Charles University in Prague

Faculty of Social Sciences

Institute of Economic Studies

MASTER THESIS

Examining the impact of reforms on economic growth: The case of transition economies

Author: **Bc. Lorena Zhupaj**

Supervisor: **doc. Roman Horvath, Ph.D.**

Academic Year: **2012/2013**

Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.

The author grants to Charles University permission to reproduce and to distribute copies of this thesis document in whole or in part.

Prague, January 6, 2012 _____

Signature

Acknowledgments

I want to thank my supervisor, Roman Horvath Ph.D for his valuable comments and continuous support.

A special thank goes to the Charles University, Institute of Economic Studies for giving me the opportunity to study at this faculty.

Also, I want to thank my family for its presence and constant support in my studies and always.

Abstract

This paper aims to investigate the impact of reforms on economic growth in a sample of transition economies of Central Eastern Europe, South Eastern Europe and Commonwealth of Independent States from 1989 until 2010. We employ a panel data methodology and run a Haussman test to distinguish between a fixed effect and a random effect model. In addition, we take into account the role of reform reversals and examine their contribution in the growth dynamics. Reform downgrades are very common since in some cases progress in reforms has been stalled or even reversed due to political instability, wars, economic crises, etc. We model the reforms downgrades following the previous work of Merlevede (2003) using a different methodology and extending our period of estimation. Furthermore, the relationship between other explanatory variables (i.e. initial conditions, fiscal balance) and growth is further explored in the empirical estimation.

Contents

List of Tables

List of Figures

Acronyms

CEE Central Eastern Europe

SEE South Eastern Europe

CIS Commonwealth of Independent States

EBRD European Bank for Reconstruction and Development

Chapter 1

Introduction

The fall of the Berlin Wall and the collapse of the Former Soviet Union marked an important historical moment following the break up from the old socialist system and necessitated the creation of new democratic institutions and the transformation of the economy. The communist legacy had left economies of the Central Eastern Europe (CEE), South Eastern Europe (SEE) and Commonwealth of Independent States (CIS) with huge distortions in their initial starting positions, macroeconomic development and reforms. At the outset of transition, these countries faced large discrepancies in their output growth profiles. A relevant stylized feature in transition concerned the massive output fall soon after the adoption of the initial reforms and stabilization programs. Beside the initial output decline, other crucial factors which became part of this huge economic transformation involved a capital shrink, labor movement and trade reorientation, the change of economic structure, institutional collapse and an increase in transition costs (Campos and Coricelli, 2002).

This paper aims to investigate the impact of reforms on economic growth in a sample of transition economies of Central Eastern Europe, South Eastern Europe and Commonwealth of Independent States from 1989 until 2010. We employ a panel data methodology and run a Haussman test to distinguish between a fixed effect and a random effect model. For the sake of comparison, transition economies are divided into three groups according to their regional belonging. In addition, we take

into account the role of reform reversals and examine their contribution in the growth dynamics. Reform downgrades are very common since in some cases progress in reforms has been stalled or even reversed due to political instability, wars, economic crises, etc. We model the reforms downgrades following the previous work of Merlevede (2003) using a different methodology and extending our period of estimation. Furthermore, the relationship between other explanatory variables (i.e. initial conditions, fiscal balance) and growth is further explored in the empirical estimation.

Our main finding reveals a negative contemporaneous relationship of reforms on economic growth followed by a positive lagged effect in the latter periods. This finding is consistent with the preceding works of Falcetti et. al (2002), Falcetti et. al (2006), Merlevede (2003), etc. Macroeconomic stabilization represented by the fiscal balance is found out to be positively related to growth. We conclude that the larger the magnitude of reform reversals, the larger is its impact on output growth, though they are not found to be statistically significant in our model. Lastly, we report that the negative impact of a reversal on growth is bigger whenever a country has achieved a higher score in the reform index.

The thesis is structured as follows. Chapter II discusses the literature review focusing on the role of initial conditions, reforms and macroeconomic policies and their impact on output performance in transition economies. Additionally, a special subsection of this chapter is dedicated to the study of reform reversals and main reform strategies arising in the empirical literature. Chapter III focuses on nailing down the main reasons of the output decline from the most influential theoretical models. Chapter IV explains the macroeconomic performance of transition economies from the early years until the latest periods. Chapter V presents the hypotheses that will be tested in our empirical model. Chapter VI exhibits the methodology used in the empirical estimation, the data that will be employed and the main re-

sults. A special section is devoted to data and methodology shortcomings. Chapter VII concludes.

Chapter 2

The empirical literature of growth determinants in transition economies

Transition economies have experienced a substantial variation in the output performance over the last 20 years. These countries shared a set of common characteristics and differences which are largely reported in the literature. The transitory phase from planned to a market economy was associated initially with large output declines followed afterwards by periods of recovery and prosperity. Macroeconomic fundamentals were shaken and inflation rates increased sharply at the outset of transition. Stabilization programs were adopted to settle down the inflation rates and to ensure a steady path of output growth.

There exists a broad consensus among researchers when it comes to determine some key explanatory variables which commonly influence output fluctuations in transition economies. Usually, from a broad category of factors emerging from the empirical literature, much more attention has been paid to initial conditions variables, macroeconomic policies and reforms.

Initial conditions included all those specific economic characteristics which were unique to each single country during the communist period before they shifted toward democratic regimes at the beginning of the 90's. Different transition economies had different starting positions in terms of their income per capita, output growth, macroeconomic development, natural resources, industrialization, development of market institutions etc. Macroeconomic policies aimed at lowering inflation rates and reducing the fiscal deficits throughout the adoption of sound mone-

tary and fiscal reforms. Lastly, market reforms implemented in a large number of economic areas are considered to be important growth determinants (EBRD Transition Report, 2004).

2.1 Initial conditions and economic growth

Several empirical papers have investigated the impact of initial conditions on economic growth, but the degree of interdependence varies in different studies and is more or less subject to controversy. Nevertheless, it is generally accepted that initial conditions have affected output growth in a significant manner, at least in the early transition period. On the other hand, few studies have estimated that the role of the initial conditions has diminished throughout the transition period and other variables have gained more importance in the late transition years.

De Melo et al. (2001) were among the first to investigate the role of initial conditions on economic growth. A comprehensive index representing initial conditions was constructed by De Melo et al. (2001) employing principal component analysis. They identified 11 variables which represented initial conditions and characterized the economies in transition prior to their transformation into market economies. The first two principal components were given more importance since they captured most of the variation in initial conditions and represented specifically the level of macroeconomic and structural distortions in transition economies.

OLS regressions suggested a negative relationship among initial conditions and output performance. These findings showed that countries which had a higher degree of macroeconomic distortions and economic development were associated with lower growth rates. Moreover, the level of macroeconomic distortions exerted a negative impact on the liberalization index thus delaying the reform implementation process. On the contrary, a positive relationship between average liberalization rates and the level of structural distortions was observed, indicating that transition

economies with a higher level of development were able to implement more reforms (De Melo et. al, 2001).

Additionally, De Melo et. al (2001) tried to examine the explanatory power and relative impact of liberalization measures, initial conditions and political reforms. It was observed that economic policies played a crucial role in explaining output performance, while the impact of initial conditions was estimated to be smaller compared to reforms.

Krueger and Ciolko (1998) also discussed the impact of initial conditions on economic growth of transition economies. They emphasized the differences arising in the economic development of CEE and FSU countries under centrally planned economic systems. Countries of Central Europe like Czechoslovakia, Hungary, and Poland had a substantial degree of openness compared to Former Soviet Union countries. They were able to liberalize their internal markets and establish trade relations with some of the Western countries due to their geographical proximity, culture and other factors which may have influenced their output performance at the outset of transition. As such, two proxies were used to capture the contribution of initial conditions on the growth performance of transition economies. The share of total exports of GDP in 1989 and the level of GNP per capita in 1988 were used as measures of initial conditions. In the empirical estimation using OLS, it was observed that the share of exports as of 1989 was positively related to output fluctuations between 1989 and 1995. Meanwhile, the GNP per capita in 1988 negatively affected growth performance.

In support of these studies, Berg et al. (1999) and Heybey and Murrell (1999) argued that initial conditions and macroeconomic variables were responsible for the initial output decline in these economies finding no relevant support for the impact of structural policies on output performance at the beginning of the transition period. Initial conditions significantly affected the output growth and were seen as

important drivers of output growth at the start of transition period. However, the role of initial conditions seemed to have been diminished and replaced by structural policies which were responsible for the output variations in the later transition period (Berg et. al).

In Heybey and Murrell (1999), initial conditions were represented by the share of trade exports as a percentage of GDP and the average GDP level before the implementation of the reforms in the transition economies. Their data set comprised 26 countries of the Central Eastern Europe, Former Soviet Union and Mongolia and the time span considered as a starting period the beginning of the reform process.

Using the same proxies of initial conditions as in De Melo et al. (2001), Havrylyshyn et al. (1998) confirmed the negative effects of inherited distortions on the output performance of transition economies and their diminishing role with the passing of time. Initial conditions prevailed over reforms during the first years of transition, but their effect diminished over time as more countries from the Former Soviet Union were growing faster compared to Central Eastern European economies despite their unfavorable starting positions. Adverse initial conditions could be easily overcome with the implementation of more reforms.

An important finding documented in Eicher & Schreiber (2010) , which contrasts previous studies, suggests that the role of initial conditions is not diminished through time. However, when trying to relate initial conditions with the structural policies, the interaction term remains insignificant. These results stressed out the importance of structural reforms on growth more than the impact of initial conditions suggesting that countries can successfully achieve higher growth levels despite their initial starting positions.

