰. Unfortunately, graphs refer only to the period 2003-2007 since previous data are not available.

In Fig.1 we see that starts up costs in TCs are prominently higher than in the EU, even though they steady decline. In Fig.1.2 data are disaggregated by groups of countries⁴¹; the Baltics have the lowest costs, but still increasing; they are followed respectively by the EU27, CEE, CIS and SEE. It might be better to consider this indicator together with other macroeconomic and institutional indices; nonetheless a first glance can reveal that the level of start up costs is in line with the entry flows of firms.

⁴⁰ TCs (Bulgaria, the Czech Republic, Estonia; Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, Slovenia) are excluded from the UE-27.

⁴¹ Baltics: Estonia, Latvia, Lithuania; CEE: Bulgaria, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic; CIS: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan; SEE: Albania, Bosnia Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Slovenia.

Fig. 1.1

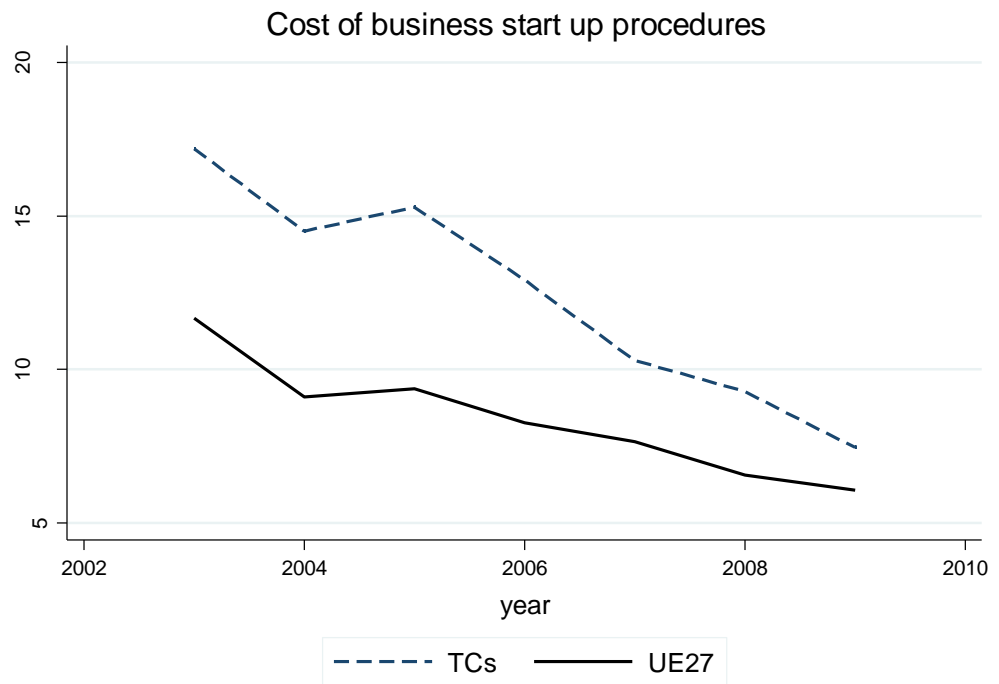


Fig. 1.2

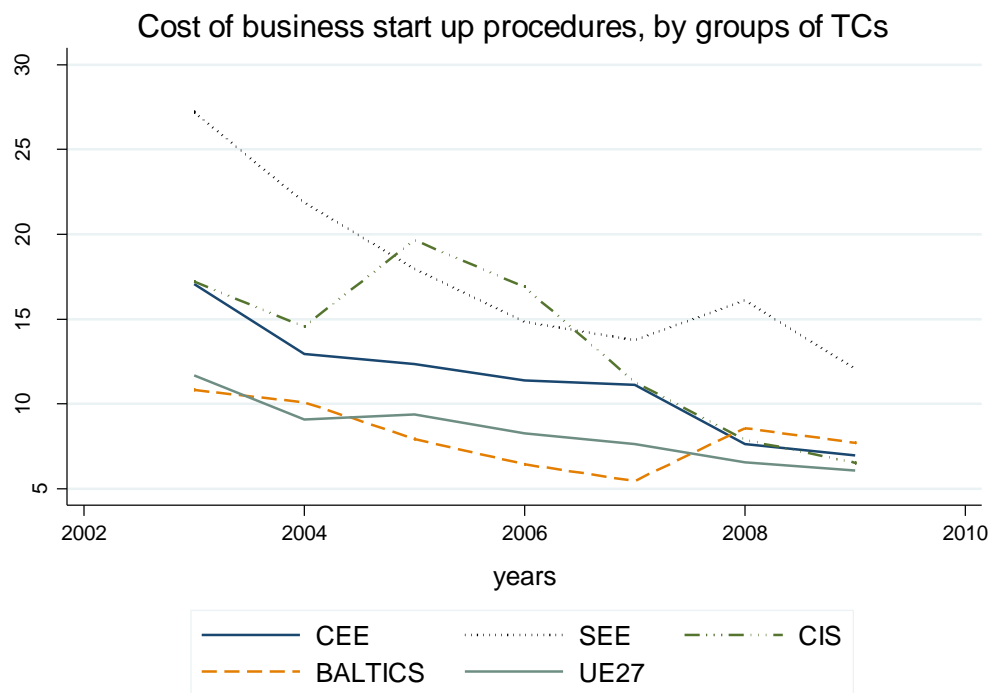
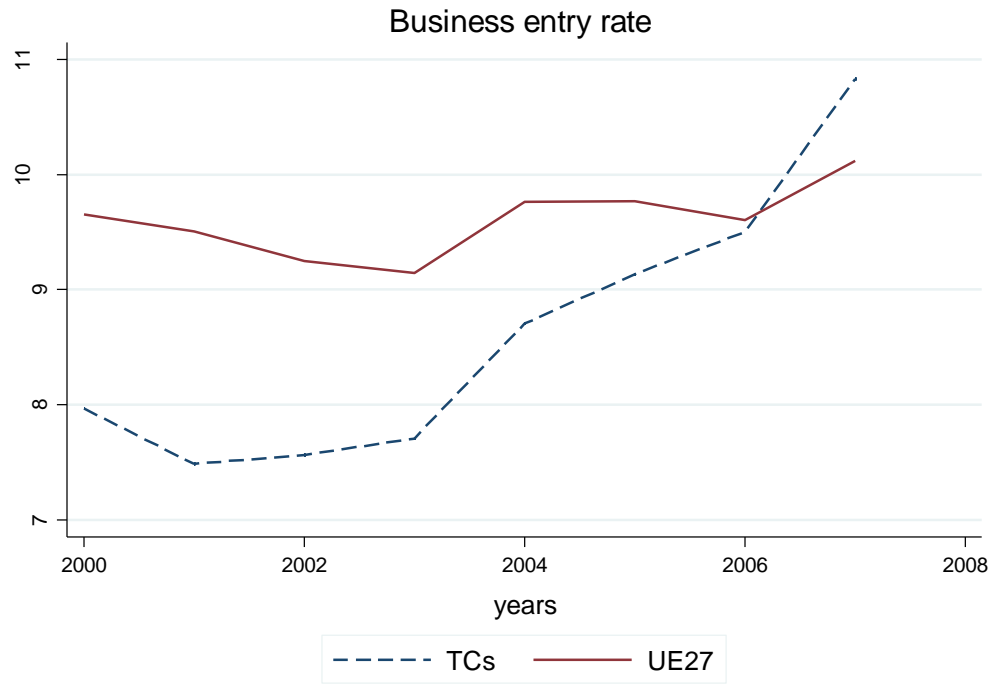


Fig. 1.3 and 1.4 show the trend in firms' entry rate in TCs. In 2000 the entry rate of the EU27 firms is on average about two percentage points higher than the entry rate in TCs. Up to 2004 the two areas are characterized by similar trends; since that year the curve related to TCs rises consistently, and in 2006 overcomes the EU27 one. This change might be due to the accession of some TCs to the EU⁴²; although the graphs do not make any distinction between domestic and foreign firms it is very likely that the number of foreign firms has significantly increased after the EU enlargement, especially in the CEE, and so the number of new business registered. More important, the integration has pushed these countries towards a renewal of business legislation and an improvement of support services for new firms. Fig. 1.4 introduces the distinction between groups of countries. The general trend is increasing; while the SEE shows the lowest entry rates, the Baltic Republics come out given their increasing number of new businesses. Data on the CIS are rather interesting; at the beginning the percentages seem to be higher than the ones reported by the other TCs. It is possible to give different explanations for such a trend. On the one hand from a pure statistical standpoint, data on Russian Federation might contribute to raise the group average; on the other hand both the massive privatization of the Nineties and the scarce attention given to the II type reforms (Svejnar, 2002)⁴³ have encouraged the steady influence of State on economy (Estrin, 2002). For this reason, although no information on registered business ownership is available it is desirable to consider that still many firms might be state owned. Finally, even in Fig. 1.4 year 2006 seems to be relevant both for the CEE and SEE, confirming our previous assumption about the EU enlargement in 2004 and 2007.

⁴² In 2004 the three Baltic Republics, Poland, the Czech Republic, the Slovak Republic and Slovenia enter the EU; in 2007 it is the turn of Bulgaria and Romania.

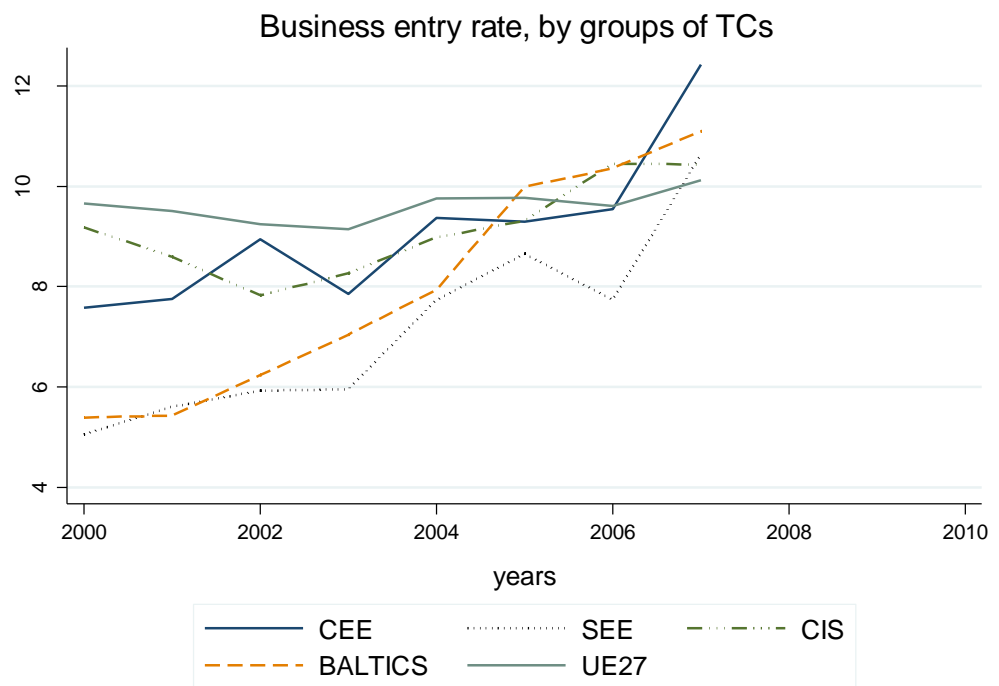
⁴³ While the I type reforms deal with radical macroeconomic changes and the dismantling of communist institutions, the II type reforms are based on the development of a legal apparatus and the creation of new institutions.

Fig. 1.3



Source: World Development Indicators and Global Development Finance (World Bank, 2010)

Fig. 1.4



Source: World Development Indicators and Global Development Finance (World Bank, 2010)

Entry rates do not represent the only significant indicators of business system dynamism within a country; it is sometimes worth to know, if possible, the exit rates as well as the survival likelihood of firms, which is also the aim of this section. Survival analysis by statistical non parametric methods, allows running a more exhaustive study about conditions which favor firms' length on the market. Since the beginning new firms enter a "learning" process (the firm learning model) through which they acquire awareness of their productive capacity and consequently decide whether to go on or leave the market (Jovanovic, 1982). In this model entrepreneurship consciousness, and future expectations, matter. Both firm (i.e. size, age, productivity, ownership, number of subsidiaries) and market specific features (i.e. growth rate, concentration index, Minimum Efficient Scale-MES⁴⁴) affect the survival time. High entry rates do not necessarily correspond to a good functioning of the market, given that new firms are more likely to exit than existing ones (Mata and Portugal, 1994). Likewise too low exit rates are often synonymous of immobility and weak competitiveness. All these things considered, survival analysis especially in the case of TCs allows bringing out weaknesses and strengths of the productive system and the ability of firms to last on market. A dynamic industry must be characterized by a regular replacement of old firms by new ones; more important, an industry in which the most efficient firms survive longer represents a good starting point for a stable economic development.

4.1.2. FDI and firm survival

Recently, greater attention has been given to the role played by foreign companies in affecting survival of host countries' firms. As previous chapters report, FDI has become such a relevant phenomenon in TCs that all possible related consequences must be taken into consideration within a local development analysis. FDI always implies the establishment of a relationship between the home country on the one side, and the host country on the other side. The intensity of this relationship changes according to the type of FDI (merger, acquisition, joint venture, greenfield), but also to the absorbing capacity of host country's domestic firms and the legislative system which regulates foreign penetration. Whether foreign companies' presence is good or bad for the stable length of domestic firms on market is far from being clear. Mechanisms triggered by FDI are so complex and interrelated that a deep analysis focused on geographical specificity is

⁴⁴ MES can be seen as the estimate of the production scale beyond which costs become constant, further scale economies being negligible.

required. We can presume that foreign companies which generally have a higher technological level production may induce host countries' firms to improve their performance, and so last longer; contrariwise, we can also think that the more productive and competitive foreign companies are, the more they may displace host countries' firms from the local market. Which is the prevailing effect? Is there any other hidden mechanism which determines domestic firm survival? In this section I try to address the issue of the relationship between FDI and domestic firm survival in TCs, focusing on two countries which had different Transition paths: the Czech Republic and Estonia. The empirical analysis will bring out different results for the two cases, and show that foreign presence may imply different consequences.

4.2. THE LITERATURE

4.2.1. Firm survival determinants

Before moving on to the more specific literature on FDI and firms demographic trend in TCs, it is worthy to touch on the several contributions on general survival analysis. In most studies a significant attention has been paid to firm specific features, firstly size and age. As for size, measured by the number of employees or sales, firm survival is generally associated with the study of firm growth, thus many works - especially the early ones - analyze both the phenomena. One of the first attempts to deal with the topic concerned dates back to the work by Gibrat (1931). According to the so-called "Law of Gibrat" or "Law of Proportionate Effects" size and growth are independent. This law is supposed to hold when one of the following three conditions occurs: when firms leaving the industry are counted, when the same firms are excluded, and finally when only firms exceeding MES are considered. Nonetheless subsequent empirical researches take into account problems of sample selection, heteroskedasticity and serial correlation in growth rates, thus revealing a negative relationship between size and growth. Mansfield (1962) finds no evidence of the Gibrat's law in any of its versions; contrariwise the author concludes that on the one hand small firms take a higher risk of failure than large ones; on the other hand those ones which survive show higher growth rates than large firms.

