

FISCAL POLICY ACTIONS ANCILLARY TO GROWTH: THE TRANSITION ECONOMIES

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The paper is looking for the reasons of the growth differences in transition economies. Empirical analyses justify that GDP growth is higher in countries where state reallocation is decreasing and where a tight fiscal policy has been kept. We can identify several budget restrictions that have expansionary effects, especially in the case of considerable cuts in budget deficits. These non-Keynesian results fit the earlier consequents of Alesina, Perotti and Giavazzi for OECD countries.

Keywords: fiscal policy, growth, transition, state participation

Introduction

The collapse of socialist economies in Eastern Europe and the former Soviet Union, as well as their subsequent transition towards market economies were arguably among the most far-reaching economic events of the 20th century. Pain accompanied the economic transition process; all countries experienced a major fall in output after the start of reforms. The growth performance in transition economies was widely different by countries. The fall finished in 1992 in Poland, but was still present until 2000 in Ukraine. In 2003 only six countries, Poland, Slovenia, Albania, Hungary, Slovakia and the Czech Republic, have outrun their 1989 level of GDP.

The paper is looking for the reasons of the growth differences. Even if the initial conditions did not give the same possibilities to governments, early reforms opened the way to market processes, which seems to be more efficient than state-owned institutions in transition economies. In this context, the lower the state participation, the highest is growth. Empirical analyses justify that GDP growth is higher in countries where state reallocation is decreasing and where a tight fiscal policy has been kept. We can identify several budget restrictions that have expansionary effects, especially in the case of considerable cuts in budget deficits (decisive cuts in budget expenditure).

res). These results fit the earlier conclusions of Alesina, Perotti and Giavazzi for OECD countries.

In the first part of the paper, I offer a literature review, in which I cite Giavazzi and Pagano (1990, 1995), Alesina and Perotti (1999) about the effects of fiscal adjustments, Purfield's (2003) empirical analysis on Eastern European fiscal adjustments, Pirttila's (2001) regressions of fiscal balance in transition and a tight substance of political economy of fiscal deficits along Brender and Drazen (2003). I try to contradict Fischer and Sahay's (2000) opinion that there is not any relation between fiscal deficit and GDP growth.

In the second part I analyze the availability of detailed fiscal data, namely the problems of creation of a consistent database for fiscal analysis, their possible sources, methodological and structural differences and shortcomings. Its final conclusion is that in 5 of 18 analyzed countries additional essential exploration work is necessary to ensure the international comparability of the dynamics of budget structure from 1990 to 2003.

The third part is the empirical evidence of 18 European transition countries: Albania, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Serbia and Montenegro, Slovakia, Slovenia, Ukraine. First, the fall and the growth of national performance is examined, followed by the main fiscal data (balance, expenditures and revenues) of the general government sector and the influence of fiscal policy on GDP and on its change.

Finally, I make a conclusion on identifiable effects of fiscal policy in transition economies.

Literature review

In the 1990s, numerous scientific papers analyzed the fiscal policy influence on growth per-

formance, mainly in advanced / OECD countries. Giavazzi and Pagano (1990) found (based on data from 11 countries and 10 years) a significant negative correlation between taxes and private consumption, which fits well to Keynesian macroeconomics. However, on the other side, the state sector's consumption is negatively correlated with aggregate demand, indicating that the crowding-out effect overshoots.

In 1995, the same authors found that the (either positive or negative) change of cyclically adjusted primary budget deficit brings forth a change in private consumption in the same direction as long as the change is less than 5%; over this value the relation is negative. The results are the same for aggregated private demand and for government consumption as well.

Alesina and Perotti (1995) analyze the structure of government activity. Their main findings can be summarized as follows:

- budget expansions are generally equivalent with increasing expenditures (especially transfers and government wages), while restrictions with tax rising (especially household tax); so any move of fiscal policy enlarges the state reallocation;
- successful restrictions (when government debt/GDP ratio decreased by at least 5 % within 3 years) are characterized by cuts in transfers and government wages and an increase of direct taxes of enterprises.

All this denotes that for success, politicians have to make the contrary of the usual; only quick and great actions can conduce to a result.

In the lack of data and courage, this type of paper for Eastern Europe / transition economies was missing for a long time. In 2003, Purfield made her study for a group of transition countries (includes all members of ex So-

viet Union, but excludes the Balkan) for the period 1992–2000. In her opinion, the continual decline of deficit is owing to a decrease of expenditures, because revenue sources rest darkling in those countries. Her definition of fiscal restriction is 2% point change of primary general government deficit in one year or at least 1.5% point change in two consecutive years. A successful restriction is the same, but for 4 years instead of one. Her main results:

- successful restrictions are more extended than unsuccessful ones (it is an obvious fault, the statement is true by definition);
- successful expansions result in a decrease (!) of expenditures, increase of external debt, the decay of current balance of payment and an increase of GDP growth.