Cerovic & Nojkovic (2009) calculated progress made in transition economies considering the accomplishment of reforms and found out that transition is an enduring process which has not yet come to an end as it was expected in the early

transition years. The long-lasting transition experience is closely related to initial conditions which have a strong influence on reforms and economic growth and seem to dominate even in the second part of the transition period. As such, good initial conditions provide a favorable and attractive environment to sustain implementation of fast reforms and achieve high growth rates. Poor performance of some economies in transition is explained by their inability to overcome inherited distortions despite the introduction of speedy liberalization measures.

2.2 Reforms, stabilization policies and output growth

In the empirical literature, reforms or liberalization policies have a significant contribution in explaining the diverse growth experiences in Central Eastern Europe and Former Soviet Union. A considerable bulk of studies has demonstrated the beneficial impact of reforms on growth. Despite the methodological shortcomings, endogeneity issues and the subjectivity of reform indices, most of the researchers agree on the negative short-term impact of liberalization policies on growth followed by a reverse positive effect in the long-run.

Employing a two stage least squares methodology, De Melo et. al (2001) reported that growth was negatively related to the level of contemporaneous liberalization but depended positively on the lagged reforms indicator. Nonlinearity in reform measures resulted initially in the contraction of output growth followed afterwards by an increased growth performance once reforms were implemented (De Melo et. al, 2001). Krueger and Ciolko (1998) constructed a cumulative liberalization index following the methodology of De Melo et. al (2001) and divided transition economies according to their degree of liberalization where the fast reformers had the highest scores on the index. From the empirical investigation, it emerged that transition economies which engaged in a large process of reforms implementation had the capacity to quickly overcome the output contractions present in the first transition years.

On the contrary, Heybey and Murrell (1999) questioned the validity of the cumulative liberalization index used previously in the empirical literature as an indicator capturing the reform progress in transition. They criticized the use of this index by De Melo et al. (2001) since it did not represent the policy change from year to year and instead they constructed their own measure of reform.

Berg et. al (1999) analyzed common factors which influenced the transition economies but also cross-country differences arising between these economies being subject to different output paths. Cross country regressions emphasized the possibility of fast reforming countries to attain high growth levels despite their adverse initial conditions. Structural reforms have played an important role during the phase of recovery. Moreover, the differences arising among Central Eastern European countries and other countries of the Former Soviet Union generally were more dependent on the role of policies rather than on initial conditions.

Havrylyshyn et. al (1998) provided evidence that good macroeconomic policies (i.e lower inflation rates) and more structural reforms combined together are a necessary requirement for sustaining higher growth rates. Moreover, the contemporaneous impact of reforms on growth was found to be negative, while lagged reforms positively contributed to growth.

Falcetti et al. (2002) carried out an empirical study to assess the impact of reforms on growth in a sample of 25 economies in transition. The basic set-up employed GDP growth rates depending on a set of explanatory variables including initial conditions, a measure of macroeconomic variable (i.e. fiscal policy) and a reform index constructed from the EBRD Transition Reports. Cross sectional analysis emphasized the presence of endogeneity of reforms to output growth which caused biased estimates of reform measures amplifying their positive impact on output performance. Panel specifications were designated to capture the role of reforms in different countries in transition as well as to address the endogeneity problems

arising among reforms and growth. Moreover, the equations were augmented by adding an interactive term which combined initial conditions and time trends and also including contemporaneous and lagged values of reforms. The accession of different time patterns in the single equation and 3SLS estimates ameliorated the simultaneity bias by reducing the reform coefficients significantly. Nevertheless, the relationship between reforms and growth was nonlinear in the system of equations since the contemporaneous index of liberalization was found to be negative followed by a reversed positive coefficient of lagged reforms. Empirical evidence implied that reforms did not have an immediate positive impact on output growth influencing growth performance with one period lag.

Falcetti et al. (2006) extended the previous research on the topic of reforms and growth nexus by including in the empirical analysis institutional variables, taking into account possible multicollinearity among different reform measures and the feedback effects from growth to reforms. Their contribution compared to previous studies lied in the inclusion of some additional explanatory variables such as output recovery, oil prices and trade dependence which depart from traditional factors used in the empirical literature of economies in transition. The data sample consisted of 25 EBRD economies and the period of estimation extended from 1989-2003. Using several methodologies, the empirical results indicated that reforms had a positive lagged effect on output growth reinforcing the conclusions of earlier studies.

Babetskii and Campos (2007) conducted a meta-regression analysis (MRA) study by making a considerable collection of several econometric techniques that were used to explore the reform-growth relationship. They assembled 46 different studies and obtained more than 500 estimates that measure the impact of reforms on growth. Empirical evidence suggested that the long-term impact of reforms on output growth is significant and larger than the short-term effects. Methodology shortcomings, type of reforms adopted and time span have to be accounted in the

empirical investigation since they seem to bring out the differences of transition economies.

Radulescu & Barlow (2002) used extreme bound analysis to test the contribution of several explanatory variables found out to be relevant in explaining growth dynamics in transition. Inflation was negatively related to output growth and it was robust in all empirical specifications. An increase in the budget surplus had a negative lagged effect on economic performance, while a fixed exchange rate policy positively led to higher growth rates. As it has emerged in most of the empirical literature, reforms are estimated to have a contemporaneous negative impact on growth followed by a positive effect with one year lag. However, liberalization efforts did not have a robust impact on output growth. The absence of a robust relationship between reforms and growth was explained by the existence of subjectivity in the construction of reform indices and the failure to account for institutional variables. Furthermore, the authors tended to ameliorate the lack of robustness of reforms by disentangling the single contribution of each reform component and found out that price liberalization, large scale privatization and restructuring had a larger impact on growth compared to other reforms. Additionally, the speed of reforms did not matter for growth.

Iradian (2007) tested empirically the contribution of several growth determinants in transition economies providing evidence from the experience of CIS countries. A large set of explanatory variables combining traditional and new growth factors accounted for output recovery, investment, macroeconomic stabilization measures (inflation rate and fiscal balance), structural policies and institutional reforms and other external shocks as major drivers of growth in these economies. Empirical investigation indicated that output recovery has negatively influenced output growth, while structural reforms and macroeconomic policies targeting lower inflation rates and reduced fiscal deficits have improved growth outlook overall. Additionally, positive external shocks pertaining to improvements in terms of trade

and higher remittances have exerted a positive and significant impact on growth performance. Output recovery and external factors are responsible for almost half of growth incurred in the later transition period from 2001 up to 2006 in CIS. However, CIS countries lagged behind in terms of reforms implementation compared to CEE economies which were able to introduce more effective structural and institutional reforms. Despite endowment with natural resources of CIS economies, these reforms should be addressed especially towards the diversification and investment in other sectors of the economy rather than in the oil industry.

Campos & Horvath (2012) analyzed main reform determinants in a sample of 25 ex-communist countries by constructing new measures of structural reforms indices. They have identified significant drawbacks in the methodology employed by international organizations in the creation and assembly of reform indices which are used in many empirical studies. In order to address properly these methodological shortcomings, a reform index focusing on three major reform areas was composed. These indices were referred to as internal liberalization, external liberalization, and privatization reforms and regressed over several explanatory variables such as output growth, unemployment, democracy and initial conditions. Major findings emphasized the significant contribution of output growth on external liberalization and privatization reforms, the Herfindal index indicating the concentration of power affecting internal liberalization index, and political liberalization (democracy) influencing all the above-mentioned reform dimensions.

Firdmuc (2002) investigated the impact of economic liberalization and democracy on output performance after the fall of communism considering a sample of 25 economies of Central Eastern Europe, South Eastern Europe and Former Soviet Union. He concluded that economic liberalization exerted a positive and significant effect on economic growth, and it was still reinforced even after controlling for endogeneity bias between the liberalization index and economic growth. Overall, this study showed that the net impact of democracy in improving the economic out-

look of the transition economies resulted to be positive. Democracy affected output growth indirectly, by speeding up the process of economic liberalization which had a direct positive relationship with economic growth. As a result, democracy alone was not directly conducive to economic growth, but its combination with the establishment of market-oriented reforms facilitated the process of development in the transition economies. The direction of the causality on the relationship between democracy and economic liberalization indicated that democracy influenced economic liberalization and not vice versa.

Fischer et.al (1998) provided a stylized analysis of growth and inflation profiles in the initial years of transition and estimated empirically major growth determinants in the short and long run perspective. Average growth rates were dramatically reduced reaching the bottom level of 41% being particularly more pronounced in Former Soviet Union countries were the depth of the recession was higher compared to Central Eastern European economies. Also, inflation rates experienced a sharp increase at the outset of transition reaching extremely high levels especially in FSU economies. The adoption of stabilization policies improved significantly growth and inflation performance in all transition economies. After two years that stabilization programs were introduced, growth experienced a quick rebound and inflation rates decreased considerably bouncing back to acceptable levels. By 1996, the majority of transition economies started to recover from the transformational recession and expanded their growth potential. Growth slowdown was coupled with large fiscal deficits which went back to normality after stabilization measures were put into action.

Empirical investigation incorporated all the above mentioned factors into a single econometric model including other explanatory variables such as structural policies and trade distortions to characterize growth dynamics in different economies. Results stemming from the estimation of the model revealed that macroeconomic policies and reform measures are considered important growth determinants and

the speed of reforms positively affects growth rates. The long-run assessment of growth performance involves neo-classical growth theory which takes into account population growth rates, primary and secondary school enrollment, government expenditures, initial GDP per capita, and gross capital formation. This study suggested that policies should be addressed in increasing investment rates and improving investment efficiency in order to obtain higher growth rates. Also, the role of institutions and political factors should not be neglected when estimating their long term effect on output development (Fischer et. al, 1998).