Afterwards Evans (1987) extends the analysis to firm age, observing young companies and old companies at different times. In both cases the Gibrat's law is rejected and furthermore survival probability increases with age, except for very old firms. Age

takes the same relevance also in Dunne and Hughes (1994)'s paper. The empirical analysis on 2000 quoted and unquoted companies in UK shows evidence of an inverted U-shaped size-failure relationship, which means that very small firms face a higher risk of exit than very large firms; medium companies are likewise more volatile than the other two categories. Growth and survival probability are linked through time and it seems that low growth rates of small and medium plants may increase their risk of failure in the following period. A further specification underlines the importance of start up size, so that new entrants experience better survival probability if they are large (Mata and Portugal, 1994). These findings on age-survival relationship broadly confirm the previous empirical results of Jovanovic (1982). As already mentioned the merit of this study is related to the "firm learning model", which predicts that survival probability is a function of the efficiency level, and that an auto selection process takes place. Jovanovic predicts that those successful new entrants raise the awareness about their efficiency, and so contribute to experience high growth rates. On the contrary, those new establishments which are not efficient in the initial period of their lifecycle do not grow and may eventually decide to exit the market.

In addition some authors analyze the role of innovation relatively to survival likelihood. This branch of literature supports the idea that the more innovative firms are, the longer they survive especially when small size is considered (Audretsch, 1991). Nonetheless Agarwall (1998) underlines that the relationship between size, age and technological activity is not monotonic. The first period of all new entrants lifecycle is supposed to be characterized by high exit hazard rates (Jovanovic, 1982). Nonetheless after this lapse the risk of failure changes according to the sector observed: it remains almost steady in low technological sectors, whereas it decreases first and increases only with the ninth year of firm lifecycle in high technological sectors. An interesting contribution comes finally from Cefis and Marsili (2006), whose study brings out that the effect of innovation on survival rates - the innovation premium - is stronger in young classes of firms, since young and large enterprises usually come from existing firms, whereas young firms that have just entered the market, are usually *de novo*. In this latter case innovation as the driving force of development and growth, acts in a more incisive way.

4.2.2. FDI and firm survival

The key to understanding the impact of FDI on firms' survival is to identify the distortions introduced within the economic system. Literature so far has distinguished different channels through which FDI can affect host countries' entrepreneurship. In the theoretical model by Grossman (1984) both imports and FDI negatively affect the entrepreneurial system of a Less Developed Country (LDC) with only two sectors, the "traditional" agricultural one and the "modern" industrial one. On the one hand imports decrease wage incomes and, to a greater extent entrepreneurial profits; on the other hand FDI leads to a shift of a part of the entrepreneurial class to foreign firms, becoming new laborers. The result is an overall contraction of the domestic entrepreneurship in the LDC concerned.

While Grossman's predictions are fairly negative, Markusen and Venables (1999) outline different dynamics within host countries economies, as a consequence of FDI. Two processes are detected, that will be discussed in detail in Section 3: the *competition effect* resulting in domestic firms' displacement (negative effect), and a *vertical linkage effect* which may increase the overall industry demand (positive effect). FDI is thus seen as "catalysts" for host countries industrial system through backward and forward linkages that are established between multinational and local firms. The model by Markusen and Venables (1999), unlike most of the literature so far, reveals the important role of linkages (Hirschmann, 1958; Kugler, 2006; Lin and Saggi, 2004; Rodríguez-Clare, 1996; Roy and Viaene, 1998). In the case of "horizontal linkages", they are established within the same industry, but a few works have found evidence of their effect (Ayyagari and Kosová, 2010). Previously more attention had been give to productivity spillovers (Caves, 1971, 1974; Blomstrom et al, 1974; Blomstrom and Persson, 1983; Globerman, 1979) They refer to technological externalities and allow the transfer and acquisition of knowledge and intangible assets from company to company, thus contributing eventually to the increase of price-costs margins and, consequently may positively influence firm survival likelihood (Audretsch, 1991).

In De Backer and Sleuwaegen (2003)'s research on Belgium for instance, the competition effect generally overwhelms, and imports and FDI lead to local firms crowd out. Nonetheless the empirical evidence shows that the exit rate of domestic firms is lower in those industries with high concentration of foreign companies, suggesting that learning,

demonstration, networking and linkages effects may in the long run weaken competition negative impacts of internationalization. Görg and Strobl (2003) find evidence of spillovers in their analysis regarding the Irish industrial system. They point out that MNEs' presence has positive effects on survival likelihood of the indigenous high technology sector firms.

These industries are characterized by an intensive concentration of foreign investors, whereas domestic establishments basically belong to traditional sectors. Thus spillovers may occur between foreign and domestic firms, and improve the productive performance of the latter ones. Contrariwise there is no significant impact on domestic plants in the low technology industry, which could be explained by the poor absorptive capacity of Irish firms and their incapability of catching spillovers (Audretsch, 1991). These results are also in line with those found in Girma and Görg (2003)'s paper on the foreign acquisition impact on almost 400 UK firms in food and electronics industry. The analysis is based on a matching approach according to which a group of acquired plants is compared to another group with similar specific features composed of wholly domestic owned plants (the counterfactual). Foreign takeover causes a decrease of survival likelihood of acquired firms in both sectors observed, and a diminishing growth of unskilled employment in the electronics industry. However, both effects (productivity spillovers and linkages) may be vehicles of overall economic development and lead to "demand creation" (Ayyagari and Kosova, 2010) within the host countries' market.

In a further paper by Görg and Strobl (2004), which refers to previous analysis on the Irish industry (Görg and Strobl, 2003) productive spillovers and vertical linkages, are studied together. The authors control for both technological and pecuniary externalities on domestic plants development, in terms of entry, survival and growth. In addition to the competition effect and externalities a further effect has been identified which relates to the transfer of capital amount entering the host economy. If we account FDI as a MNE entry, or a transfer of capital input, capital endowment in the recipient industry rises; it lowers the average costs of production and improves the productive efficiency of the same sector. According to Barrios, Görg and Strobl (2005) the relationship between the net entry rate of domestic firms and the presence of foreign plants should follow a U-shaped curve, outlined by the fact that increasing capital endowment and vertical linkages take effect positively only in a later time; at the beginning the competition effect seems overwhelming. However it should be noticed that one of the initial assumptions is that FDI is not export-oriented; otherwise the effect on the net entry rate would be even larger. Moreover the competition

may be stronger than spillover and linkages effects in dynamic industries where new firms are fairly innovative, but weaker in static industries where imitation prevails (Burke, Görg and Hanley, 2007).

4.2.3. FDI and firm survival in Transition Countries

Literature on FDI-firm survival relationship in TCs is not extremely wide. A few works have a general approach and mostly control for those characteristics which are usually identified as the main determinants of survival. Konings and Xavier (2002) study the growth and survival of Slovenian firms over four years, from 1994 to 1998, confirming the positive effect of size on the probability of surviving. Studená (2004) underlines the importance of considering the Transition characteristics within the analysis of demographic dynamics. In her paper on the Slovak industry over the period 1993-1996 State Owned Enterprises (SOEs) are the most likely to drop out, due to the process of privatization and restructuring occurring in TCs since the beginning of the Nineties. More importantly, the authoress distinguishes between small and large firms and shows that in the first category the probability of survival increases with size, whereas the opposite occurs in the second group. These apparently unexpected results are related to the fact that most of small firms in the sample are new privatized plants and prove to be more competitive than large enterprises, which are still behind in the process of privatization.

A more complex analysis is presented by Kejžar (2010). The aim of the paper is to assess whether the mechanisms triggered by foreign presence – namely competition effects, productivity spillovers, the establishment of vertical and horizontal linkages – occur and affect Slovenian manufacturing firms' exit rate between 1994 and 2004. By using an instrumental variables probit model in order to account the potential endogeneity of FDI, regressions bring out that foreign firms' presence fosters a sort of selection process within the domestic industrial population. While a crowding out effect is detected only for the least efficient firms, the probability of exiting decreases with skill intensity, measured by the average wage; this means that skilled intensive and efficient plants eventually are able to catch positive spillovers from foreign enterprises, which enables them to stay longer in the market. As for spillovers channeled through the linkages between domestic and foreign firms, empirical evidence suggests that the probability of exiting is positively correlated with forward linkages and negatively with backward linkages. No evidence is found for horizontal spillover effects. With regard to this last aspect Ayygari and Kosová (2010) come

to different conclusions; in a panel with more than 200 Czech firms they find evidence of the significant role of both horizontal and vertical spillovers, especially in the service sector rather than the manufacturing one. It is noteworthy that the dependent variable, unlike the previous paper, is now the entry rate of domestic firms, so FDI are found to be an incentive for local entrepreneurship. Nonetheless the results vary according to the industry concerned; intra-industry positive spillovers from FDI occur only in uncompetitive industries.

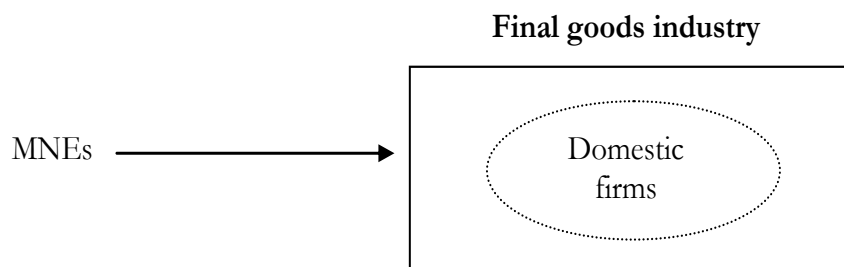
4.3. THE MULTIPLE EFFECTS OF FDI

Which mechanisms arise from FDI in the recipient economy? What occurs when MNEs enter a foreign country? The already mentioned model by Markusen and Venables (1999) can be seen as a good reference point in order to delve deeper into the consequent dynamics of foreign companies' penetration. Therefore it might be useful to resume the baseline of it. The two authors use a one country model with two imperfect competitive industries of intermediates and consumption goods, respectively; in both cases we have increasing returns to scale. They assume that final products may be furnished by multinational, foreign or domestic firms, whereas intermediate goods can be produced exclusively by local plants. Within this framework MNEs and domestic firms are linked by *input-output connections* since the former ones may source from the latter ones. The entry of MNEs in the final goods industry causes a *competition effect*, through the decrease of the relative price index and profits. Given that domestic plants have generally lower productivity levels than entrant MNEs, and they serve only the domestic market, their sales will be reduced and their average costs will rise (Aitken and Harrison, 1999); the result is a displacement of local firms. This negative impact is balanced by the establishment of *vertical linkages*, both across downstream (backward) and upstream (forward) industries. First, MNEs drive up the demand of intermediates through backward linkages, so pushing down production costs and final prices; in turn also the production of domestic firms in the upstream industries is stimulated, through forward linkages. The contrast between these different forces and the prevalence of either two, determine the extent to which domestic firms stay in or exit the market. Nonetheless beyond FDI direct effects further processes must be accounted. The so called indirect competition occurs when the displacement of domestic plants is obviously followed by a decrease of the relative demand of intermediates (Markusen and Venables, 1999). If we do not exclusively focus on the survival (or exit) of

domestic firms, according to Markusen and Venables' model FDI can be seen as catalyst for the local economic system development, thanks to the "cumulative causation" between domestic final goods and intermediates industry which is triggered by vertical linkages. On the other hand, by taking a closer glance at the survival issue the two authors argue that the coexistence between MNEs and domestic firms is not likely to occur and it might be restricted to specific conditions, such as a higher level of similarity in efficiency.

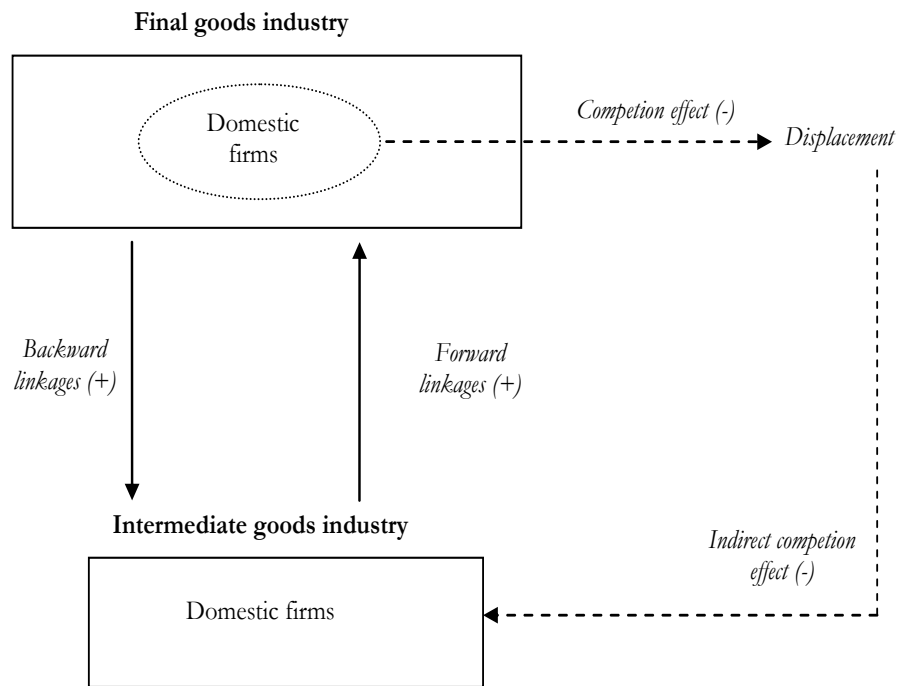
In Fig. 3.1.a and 3.1.b an overview of connections between firms and consequent effects of MNEs' entry with their correspondent sign, has been reported. Following the steps illustrated, some considerations have to be made in order to evaluate the overall impact on domestic business population. The first point concerns the *intensity of the use of intermediates by MNEs*. We can presume that the positive effects through backward linkages established with domestic firms are weaker if MNEs' demand for intermediates is not so high, i.e. lower than the one of domestic plants in the same industry (final good industry). In this case both direct and indirect competition effects may prevail; the opposite situation is expected when MNEs use predominantly local intermediates.

Fig.3.1.a



Source: author's elaboration

Fig.3.1.b



Source: author's elaboration

A further important issue regards the *difference in productive efficiency* and the *degree of products* between the goods sold by entrants and those by local existing plants. The competition effect will be relevant if the efficiency gap is high and the degree of goods differentiation is low, so that goods are nearly perfect substitutes. Markusen and Venables (1999) also consider the situation when a *complete crowding out of domestic firms* occurs; in this case there is no net effect on intermediates (resulting in the difference between the backward linkages effect and the indirect competition effect) industry and only a positive impact through backward linkages is registered. What the model reviewed so far does not take into account, is *the presence of MNEs also in the intermediate goods industry*, as noted in Altomonte and Resmini (2002)'s paper. When this more realistic assumption is allowed, connections between MNEs and domestic firms turn out to be more complex and ambiguous. We can simplify the background by following the process step by step.

- a. The entry of MNEs in the final goods industry is still supposed to trigger positive effects through backward linkages, so that the demand for downstream firms increases.
- b. Unlike in the previous scenario, now the competition effect may be the cause of domestic firms' displacement both in consumption and intermediate goods

industry. Overall supply of intermediates increases and leads to a reduction of the relative price index and profits; the less competitive firms exit the market.

- c. Nonetheless, upstream firms can take advantage of the increasing supply of intermediates industry through the establishment of forward linkages. It is plausible thinking that MNEs are able to better exploit this self-reinforcing mechanism rather than domestic firms do.

It would seem that the potential positive force of vertical linkages may be biased toward MNEs development in the host country, and while their number is expected to increase both in downstream and upstream industries domestic firms' survival is menaced.