Mitrovic & Ivancev (2009) investigated the importance of key growth factors during the second part of the transition process and the impact of EU enlargement process on output performance. In the empirical work, it was estimated that macroeconomic policies represented by the fiscal balance, government spending and consumer price index continued to influence growth activities in the later transition period. Initial conditions which seemed to be substantial determinants of growth in the first transition years have had a diminishing role in the later periods. Structural reforms demonstrated a non-linear effect influencing growth positively in the first decade of transition followed by a significant negative relationship afterwards. This puzzling and ambiguous link between reforms and growth is devoted to the delays and stagnation of the reform process in some economies in transition which has eventually been harmful to economic progress. European integration has affected output performance though its impact has been negative possibly due to the recent financial crisis of 2008.

Firdmuc & Tichit (2009) analyzed different patterns of transition based on the existence of structural breaks which emphasize the importance of reform-growth linkages. Instead of separating the data in two groups (CEE and FSU countries) as it is commonly used in many empirical studies, an alternative methodology that identifies several structural breaks within the sample is employed. Moreover, progress in the reform process and the weights assigned to each component of the index are

calculated using component factor analysis. Empirical investigation suggested the presence of three structural breaks in the data concerning four important growth models that differed across many reform trajectories. It has been estimated that reforms have played a substantial positive role on economic growth especially in the early reform period.

The endogeneity among reforms and growth is a problematic issue arising in most empirical specifications. In OLS regressions, estimators become biased and inconsistent and the use of instrumental variables is necessary to investigate the reform-growth nexus. Several authors have recognized the feedback effects of growth to reforms. For instance, Campos and Horvath (2012) state that the reform is carried out in the expectation that it will translate into faster growth rates, while at the same time a growing economy enables a reformist government to compensate losers from reform and thus continue, or even intensify, reforms (p. 233).

Krueger and Ciolko (1998) reported that liberalization index is endogenous to growth leading to biased estimates. They used a two stage least squares IV estimator and run a Hausman test to detect the presence of endogeneity between liberalization index and output growth. This test implied that liberalization index is endogenous to output fluctuations, while inflation is exogenously related to growth.

Heybey and Murrell (1999) employed a three stage least squares methodology to address the issue of endogeneity of liberalization and growth. The econometric results documented the positive and significant impact of growth on the speed of reforms finding no statistical significance on the reverse relationship at the initial years of transition.

Mickiewicz (2005) explained the reform-growth nexus in terms of a three stage least squares estimation (3SLS) in order to deal with the endogeneity problem in the model. Compared to previous studies, the sample of countries considered in the estimation was increased and the model accounted for some degree of reform im-

plementation in some CEE countries before the fall of communism. Moreover, country fixed effects were entered into regression equations substituting the proxies for initial conditions and time trend interactions with the exogenous variables were not considered due to the possible correlation with the reforms. One of the most important conclusions drawn from this study suggests that the inclusion of both contemporaneous and lagged reform indicators possibly leads to a spurious relationship among reforms and growth being severely pronounced in longer time periods. However, the lagged reform indicator had a positive and statistically significant effect on economic growth. Other important relationships that emerge from the empirical analysis emphasized the negative impact of political liberties on reforms.

Eicher & Schreiber (2010) documented the short-term impact of structural policies on economic growth in a panel of 26 transition economies by conducting a time series analysis from 1991- 2001. The endogeneity of structural policies posed serious issues in the empirical estimation and therefore several approaches were used to alleviate this problem. To control for endogeneity, a large panel was considered and a GMM estimator which produces unbiased results was used in the estimation. Furthermore, political institutions were considered as instruments in the analysis. The structural policy index was constructed following EBRD Transition Indicators and it was estimated to be statistically significant in all the specifications. A ten percent increase in the structural policy index induced a 2.68% increase in the output growth. The positive correlation among polices and growth remained robust in different specifications of the model. An alternative way to assess the relationship among structural policies and growth in transition is to focus on the role of political institutions. The empirical estimation revealed that the measures which serve as a proxy for political institutions indirectly affect output performance by means of structural policies.

Beside structural policies which were introduced at the start of the transition and considered as first-phase reforms, a substantial part of economic research has

been devoted lately into the study of the impact of institutional reforms (i.e. second-phase reforms) on economic growth.

Havrylyshyn and Rooden (2003) tried to construct relevant measures of institutional indicators and tested empirically the contribution of these variables in the growth equations of 25 transition economies of Central and Eastern Europe, Baltics, Russia and other Former Soviet Union countries. Institutional factors were divided in two main categories which included legal and political indicators to assess their common and different impact on output growth. Empirical results showed that among all the explanatory variables, inflation rate and structural reforms played a crucial role in determining the output performance in transition. Reforms positively contributed to growth in the long run, despite the initial negative impact which was reversed in the later periods. In addition, the role of initial conditions diminished over time thus losing its significance in the model. The inclusion of political and legal variables in the growth model suggested that they significantly affected output performance in transition countries. Especially, the legal framework positively contributed to growth performance while the impact of political liberties seemed to be negatively related to growth when the legal indices were entered in the estimation. This result emerged probably due to the high multicollinearity between political and legal indices but it might also have an economic interpretation in the context of transition. The negative relationship among the political indices and growth can be attributed to a slow pace of reform implementation process sustained by certain political forces.

Reform reversals are an important component of growth empirics and have been addressed lately in a number of studies concerning transition economies. Merlevede (2003) defines a reform reversal as "a downgrading in the level of average reform indicator" (p. 2) and argues that they should not be considered as outliers.

Merlevede (2003) tested the contribution of reform reversals on output performance of transition economies using as a reform measure a weighted average of several EBRD transition indicators. Results emerging from the empirical analysis suggested that the contemporaneous impact of reforms on growth is positive followed by a reverse negative relationship. Additionally, reversals are estimated to cause a decline in output growth within a short period of time and the severity of the slowdown is higher in those economies which have implemented more reforms and have high rankings in the reform indices.

Christiansen et al. (2009) in contrast with other studies which focused only on a single reform dimension, considered a broad spectrum of different reform measures simultaneously based on a large group of de jure variables mainly in three reform areas: finance, trade and capital account. The data sample covered a large panel comprising of 90 countries which were divided into low-income, middle-income and high-income countries and the period of estimation extended from 1974 to 2004. Significant attention is paid to modeling the dynamic impact of reforms on output growth and the duration of these effects by adding a specification that is designed to capture the cases where reforms exert a positive effect on growth through positive changes in the liberalization index and reform reversals which negatively impact the liberalization index. The empirical results showed that the component of liberalization index concerning domestic financial reforms had positively and significantly influenced output growth in the whole sample of countries, and particularly middle-income countries for a period up to 6 years after reforms were introduced. The estimation in the dynamic panel revealed that trade reforms were positively associated with economic growth both contemporaneously and in the previous period. The positive association between the lead of large reforms and growth indicated that growth increases whenever reforms are anticipated. On the contrary, reform reversals negatively influenced the economic performance by lowering growth. The differences on the impact of reforms between low-income and high income coun-

tries resulted from the developments of property rights in these countries. Lastly, the sequencing of reforms was discussed focusing on the role of political institutions which seem to be an important driver toward pushing growth upwards.

Campos & Coricelli (2009) explored the linkages between political and financial liberalization and reform reversals in a panel setting of 26 transition economies from 1989 to 2005. They provided empirical evidence for the U-shaped, non-linear relationship among political and economic reforms and constructed relevant indicators of financial and political liberalization. Financial liberalization index included several variables which were designed to capture the size and efficiency of the financial systems. The political reform index consisted of political rights, civil liberties and democracy variables which were obtained from Freedom House and Nations in Transit reports. A possible explanation for the non-linear association between democracy and economic reforms is attributed to the role that different political and economic elites play in a regime of "partial" or "intermediate" democracy. Special considerations were devoted to the study of the ambiguous association of de jure and de facto measures of political and financial liberalization. Therefore, the role of laws and regulations in affecting the financial systems of transition economies was further explored and it was found out that changes in laws and regulations provide a remarkable stimulus for financial liberalization to take place. In addition, the empirical estimations suggested that political reforms exerted a significant direct impact on the actual functioning of financial systems in transition.

Coricelli & Maurel (2011) examined output developments in transition countries by differentiating periods of output growth and recessions. The switch from planned to market economies has been associated initially with a large output decline (a process that is known as "transitional recession") followed by periods of recovery and/or crises influencing different patterns of output paths in transition. Comparing the transitional recession among CEE and CIS countries, it is observed that the depth and the magnitude of the cumulative loss in output has been larger

for CIS countries due to their adverse initial conditions and slow pace of reform im-plementation. In addition, transitional recession has been estimated to have a nega-tive long term impact on output growth which was more pronounced in CIS com-pared to CEE countries, emphasizing once more the capacity of CEE economies to recover quickly from the large initial output decline. Focusing on two reform measures (i.e. financial and trade liberalization), the empirical investigation was extended to account for the impact of reform complementarities on the capacity of transition economies to rebound as well as on the length and duration of recessions. Results showed that complementarity of reforms didn't have any impact on the abil-ity of transition economies to catch-up pre-crises levels of output growth, affecting only the length and duration of the crises.

2.3 Transition strategies and sequencing of reforms

Sequencing of reforms in transition economies and the optimal speed at which lib-eralization policies should be implemented constitute a subject of debate among economists since at the start of transition.

The fall of the Berlin Wall and the dismantling of the Soviet Union urged for the adoption of several reform strategies which would help to overcome the inherited distortions, stabilize the economy and ensure growth. These strategies aimed at macroeconomic stabilization, microeconomic restructuring, along with institutional and political reforms (Svejnar 2002, p.4).

Svejnar (2002) identified two main reform packages which were defined as Type I and Type II reforms. The first category of reforms (Type I) aimed at macroe-conomic and microeconomic stabilization of transition economies associated with price liberalization and the break up with the old institutions. The macroeconomic strategy emphasized restrictive fiscal and monetary policies, wage controls and, in most cases, also a fixed exchange rate. The micro strategy was to move quickly to-ward price liberalization, although a number of key prices, like those of energy,

housing and basic consumption goods, often remained controlled along with wages and exchange rates (Svejnar, 2002, p. 5). In the light of these new developments, transition economies were opened to the world economy, trade liberalized, capital and labor was reallocated to newly established firms, state-owned enterprises engaged in restructuring, and a new banking system was created.

Type II reforms were concerned with the establishment of a regulatory framework and the creation of new institutions that would facilitate the transition process and consolidate democratic rule. These reforms include the privatization of large and medium-sized enterprises; establishment and enforcement of a market-oriented legal system and accompanying institutions; further in-depth development of a viable commercial banking sector and the appropriate regulatory infrastructure; labor market regulations; and institutions related to public unemployment and retirement systems (Svejnar, 2002, p. 5).

The differences in growth profiles existing among transition countries in the initial years led to the development of two main reform strategies: big bang approach (or shock therapy) and gradual reform. Proponents of the big bang strategy argued for a rapid introduction of reforms into the economy, while gradualists supported a gradual implementation of reforms. Advocates of "shock therapy" believed that countries engaging in a process of fast liberalization and privatization were able to achieve better growth rates without the need to establish an institutional framework. On the other hand, gradualists suggested a piecemeal approach of reform implementation and claimed that the development of institutions should come along with policies or even precede liberalization and privatization measures (Godoy & Stiglitz, 2006).

Havrylyshyn (2007) provided an extensive literature survey on the heated debate between big bangers and gradualists on the speed of liberalization. To capture the diversity of reform strategies followed in transition economies, countries were grouped according to transition indicators which reflected the progress in reforms

from communism to a market economy. Liberalization steps were not equal in different transition economies. Poland, Estonia, Latvia, Lithuania, and Slovakia undertook rapid reform strategies at the wake of transition as indicated by the rapid increase in transition indicators of these economies and continued to maintain a steady pace of reforms throughout the entire period. Countries like Croatia, Slovenia, and Hungary adopted fewer reforms initially but later on had a catch-up with the previous group. Some economies of South Eastern Europe and Commonwealth of Independent States followed a big bang strategy in the first place, however the reform process stalled in the following periods and these countries had to abandon the big bang approach. Conversely, CIS economies supported a gradual liberalization process since the start of the transition while countries like Belarus, Uzbekistan and Turkmenistan followed a limited number of reforms.

Some important observations emerge by comparing the speed of structural and institutional reforms in different transition economies. The adoption of second-stage reforms or institutional reforms moved slowly compared to the early liberalization measures in all countries. In addition, countries that followed a big bang approach benefited more compared to gradualist economies since they had the opportunity to lay the foundations for the development of an institutional framework. Evidence provided in support of shock therapy strategy showed that countries following rapid and extensive reforms achieved a prompt and sustainable recovery. Furthermore, the advanced reformers, contrary to the gradualists' beliefs experienced lower social disparities and income inequalities. Gini coefficients in Central Eastern economies had lower values as opposed to CIS economies which experienced large income discrepancies (Havrylyshyn, 2007).

Barlow & Radulescu (2005) investigated the sequencing of reforms in transition economies to evaluate whether progress made in some reform areas has significantly contributed to the development of other reform measures. Out of several reform indicators listed in EBRD Transition Report, it emerged that small-scale privatiza-

tion affected positively and significantly progress made in large-scale privatization, trade liberalization and banking reforms. Reforms in the banking industry stimulated the advances made in the restructuring area. Trade liberalization induced growth in the banking reform and small-scale privatization. Large-scale privatization did not have any substantial impact in stimulating progress in other reform areas in transition countries. The division of the sample of countries into FSU and non-FSU economies emphasized once more the importance of small-scale privatization reforms which were considered to have a significant larger impact on FSU economies compared to non-FSU economies. Lastly, negotiations prior to EU accession didn't play any role in intensifying the reform agenda of transition economies. However, reform efforts were increased after the EU accession with respect to banking and competition policy reforms.

Aristei & Perugini (2011) studied the impact of different reform patterns on the income inequality of 27 transition countries from 1989 to 2006. These economies were divided into seven clusters allowing for the speed and sequencing of reforms. Gini coefficient, which served as a measure of inequality was regressed on its lagged values in one period, GDP growth, inflation rate, government spending, industry share, a war dummy, an index of reforms and some interactive terms between reforms and transition clusters. The empirical estimation using a dynamic panel model showed that reforms led to large and significant income disparities among transition economies.

Staehr (2003) addressed the relative contribution of specific reform measures on economic growth, the importance of a good reform strategy that would be beneficial to growth in the short-term and medium-term and the speed at which these reforms should be implemented. To minimize the multicollinearity effects between individual reforms, principal component analysis was employed to differentiate among five clusters of reform indices which were uncorrelated with each other. The first principal component captured an ample dimension of reforms consisting

of privatization, liberalization and structural policies, while other clusters disentangle the effects of single reform policies on output performance. Implementation of a wide spectrum of reforms had positive implications for growth in the medium run, contrary to their negative contribution in the early transition period. Moreover, liberalization and small-scale privatization policies were positively related to growth in the medium-term. On the other hand, a combination of large scale privatization without the presence of small scale privatization, market opening without small-scale privatization and enterprise restructuring, and at the end bank liberalization reforms without enterprise restructuring affected growth negatively. However, the speed of reforms did not have any significant impact on growth. As a consequence, neither a big-bang approach which emphasizes the importance of fast reform implementation nor a gradualist course provides a precise and comprehensive solution to modeling the growth strategies in transition economies.

In contrast to this view, Godoy & Stiglitz (2006) argued that rapid privatization in transition economies has been detrimental to output growth in the medium run providing more support to gradualists' approach rather than shock therapy. Proponents of the "shock therapy" suggested that countries engaging in fast liberalization and privatization were able to experience large output growth. Opponents of this view appealed for a gradual reform strategy due to large transition costs and the concentration of power and wealth in the hands of political institutions leading to a slowdown of the economy. Another important finding which was emphasized in the literature discussed the necessity of legal and regulatory institutions as an important prerequisite that would improve privatization efforts and economic performance in transition.

Popov (2007) highlighted a number of factors characterizing growth performance in transition economies during the periods of transitional recession and recovery. He provided a supply-side explanation for the initial output decline occurring in these economies emphasizing the undisputable detrimental role of large dis-

tortions inherited from the communist command and the failure of the state institutions to guarantee rule of law and economic stability in the wake of newly established democracies. As a matter of fact, reforms did not seem to play an important role during recession since they were found to be statistically insignificant in most empirical estimations in the absence of accounting of endogeneity. Nevertheless, after endogeneity of liberalization index was tested, empirical results confirmed a negative and statistically significant impact of reforms on economic growth indicating that the more liberalized economies experienced sharp output declines. On the other hand, the speed of liberalization affected positively growth performance during the recovery stage, while the role of initial conditions faded out in the transition context. Still, institutional variables and macroeconomic policies continued to be important determinants of growth in both periods of transformational recession and post-recession recovery.

Wolf (1997) summarized basic reform strategies adopted in transition economies and evaluated their contribution on output performance providing evidence on a J-curve relationship between the liberalization index and output growth. In other terms, contemporaneous liberalization is found to be negatively correlated with economic growth rates, while its lagged values are positively associated to output growth. When other explanatory variables are added into the model, the liberalization index loses its significance though the signs of the coefficients remain the same. Traditional growth factors such as investment rates which are considered to be important drivers of output in an economy do not seem to affect growth in transition. Such results entail large differences between investment quantity and efficiency. "Because transition economies commenced from very high investment shares, investment quantities declined toward normal levels in the fastest liberalizing countries, which arguably also had the largest gains in investment efficiency" (p. 18). In addition, the speed of liberalization did not have a significant impact on

growth performance indicating that the choice of any reform strategy will not determine the output path in transition.

Chapter 3

Explaining the output decline

One of the most prominent features of Central Eastern European and ex-Soviet Union economies was the large initial output decline observed at the beginning of transition period. This dramatic fall in output was not anticipated by economists since growth rates were underestimated and no transition models were available at that time to ensure the rapid and less costly transformation of centrally-planned economies into democratic regimes (Svejnar, 2002). Measurement errors in estimating GDP growth rates were related to the exclusion of the new-born private sector in the official statistics and the expansion of a shadow economy in the early years following the fall of communism (Fischer & Sahay, 2000). The largest output decline occurred after price liberalization reforms were undertaken in transition economies. To mention some examples, Poland introduced price liberalization in 1990, Russia in 1992 and Ukraine in 1994 (Roland, 2000).

Kornai (1994) has provided an extensive analysis on the main causes of the deep recession that he refers to as "transformational recession" which affected all transition economies. First of all, the open-up to a capitalist system was associated with a shift from a supply-oriented economy to a demand-driven economy. In addition, price liberalization process led to a new equilibrium of relative prices and altered the composition of industry production compared to services share. Other factors which contributed to the transformation of the economy structure were related to the transfer of property from the state sector to the private entities followed by

restoration of the small and medium-size firms which were completely abolished during the communist period. The breakdown of coordination and harmonization of economic activities and the lack of market institutions at the outset of transition deepened the output decline until new market mechanisms were developed to re-establish trade relationships. Furthermore, in the short-term privatization efforts induced a reduction in output as a result of increasing unemployment and lowering demand. However, on the long run transition economies were able to reap the bene-fits created by privatization which promotes growth and efficiency.