Again the role of entrant MNEs should be observed in detail, which is not always easy or possible through empirical analysis. Most important, as mentioned above, if MNEs in the consumption industry use intensively local intermediates, the competition effect may be mitigated by stronger and influent backward linkages. Whether FDI is catalyst of the development of the local business environment in host countries, as in Markusen and Venables' (1999) model, or rather an obstacle merely managing to foster MNEs settlement, it might depend on country specificity; this is particularly important when the host economy is a Developing Country. In this regard the absorptive capacity of firms in the recipient country may matter considerably, especially when accounting for MNEs also in the intermediates industries. In fact, local firms which are able to catch technological spillovers across industries and within the same one, might easily face foreign competition⁴⁵. In addition, it should be considered that in the long run the higher productive efficiency (than before) of domestic firms together with their lower costs could displace - or at least reduce - foreign presence in downstream industries. The next sections try to deal with the issue of MNEs' presence and domestic firms' survival by focusing on two TCs which reveal a different reaction to foreign firms' penetration.

⁴⁵ Lin and Saggi (2005) delve into the establishment of a Vertical Technological Transfer from MNEs and their local suppliers in the host countries. With the support of a theoretical model based on oligopolistic competition they argue that demand creation through vertical linkages offsets competition if the technological gap between MNEs and domestic firms in the consumption goods industries is not very large.

4.4. THE EMPIRICAL ANALYSIS

4.4.1. Data

Data on Czech Republic and Estonia are taken from Amadeus database provided by Bureau Van Dijk. This database collects financial and more general information on over 15 million European companies and it is one of the best international sources for TCs, when national databases are not directly consultable. Different versions of Amadeus referring to six different years – from 2004 to 2009, the two both included - have been used. Since it is a historical database every yearly version contains information that date back to about ten years before, the last versions providing certainly more data than the ones from the Nineties. Nonetheless we need all six, in order to check the exit time of firms and then estimate their survival likelihood. For this purpose the last years with available data from each survey have been merged, thus allowing knowing the moment when firms exit. The criterion of identification of exiting firms has been based first on the Bureau Van Dijk code applied to every company entering the survey: if a code which is included in one version of the database does not appear in the version related to the following year, it means that the firm has exited. Secondly, the current activity status, i.e. active/inactive⁴⁶, has also been considered as further check. For both countries the period covered ranges from 2003 to 2008. The samples include very large, large and small firms, both domestic and foreign⁴⁷, thus leaving out only those ones with less than 15 employees, according to Amadeus definition. Given that generally small and very small firms may lack of constancy and accuracy concerning business information transfer, they have not been finally considered in the analysis. In addition, the range between very large and medium classes represents already a good indicator of size heterogeneity in the country business environment. The initial samples have been reduced, due to the presence of many missing values related to crucial variables. First, those firms with no name and date of incorporation reported have been dropped out of both samples. In addition, since the logarithm of all variables is taken, firms younger than one year old have neither been considered, in order to avoid too many missing values. The empirical evidence refers to manufacturing and services sectors, according to the 3-digit NACE Rev. 1.1 classification.

⁴⁶ Firms in liquidation, in bankruptcy, dissolved, merged or demerged are all considered inactive.

⁴⁷ Foreign firms are those whose Ultimate Owner (UO) is not Czech (in the case of the Czech Republic) or Estonian (in the case of Estonia). The default definition of UO as a shareholder with 25% or more of the ownership has been kept.

4.4.2. The econometric approach

The aim of the current study is to catch the effects of FDI on domestic plants survival in the concerned countries. In order to get a first outlook of survival, a Kaplan-Meier function has been processed. This is a method based on maximum likelihood, and since it is non-parametric it does not require any assumption on the shape of the function analyzed. The Kaplan-Meier approach is based on the progressive product of survival probabilities related to every single observation in the sample. The survival likelihood obtained is constant in the lapses between two events (e.g. the exit of a firm).

$$\hat{S}(t) = \prod_{t_j \leq t} \left(1 - \frac{d_j}{n_j} \right), \quad (5)$$

where $\hat{S}(t)$ is the estimated survivor function at time t , d_j is the number of subjects who experience the event at time t_j and n_j is the number of subjects who are still at risk of experiencing the event. $\prod_{t_j \leq t}$ refers to the geometric sum of all cases occurring before, or at time t . Graphically, the Kaplan-Meier specification results in a step function according to which changes in values correspond to the onset of the event observed.

Nonetheless firm survival analysis requires a closer examination that cannot be totally provided by the Kaplan-Meier approach. We fulfill this task by implementing the Cox proportional hazard model which, following most of recent studies dealing with this same topic (e.g. Audretsch and Mahmood, 1995; Burke, Görg and Hanley, 2008; Görg and Strobl, 2003; Mata and Portugal, 1994), seems to be the most suitable econometric approach. The Cox model is based on partial likelihood estimation which is in turn focused on events sequence, rather than on each individual spell like in maximum likelihood (Cox, 1972). Consider our sample as a random sequence of spells, both censored and complete, and consider the risk that a specific event occurs - in our case the exit of a domestic firm. The presence of censored data⁴⁸ is one of the main problematic issues of survival analysis; nonetheless it can be easily tackled by the Cox model, rather than other methods based on maximum likelihood estimation (e.g. logit and probit).

⁴⁸ On the right side when the event at issue has not yet occurred at the time of observation, on the left side when the risk period leading to the event has started before the beginning of the observation time.

The hazard function (or rate) $h(t)$ is given by

$$h(t) = \lim_{\Delta t \rightarrow 0^+} \frac{P(t \leq T \leq t + \Delta t | T \geq t)}{\Delta t} \quad (6)$$

The numerator is the probability that the failure event occurs in a given interval and it is conditional to the survival of the subjects – i.e. domestic firms – up to that moment. The denominator is the length of the time range considered. The ratio can be rewrite in the following terms

$$h(t) = \frac{f(t)}{S(t)} \quad (7)$$

Where $f(t)$ is the probability density function and $S(t)$ is the survival function. In the Cox model the hazard rate of the j -th subject becomes

$$h(t | x_j) = h_0(t) \exp(x_j \beta_x) \quad (8)$$

where $h_0(t)$ is the baseline hazard, x_j are the covariates which are supposed to affect the failure probability and β_x are the parameters. The exponential function (exp) has been chosen in order to avoid negative values of the hazard rate; nonetheless it could be replaced by any other different function. The use of a function is related to the feature of proportionality of this model, meaning that the hazard is multiplicatively proportional to the baseline (Cleves et al., 2008). That is allowing handling the fact that the probability of failure may vary over time. In this case in fact we should not check for the unconditional probability according to which the hazard rate is linked to a specific moment and its past specifications do not influence its current value. Contrariwise, we must refer to the fact that the probability in every point in time depends on its previous values (Kiefer, 1988). In the present analysis, for instance, firms' exit-time potential relationship is thus taken into account. The first advantage of using the Cox proportional hazard model concerns the

absence of a specific parameterization (as in the case of the Kaplan-Meier function introduced above) of the baseline hazard function, and this reduces the risk of wrong assumptions about its shape that could in turn lead to strongly biased estimates. For this reason no intercept is estimated through this model, since the intercept is included in the baseline hazard.

4.4.3. The econometric model

As already argued, consequences on local business environment strongly depend on the way in which relationships between MNEs and domestic firms are established. This issue also relies on the functioning of these linkages and eventually on the length of foreign firms' permanence on the territory of the host country. Given the changing and transitional nature of foreign penetration in TCs it is quite hard to venture hypothesis on final results. The concerning literature does not either give a clear cut off, some studies finding a positive impact on domestic survival thanks to technological spillovers spreading through vertical linkages (Djankov and Hoekman, 1999; Smarzynska Javorcik, 2004), whereas some others point out a negative impact (Konings, 2001; Stančík, 2009). More important, a few analyses put on evidence the specificity of TCs and their diverse transition paths, by showing heterogeneous results for different countries (Damijan et al., 2003a, 2003b).

On the main purpose of catching FDI effects on domestic firms' survival three measures of foreign presence in the host economy have been computed: intra-industry foreign penetration (INTRA) and foreign penetration through backward (BACKWARD) and forward linkages (FORWARD), respectively. Intra-industry foreign penetration index is given by the share employment of foreign firms at time t , in industry j . The other two indices have been calculated starting from the vertical linkages coefficients, and by using the input-output (IO) tables available on the OECD website, which provide a matrix of sales and purchases of intermediates across industries within the economic system of a country⁴⁹. The backward linkages index is defined as the share of intermediate purchases of industry j from the other i -industries on total output of industry j ; symmetrically, the

⁴⁹ IO tables are available every five years; tables of the Czech Republic and Estonia used in the current analysis refer to year 2005. In order to reduce the potential distortion, vertical linkages measures have been interacted with the time variable (years). In addition, since the aim is to focus only on foreign-domestic firms linkages imports, output produced for exports and final consumption have not been considered in the computation of the vertical linkages indices (Ayyagari and Kosová, 2010). Although both data from Amadeus and IO tables use the NACE Rev. 1.1. classification, they are based on 3-digit and 2-digit codes, respectively. In order to obtain a better comparability and reduce the risk of neglecting important effects backward and forward linkages have been weighted by the size of industry at 3-digit level.

forward linkages index represents the share of sales of industry j to the other i -industries on total demand of industry j ⁵⁰. Intermediates which are provided by industry j itself, as well as those remaining within it, have been excluded from the computation since they are part of intra-industry linkages. The final covariates included into the model (BACKWARD and FORWARD) are two interaction variables between these latest indices and INTRA.

The other explanatory variables included in the empirical model are both firm (age, size and productivity) and industry specific (MES, the Herfindahl index). Age (AGE) is computed as the difference between the current year t and the year referring to the date of incorporation⁵¹; size (SIZE) is defined in terms of number of employees at time t . Given the previous literature related to the Law of Gibrat and most of the recent empirical evidence on firm survival (e.g. Dunne and Hughes, 1994; Evans, 1987; Mansfield, 1962; Mata and Portugal, 1994), these two characteristics are expected to be negatively related to the hazard rate, i.e. the probability of failure. Nonetheless an opposite result might emerge in regard to AGE, as many old SOEs have been replaced or just exited since the beginning of transition. Productivity (PRODUCTIVITY) is measured as the share of sales per employee at time t , and it is also supposed to show a negative coefficient, as more productive firms, which have on average higher growth rates, should be able to better deal with competition. On the other hand, competition within the most productive industries may result in higher exit rates of those same plants; in this case the analysis would require a further deeper test at industry level.

In order to check the relevance of the market on firm survival, Minimum Efficiency Scale (MES) and the Herfindahl index (HCI) have been computed, at 3-digit NACE Rev. 1.1. industry level. MES is the estimate of the production scale beyond which costs become constant, further scale economies being negligible. Two interpretations of MES leading to different expected results can be found in literature, and they are both well illustrated in two studies by Audretsch. In a first work (Audretsch, 1991) the author identifies a positive relationship between MES and price-cost margins, so that the higher the MES, the higher is the probability of firm survival. In a later paper Audretsch and Mahmood (1995), argue that the value of MES allows detecting firms' costs disadvantage which depend on the gap between the output level of firms and the minimum efficient scale. Higher costs

⁵⁰ Total demand is given by the sum of final demand (share of output for consumption, public expenditure and exportations) and the share of sales of industry i to the other j -industries.

⁵¹ Since the natural logarithm of all variables has been considered, observations with age=0 have been dropped, in order to avoid too missing values and biased estimates (Kejžar, 2010).

disadvantage will correspond to higher values of MES, and eventually to lower firm survival likelihood. In our model this variable is computed as the median sales size in industry j at year t . The Herfindahl index is a concentration index which catches the degree of competition within industries, and it is measured as the sum of the squares of the market shares of all firms in industry j at year t . The empirical evidence related to this index follows the ambiguity discussed in the case of MES. Higher concentration might be seen as high price-costs margins – with a consequent positive effect on survival - or simply as increasing competition pushing less competitive firms out of the market. Nonetheless it often shows a non significant coefficient (Mata and Portugal, 1994; Girma and Görg, 2003; Kejžar, 2010). All variables are expressed in logarithmic form. By widening the analysis to vertical linkages and following Markusen and Venables (1999)’s reasoning, it is now more conceivable to advance the two simple hypotheses which will be tested hereinafter.

Hypothesis 1: FDI impact on domestic firms’ survival through vertical inter-industries linkages is more relevant than the one occurring through horizontal intra-industry linkages. It is very likely that MNEs, especially at the beginning of FDI flows, establish connections with upstream or downstream industries rather than within the same industry. Cost-advantages and a greater availability of inputs and intermediates can be the first driving force for MNEs to invest in a Developing Country. Moreover the greater the technological gap between the entrant firms and the local ones, the more remarkable are the effects on the recipient economic system. Hypothesis 2: FDI impact on domestic firms’ survival through both backward and forward linkages is positive. The entry of MNEs drives the increase of demand in downstream industries, which in turn fosters the growth of firms which are provided by these industries.

4.5. COUNTRY ANALYSIS AND RESULTS: THE CZECH REPUBLIC

4.5.1. Statistics

The sample is an unbalanced panel of 253,610 observations related to 45,622 firms⁵². The whole sample is useful in order to elaborate statistics and compute the independent variables added into the model. Nonetheless, as it will be explained in paragraph 5.2.2, foreign firms are excluded from final samples used in the econometric regressions, since the study focuses on host country firms’ population trend. Tab. 5.1

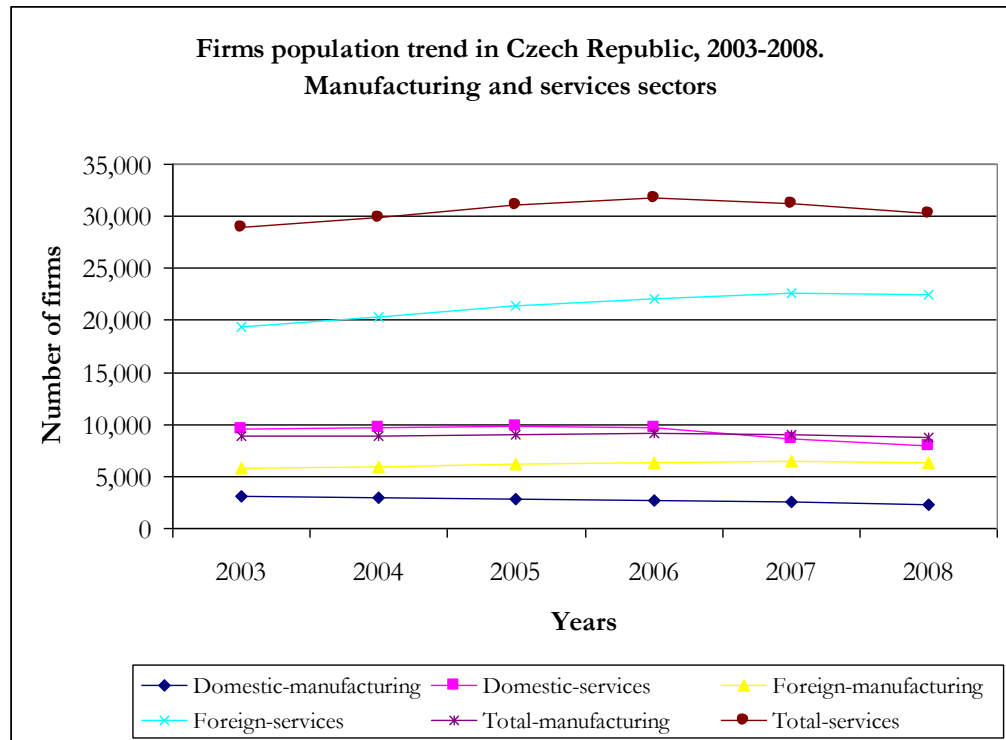
⁵² See Statistics, Tab.1.a – 1.d.

reports the number of domestic and foreign firms, according to year and sector, while Fig. 5.1 shows the demographic trend in a clearer way. The services sector is the largest one. Moreover, if we look at the share of each firms' category on the total, it is noticeable that foreign presence is consistently greater than domestic one in both sectors. This could be partly due to the composition of the sample, excluding small and micro firms which represent however an important part of TCs business environment, and are mainly concentrated in the manufacturing sector. By looking at the growth rate of the number of firms, the services sector seems to attract more foreign firms (15.7%) than the manufacturing one (9.2%). In general, while the number of domestic plants decreases, the table shows that more and more foreign firms settle in the Czech Republic over time. More important, it is worth to notice that the absolute values of growth rates related to domestic firms (-24.1% for manufacturing and -17.2% for services) are always higher than the ones related to foreign firm. Domestic business environment shrinks more than foreign penetration increases, especially in the manufacturing sector. This allows us to deduce in which direction the empirical results might go, although a proper deeper analysis is required.

Tab. 5.1: Distribution of domestic and foreign firms in the Czech Republic, by sector

Manufacturing	Domestic firms	Domestic firms on total	Foreign firms	Foreign firms on total	Total
2003	3,062	0.344	5,834	0.656	8,896
2004	2,916	0.328	5,964	0.672	8,880
2005	2,848	0.314	6,234	0.686	9,082
2006	2,733	0.301	6,363	0.699	9,096
2007	2,558	0.285	6,431	0.715	8,989
2008	2,323	0.267	6,371	0.733	8,694
Growth rate 2003-2008	- 24.1%		+ 9.2%		
Services	Domestic firms	Domestic firms on total	Foreign firms	Foreign firms on total	Total
2003	9,540	0.330	19,388	0.670	28,928
2004	9,638	0.322	20,278	0.678	29,916
2005	9,800	0.314	21,363	0.686	31,163
2006	9,654	0.304	22,077	0.696	31,731
2007	8,644	0.277	22,587	0.723	31,231
2008	7,894	0.260	22,439	0.740	30,333
Growth rate 2003-2008	- 17.2%		+ 15.7%		

Fig.5.1



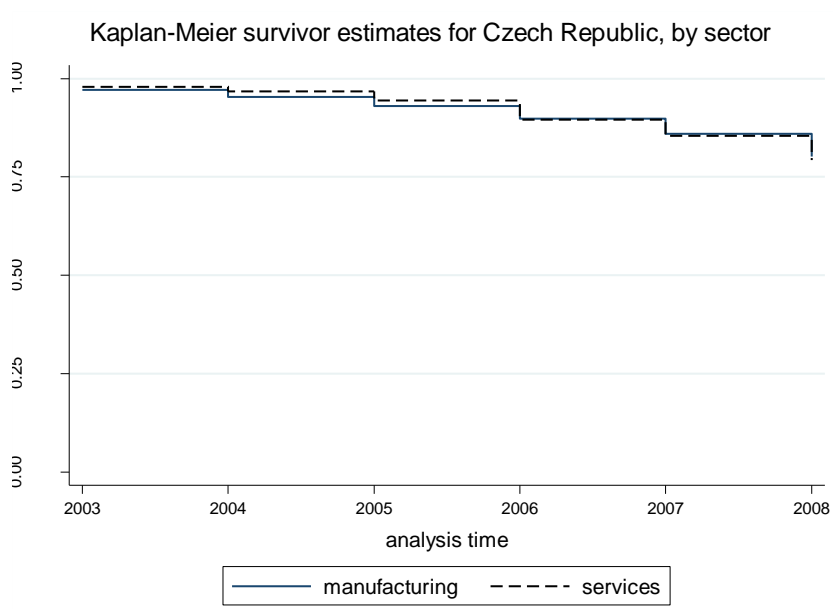
Source: author's elaboration

The Kaplan-Meier function is a recommended approach in order to catch the survivor trend within the groups used to analyze the subjects concerned, e.g. firms. A step survivor curve for each categorical covariate is shaped relatively to the analysis time used, which here corresponds to six years. Groups are proportionate when the related curves overlap, or when they figure strongly parallel. Nonetheless the composition of the sample and the number of subjects in each category may not always ease the interpretation of the graph. On this purpose the Kaplan-Meier approach is generally accompanied by a test for the equality of the survivor functions, which is a Log-rank test in the current analysis. This is a non parametric method which computes the number of both the events observed in the sample and the expected events, the ones occurring the two categories being equal.

In Fig. 5.2 the analysis is applied to all firms, disaggregated by sector. Survivor curves are almost overlapping in the final period, whereas up to 2006 the services sector shows higher survival probabilities, which is in line with our previous statistics on firms population trend. Likewise the number of expected events computed by the Log-rank test does not substantially differs from the number of observed events, in both sectors. Nonetheless, by considering the Chi-square test p-value (0.07), we do reject the null

hypothesis of equality of survivor functions between manufacturing and services sectors at 10% significance level.

Fig.5.2



Log-rank test

Sector	Events observed (failure)	Events expected (failure)
Manufacturing	1998	2069
Services	7355	7284
Total	9353	9353

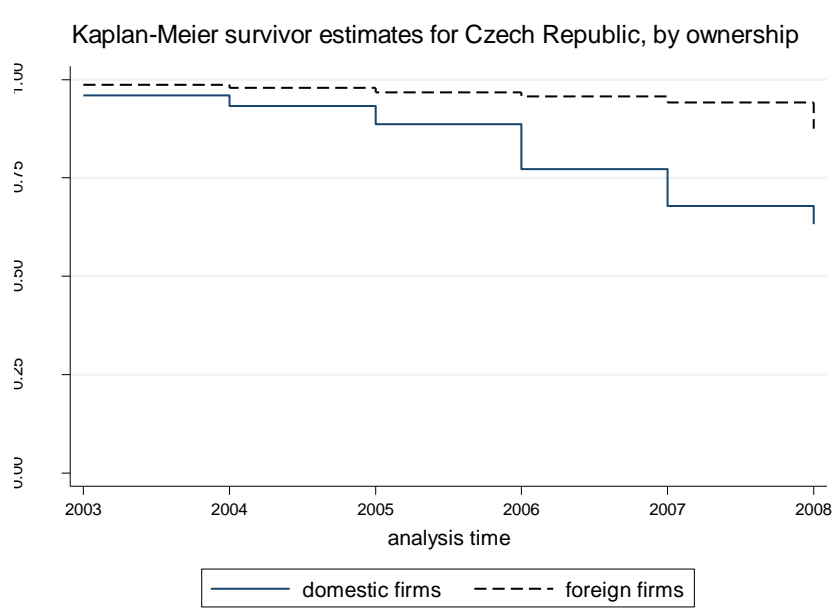
chi2(1) = 3.310
Pr>chi2 = 0.0690

Source: author's elaboration

In Fig.5.3 the situation is much clearer and the graph shows strongly distinct curves for the two categories, domestic and foreign firms. As expected foreign firms report higher survival likelihood than domestic ones. The results are confirmed by the Log-rank test which shows a much more significant p-value than in the previous case, thus leading to reject again the null hypothesis of equality.

Further statistics on firm survival trend in the Czech Republic are provided in Appendix (Tables 6.a, 6.b, 6.c, 6.d)

Fig. 5.3



Log-rank test

Sector	Events observed (failure)	Events expected (failure)
Manufacturing	5533	2759
Services	3820	6594
Total	9353	9353

chi2(1) = 4157
Pr>chi2 = 0.0000

Source: author's elaboration

4.5.2. Results

On the main purpose of observing domestic plants' survival probability, and catching to which extend MNEs may affect it over time, foreign firms have been dropped out of the final sample. The Cox Proportional Hazard model has been applied first to the sample including both manufacturing and services firms, gathering 83,199 observations for 15,054 firms; afterwards the two sectors have been analyzed individually, thus obtaining a subsample of 19,262 observations and 3,406 firms in the manufacturing sector, and another subsample of 63,937 observations corresponding to 11,719 firms in the services sector. All regressions have been run by stratifying the estimates according to 2-digit industry level. In this way, assuming all observations with equal values being in the same

stratum, we allow different coefficient across industries and a baseline hazard unique within each of them.

In Tab. 5.2 a life table of the domestic firms' sample reports the number of observations related to failures (deaths) and censored data (lost), as well as the survival probability (survival) for each interval of the analysis time. For instance, 98.9% of domestic manufacturing firms has survived between 2003 and 2004 and beyond; likewise, the same has occurred to 99.3% of domestic firms in the services sector. Although year 2009 is not considered in the current analysis it must be included in the table, since data on failures in 2008 are available, and those firms which do not exit remain alive along 2008. The probability of survival decreases over time in both sectors, and it is slightly higher in the services sector till the last year period (2008-2009), when the tendency is inverted. Moreover, the survival probability in the manufacturing sector shows higher growth rates in the first years, whereas the increase falls more consistently up to 2005.

Tab. 5.2: Life table of the Czech Republic sample

Interval	Totals at the beginning (obs.)	Deaths (obs.)	Lost (obs.)	Survival	Standard errors	95% confidence interval
Manufacturing						
2003 - 2004	19,262	194	2,868	0.989	0.0008	0.988 - 0.991
2004 - 2005	16,200	341	2,769	0.966	0.0014	0.963 - 0.969
2005 - 2006	13,090	505	2,685	0.925	0.0023	0.920 - 0.929
2006 - 2007	9,900	741	2,494	0.846	0.0035	0.839 - 0.852
2007 - 2008	6,665	1,033	2,271	0.688	0.0053	0.677 - 0.698
2008 - 2009	3,361	1,180	2,181	0.330	0.0076	0.315 - 0.345
Services						
2003 - 2004	63,937	413	9,127	0.993	0.0003	0.992 - 0.994
2004 - 2005	54,397	667	9,384	0.980	0.0006	0.979 - 0.981
2005 - 2006	44,346	1,197	9,271	0.950	0.0010	0.948 - 0.952
2006 - 2007	33,878	2,677	8,181	0.865	0.0018	0.861 - 0.868
2007 - 2008	23,020	3,796	7,531	0.694	0.0029	0.689 - 0.700
2008 - 2009	11,693	4,340	7,353	0.318	0.0041	0.310 - 0.326

Source: author's elaboration

All the following tables report the Cox coefficients, rather than the hazard ratios. Positive (negative) values of these coefficients refer to higher (lower) hazard ratios and lower (higher) survival. Table 5.3.a reports the results for the sample including only domestic firms from both sectors. Seven specifications are provided considering firm, industry and foreign penetration characteristics. SIZE shows significant and negative

coefficients, as in most literature concerned, so that the larger the firm the smaller the probability of exiting the market. HCI is also significant but always positive, since a higher concentration level in the market may lower the survival probability. The last five columns are the most interesting ones, since they include FDI proxies. Only foreign penetration through forward linkages (FORWARD) seems to affect significantly and negatively domestic firms' survival. In column 5, value 0.0101 means that a 10% point raise in foreign presence across upstream industries increases the rate of hazard, reducing firms' survival. The effect is confirmed in columns 6 where both backward and forward linkages are accounted, and in column 7 which includes also horizontal linkages. The other covariates do not report any significant values. The non significance of AGE might be due to the exclusion of firms which are younger than one year old from a sample composed mostly of young and very young plants⁵³.

Tab. 5.3.a: The Cox Proportional Hazard Model for Czech Republic. Manufacturing and service sectors (2003-2008)

Variables	1	2	3	4	5	6	7
AGE	-0.0918 (0.17)	-0.1581 (0.17)	-0.1265 (0.18)	-0.1596 (0.17)	-0.1588 (0.18)	-0.1589 (0.18)	-0.1268 (0.18)
SIZE	-0.1876** (0.08)	-0.2104*** (0.08)	-0.1993** (0.08)	-0.2033** (0.08)	-0.1959** (0.08)	-0.1958** (0.08)	-0.1910** (0.08)
PRODUCTIVITY	-0.1138 (0.16)	-0.1208 (0.16)	-0.1315 (0.16)	-0.1215 (0.16)	-0.1251 (0.16)	-0.1252 (0.17)	-0.1334 (0.16)
MES		0.1052 (0.22)	0.1397 (0.23)	0.1103 (0.22)	0.1499 (0.23)	0.1497 (0.22)	0.1749 (0.23)
HCI		1.6666* (0.97)	2.6624** (1.04)	1.5697** (1.16)	1.6958*** (1.01)	1.6854*** (1.16)	2.7215** (1.31)
INTRA			1.9263 (1.73)				1.7598 (1.75)
BACKWARD				0.0046 (0.01)		-0.0003 (0.00)	-0.0053 (0.01)
FORWARD					0.0101** (0.00)	0.0100** (0.00)	0.0079* (0.00)
Number of observations	8,479	8,479	8,479	8,479	8,479	8,479	8,479
Number of firms	5,248	5,248	5,248	5,248	5,248	5,248	5,248
Wald chi-square test	9.402 (0.0244)	12.22 (0.0319)	15.05 (0.0198)	19.33 (0.0036)	18.53 (0.0050)	18.78 (0.0089)	20.35 (0.0091)

Notes: a) *** p<0.01, ** p<0.05, * p<0.1 refer to significance levels.

b) Robust standard errors, adjusted for clustering at 3-digit Nace Rev.11. level in parentheses.

c) Baseline hazard stratified by 2digit Nace Rev.1.1. industry level.

d) p-values of the Wald chi-square test in parenthesis

Source: author's elaboration

⁵³ In the manufacturing and service sectors domestic firms younger than 15 years old represent 96.3% and 97.5% of the domestic sample, respectively.

Tables 5.3.b and 5.3.c summarize the estimates for manufacturing and services sectors, respectively. In the manufacturing sector (Tab. 5.3.b) - similarly to estimates we obtained in the general sample - SIZE seems to be an important feature for domestic firms' survival. MES also shows a significant and positive coefficient which might be connected to the increase of cost disadvantages for the firm, as suggested by Audretsch and Mahmood (1995); this in turn should make more difficult the permanence of firms on the market. HCI is significant only in columns 4 and 6, revealing a potential correlation with BACKWARD⁵⁴. The significance of these variables does not occur in the services sector (Tab. 5.3.c), where contrariwise the only relevant predictor seems to be HCI, which shows a positive coefficient in all specifications, exactly as in Tab. 5.3.a. The same results concerning HCI emerging both in Tab. 5.3.a and Tab. 5.3.c may indicate that the concentration index effect on firms' survival in the services sector is stronger than the effect stemming from the presence of cost disadvantages in the manufacturing sector. As for foreign penetration, in Tab. 5.3.b again MNEs effects channeled through vertical linkages (BACKWARD and FORWARD) are more noteworthy than through horizontal linkages (INTRA). In the last three columns both FDI proxies across downstream and upstream industries result in a positive and important connection with firms' exit. From the coefficients of these variables, along with the non significance of FORWARD in column 6, we can deduce that in the manufacturing sector foreign presence through backward linkages exerts a stronger effect on firms' failure probability than through forward linkages. Nonetheless BACKWARD is not relevant in column 7, since the other two foreign penetration proxies (INTRA and FORWARD) may absorb part of its statistical significance. Contrariwise, in Tab. 5.3.c vertical linkages measures are never significant and even report a negative sign, meaning that foreign presence in upstream and downstream industries may promote domestic firms' survival; however this effect is found to be too weak in the services sector.