Chapter 4

Macroeconomic Performance

4.1 Output growth in transition economies

The shift from a centrally-planned economy to a market-oriented system required an important economic transformation and the adjustment of mechanisms that would enable the creation of new activities and the allocation of capital and labor to the emerging productive sectors of the economy (Fischer & Sahay, 2000). Several factors are pointed out in EBRD Transition Report (1999) explaining the massive output fall and an abrupt increase in inflation rates at the outset of transition:

> "In the early years of transition, all countries faced rapid inflation and falling output due to a combination of factors: the monetary overhang from central planning, the erosion of the old (notional) tax base, difficulties in asserting monetary and fiscal control in new economic circumstances, and disorganization arising from the collapse of a rigid system" (p. 57).

Growth rates have experienced substantial variations throughout the transition period and across diverse regions of the Central Eastern Europe, South Eastern Europe and Commonwealth of Independent States. The division of countries into three distinct groups allows a better comparison of output dynamics among different regions and captures common and different features of these economies. GDP trends showing the evolution of output in transition economies from 1989 to 2010 are reported below in Fig. 1.

As it can be easily noticed, output has declined in all economies though the magnitude of the decline has been different for CEE, SEE and CIS countries. The largest output decline is observed in CIS economies, followed by SEE and CEE countries. CIS countries hit the bottom by 1992 with real growth rates plunging to almost 20%. In addition, SEE economies experienced more contained output fall compared to CIS, where the trough was estimated to be approximately 15% of the real GDP growth. Lastly, CEE countries were the least exposed to the "transitional recession" phenomena as their output dropped to a slightly higher level of 10%.
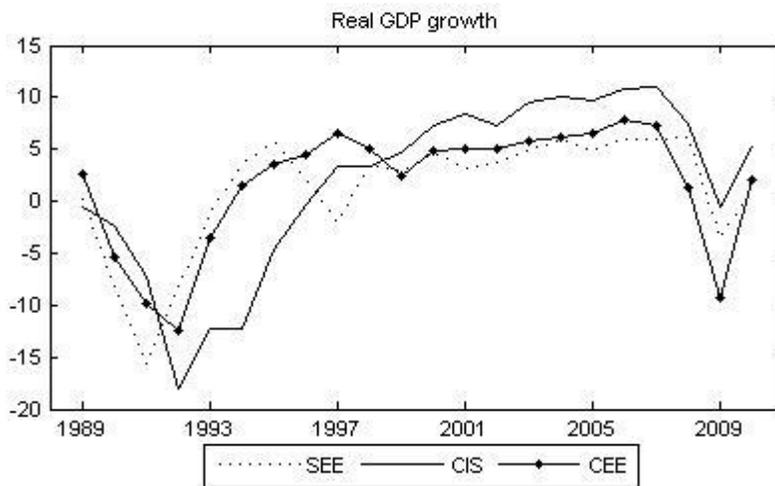

Figure 4.1 Source: Author's calculations using World Bank data

Another particular characteristics of the growth performance in transition which can be seen in Fig.4.1 concerns output recovery. Economies of Central Eastern Europe had the capacity to quickly overcome the massive output fall at the start of transition, while CIS economies had a more prolonged period of recession. The more pronounced is transitional recession, the larger are the capacities of the economy to rebound and achieve rapid growth. Average growth rates in those economies which experienced protracted and profound recessions are estimated to be between 6-8% or even higher in specific countries (Falcetti et.al 2006; Havrylyshyn 2008).

38

The recovery period for Central Eastern and South Eastern Economies started earlier compared to the CIS countries between 1992-1994. In the meantime, CIS economies continued to experience a sustained period of downturn. (Havrylyshyn 2008). By 2000 and afterwards, CIS economies outpaced CEE growth rates significantly in a puzzling manner despite their backwardness in structural and institutional reforms. Some of the factors attributable to the rapid growth in CIS countries were dependent on sound macroeconomic policies reflected in declining inflation rates in a great part of the region and an improved fiscal balance of these economies. It was estimated that the average fiscal deficit narrowed from about six percent of GDP in 1996–2000 to one percent in 2001–06 (Iradian 2007, p. 5).

Other important growth determinants in CIS economies were large remittances' transfers, an increase in FDI rates and a surge in commodity prices especially in the oil and gas industry. EBRD (2004) Transition Report indicates a high degree of correlation among oil prices in CIS and average growth rates. Oil-rich countries like Azerbaijan, Kazakhstan, Russia, and Turkmenistan took advantage of the boost in commodity prices by increasing their exports and fostering growth (Havrylyshyn, 2008; Iradian 2007). On the other hand, oil-importing CIS economies were damaged by the increase of oil prices (Falcetti et.al 2006).

Lastly, devaluation of domestic currencies against the ruble following the Russian crisis in 1998 resulted in an increase of the domestic demand in the Russian economy. Therefore, CIS economies benefited from the import-substitution effects concerning Russian markets and expanded their exports which turned out to have positively contributed on growth (Havrylyshyn 2008; Loukoianova & Unigovskaya 2004).

One of the most important challenges of resource-rich CIS economies depends on the ability to diversify investment opportunities in other sectors of the economy. An excessive dependence on the commodity-based industry produces adverse ef-

fects that contribute to a slowdown in output performance in the long run. Growing exports of commodity goods such as oil, gas, minerals, etc. can lead to an appreciation of the domestic currency which in turn reduces competition in other industry sectors such as manufacturing (Iradian, 2007). Furthermore, the economy becomes more exposed to exchange rate volatility of commodity prices having a negative impact on the fiscal balance (EBRD Transition Report, 2003).

4.2 Fiscal Balance

Transition economies have experienced large fiscal imbalances following a U-shaped pattern and being particularly pronounced in CIS economies. Similar to the output paths at the outset of the transition period, all economies of CEE, SEE and CIS coped with deep fiscal deficits as it is depicted in Fig. 4.2 CEE and SEE economies faced smooth fiscal contractions after the break-up with the communist legacy estimated between 5-10% of GDP. Conversely, CIS economies encountered a sharp fiscal tightening reaching more than 15% of the GDP level.

"At the start of transition, fiscal imbalances quickly emerged as a key challenge to macroeconomic stabilization, and were an inevitable result of lost revenues for transfer-dependent states of the former Soviet Union, the general collapse in incomes with concomitant loss in revenues, and additional demands for expenditures" (Alam & Sundberg, 2002, p.1). Initially, fiscal deficits were associated with high inflation rates and were seen as a source of macroeconomic instability. In addition, they produce negative consequences for the growth prospects in the long-run due to high borrowing costs needed to finance expenditures (EBRD Transition Report, 1998; 2000).

One of the main sources of the large fiscal imbalances present in CIS economies was attributed to the decline in revenues as a result of the break-up with the Soviet Union which translated into substantial fiscal losses (Alam & Sundberg, 2002). By 1999, government revenues accounted for a smaller share of GDP in CIS with aver-

age rates of 24% of GDP, while in CEE economies the average share of government revenues was estimated to be 40% of GDP (EBRD Transition Report, 2000).
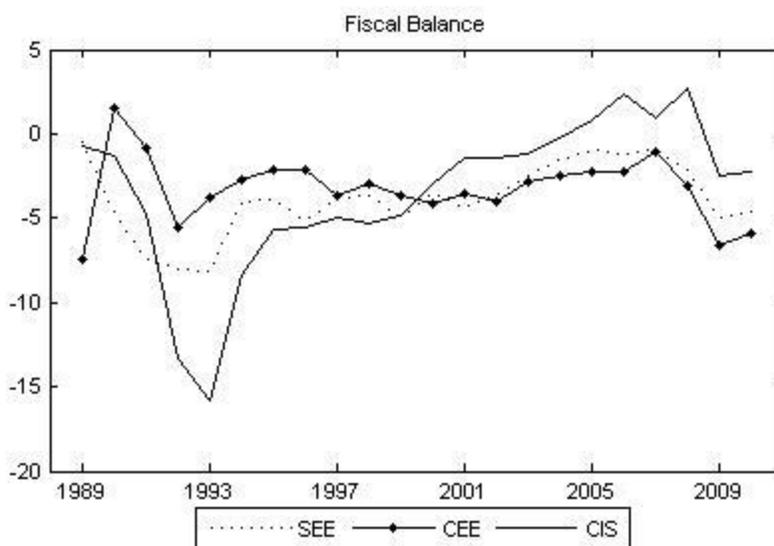

Figure 4.2 Source: Author's calculations using EBRD data

The disintegration of the Soviet Union was coupled with the creation of new member states which required independent and efficient tax-collection institutions to increase revenues. This process required the transformation of the tax administration shifting from turnover taxes collected from the state sector enterprises to personal income taxes and VAT coming from the private entities. There exists a huge discrepancy in the functioning of the tax system and tax collection rates in economies of Central Eastern Europe and Former Soviet Union states. Tax collection rates were higher in CEE economies compared to CIS economies. For instance, in countries like Croatia, Hungary, Latvia, Poland, Slovenia, and Slovakia tax to GDP ratios was estimated to be around 40-50% by 2000 (Alam & Sundberg, 2002).

In CIS economies, tax collection was problematic as a consequence of tax evasion concerns reinforced by the existence of a large informal economy and barter transactions as a medium of exchange (EBRD Transition Report, 1998; 1999). Revenue collection through direct taxation of profits, personal income and social contribu-

41

tions was higher in CEE countries with an average of 22% in comparison to CIS were it was estimated to be only 6% of GDP (EBRD Transition Report, 2000).