⁵⁴ Further regressions run by excluding *HCI* from the model still give strongly significant values of *BACKWARD*, so that both variables are accounted in following estimates.

Tab. 5.3.b: The Cox Proportional Hazard Model for Czech Republic. The manufacturing sector (2003-2008)

Variables	1	2	3	4	5	6	7
AGE	0.0335 (0.35)	-0.1646 (0.36)	-0.2629 (0.39)	-0.1911 (0.43)	-0.2606 (0.42)	-0.2122 (0.45)	-0.2639 (0.43)
SIZE	-0.4774 (0.29)	-0.7746*** (0.20)	-0.7700*** (0.29)	-0.7174*** (0.23)	-0.6903*** (0.18)	-0.6915*** (0.24)	-0.6975*** (0.26)
PRODUCTIVITY	-0.7205 (1.27)	-0.3779 (0.68)	-0.6660 (1.31)	-0.4778 (0.70)	-0.3193 (0.61)	-0.4614 (0.66)	-0.5275 (0.85)
MES		1.2199*** (0.35)	1.4081*** (0.36)	1.6317*** (0.41)	1.6035*** (0.58)	1.7419*** (0.46)	1.6599*** (0.41)
HCI		-0.5086 (1.41)	1.9958 (2.43)	-6.9931** (3.45)	-2.1603 (3.39)	-7.9981** (3.54)	-4.3968 (4.91)
INTRA			5.2128 (3.30)				2.2196 (3.42)
BACKWARD				0.1561*** (0.07)		0.1487* (0.09)	0.1018 (0.07)
FORWARD					0.0197** (0.01)	0.0071 (0.01)	0.0048 (0.01)
Number of observations	2,854	2,854	2,854	2,854	2,854	2,854	2,854
Number of firms	1,544	1,544	1,544	1,544	1,544	1,544	1,544
Wald chi-square test	7.834 (0.0496)	39.63 (0.0000)	50.19 (0.0000)	48.32 (0.0000)	55.07 (0.0000)	55.81 (0.0000)	55.13 (0.0000)

Notes: a) *** p<0.01, ** p<0.05, * p<0.1 refer to significance levels.

b) Robust standard errors, adjusted for clustering at 3-digit Nace Rev.11. level in parentheses.

c) Baseline hazard stratified by 2digit Nace Rev.1.1. industry level.

d) p-values of the Wald chi-square test in parenthesis

Source: author's elaboration

Tab. 5.3.c: The Cox Proportional Hazard Model for Czech Republic. The service sector (2003-2008)

Variables	1	2	3	4	5	6	7
AGE	-0.0808 (0.20)	-0.1270 (0.20)	-0.1141 (0.20)	-0.1239 (0.20)	-0.1280 (0.20)	-0.1271 (0.20)	-0.0989 (0.20)
SIZE	-0.1042 (0.08)	-0.0804 (0.09)	-0.0782 (0.09)	-0.0814 (0.09)	-0.0841 (0.09)	-0.0840 (0.09)	-0.0822 (0.09)
PRODUCTIVITY	-0.1062 (0.16)	-0.1057 (0.17)	-0.1077 (0.17)	-0.1055 (0.17)	-0.1053 (0.17)	-0.1053 (0.17)	-0.1083 (0.17)
MES		-0.1183 (0.24)	-0.1021 (0.27)	-0.1149 (0.24)	-0.1085 (0.24)	-0.1088 (0.25)	-0.0691 (0.28)
HCI		2.6693*** (0.88)	2.9960** (1.28)	2.7572** (0.90)	2.7194** (0.87)	2.7371** (0.91)	3.5181** (1.76)
INTRA			0.5461 (1.94)				1.1650 (2.39)
BACKWARD				-0.0057 (0.01)		-0.0018 (0.01)	-0.0050 (0.01)
FORWARD					-0.0362 (0.03)	-0.0292 (0.03)	-0.0338 (0.04)
Number of observations	5625	5625	5625	5625	5625	5625	5625
Number of firms	3705	3705	3705	3705	3705	3705	3705
Wald chi-square test	2.427 (0.4887)	10.93 (0.0528)	11.79 (0.0669)	13.03 (0.0720)	11.58 (0.0178)	16.94 (0.0421)	16.10 (0.0410)

Notes: a) *** p<0.01, ** p<0.05, * p<0.1 refer to significance levels.

b) Robust standard errors, adjusted for clustering at 3-digit Nace Rev.11. level in parentheses.

c) Baseline hazard stratified by 2digit Nace Rev.1.1. industry level.

d) p-values of the Wald chi-square test in parenthesis

Source: author's elaboration

Such differences in importance of vertical linkages as channel of FDI can be found in previous studies on the Czech Republic (Kippenberg, 2005; Stančík, 2009). The negative coefficient in the manufacturing sector reveals that the increasing demand of intermediates coming from new foreign entrants in final industries does not favor domestic plants, as predicted by Markusen and Venables (1999). In order to have a deeper look at the dynamics within each sector Tab. 5.4 summarizes the presence of firms over time according to whether they belong to final goods or intermediates industries⁵⁵. The number of foreign firms in the manufacturing sector which produce intermediate goods (column B.2) increases over time, and with a greater extend than domestic firms (column A.2). The increasing presence of foreign firms is noticeable also in the final goods industries, although the variation rate between 2003 and 2008 is smaller (15.07% and 21.68% for the

⁵⁵ In order to identify intermediates industries, a new dummy has been created. It takes value 1 when forward linkages variable is higher than 0.5, meaning that more than 50% of total sales is represented by intermediate goods.

manufacturing and services sector, respectively) than the one observed in the intermediates industries (15.22% and 24.56% for the manufacturing and services sector, respectively). The table shows the same situation for the services sector (columns C.2 e D.2). Nonetheless, the Cox regressions applied to the services sector subsample do not report any significance, relatively to the vertical linkages. In this case the foreign supply might not substitute the domestic one, leading to a nil effect on firms' survival (Kippenberg, 2005). In addition, it is quite logical to think about the services sector in TCs as a whole of very new and dynamic industries which include young local firms with high skilled labor. As a consequence, it is very likely that the absorptive capacity of firms, which allows catching positive spillovers from FDI, is higher in the services sector, thus fostering potentially domestic survival (Kejžar, 2010)⁵⁶.

Tab. 5.4: Distribution of firms in the Czech Republic. Final goods and intermediates industries

	Manufacturing		Services	
	Domestic firms	Foreign firms	Domestic firms	Foreign firms
Final goods industries	A.1	B.1	C.1	D.1
2003	2,333	4,744	9,035	18,297
2004	2,372	4,925	9,522	19,408
2005	2,439	5,179	9,926	20,605
2006	2,478	5,342	10,297	21,547
2007	2,531	5,459	10,747	22,265
2008	2,575	5,494	11,094	22,459
Intermediates industries	A.2	B.2	C.2	D.2
2003	729	1,090	505	1,091
2004	738	1,128	529	1,190
2005	751	1,184	542	1,255
2006	757	1,225	561	1,313
2007	773	1,251	580	1,347
2008	786	1,256	599	1,359

Source: author's elaboration

Regarding the negative effect of foreign presence through forward linkages in the manufacturing sector (Tab. 5.3.c) it might be the consequence of the competition effect arising in upstream industries. On the one side more and more foreign firms enter downstream industries and give a boost to local production, whereas on the other side they

⁵⁶ From Tab.1.c and Tab.1.d (final session of "Statistics") it is possible to notice that the mean of *PRODUCTIVITY*, measured as sales per employment at time t , is actually higher in the services sector (2.545) than in the manufacturing sector (1.938).

may produce only for MNEs located in upstream industries. In this scenario the potential catalyst effects depicted by Markusen and Venables (1999) are absorbed exclusively by foreign firms, and as a consequence domestic firms face several difficulties in remaining on the market.

4.6. COUNTRY ANALYSIS AND RESULTS: ESTONIA

4.6.1. Statistics

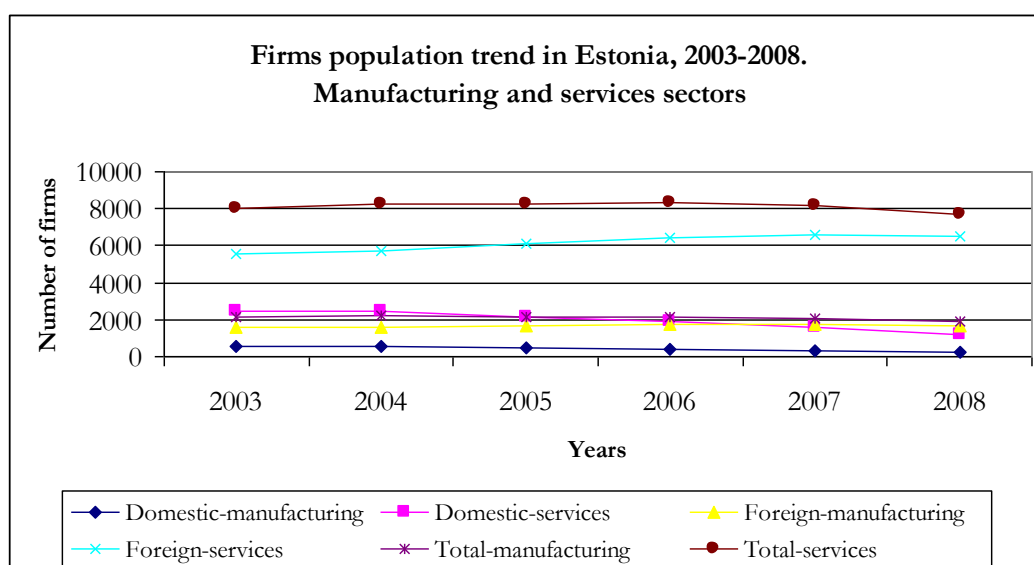
Also in the case of Estonia the final sample is an unbalanced panel composed of 61,219 observations for 12,949 firms. The picture outlined in Tab. 5.5 and Fig. 5.4 does not differ substantially from the one referring to the Czech Republic. Services represent the largest sector and in the overall productive system considered there are more foreign firms than domestic ones, which might also be related to the sample characteristics, as mentioned above. However, the increasing foreign penetration is noticeable especially in the services sector (+17%). Contrariwise the number of domestic firms shrinks considerably and with higher rates not only than the increase in the number of foreign firms, but also than the decrease registered in the Czech Republic. The sector the most stricken is again the manufacturing one (-62.5%).

Tab. 5.5: Distribution of domestic and foreign firms in Estonia, by sector.

Manufacturing	Domestic firms	Domestic firms on total	Foreign firms	Foreign firms on total	Total
2003	578	0.270	1,565	0.730	2,143
2004	592	0.267	1,626	0.733	2,218
2005	479	0.220	1,702	0.780	2,181
2006	387	0.181	1,747	0.819	2,134
2007	324	0.158	1,726	0.842	2,050
2008	217	0.114	1,682	0.886	1,899
Growth rate 2003-2008	- 62.5%		+ 7.5%		
Services	Domestic firms	Domestic firms on total	Foreign firms	Foreign firms on total	Total
2003	2,444	0.305	5,559	0.695	8,003
2004	2,499	0.304	5,727	0.696	8,226
2005	2,182	0.264	6,093	0.736	8,275
2006	1,866	0.224	6,468	0.776	8,334
2007	1,590	0.195	6,583	0.805	8,173
2008	1,178	0.153	6,505	0.847	7,683
Growth rate 2003-2008	- 51.8%		+ 17%		

Source: author's elaboration

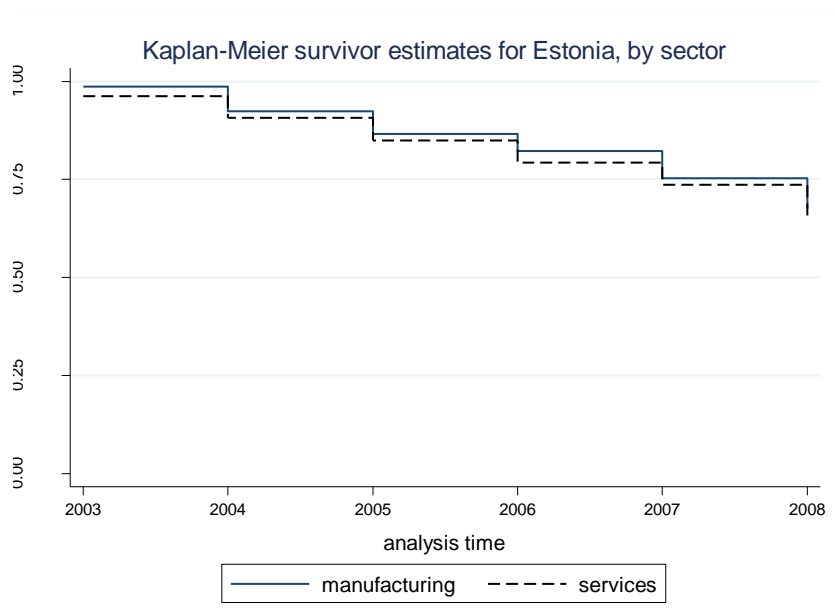
Fig. 5.4



We run a Kaplan-Meier function, accompanied by a Log-rank test in order to display differences in survival likelihood between sectors firstly, and kind of ownership, secondly. The overall impression is not so different from before. Nonetheless Fig. 5.5, related to all firms disaggregated by sector, shows lower survival likelihood for the services

sector, which is not exactly what we expected from the first table of statistics. On this purpose the analysis needs further evidence that will be afterwards applied by running the Cox regressions. However, the Log-rank test, with a p-value of 0.03, allows rejecting the null hypothesis of equality of survival functions between sectors at 5% significance level.

Fig. 5.5



Log-rank test

Sector	Events observed (failure)	Events expected (failure)
Manufacturing	818	871.3
Services	3,575	3,522
Total	4,393	4,393

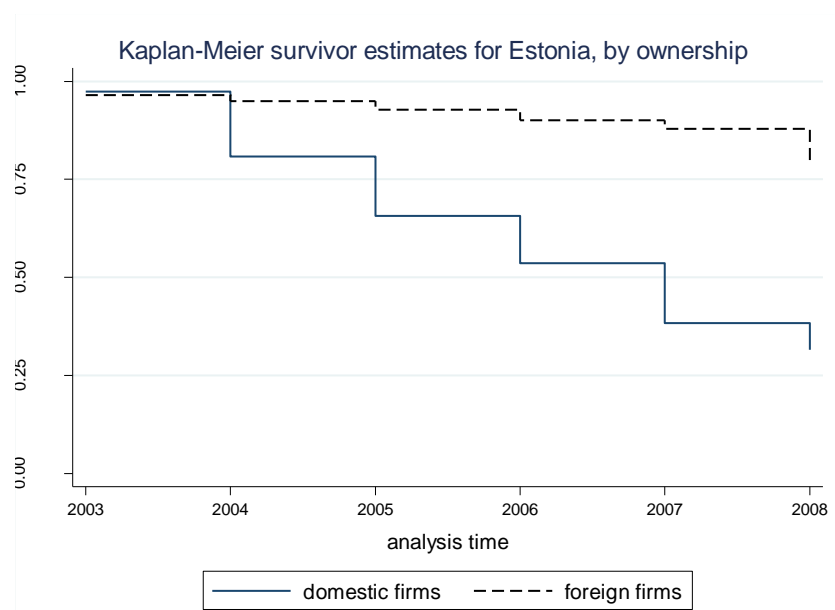
chi2(1) = 4.480
Pr>chi2 = 0.0363

Source: author's elaboration

Fig. 5.6 applies the Kaplan-Meier function to domestic and foreign firms, separately. Again, foreign firms seem having a higher probability of survival than domestic ones, except for the first period, when the curve relative to foreign firms is slightly under the correspondent domestic one. The two functions appear clearly distinct, and we reject the null hypothesis of equality between categories for a strongly significant Chi-square test.

Further statistics on firm survival trend in the Estonia are provided in Appendix (Tables 7.a, 7.b, 7.c, 7.d)

Fig. 5.6



Log-rank test

Sector	Events observed (failure)	Events expected (failure)
Manufacturing	2489	958
Services	1904	3435
Total	4393	4393

chi2(1) = 3410
Pr>chi2 = 0.0000

Source: author's elaboration

4.6.2. Results

Following the approach applied to the Czech Republic, the sample of Estonian firms has been split in two subsamples containing manufacturing and services domestic plants, respectively; once again foreign firms have been dropped out in order to focus on FDI effects on local business development. The initial sample including both manufacturing and services sectors has 20,302 observations for 3,636 firms. The following analysis on the manufacturing sector uses a sample of 3,721 observations and 669 firms, whereas the one on the services sector is based on 16,581 observations and 3,016 firms.

The life table reported in Tab. 5.6 shows how consistently the survival probability of domestic firms has decreased over time in both the sectors considered. In the manufacturing sector at the beginning of the analysis time firms have a 99.9% probability of remaining on the market, whereas in the last period they record only 7.3% of probability. Likewise, in the services sector the initial probability of 99.4% falls down to 11.3% in the last lapse observed. The capacity of lasting seems to be higher in the case of the services firms from interval 2005-2006. By comparing these statistics with the Kaplan-Meier function, disaggregated by sector in Fig. 5.5, we can notice that the step curve of the services sector is slightly below the one of the manufacturing sector. The different composition of samples has to be considered in finding an explanation for such dissimilarity: in Fig. 5.5 both domestic and foreign firms are taken, whereas in Tab. 5.6 foreign firms are excluded, so that the volatility of foreign firms in the services sector might be higher than in the manufacturing one. Further empirical proves by implementing the Kaplan-Meier function may confirm this hypothesis⁵⁷.

Tab. 5.6 Life table of Estonia sample

Interval	Totals at the beginning (obs.)	Deaths (obs.)	Lost (obs.)	Survival	Standard Errors	95% confidence interval
Manufacturing						
2003 – 2004	3,721	2	576	0.999	0.0004	0.998 - 1.000
2004 – 2005	3,143	136	458	0.953	0.0039	0.944 - 0.960
2005 – 2006	2,549	246	369	0.854	0.0069	0.840 - 0.867
2006 – 2007	1,934	314	319	0.703	0.0096	0.683 - 0.721
2007 – 2008	1,301	427	221	0.451	0.0115	0.428 - 0.473
2008 – 2009	653	471	182	0.073	0.0072	0.060 - 0.088
Services						
2003 – 2004	16,581	94	2,350	0.994	0.0006	0.993 - 0.995
2004 – 2005	14,137	559	2,034	0.952	0.0019	0.948 - 0.955
2005 – 2006	11,544	1,000	1,741	0.862	0.0032	0.856 - 0.869
2006 – 2007	8,803	1,255	1,611	0.727	0.0044	0.718 - 0.736
2007 – 2008	5,937	1,700	1,254	0.494	0.0055	0.483 - 0.505
2008 – 2009	2,983	1,875	1,108	0.113	0.0044	0.104 - 0.122

Source: author's elaboration

Table 5.7.a summarizes the results of the Cox stratified regressions for the sample including both manufacturing and services sectors. The econometric model is developed

⁵⁷ See Fig. 5.7.a and Fig. 5.7.b in Statistics. The Kaplan-Meier curves for each of the two sectors, disaggregated by the nationality of the ownership shows that survival probability of foreign firms in the services sector is slightly lower than in the manufacturing one.

through seven specifications (columns) referring to firm, market and foreign penetration characteristics respectively, as in the previous country analysis. Coefficients rather than hazard ratios are reported. Firm specific features are all significant. AGE and SIZE show negative signs as expected, which means that the older (larger) the domestic firm, the higher its survival probability is. Contrariwise PRODUCTIVITY is positively related to firms' exit, which is not what we would expect. A possible explanation could be that the most efficient domestic firms are also the most likely to be taken over by MNEs, since merges are among the definitions of firms' failure. Nonetheless the fact that the same variable shows a negative coefficient in the case of Czech Republic might be linked to the different privatization paths followed by the two countries. Soon after the collapse of the socialist system Estonia opened sharply its economy to foreign investors, whereas the Czech Republic was more cautious about its openness. Takes over by MNEs might be at a further stage - or already completed - in Estonia, comparatively to the Czech Republic. Market characteristics (MES and HCI) do not seem to be relevant, except when foreign penetration through forward linkages is considered (columns 5, 6 and 7); in that case MES assumes significant negative values, eventually supporting Audretsch (1991)' reasoning. In this first step of analysis BACKWARD and FORWARD are never relevant, whereas INTRA shows a positive significant coefficient in column 7, which might be a potential sign of collinearity since the two vertical linkages measures are interacted with the horizontal linkages one.

Tab: 5.7.a: The Cox Proportional Hazard Model for Estonia. Manufacturing and services sectors (2003-2008)

VARIABLES	1	2	3	4	5	6	7
AGE	-0.4020** (0.19)	-0.4181** (0.20)	-0.4025* (0.21)	-0.4181** (0.20)	-0.4282* (0.21)	-0.4242* (0.21)	-0.4189* (0.22)
SIZE	-0.4886*** (0.07)	-0.4660*** (0.08)	-0.4433*** (0.08)	-0.4659*** (0.08)	-0.4696*** (0.07)	-0.4695*** (0.07)	-0.4345*** (0.07)
PRODUCTIVITY	0.2535*** (0.07)	0.2506*** (0.07)	0.2298*** (0.08)	0.2501*** (0.08)	0.2444*** (0.08)	0.2434*** (0.08)	0.2103*** (0.08)
MES		-0.3563 (0.22)	-0.3670 (0.24)	-0.3550 (0.22)	-0.4139* (0.23)	-0.4113* (0.23)	-0.4684* (0.25)
HCI		-0.7917 (2.69)	0.6373 (2.07)	-0.7973 (2.71)	0.8202 (1.86)	0.8123 (1.86)	4.2027** (2.05)
INTRA			2.1835 (2.04)				3.6793** (1.50)
BACKWARD				-0.0000 (0.00)		-0.0000 (0.00)	-0.0000 (0.00)
FORWARD					-0.0261 (0.02)	-0.0262 (0.02)	-0.0372 (0.03)
Number of observations	3,208	3,208	3,208	3,208	3,208	3,208	3,208
Number of firms	1,108	1,108	1,108	1,108	1,108	1,108	1,108
Wald chi-square test	66.98 (0.0000)	68.51 (0.0000)	71.28 (0.0000)	68.65 (0.0000)	72.27 (0.0000)	72.55 (0.0000)	70.14 (0.0000)

Notes: a) *** p<0.01, ** p<0.05, * p<0.1 refer to significance levels.

b) Robust standard errors, adjusted for clustering at 3-digit Nace Rev.11. level in parentheses.

c) Baseline hazard stratified by 2digit Nace Rev.1.1. industry level.

d) p-values of the Wald chi-square test in parenthesis

Source: author's elaboration

Afterwards, the sample of domestic firms is split into two subsamples. Tables 5.7.b and 5.7.c show the estimates referring to the manufacturing and the services sectors, respectively. As for the first one (Tab. 5.7.b) SIZE is the most significant variable (and negative as previously found) among firm specific features; the exception occurs when INTRA is added (column 3). The non relevance of AGE coefficients in the regressions applied to the manufacturing sector might be due, as in the estimates of the Czech Republic, to the fact that firms younger than one year old have been dropped, in order to reduce the number of missing values while using the logarithmic form of the variable. Moreover, in contrast to the results from Tab. 5.7.a the positive sign of AGE implies lower survival probability of domestic firms. Nonetheless in Tab. 5.7.c AGE regains strong significance and negative values, thus confirming the expected relationship between age

and firm survival. What should be noticed is that most of the sample, in both cases, is composed by young and very young firms. Domestic firms younger than 15 years old represent about 95.8% of total domestic manufacturing sample, and in the services sector the percentage is even a little higher (97.8%). However, while the service sector is relatively “new” and rapidly developing in TCs, the manufacturing one may include some of the old SOEs still existing, whose probability of exiting the market is higher than the one of the new entrants, because of their lower competitiveness, or because of privatization policies. This remark can help explaining the reason why AGE shows a positive (although not significant) coefficient only in the manufacturing sector. PRODUCTIVITY is still positively related to domestic firms exit in both sectors, although it appears much more relevant in the services case (Tab. 5.7.c). Regarding the market variables, only MES is found to be significant and negative in the service sector, in all specifications of the model. Now we focus the attention on foreign penetration effects on domestic business development (columns 3 to 7). FDI impact within the same industry is not significant in either of the two sectors, although always positive. Vertical linkages seem to be more important; nonetheless the empirical evidence is not as strong as in the previous case of the Czech Republic. In Table 5.7.b BACKWARD is significant and negative only when it is included in the model together with FORWARD (columns 6 and 7), which might not be a trustworthy prove to state the importance of MNEs linkages with downstream local industries, relatively to firms survival. On the other side, in Table 5.7.c BACKWARD loses significance (although the coefficients are still negative), whereas FORWARD acquires and assumes negative values. According to the results obtained, vertical linkages in Estonia may channel foreign presence and eventually make it an engine of local business development. This is coherent with previous studies on technological rather than pecuniary externalities which find that knowledge spills from foreign firms over domestic ones (Damijan and Knell, 2005), thus eventually fostering local innovation activity (Vahter, 2010).

Tab. 5.7.b The Cox Proportional Hazard Model for Estonia. The manufacturing sector (2003-2008)

VARIABLES	1	2	3	4	5	6	7
AGE	0.0897 (0.41)	0.1209 (0.46)	0.1124 (0.42)	0.1874 (0.50)	0.1201 (0.49)	0.1533 (0.54)	0.1466 (0.48)
SIZE	-0.5444*** (0.19)	-0.5556** (0.24)	-0.4144 (0.26)	-0.5559** (0.24)	-0.5525** (0.27)	-0.5254** (0.24)	-0.4050 (0.26)
PRODUCTIVITY	0.3541* (0.19)	0.3532* (0.19)	0.3851* (0.23)	0.2522 (0.16)	0.3627* (0.20)	0.1993 (0.15)	0.2743 (0.20)
MES		0.1510 (0.55)	-0.0819 (0.43)	0.2188 (0.56)	0.3939 (0.65)	0.3774 (0.54)	0.0842 (0.48)
HCI		-1.3447 (5.22)	6.5520 (7.26)	0.9886 (2.97)	-19.3930 (21.20)	-11.3190 (13.36)	1.6840 (10.56)
INTRA			9.1066 (6.93)				8.6602 (7.38)
BACKWARD				-0.0040 (0.00)		-0.0062** (0.00)	-0.0056** (0.00)
FORWARD					0.0982 (0.09)	0.0861 (0.06)	0.0551 (0.06)
Number of observations	554	554	554	554	554	554	554
Number of firms	207	207	207	207	207	207	207
Wald chi-square test	15.38 (0.0015)	17.73 (0.0033)	16.92 (0.0096)	23.34 (0.0005)	15.90 (0.0143)	23.55 (0.0014)	33.60 (0.0000)

Notes: a) *** p<0.01, ** p<0.05, * p<0.1 refer to significance levels.

b) Robust standard errors, adjusted for clustering at 3-digit Nace Rev.11. level in parentheses.

c) Baseline hazard stratified by 2digit Nace Rev.1.1. industry level.

d) p-values of the Wald chi-square test in parenthesis

Source: author's elaboration

Tab. 5.7.c: The Cox Proportional Hazard Model for Estonia. The services sector (2003-2008)

VARIABLES	1	2	3	4	5	6	7
AGE	-0.5396** (0.21)	-0.5754*** (0.21)	-0.5736*** (0.21)	-0.5754*** (0.21)	-0.6087*** (0.23)	-0.6101*** (0.23)	-0.6429*** (0.23)
SIZE	-0.4973*** (0.08)	-0.4779*** (0.09)	-0.4633*** (0.08)	-0.4779*** (0.09)	-0.4895*** (0.08)	-0.4891*** (0.08)	-0.4639*** (0.08)
PRODUCTIVITY	0.2582*** (0.08)	0.2595*** (0.08)	0.2422*** (0.09)	0.2594*** (0.09)	0.2565*** (0.09)	0.2537*** (0.09)	0.2264** (0.09)
MES		-0.4644** (0.22)	-0.4910* (0.26)	-0.4643** (0.22)	-0.5789** (0.20)	-0.5738** (0.20)	-0.7315*** (0.20)
HCI		-1.6658 (3.98)	-0.4636 (2.83)	-1.6669 (4.05)	-0.2093 (1.89)	-0.1632 (1.90)	3.9721* (2.15)
INTRA			1.9254 (2.28)				4.4256*** (1.65)
BACKWARD				-0.0000 (0.00)		-0.0001 (0.00)	-0.0001 (0.00)
FORWARD					-0.0503* (0.03)	-0.0516* (0.03)	-0.0700*** (0.03)
Number of observations	2,655	2,655	2,655	2,655	2655	2655	2655
Number of firms	922	922	922	922	922	922	922
Wald chi-square test	57.21 (0.0000)	69.99 (0.0000)	71.91 (0.0000)	70.00 (0.0000)	93.22 (0.0000)	93.41 (0.0000)	97.94 (0.0000)

Notes: a) *** p<0.01, ** p<0.05, * p<0.1 refer to significance levels.

b) Robust standard errors, adjusted for clustering at 3-digit Nace Rev.11. level in parentheses.

c) Baseline hazard stratified by 2digit Nace Rev.1.1. industry level.

d) p-values of the Wald chi-square test in parenthesis

Source: author's elaboration

The statistical table concerning the number of firms in the intermediates industries reported for Czech Republic (Tab. 5.4) is now constructed for Estonia (Tab. 5.8). The number of foreign firms producing goods for upstream industries increases over time, both in manufacturing (column B.2) and services (column D.2) sectors. Unlike what Czech statistics reveal for Estonia the growth rate in the number of foreign firms in final goods industries (20.3% and 32.7% for the manufacturing and services sectors, respectively) is higher than in intermediates industries (14.8% and 37.3% for the manufacturing and services sectors, respectively) only in the manufacturing sector. Foreign services firms producing for upstream industries exert positive effects through forward linkages which are not exclusively caught by other MNEs.