An important feature characterizing all transition economies with respect to their fiscal positions concerned their very high levels of government expenditure. Central and Eastern European countries maintained balanced budget deficits financed primarily through tax increases, while CIS economies had to reduce their government expenditures significantly (Pirttilä, 2001). Between 1992 and 2000, the average reduction in expenditures in CIS countries was 23.1 percent of GDP as compared to 5.6 percent in the CEB countries (Alam & Sundberg, 2002, p.4).

The Russian crisis of 1998 represents a turning point for the fiscal performance of CIS economies which experienced sharp increases in the fiscal balance leaving behind SEE and CEE economies. Most of improvements in the fiscal position are dependent on the surge in the commodity prices which constitute a major source of revenues for oil-rich CIS economies. In order to sustain growing revenues coming from exploitation of natural resources and to insulate these economies from the exchange rate volatility, countries like Azerbaijan and Kazakhstan have created the so-called stabilization funds. These funds ensure short-term stabilization and long-term saving operations. The first task concerns risk mitigation stemming from exchange rate fluctuations by transfering commodity funds from the government's authorities under the stabilization funds' supervision and management. The savings' duty handles the allocation of the revenues and investments into diversified sectors of the economy. (EBRD Transition Report 2003).

4.3 Main reform policies and progress in transition

The fall of the communist legacy and the establishment of new democratic regimes was associated with a huge transformation of the political and economic systems in transition economies of the Central Eastern Europe and Former Soviet Union. Dismantling of the old socialist institutions and the opening up to the world economy,

allowing the existence of free markets and private enterprises required the adoption of radical reforms into major sectors of the economy. Initial conditions of reforms have not been the same in transition economies as some of them had previously experienced a certain degree of liberalization and had started to implement gradually a number of economic reforms in the pre-transition period. This factor had a substantial impact in highlighting the diverse growth experiences of Central and South Eastern and Commonwealth of Independent States throughout the transition process.

The pattern of reforms for economies of CEE, SEE and CIS in calendar time since the start of the transition period is presented below in Fig.4.3. The progress in reforms is expressed in the vertical axis by means of the EBRD Transition Indices.
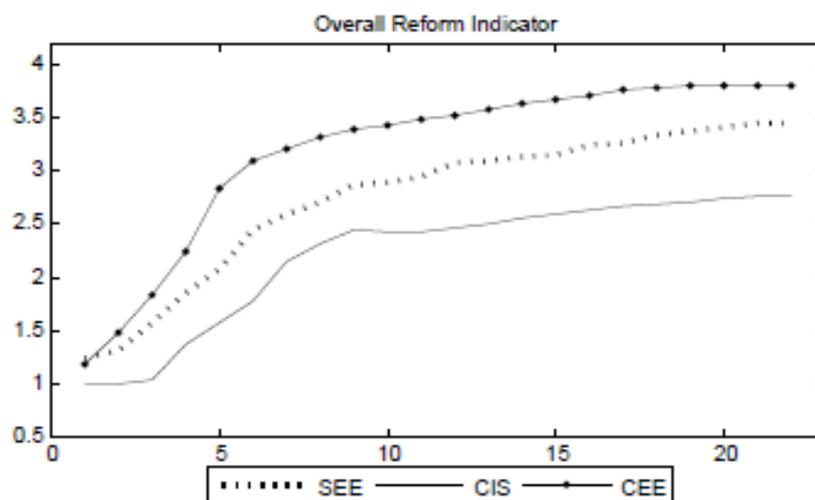

Figure 4.3 Source: Author's calculations using EBRD data

From the graph, we notice that the transition economies have experienced diverse reforms' path and the Central Eastern European economies are considered to be the fastest growing reformers. In the second place, we observe South Eastern Eu-

ropean economies which have made substantial improvements in their reform scores followed by CIS economies.

EBRD Transition Report (2007) distinguishes among three categories of reforms implemented in different transition economies:

1. First-phase reforms ("market-enabling" reforms) including small-scale privatization, price liberalization, trade and foreign exchange.
2. Second-phase reforms ("market-deepening" reforms) referring to large-scale privatization and financial sector reforms.
3. Third-phase reforms ("market-sustaining" reforms) consisting of governance and enterprise restructuring, competition policy and infrastructure reforms.

Price and trade reforms provide a range of benefits in transition economies because they ensure an adjustment of prices through competition and opening up of the markets with the world economies (Fischer & Gelb, 1991). Liberalization of prices, trade and foreign exchange were at the heart of economic transformation in the early transition process in most countries. Czech Republic, Poland, Hungary, Estonia but also Albania, Macedonia, Kyrgyzstan and Moldova were among the first to liberalize prices, trade and domestic markets. The rest of the countries, especially those located in the CIS and SEE region faced more difficulties in the adoption and sustainability of these reforms. For instance, Bulgaria and Russia tried to liberalize their internal and external markets but did not succeed in this direction because they stepped back in the reform process. Nevertheless, Russia achieved to a large extent liberalization of domestic and foreign trade by 1999 (EBRD Transition Report, 2000). Progress in liberalization policies has been influenced by the necessity to become part of the important international organizations such as the World Trade Organization and the European Union (EBRD Transition Report, 1998; 2000). However, most of EBRD economies have successfully completed the initial-phase

reforms leaving behind only a few countries like Belarus and Turkmenistan (ERBD Transition Report, 2002; 2003).

The adoption of a fixed or floating exchange rate was an important component of the stabilization programme at the start of the transition. Central Eastern European economies and some Baltic states like Hungary, Poland, Slovakia, Estonia and Croatia adopted a fixed exchange rate regime while some South Eastern European (i.e Albania, Bulgaria, Macedonia, etc.) economies opted for a floating exchange rate system together with Former Soviet Union countries. Nowadays, almost all transition economies have endorsed flexible exchange rates. Poland introduced a flexible exchange rate system by 1995 and Slovakia in 1998 (Fischer & Sahay, 2000).

The reform process in some countries stalled as a result of internal conflicts, political instability and wars. Former Yugoslavia experienced adverse effects as a result of the ongoing conflict with Kosovo. Its economy underwent through many trade restrictions, price controls, bankruptcy and insolvency problems. Bosnia and Herzegovina followed the same course of Former Yugoslavia as it had to recover from war which caused many human losses and economic problems. Tajikistan encountered political unrest and civil wars which contributed to a slowdown in the reform implementation in key sectors of the economy (EBRD Transition Report, 2001).

Privatization of state enterprises was another important priority in the reform agenda of transition economies. It constituted an important pillar of the transformation of socialist economies into market economies. Small-scale privatization has been achieved in most transition economies in the first decade of transition. Central Eastern European economies represented the most successful cases of privatization, while CIS economies lagged behind.

Economies of CEE, SEE and CIS followed different privatization strategies at the beginning of transition. The choice of a specific privatization method is complex and

does not involve simply the transfer of ownership from state enterprises to private firms, but affects also macroeconomic performance indicators, the financial, political and institutional stability of an economy. Initially, the first step toward privatization concerned the so-called "commercialization" process where the state-owned enterprises had gained a certain degree of independence (Roland, 2000; Svejnar, 2002). Poland and Slovenia followed a slow path of privatization, while Estonia and Hungary moved faster by privatizing their state-owned enterprises and selling them to foreigners. Russia and Ukraine chose mass-privatization through management-employee buyouts but in the end this method was proven to be not very effective since it provided less government revenues. Czech Republic and Slovakia undertook an equal-access voucher privatization (Svejnar, 2002). CIS economies hesitated to privatize in a rapid fashion due to the long dominance of communism and little access to market economies (Lieberman & Kopf, 2008).

By 2004, most of the transition progress has been achieved in South Eastern European economies explained in part by the aspiration of EU membership. Hence, Romania and Bulgaria undertook rapid reforms in large-scale privatization, banking sector and infrastructure. Croatia moved forward in terms of governance, banking and infrastructure reform. Economies of the Central Europe made significant improvements in key reform areas. On the other hand, reform progress was estimated to be relatively small in CIS economies. Only, Kyrgyz Republic made significant steps forward in the large-scale privatization and infrastructure reforms (EBRD Transition Report, 2004).

In conclusion, the future challenges for EBRD economies rests in the accomplishment of the third-phase reforms in the areas of governance and enterprise restructuring, competition policy and infrastructure reforms.

Chapter 5

Hypotheses

This study attempts to investigate the relationship between reforms and growth in Central Eastern Europe, South Eastern Europe and Commonwealth of Independent States from 1989 until 2010. The fall of the Berlin Wall and the break-up of the Soviet Union provide a unique set-up for the examination of the diverse growth experiences of transition economies driven by many factors which are widely discussed in the theoretical and empirical literature.

Inspired by the work of Merlevede (2003), Falcetti et. al (2002), Falcetti et. al (2006), we aim to study the reform-growth nexus in a panel data framework extending the period of study in the latest years. CEE and SEE economies have made considerable improvements in their key reform indicators, while in CIS economies this process has been slowed down, stucked, and even reversed. Since the reforms process has been non-uniform and characterized by many humps and slumps in two decades of transition, it is of extreme interest for us to understand the mechanisms of transmission of reforms to growth. Beside the reform progress measured by EBRD Transition indicators, we tackle the role of reforms reversals and their consequences on output growth. Hence, the following hypotheses will be tested in the empirical study:

1. The contemporaneous impact of reforms on economic growth is negative, while the lagged values of reforms exert a positive effect on output in the subsequent periods.

2. The greater is the magnitude of the reversal (downgrade of the reform index), the larger is its impact on economic growth.
3. The negative impact of a reversal on growth is bigger whenever a country has achieved a higher score in the reform index.

Macroeconomic stabilization policies represented by the fiscal balance are statistically significant and positively correlated with output growth.

Chapter 6

Methodology and empirical results

6.1 Data and methodology shortcomings

Our dataset consists of seven economies of Central Eastern Europe, five economies of South Eastern Europe and twelve CIS countries. Data sources come from international organizations like World Bank, EBRD and from De Melo et. al (2001) which has compiled a large set of initial conditions that we use in our empirical estimation. However, there exist some deficiencies associated with the construction of the data and their sources. We are going to address briefly some of these concerns in order to take stock later on for further improvements.

First, at the start of the transition, output growth was largely underestimated due to the creation of private enterprises which were working in a shadow economy (Falcetti et. al 2002; Falcetti et. al, 2006). Hence, empirical estimates based on these statistics are not fully accurate. This fact is reported in EBRD Transition Report (2004) which argues that "empirical research in transition economies is hampered by the poor quality of the data in many countries" (p. 13).

Second, reform indicators made available from the European Bank for Reconstruction and Development (EBRD) which take values from " 1" to " 4+" reflecting the shift from a closed economy to a market-oriented economy are highly subjective, thus less reliable .

Campos & Horvath (2012) have identified several drawbacks of the reform indices presented by EBRD. Primarily, these indices do not provide detailed information about the underlying variables and the ways they are incorporated into the-

se indices. Furthermore, they do not make any distinction between policy inputs and outcomes. In some cases, there have been some changes in the reform scores which have caused perverse empirical results. At last, reform scores are compared with an "imprecisely defined reference point" reflecting the ordinal nature of reform indicators (p. 229). That is why Campos & Horvath (2012) create their own reform indicators emphasizing the above mentioned problems. In addition, Falcetti et. al (2006) argues that there is a distinction between reforms implemented and the transition progress shown in the EBRD indices, since the former are not immediately incorporated into the indices.

6.2 Methodology

The aim of the thesis is to evaluate the impact of reforms on economic growth in 24 transition countries. A panel data analysis will be employed to investigate the reform-growth relationship[1]. For this purpose, the following regression specifications will be considered:

$$g_{it} = c + \mu_i + \alpha_1 t + \alpha_2 t^2 + \alpha_3 tIC + \alpha_4 R_{it} + \alpha_5 R_{it-1} + \alpha_6 S_{it} + \epsilon_{it} \qquad (1)$$

$$g_{it} = c + \mu_i + \alpha_1 t + \alpha_2 t^2 + \alpha_3 tIC + \alpha_4 R_{it} + \alpha_5 R_{it-1} + \alpha_6 I_{[\Delta R_{it}<0]} \Delta R_{it} + \alpha_7 S_{it} + \epsilon_{it} \qquad (2)$$

$$g_{it} = c + \mu_i + \alpha_1 t + \alpha_2 t^2 + \alpha_3 tIC + \alpha_4 R_{it} + \alpha_5 R_{it-1} + \alpha_6 I_{[\Delta R_{it}<0]} \Delta R_{it} R_{it-1} + \alpha_7 S_{it} + \epsilon_{it} \qquad (3)$$

where g_{it} is the real GDP growth. R_{it} is the overall reform indicator and is calculated as an equally-weighted average of eight transition indicators, covering different areas of reforms such as: large scale privatization, small scale privatization, enterprise restructuring, price liberalization, trade and forex system, competition policy, banking reforms and interest rate liberalization, securities markets and non-bank financial institutions.[2] $I_{[\Delta R_{it}<0]}$ is an indicator function which takes on the value 1 if

---

[1] We have tried to use two-stageleast squares, three-stage least squares and dynamic panel methodology but obtained perverse results (R-squared was negative).
[2] Data on these indicators are retrieved from the European Bank for Reconstruction and Developement (EBRD).

$\Delta R_{it} < 0$ and zero otherwise. $\Delta R_{it} = R_{it} - R_{it-1} < 0$ represents a reform reversal or a decrease in the overall reform indicator. IC is the initial conditions cluster, respectively, the first principal component used by De Melo et al. (2001).[3] The importance of the initial conditions in explaining economic growth is found to be reduced over time (Merlevede, 2003). For this reason, time multiplying the initial condition (tIC) enters the regression equation, instead of just the initial condition (IC) itself. S_{it} denotes the macroeconomic stabilization variable and different authors make use of either the inflation rate or the fiscal balance. Because the fiscal balance yields better econometric results (Merlevede, 2003) we will use it as a measure of macroeconomic stabilization. Since growth and reforms follow a similar time pattern, we have included a quadratic time trend in order to avoid spurious regression results.

The first equation measures the impact of reforms, both contemporaneous and lagged, on economic growth. The contemporaneous impact is expected to be negative ($\alpha_4 < 0$) due to adjustment costs (see e.g. Merlevede, 2003), while the lagged effect is expected to be positive ($\alpha_5 > 0$). In addition, the second and the third equations measure the effect of a reform reversal on growth. Specifically, the second regression measures the effect of a reversal on growth, conditional on the magnitude of the reversal (i.e. the greater the reversal the greater the impact on growth). Whereas in the third equation the effect of the reversal is conditioned on both the magnitude of the reversal and the level of the reform indicator the previous period (i.e. the impact of the reversal is bigger if the country has a higher level of reform indicator). Thus we expect an α_6 parameter greater than zero in both cases.

We will estimate both a fixed and a random effects model for each regression equation given above.[4] The former treats the countries specific effects μ_i's as fixed parameters to be estimated, while the latter treats μ_i's as random. To choose be-

---

[3] The first principal component is interpreted as the degree of macroeconomic distortions and unfamiliarity with the market processes at the beginning of transition.
[4] To get the model's parameters in the fixed effects model we will employ the least squares dummy variable estimator (or otherwise known as the within estimator).

tween the fixed and the random effects model we will employ the Hausman test. The Hausman test assumes that the explanatory variables are uncorrelated with the disturbances. It is applied in the framework of random effects models, because one of the assumptions of random effects model is that explanatory variables are uncorrelated with the disturbances. Possible correlation could lead to inconsistency of most of estimators. The general form of the test is as follows:

$\boldsymbol{H_0}$: $E(X^T u) = 0$

$\boldsymbol{H_1}$: $E(X^T u) \neq 0$

$$m_1 = \left(\hat{\delta}_w - \hat{\delta}_{FGLS}\right)^T \left[var\left(\hat{\delta}_w\right) - var\left(\hat{\delta}_{FGLS}\right)\right]^{-1} \left(\hat{\delta}_w - \hat{\delta}_{FGLS}\right) \sim \chi^2_{k_w}$$

where k_w is the number of regressors in the within regression.

4.3 Data and empirical results

Our dataset is composed of 528 observations which include 24 cross-sectional units (i.e. countries) and 22 time series observations for each cross-section. The time series dimension covers the 1989-2010 period. Transition countries are divided in three categories as below:

South Eastern Europe	Central Eastern Europe	Commonwealth of Independent countries
Albania	Estonia	Armenia
Bulgaria	Hungary	Azerbaijan
Croatia	Latvia	Belarus
FYR Macedonia	Lithuania	Georgia
Romania	Poland	Kazakhstan
	Slovak Republic	Kyrgyz Republic
	Slovenia	Mongolia
		Russian Federation
		Tajikistan
		Turkmenistan
		Ukraine
		Uzbekistan

Table 6.1 Transition countries

Transition indicators and fiscal balance are retrieved from the European Bank for Reconstruction and Development[5] (EBRD), real GDP growth rates are retrieved from the World Bank[6] (WB) and the initial conditions cluster is taken from De Melo et al. (2001). Table 4.1 below provides a summary statistics of the data used.

	g_{it}	R_{it}	S_{it}	$I_{[\Delta R_{it}<0]}\Delta R_{it}$	$I_{[\Delta R_{it}<0]}\Delta R_{it}R_{it-1}$
Mean	1.781	2.608	-3.544	-0.0039	-0.0094
Minimum	-44.9	1	-54.7	-0.459	-1.414
Maximum	34.5	4	25.5	0	0
Std. Dev.	8.858	0.877	5.833	0.027	0.073
Skewness	-1.274	-0.457	-1.899	-11.683	-14.925
Kurtosis	3.602	-0.92	15.051	170.91	268.95

Table 6.2 Summary statistics

Table 4.2 presents the regression results. Using Hausman test, in all the regressions, we strongly reject the null hypotheses that the GLS estimates are consistent with a p-value of zero. Thus, the fixed effects model is preferred to the random effects model. We observe a negative but statistically insignificant contemporaneous effect of reforms on growth. While the lagged effect is found to be positive and statistically significant at the 5% significance level. The magnitude of the coefficients does not differ much through the regressions. This is consistent with the empirical results found in the literature. The estimated parameter α_6 in the second regression which measures the impact of a revesal ($I_{[\Delta R_{it}<0]}\Delta R_{it}$) on growth is found to be positive (the value of 2.868 in the FE model). This implies that the reversal has a negative impact on growth and the larger the reversal, the bigger is its impact. Also, α_6 parameter which corresponds to the $I_{[\Delta R_{it}<0]}\Delta R_{it}R_{it-1}$ term in the third regression is found to be positive, meaning that the higher the overall reform indicator of a country is, growth is influenced more adversely when a reversal occurs. Nevertheless,

---

we cannot draw firm conclusions because α_6 parameter in both second and third regressions is statistically insignificant.