In this regard three issues are to be highlighted. First, the significance of BACKWARD and FORWARD is found to be weaker in Estonia than in the Czech Republic, which leads to think that the increasing presence of MNEs producing

intermediates has not the same relevance in both countries. Second, in neither case BACKWARD shows significance in the services sector, thus revealing the possible presence of positive spillovers from FDI which increase local firms survival probability. And eventually, as suggested by Kippenberg (2005), domestic production is not substituted by the foreign one. Finally, the already mentioned difference between the privatization programs implemented during the first years of transition may explain why in Czech Republic the negative impact of FDI through vertical linkages (Tab. 5.3.a and Tab. 5.3.b) is much stronger than the one found in the Estonia analysis. De facto, the Czech Republic went through a mass privatization plan based on the distribution (free or at nominal cost) - to the whole population - of vouchers representing the shares of SOEs. This approach contributed on the one side to keep FDI at a quite low level - comparatively to other countries like Hungary and Poland - till 1998 when inward FDI flows sharply increased; on the other side, it allowed neither building proper corporate governance nor fostering incentives for restructuring (Zemplinerová and Benáček, 1997). Contrariwise, Estonia privatization path focused mainly on massive sold of SOEs assets to foreign investors; being less radical, this kind of privatization might have led to a gradual catch of international knowledge spillovers by domestic firms quite early in the Estonian transition process (Damijan and Knell, 2005), so that foreign penetration cannot be considered as the main cause of the diminishing survival of Estonian domestic firms. This deduction eventually confirms what reported in the “Transition Report 1999” (EBRD, 1999), according to which Estonia is one among TCs with the highest ratio between the entrepreneurship increase and the state sector dismantling.⁵⁸

⁵⁸ See § 1.1

Tab. 5.8: Distribution of firms in Estonia. Final goods and intermediates industries

	Manufacturing		Services	
	Domestic firms	Foreign firms	Domestic firms	Foreign firms
Final goods industries	A.1	B.1	C.1	D.1
2003	525	1330	1881	4171
2004	541	1414	1997	4502
2005	559	1501	2106	4856
2006	573	1573	2209	5244
2007	587	1585	2285	5493
2008	591	1600	2304	5536
Intermediates industries	A.2	B.2	C.2	D.2
2003	53	235	563	1,388
2004	53	244	596	1,518
2005	56	256	635	1,649
2006	60	265	657	1,801
2007	61	268	669	1,887
2008	62	270	679	1,906

Source: author's elaboration

4.7. FINAL REMARKS

The aim of this chapter is to investigate the role of FDI on domestic firm survival in TCs. Different samples composed of domestic plants have been analyzed by implementing the non parametric Cox Proportional Hazard model. In order to delve deeper into the matter the initial samples have been disentangled, and the manufacturing and services sectors have been observed separately. The study underpins on the comparison between two TCs, the Czech Republic and Estonia, over the period 2003-2008. Given the availability of data, these countries represent an interesting example of how the heterogeneity of the transition path during the Nineties might have influenced the local business development. The current empirical analysis intends to catch the impact of FDI through the relationships established between domestic and foreign firms. On this purpose, measures of both horizontal and vertical linkages have been computed.

In paragraph 4.3 two hypotheses have been advanced.

Hypothesis 1: FDI impact on domestic firms' survival through vertical inter-industries linkages is more relevant than the one occurring through horizontal intra-industry linkages. This hypothesis has

been confirmed by the estimates, and it is coherent with the previous empirical literature concerned (Damijan et al., 2003a, 2003b; Kejžar, 2010; Smarzynska Javorcik, 2004).

Hypothesis 2: FDI impact on domestic firms' survival through both backward and forward linkages is positive. This hypothesis is confirmed only for Estonia, where vertical linkages appear as ones among the catalysts of local development, according to the model by Markusen and Venables (1999). Contrariwise, in the Czech Republic FDI channeled through vertical linkages is found to threaten domestic firms' lifecycle in the manufacturing sector, whereas no statistical significance emerges from the services sectors. The increasing penetration of MNEs especially in the intermediates industries - and in a lesser extent in the final goods industries - absorbs the important positive pecuniary externalities that could stem from FDI. Our findings are still coherent with previous studies focusing on FDI spillovers in the Czech Republic and Estonia. The different impacts of FDI on domestic firms' survival may be related to the specific privatization path followed by the two countries during the early stages of transition. The Czech Republic implemented a mass privatization program, which gave – at least till 1998 - scarce importance to foreign firms. A completely different approach drove the Estonian privatization path, and it focused mainly on massive sold of SOEs assets to foreign investors. As a consequence knowledge from MNEs might have started to spill over domestic firms soon at the beginning of transition, thus avoiding the strong crowding out effect detected in the Czech Republic. Foreign penetration cannot be considered as the main cause of the diminishing survival of Estonian domestic firms, which is however evident from Tab. 5.5. and Tab. 5.6. The framework depicted allows supposing that in Estonia there might be a higher degree of homogenization between MNEs and domestic firms than in the Czech Republic.

As for the other covariates added to the model, the empirical evidence stresses that among firm specific features SIZE is the most relevant one in both countries; in line with the literature concerned the larger the firm the higher the survival probability. Nonetheless AGE and PRODUCTIVITY show a stronger effect in the case of Estonia reporting a negative sign and an unexpected positive sign, respectively. Results on industry features are less uniform between the two countries, and depend on the sector considered.

Conclusions

In the last twenty years the Eastern part of the Euro-Asiatic continent has been involved in a long and complex, still on-going process of transformation called Transition. This phenomenon has been representing the outcome of the establishment (and consequent dismantling) of a Socialist order in all countries that either were part of the URSS or were aligned with its international policy. After the end of the Cold War and the fall of the Berlin Wall, the aim of the ex-socialist countries governments (already launched since the beginning of the Eighties in the most advanced countries of the area, like Poland and Hungary) was to transform their economic system into an efficient market-oriented machine. The model was clearly the one coming from the Western world that however had been shaping capitalism for almost two centuries yet. This difference does not represent an irrelevant particular within the story of the recent evolution of TCs.

Although here we have tried to focus on the economic aspects of the argument, Transition concerns several fields interconnected and mutually influencing. Thus, a close analysis of this topic should consider such deep interdependence between the economic, legal, political, social spheres, even though focusing on one of them. After twenty years since the beginning of Transition, the study of its consequences still does not lead to clear conclusions, this given both to the variety of countries involved and to the contradictory aspects arising within each of them. From the yearly *Transition Reports* of the EBRD it appears that TCs, which are usually analyzed by clustering them into areas in order to simplify the comparisons (as in the current work), have reached important steps in terms of economic development, but still lack of efficiency especially in the legal field. In most cases the reforms introduced with the Transition have triggered a new situation totally in contrast with the one existing on the previous socialist scenario. The economic measures based on macroeconomic stabilization, liberalization and privatization met a framework which was not completely prepared to such a drastic change, and the fragile political restructuring was mixed up with the social precariousness which had to face a totally new labor market.

This present study aims at delving deeper into the main faces of Transition and the relationship between it and international openness of TCs, by focusing on some specific consequences of this complex phenomenon. Great attention has been given to the

economic aspects, as already mentioned, although without neglecting the importance of the political, legal and social transformation. The area concerned is characterized by a considerable variety of countries, with different historical paths and economic political development over the past; in order to deal with this heterogeneity TCs have been clustered into four areas which allow to simplify the comparison and the examination of each Transition factor. The thesis has been developed along two parts, the first one mostly theoretical and based on the most important contributions of the literature concerned, and the second section that aims at establishing a link between theory and reality. The first two chapters are extremely functional to the following ones, since they give both the author and the reader the cognitive instruments to start a proper empirical analysis. The choice of starting from the concept of “Transition” in *Chapter 1* raises the issue about what should be included into the analysis and what could be excluded. In particular, an analytical standpoint based on a **path dependence approach** lets us emphasize the importance of the process rather than the final destination of the whole transformation. Thus, it is possible to treat the argument with the critical view that a mere transplantation of a socio-economic structure does not work efficiently, since every country must start from its relative availability of resources and capacities. This remark sheds light on some distortions emerged along the transitional period and it is still evident in many of the countries concerned. The heterogeneity between countries has also appeared in the intensity with which the measures were applied; some countries used **an evolutionary approach** based on a gradual shift to the new economic order whereas some others chose the shortest way of the **shock therapy** (suggested by the modern theories of the time) that however turned out to be the less successful. Countries specifications and the nature of some drastic reforms imposed by outside (*in primis* the international institutions) have been deeply shaping the future and development of TCs, bringing out some critical situations still existing, such as inflation, unemployment, social inequalities, increasing irregular economy, etc.....

The sudden openness of TCs to the international markets, further on stressed by the almost total commercial closing of the previous period, represents the second object of the current analytical study. The focus of *Chapter 2* on the evolution of trade flows from and to TCs and economic foreign presence within their boundaries (Inward FDI) gives a general picture of TCs place in the world over the year. Together with some data and graphs, the summary of the principal literature regarding this topic allows to identify some

of the determinants of Inward FDI in TCs. Among these we find: market potential, the geographical proximity, the relative labor costs, the availability of skilled labor, but also the macroeconomic situation of the host country and the degree of development along the privatization path.

At this point the interest on TCs has been paid to some effects of their international openness; on the one side there is the establishment of new business relationships with foreigners (by focusing on Inward FDI), on the other side there still remains Transition, with all its peculiarities and evolution along its implementation. The empirical analysis in the second half of the thesis has focused on delving deeper into the issues which may hopefully represent object for future studies in order to broaden the analytical points of view and improve the results. The effects considered can be deemed as belonging to an original sphere far from the common aspects taken by most of researchers in this field. *Chapter 3* analyzes the impact of international openness on income inequality in TCs, whereas *Chapter 4* is about the probability of TCs domestic firms survival after the entrance of foreign firms. Both chapters aim at being single Working Papers for publication; although the connection between them may appear as fairly weak, the main aim of the author is to highlight those factors that have been overlooked so far by both theoretical and empirical research, and that might add up to understand better the complexity of Transition within *globalization* other than work out good policies for its future evolution. Beyond the econometric methodologies used, the results obtained are quite interesting, and in some cases the empirical evidence goes the opposite way from initial expectations.

In *Chapter 3* the effects of Inward FDI have been compared with the effects of trade flows, and different specifications of the same model have been tested in order to obtain a wider range of potential results. The analysis is built around the linearity (or non-linearity) of the income inequality-openness relationship and extends to the role of education (in terms of secondary school enrollment ratio) relatively to this relationship. When education is not considered within the model both the static and dynamic estimators reveal the non significance of FDI upon the trend of inequality. Contrariwise, an inverted-U curve is shaped for imports from Developed Countries, which means that the Gini Index, chosen as measure of inequality, first increases and then decreases. The interpretation of the coefficients leads to think that these flows bring more sophisticated

technology creating a gap between those firms able to upgrade their assets and the rest of local firms. Equally, a non linear relationship, although in the opposite direction, is shown between exports to Developed Countries and inequality. The requirements of higher technological exports production may lead to an upgrading in TCs, causing a gap between skilled and unskilled workers which is difficult to be filled in the long run. Different results emerged when education has been considered into the analysis. In both static and dynamic specifications FDI now turn to be statistically significant and non linear relatively to income inequality, shaping a U-curve. In the short run the absorptive capacity of TCs leads to catch the positive spillovers coming from foreign firms, whereas in the long run there occurs a greater distinction between skilled and unskilled workers due to the requirements of higher technological products by foreign companies. Furthermore, both export and import flows to and from Developing Countries are highly relevant and shape a U-curve with income inequality. In particular, in the short run the production of low medium technology goods may deepen the separation between skilled and unskilled labor through the channel of education causing an increase in inequality. By testing the role of education, which is supposed to be crucial in countries characterized by a deep economic, social and institutional transformation, the empirical analysis has shown that this variable is not among the main causes of within inequality. As TCs occupy a middle position between Developed and Developing Countries with respect to technological capabilities, their absorptive capacity is quite high and education alone does not contribute to create high differentials between skilled and unskilled workers. Nonetheless, education might channel and contribute to spread over trade benefits, especially in the case of flows to and from Developing Countries, over the long run. Contrariwise, in the short run an increasing trend seems to appear. This result, however might be influenced by the indicator chosen (secondary or tertiary school enrollment ratio); in the case we use the tertiary school enrollment ratio there is a reduction of inequality when the variable is interacted with openness variables.

The low level of income inequality within a society can be deemed as a good parameter for testing the level of development of a country, even though with globalization it is becoming more and more difficult to monitor wealth distribution among the population. However, wealth is given by the productive capacity of a country, and in particular by the competitiveness and efficiency of local firms. This is what this thesis has attempted to deepen in *Chapter 4*, relatively to TCs and the increasing presence of foreign

MNEs on their territory. The empirical analysis has focused on the capacity of survival of TCs domestic firms in the presence of intensive Inward FDI. With Transition two mechanisms have been triggered: a relocation of resources on the one side, and a restructuring of the existing firms on the other side. This evolution brought about the raise of a private sector that was almost non-existent under the socialism, and new entrepreneurial activities took place. Nonetheless, high rates of entry and exit do not necessarily represent high dynamism within the entrepreneurial environment, especially in countries with a recent development of the private sector, such as the ones taken here. Thus, the attention has been paid to the capability of young firms of lasting on the market rather than on entry and exit, and it has been studied through the modern and largely appreciated partial likelihood estimation method called the *Cox Proportional Hazard Method*. The study applied to the Czech Republic and Estonia has shown different effects of Inward FDI on domestic firm survival, mainly depending on the privatization path of each country. Furthermore, the analysis has been developed by assuming that foreign presence exerts potential benefits through pecuniary externalities, thus complementing previous works considering only technological externalities. In the Czech Republic foreign presence channeled through vertical linkages increases the failure probability of domestic firms; in particular, the increasing demand of intermediates coming from MNEs in consumers goods industries does not boost at all the production of the Czech plants, which is striking especially in the manufacturing sector. Contrariwise, in Estonia both backward and forward linkages (in the manufacturing and service sector, respectively) seem to positively affect the survival probability of domestic firms. This heterogeneity in results may be explained by the the fact that the Czech Republic and Estonia implemented different privatization plans; while the former chose the mass privatization giving all along the first period low importance to foreign firms, the latter sold most of SOEs assets to foreign investors fostering their presence within the national economic system since the beginning of Transition. As a consequence knowledge from MNEs might have started to spill over domestic firms very early in the Nineties, thus avoiding the strong crowding out effect detected in the Czech Republic.

The study developed within the current thesis has put on evidence several aspects of Transition and its interconnection with international openness. The choice of paying attention to this complex phenomenon still in evolution together with the increasing involvement of Eastern ex-socialist Countries into the international economic system stems

from the tighter and tighter relations linking these countries with our Western Economies. Most of TCs have recently become destinations of business externalization led by many Western MNEs and also SMEs which have often provoked contrasting opinions by both economists and consumers. This is something we see everyday that cannot be neglected, and our investments in TCs also depend on how far their development goes. In this sense, the deepening of the economic evolution of Transition host countries seems to be very useful, also considered that the Western World, together with the international institutions, was the main supporter of Transition measures. Certainly, this study needs further contributions both from the point of view of the theoretical development and the econometric analysis; nonetheless, it can be considered a valid starting point, or a good tool, for delving deeper the Transition. It has been found that FDI may eventually be good for local development, in terms of social equality and survival of domestic firms, which are both important features within a perspective of growth and social wealth. The former allows to everybody the same opportunities, the latter guarantees the economic independence to a country. At the same time, we can draw that some aspects which are typical of the transitional path, such as privatization methods, can strongly influence the effects of foreign presence. Given that Transition is anything but finished, especially in the CISCs or SEECs, it is important that future research focuses on negative and positive consequences of international openness in a more specific way directed to every single country concerned, and with special attention paid to Inward FDI. This deepening must be carried out in order to identify the critical fields were international (coming from EBRD for instance) and national policies are supposed to strengthen their efficiency.