	1		2		3	
	Fixed effects	Random effects	Fixed effects	Random effects	Fixed effects	Random effects
const.	-18.762*** (-9.179)	-15.737*** (-9.168)	-18.728*** (-9.152)	-15.604*** (-8.998)	-18.662*** (-9.123)	-15.505*** (-8.969)
Time	2.328*** (5.745)	2.81*** (9.03)	2.323*** (5.721)	2.81*** (9.015)	2.312*** (5.695)	2.804*** (9.012)
$time^2$	-0.086*** (-6.718)	-0.098*** (-9.108)	-0.086*** (-6.709)	-0.098*** (-9.116)	-0.086*** (-6.699)	-0.098*** (-9.135)
time*IC	0.269*** (5.338)	0.079*** (2.668)	0.269*** (5.323)	0.081*** (2.712)	0.268*** (5.316)	0.081*** (2.712)
R	-1.815 (-0.801)	-3.667* (-1.72)	-1.992 (-0.841)	-4.17* (-1.845)	-2.288 (-0.971)	-4.487** (-2.003)
R_{-1}	5.441** (2.561)	4.922** (2.273)	5.638** (2.5)	5.427** (2.378)	5.965*** (2.662)	5.746** (2.531)
reverse*ΔR	- (-)	- (-)	2.868 (0.263)	7.613 (0.701)	- (-)	- (-)
reverse* ΔR*R_{-1}	- (-)	- (-)	- (-)	- (-)	2.908 (0.738)	4.727 (1.201)
Fiscal	0.448*** (7.557)	0.464*** (8.571)	0.448*** (7.537)	0.646*** (8.555)	0.446*** (7.523)	0.463*** (8.549)
Adjusted R^2	0.54	-	0.53	-	0.54	-
Hausman test	-	39.248 [6.4e-7]	-	39.132 [1.84e-6]	-	39.024 [1.93e-6]

Table 6.3 Regression results. *, ** and *** denote statistical significance at 10%, 5% and 1% significance level. Numbers in brackets are t-statistics. Numbers in brackets for Hausman test are p-values.

Chapter 7

Conclusions

The departure from the communist legacy of transition countries at the beginning of the 90's was considered an important moment in the modern history associated with abrupt changes in the political and economic systems and the creation of new-market economies. Central Eastern European countries, South Eastern European and Commonwealth of Independent States faced different economic parameters in the pre-transition period accentuated even more after the fall of the socialist regime. They had different starting positions in terms of their output growth, reforms, unemployment, institutional development, etc. The speed of reforms and the choice of a particular transition strategy was a major concern among economists and politicians and it was a major source of debate which continues still lately.

This thesis has investigated the reform-growth nexus in 24 economies of the Central Eastern Europe, South Eastern Europe and Commonwealth of Independent States. Using a panel data methodology, we explored the impact of transition progress measured by the transition indices as well as the role of reform reversals on output dynamics in the sample of countries. Also, we accounted in our empirical model for other explanatory variables such as initial conditions and fiscal balance as a stabilization measure.

First, we found out a negative contemporaneous relationship among reforms and growth followed by a positive lagged effect in the latter periods. This finding is consistent with the works of Merlevede (2003), Falcetti et. al (2002), Falcetti et. al (2006), Heybey and Murell (1999) , etc. Second, we conclude that the larger the magnitude of reform reversals, the larger is its impact on output growth, though

they are not found to be statistically significant in our model. Third, we report that the negative impact of a reversal on growth is bigger whenever a country has achieved a higher score in the reform index.

Bibliography

Aristei, D. & Perugini, C. (2011), Speed and Sequencing of Transition Reforms and Income Inequality: a Panel Data Analysis, Working Paper no. 302, Institut für Ost- und Südosteuropaforschung (Institute for East and South-East European Studies).

Alam, A. & Sunberg, M. (2002), A decade of fiscal transition, World Bank, Policy Research Working Paper Series no. 2835.

Babecký, J. & Campos, N. F. (2011), Does reform work? An econometric survey of the reform-growth puzzle, *Journal of Comparative Economics*, **39**(2), 140-158.

Barlow, D. & Radulescu, R. (2005), The sequencing of reform in transition economies, *Journal of Comparative Economics*, **33**(4), 835-850.

Berg, A., Borensztein, E., Sahay, R., & Zettelmeyer, J. (1999), The Evolution of Output in Transition Economies - Explaining the Differences, IMF Working Papers 99/73, International Monetary Fund.

Campos, N. F. & Coricelli, F. (2002), Growth in Transition: What we know, What we don't and what we should, *Journal of Economic Literature*, **40**(3), 793-836.

Campos, N. F. & Horváth, R. (2012), Reform redux: Measurement, determinants and growth implications, *European Journal of Political Economy*, **28**(2), 227-237.

Cerović, B. & Nojković, A. (2009), Transition and growth: what was taught and what happened, *Economic Annals*, **54**(183), 7-31.

Coricelli, F. & Maurel, M. (2011). Growth and Crisis in Transition: A Comparative Perspective, *Review of International Economics*, **19**(1), 49-64.

Christiansen, L., Schindler, M. & Tressel, T. (2009), Growth and Structural Reforms: A New Assessment, IMF Working Papers 09/284, International Monetary Fund.

De Melo, M., Denizer, C., Gelb, A. & Tenev, S. (2001), Circumstance and Choice: The Role of Initial Conditions and Policies in Transition Economies, *The World Bank Economic review*, **15**(1), 1-31.

EBRD Transition Reports, various issues

Eicher, T.S. & Schreiber, T. (2010), Structural policies and growth: Time series evidence from a natural experiment, *Journal of Development Economics* 91, 169-179.

Falcetti, E., Lysenko, T. & Sanfey, P. (2006), Reforms and growth in transition: Re-examining the evidence, *Journal of Comparative Economics*, **34**(3), 421-445.

Falcetti, E., Raiser, M. & Sanfey, P. (2002), Defying the Odds: Initial Conditions, Reforms, and Growth in the First Decade of Transition, *Journal of Comparative Economics*, **30**(2), 229-250.

Fidrmuc, J. (2003), Economic reform, democracy and growth during post-communist transition, *European Journal of Political Economy*, **19**(3), 583-604.

Fidrmuc, J. & Tichit, A. (2009), Mind the break! Accounting for changing patterns of growth during transition, *Economic Systems*, **33**(2), 138-154.

Fischer, S. & Gelb, A. (1991), The process of socialist economic transformation, *Journal of Economic Perspectives*, **5**(4), 91-105.

Fischer, S. & Sahay, R. (2000). The Transition Economies After Ten Years, NBER Working Paper no. 7664, National Bureau of Economic Research.

Fischer, S., Sahay, R. & Gramont, C. (1998), From Transition to Market - Evidence and Growth Prospects, IMF Working Papers 98/52, International Monetary Fund.

Godoy, S. & Stiglitz, J. (2006). Growth, Initial Conditions, Law and Speed of Privatization in Transition Countries: 11 Years Later, NBER Working Paper no. 11992, National Bureau of Economic Research.

Havrylyshyn, O. (2007), Fifteen Years of Transformation in the Post-Communist World: Rapid Reformers Outperformed Gradualists, Cato Development Policy Analysis Series Paper 4.

Havrylyshyn, O. (2008), Growth Recovery in CIS Countries: The Sufficient Minimum Threshold of Reforms, *Comparative Economic Studies*, **50**(1), 53-78.

Havrylyshyn, O., Izvorski, I. & Van Rooden, R. (1998). Recovery and Growth in Transition Economies 1990-97--A Stylized Regression Analysis, IMF Working Paper 98/141. International Monetary Fund.

Havrylyshyn, O. & Van Rooden, R. (2003), Institutions Matter in Transition, But So Do Policies, *Comparative Economic Studies*, **45**(1), 2-24.

Heybey, B. & Murrell, P. (1999), The Relationship between Economic Growth and the Speed of Liberalization During Transition, *Journal of Policy Reform*, **3**(2), 121-137.

Iradian, G. (2007). Rapid Growth in Transition Economies: Panel Regression Approach, IMF Working Paper 07/170, International Monetary Fund.

Janos, K. (1994), Transformational Recession: The Main Causes, *Journal of Comparative Economics*, **19**(1), 39-63.

Krueger, G. & Ciolko, M. (1998). A Note on Initial Conditions and Liberalization during Transition, *Journal of Comparative Economics*, **26**(4), 718-734.

Lieberman, I. W. & Kopf, D.J (2008), Privatization in Transition Economies: The Ongoing Story, Contemporary Studies in Economic and Financial Analysis, vol. 90.

Loukoianova, E. & Unigovskaya, A. (2004), Analysis of Recent Growth in Low-Income CIS Countries, IMF Working Papers 04/151, International Monetary Fund.

Merlevede, B. (2003), Reform reversals and output growth in transition economies, *The Economics of Transition*, **11**(4), 649-669.

Mickiewicz, T. (2005), Is The Link Between Reforms And Growth Spurious? A Comment, Working Paper no.775, William Davidson Institute.

Mitrović, D. R. & Ivančev, O. (2010), Driving forces of economic growth in the second decade of transition, *Economic Annals*, **55**(185), 7-32.

Pirttilä, J. (2001), Fiscal policy and structural reforms in transition economies, *Economics of Transition*, **9**(1), 29-52.

Popov, P. (2007), Shock Therapy versus Gradualism Reconsidered: Lessons from Transition Economies after 15 Years of Reforms, *Comparative Economic Studies*, **49**, 1–31.

Radulescu, R. & Barlow, D. (2002), Driving forces of economic growth in the second decade of transition, *Economics of Transition*, **10**(3), 719-745.

Roland, G. (2004), Transition and economics: Politics, markets, and firms, MIT press.

Svejnar, J. (2002), Transition Economies: Performance and Challenges, *Journal of Economic Perspectives*, **16**(1), 3-28.

Staehr, K. (2005). Reforms and Economic Growth in Transition Economies: Complementarity, Sequencing and Speed, *European Journal of Comparative Economics*, **2**(2), 177-202.

Wolf, H.C. (1999), Transition Strategies: Choices and Outcomes, Princeton Studies in International Economics 85, Princeton University.