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APPENDIX

Tab. 1: CPI 2010 of TCs

Position in the world ranking	Transition Country	CPI 2010 score			
26	ESTONIA	6.5	87	ALBANIA	3.3
27	SLOVENIA	6.4	91	BOSNIA HERZ.	3.2
41	POLAND	5.3	105	KAZAKHSTAN	2.9
46	LITHUANIA	5.0	105	MOLDOVA	2.9
50	HUNGARY	4.7	110	KOSOVO	2.8
53	CZECH	4.6	123	ARMENIA	2.6
59	LATVIA	4.3	127	BELARUS	2.5
59	SLOVAKIA	4.3	134	AZERBAIJAN	2.4
62	CROATIA	4.1	134	UKRAINE	2.4
62	MACEDONIA	4.1	154	RUSSIA	2.1
68	GEORGIA	.8	155	TAJIISTAN	2.1
69	MONTENEGRO	3.7	164	KYRGYZSTAN	2.0
69	ROMANIA	3.7	162	TURKMENISTAN	1.6
73	BULGARIA	3.6	162	UZBEKISTAN	1.6
78	SERBIA	3.5			

Source: CPI 2010 Report – Transparency International

Tab. 2: Descriptive Statistics and Pair-wise correlations

	Mean	SD	GINI	FDI	TRADE	IMPED	IMPING	EXPED	EXPING	GDP (per SEC	INFL	SERVICE	
GINI (%)	32.902	82.171	1										
FDI (% GDP)	20.740	16.387	0.0387	1									
TRADE (%GDP)	97.754	30.756	-0.3226*	0.5033*	1								
IMPED (%GDP)	60.928	19.965	-0.3229*	0.1355*	-0.0316	1							
IMPING(%GDP)	11.112	6.445	0.4522*	-0.0636*	-0.3619*	-0.1587*	1						
EXPED (%GDP)	65.288	20.913	-0.3709*	0.2091*	0.0414	0.8350*	-0.0755*	1					
EXPING (%GDP)	10.714	9.149	0.3852*	-0.2827*	-0.3339*	-0.5445*	0.5922*	-0.5400*	1				
GDP (per capita)	8715.61	4682.67	-0.6248*	0.1209*	0.2456*	0.7439*	-0.3173*	0.7459*	-0.5575*	1			
SEC	92.964	7.216	-0.2901*	0.0737*	0.1252*	0.2496*	-0.0101	0.3070*	-0.0893*	0.4852*	1		
INFL	57.996	17.522	0.0119	-0.5336*	-0.1761*	-0.2885*	-0.0263	-0.3441*	0.3817*	-0.1548*	-0.2081*	1	
SERVICE	53.314	10.726	-0.2494*	0.4721*	0.3459*	0.6652*	-0.4322*	0.6048*	-0.5836*	0.6790*	0.2873*	-0.4	1

* indicates significance at 5%; to calculate pairwise correlations variables are in natural logarithm

Tab. 3: FDI and trade effects on income inequality in TCs, 1990-2006. SYS-GMM regressions.
(Dependent variable: Gini index)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
GINI(-1)	1.0246*** (0.209)	0.7634*** (0.140)	0.9630*** (0.213)	1.0445*** (0.226)	0.6475*** (0.077)	0.7471*** (0.137)
FDI(-1)	-0.0614 (0.110)					
FDISQ(-1)	-0.0066 (0.007)					
TRADE(-1)		4.4424 (7.036)				
TRADESQ(-1)		-0.5044 (0.778)				
IMPED(-1)			-1.2341 (3.060)			
IMPEDSQ(-1)			0.1637 (0.427)			
IMPING(-1)				-0.2764 (0.365)		
IMPINGSQ(-1)				0.0570 (0.073)		
EXPED(-1)					0.2048 (0.611)	
EXPEDSQ(-1)					0.0042 (0.104)	
EXPING(-1)						0.2058** (0.092)
EXPINGSQ(-1)						-0.0797*** (0.024)
GDP	0.1502 (0.212)	0.0719 (0.119)	-0.1047 (0.081)	0.0704 (0.083)	-0.3552** (0.155)	-0.2944** (0.133)
INFL	-0.0030 (0.027)	0.0073 (0.013)	0.0072 (0.036)	-0.0016 (0.014)	0.0378 (0.043)	0.0128 (0.023)
SEC	-0.5184 (0.840)	-0.3210 (0.391)	0.1464 (0.446)	-0.3345 (0.389)	0.4914 (0.628)	0.0791 (0.641)
SERVICE	-0.1554 (0.353)	-0.0846 (0.301)	0.2806 (0.229)	-0.0313 (0.177)	0.5998** (0.281)	0.5272* (0.300)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	88	88	88	88	88	88
Number of countries	16	16	16	16	16	16
Sargan test (p-value)	0.308	0.156	0.0857	0.560	0.0238	0.524
AR1 (p-value)	0.152	0.0931	0.202	0.234	0.147	0.144
AR2 (p-value)	0.897	0.872	0.658	0.751	0.344	0.277

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

In column 2,3,5,6 we limited instruments to (3 4) lags, while in column 4 they are limited to (4 5) lags.

Tab. 4: FDI and trade effects on income inequality in TCs through education (tertiary), 1990-2006. FE regressions. (Dependent variable: Gini index)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
FDI(-1)	0.0026 (0.027)					
FDISQ(-1)	-0.0017 (0.003)					
FDITIER(-1)	-0.0084 (0.009)					
FDITIERSQ(-1)	0.0011 (0.002)					
TRADE(-1)		-0.8785 (1.004)				
TRADESQ(-1)		0.1645 (0.135)				
TRADETIER(-1)		0.2353* (0.127)				
TRADETIER SQ(-1)		-0.0452* (0.023)				
IMPED(-1)			-0.3363 (0.605)			
IMPEDSQ(-1)			-0.1063 (0.067)			
IMPEDTIER(-1)			-0.2473* (0.124)			
IMPEDTIERSQ(-1)			0.0766*** (0.026)			
IMPING(-1)				-0.5175 (0.406)		
IMPINGSQ(-1)				0.1541 (0.089)		
IMPINGTIER(-1)				0.1611 (0.115)		
IMPINGTIER SQ(-1)				-0.0441 (0.026)		
EXPED(-1)					-0.0733 (0.368)	
EXPEDSQ(-1)					-0.1444* (0.078)	
EXPEDTIER(-1)					-0.3280*** (0.080)	
EXPEDTIERSQ(-1)					0.0914*** (0.019)	
EXPING(-1)						-0.2843 (0.542)
EXPINGSQ(-1)						0.1289

						(0.190)
EXPINGTIE						0.0761
R(-1)						(0.159)
EXPINGTIE						-0.0368
RSQ(-1)						(0.053)
GDP	-0.1553	-0.0501	-0.0433	-0.1216	-0.1607	-0.1149
	(0.132)	(0.131)	(0.104)	(0.147)	(0.133)	(0.150)
INFL	0.0044	0.0111	0.0067	0.0027	0.0146*	0.0082
	(0.009)	(0.008)	(0.009)	(0.011)	(0.008)	(0.010)
SERVICE	0.2038	0.1716	0.0207	0.1621	0.1292	0.3000*
	(0.128)	(0.139)	(0.163)	(0.127)	(0.124)	(0.145)
TIER	0.1916***	0.0467	-0.2184	0.0762	-0.1922	0.1810
	(0.059)	(0.188)	(0.153)	(0.130)	(0.135)	(0.166)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	112	114	112	112	112	112
R-squared	0.533	0.507	0.614	0.526	0.659	0.521
Number of countries	16	16	16	16	16	16
F test	192.77***	14.99***	115.59***	17.27***	151.31***	71.77***

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Tab. 5: FDI and trade effects on income inequality in TCs through education, 1990-2006. SYS-GMM regressions. (Dependent variable: Gini index)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
GINI(-1)	0.6448*** (0.110)	0.5217*** (0.082)	0.4795*** (0.142)	0.3929*** (0.143)	0.7012*** (0.201)	0.5649*** (0.149)
FDI(-1)	-15.8235*** (5.336)					
FDISQ(-1)	3.0342*** (1.047)					
FDISEC(-1)	3.4038*** (1.154)					
FDISECSQ(-1)	-0.6534*** (0.225)					
TRADE(-1)		0.3845 (7.042)				
TRADESQ(-1)		-0.0707 (1.376)				
TRADESEC(-1)		0.3693 (1.386)				
TRADESECSQ(-1)		-0.0387 (0.286)				
IMPED(-1)			-8.8991* (5.329)			
IMPEDSQ(-1)			2.2065 (1.440)			
IMPEDSEC(-1)			2.9260** (1.214)			
IMPEDSECSQ(-1)			-0.6194* (0.326)			
IMPING(-1)				6.7196 (6.654)		
IMPINGSQ(-1)				-0.8377 (2.114)		
IMPINGSEC(-1)				-1.5596 (1.491)		
IMPINGSECSQ(-1)				0.2067 (0.458)		
EXPED(-1)					-12.4781** (4.952)	
EXPEDSQ(-1)					2.8083*** (0.970)	
EXPEDSEC(-1)					2.6283** (1.021)	
EXPEDSECSQ(-1)					-0.6071*** (0.207)	
EXPING(-1)						7.0051 (7.635)
EXPINGSQ(-1)						-1.3396 (1.040)
EXPINGSEC(-1)						-1.5269 (1.692)
EXPINGSECSQ(-1)						0.0649 (0.051)

GDP	-0.0960 (0.085)	-0.0846* (0.045)	-0.1772 (0.122)	0.0554 (0.109)	-0.0698 (0.089)	-0.1138 (0.082)
INFL	-0.0121 (0.013)	-0.0032 (0.012)	-0.0245 (0.028)	-0.0192 (0.024)	-0.0149 (0.027)	-0.0260 (0.018)
SERVICE	-3.9780*** (1.230)	-0.9256 (0.867)	-1.6116 (1.266)	0.1978 (1.408)	-0.7670 (0.923)	0.0198 (1.065)
SEC	0.2277 (0.303)	0.2120* (0.128)	0.7287** (0.290)	0.2400 (0.288)	0.3231** (0.148)	0.3582** (0.171)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	73	73	73	73	73	73
Number of countries	15	15	15	15	15	15
Sargan test (p-value)	0.0488	0.226	0.631	0.0174	0.0117	0.0660
AR1 (p-value)	0.0183	0.111	0.163	0.217	0.174	0.110
AR2 (p-value)	0.612	0.351	0.563	0.716	0.446	0.272

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
 In column 1,2,3,4 we limited instruments to (3 4) lags.

Tab. 6.a: The Czech Republic; foreign and domestic firms in both manufacturing and services sectors.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	253,610	22,731	13,665	1	45,691
AGE	251,156	2.059	0.687	0	4.443
SIZE	30,864	7.760	1.876	0	15.89
PRODUCTIVITY	27,822	2.453	1.318	0	12.26
MES	247,278	7.572	1.127	0	14.94
HCI	253,610	0.0970	0.191	0	1
INTRA	247,717	0.659	0.186	0	1
BACKWARD (foreign penetration through)	230,666	14.51	52.18	-172.0	3,196
FORWARD (foreign penetration through)	230,666	8.001	36.94	0	1,655

Tab. 6.b: The Czech Republic; domestic firms in both manufacturing and services sectors.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	83,199	21,727	14,186	1	45,691
AGE	83,199	2.129	0.696	0	4.443
SIZE	9,454	7.856	1.910	0	15.25
PRODUCTIVITY	8,501	2.340	1.276	0	11.66
MES	80,905	7.598	1.170	0	14.33
HCI	83,199	0.105	0.202	0	1
INTRA	81,083	0.633	0.201	0	1
BACKWARD (foreign penetration through)	69,463	14.56	52.49	-172.0	3,196
FORWARD (foreign penetration through)	69,463	7.824	34.72	0	1655

Tab. 6.c: The Czech Republic: domestic firms in the manufacturing sector.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	19,262	21,742	14,722	1	45,689
AGE	19,262	2.280	0.629	0	4.443
SIZE	3,035	8.382	1.569	0.693	14.11
PRODUCTIVITY	2,864	1.938	0.730	0.191	8.758
MES	18,349	8.240	1.180	0	14.33
HCI	19,262	0.190	0.243	0	1
INTRA	18,518	0.594	0.245	0	1
BACKWARD (foreign penetration through)	15,613	19.17	37.07	-58.75	527.9
FORWARD (foreign penetration through)	15,613	19.46	62.78	0	1,655

Tab. 6.d: The Czech Republic: domestic firms in the services sector.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	63,937	21,722	14,020	4	45,691
AGE	63,937	2.084	0.709	0	4.331
SIZE	6,419	7.607	2.003	0	15.25
PRODUCTIVITY	5,637	2.545	1.436	0	11.66
MES	62,556	7.410	1.099	0.693	13.89
HCI	63,937	0.0799	0.180	0	1
INTRA	62,565	0.644	0.184	0	1
BACKWARD (foreign penetration through)	53,860	13.23	56.11	-172.0	3,196
FORWARD (foreign penetration through)	53,860	4.456	19.05	0	417.2

Tab. 7.a: Estonia; foreign and domestic firms in both manufacturing and services sectors

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	70,794	6,002	3524	1	13,533
AGE	70,764	1.946	0.775	0	4.700
SIZE	41,516	6.093	2.322	0	14.40
PRODUCTIVITY	31,112	2.579	1.535	0	20.78
MES	70,221	6.227	1.257	0	11.53
HCI	70,794	0.0556	0.120	0	1
INTRA	69,911	0.881	0.129	0	1
BACKWARD (foreign penetration through)	60,705	89.91	1927	-63502	90,122
FORWARD (foreign penetration through)	60,705	13.58	36.20	-6.179	1,447

Tab. 7.b: Estonia; domestic firms in both manufacturing and services sectors.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	20302	5800	3345	1	13491
AGE	20284	2.021	0.775	0	4.691
SIZE	4489	6.143	2.350	0	12.66
PRODUCTIVITY	3278	2.469	1.612	0	14.75
MES	19803	6.106	1.280	1.609	11.53
HCI	20302	0.0587	0.132	0	1
INTRA	19710	0.841	0.161	0	1
BACKWARD (foreign penetration through)	13997	49.81	1537	-13172	80964
FORWARD (foreign penetration through)	13997	13.80	40.43	-1.561	1447

Tab. 7.c: Estonia: domestic firms in the manufacturing sector.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	3721	5146	3102	1	13477
AGE	3721	2.191	0.713	0	4.673
SIZE	630	6.734	2.093	0	11.39
PRODUCTIVITY	562	2.124	1.126	0	10.76
MES	3442	6.453	1.166	1.609	11.53
HCI	3721	0.0984	0.187	0	1
INTRA	3431	0.888	0.141	0	1
BACKWARD (foreign penetration through)	2432	51.88	228.3	-369.1	7473
FORWARD (foreign penetration through)	2432	23.40	54.78	-1.561	849.7

Tab. 7.d: Estonia: domestic firms in the services sector.

Variable	Obs	Mean	Std.Dev.	Min	Max
ID CODE	16581	5946	3380	2	13491
AGE	16563	1.984	0.783	0	4.691
SIZE	3859	6.047	2.376	0	12.66
PRODUCTIVITY	2716	2.540	1.687	0	14.75
MES	16361	6.033	1.291	1.609	10.48
HCI	16581	0.0498	0.115	0	1
INTRA	16279	0.831	0.163	0	1
BACKWARD (foreign penetration through)	11567	49.36	1688	-13172	80964
FORWARD (foreign penetration through)	11567	11.78	36.39	-0.814	1447