We can pose a question if these factors are really the signs of a successful fiscal policy.

Budina and Wijnbergen (1997) conduct sustainability calculations for the fiscal stance in various transition countries. They illustrate that the average time needed for output recovery is shorter in economies whose budget deficits are characterized as sustainable. Quicker recovering countries tend to be faster reformers.

Pirttilä (2001) is looking for the factors determining the budget deficits in transition economies. He uses the overall, not the primary, deficit in the lack of acceptable data. His main results:

- internal liberalization has a strong positive influence on fiscal adjustment (by the decreasing subsidies);
- the coefficients of the lagged private sector entry and lagged change in unemployment have negative signs;
- the GDP growth rate and its lagged value are important factors (mostly its

change would be useful, as they have almost the same coefficients with the opposite sign);

- the regression fits in the early years of transition better than in the late transition (it can be explained by a less extensive scatter of data).

Brender and Drazen (2003) analyze political business cycles in advanced economies and in “new democracies”. In advanced economies, according to a wide-ranging literature, the existence of cycles related to elections is doubtful, but in new democracies during the first four elections they are present in the budget balance. Only in transition economies expenditure cycles were detectable.

In summary, two main conclusions about the literature can be set. First, it is not the state of an indicator that matters, but its change; accordingly, the dynamics of economy forms the budget and *vice versa*. Second, the changes (in a very general sense) have a decreasing effect in time, the economy moves to some equilibrium, but slowly. These results fit the idea of adaptive expectations.

Fiscal Data Illusion

The unification of macroeconomic statistic measures is an old goal of different authorities and a dream of researchers, but until now never reached. The 1993 SNA system of national accounts and its European adaptation ESA 95 have some measures of budget revenues and expenditures, and there is a relatively detailed system created by the International Monetary Fund (IMF), the so-called Government Finance Statistics (GFS) system. Its first version was created in 1986, the new one was published in 2001.

The GFS 1986 calculated the fiscal operations on cash basis, while in SNA 1993 flows

are recorded on an accrual basis, so the data of the systems were not comparable. By the new GFS, data are compiled on accrual basis, what makes SNA and GFS data comparable. It is a pity that the data of GFS become uncomparable because of the methodological changes, thereby longer time series will be analysable after numerous adjustments.

Even if there are certain standards, only part of the countries use them, and just a few transition economies. It is clear now that in the early transition period more important politico-economic tasks were actual than producing methodologically comparable government finance statistics, and for this period a set of data is no more reconstructable. In many cases the analyst has to rest on estimations based on available data. These estimations can be better or worse, but the real numbers remain incognizable, and I call this phenomenon "fiscal data illusion".

What type of data would be optimal for a detailed analysis of fiscal policy during the transition? To answer the question, first take a look at the functional decomposition of econo-

my by international standards. The GFS (according to SNA) divide the total economy of a country into five sectors: nonfinancial corporations sector, financial corporations sector, general government sector, nonprofit institutions serving households sector, and households sector. For analytical purposes each of these sectors may be divided into subsectors. The general government sector usually is divided into central, state and local government sectors, but in non-federal countries where regional governments do not exist or do not have weight, the state government level is skipable. The social security system appears on the competent level, this element is widely different in countries. As in Eastern Europe the structure of the general government is diversified, the central government data less represent the role of the state, so general government consolidated data would be better to use. The new GFS Manual proposes the compilation of data for the whole public sector (see Figure 1), which has an additional information function, but in my opinion is less expressive for fiscal policy analysis.

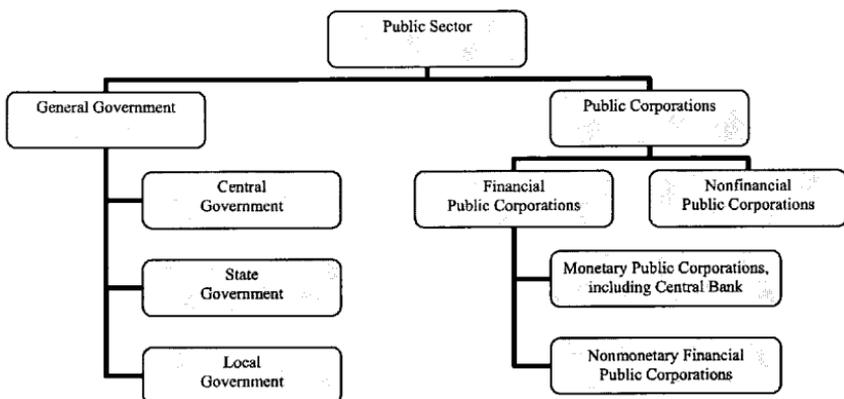


Figure 1. The public sector

A uniform database for general government fiscal operations does not exist. Even the IMF, publisher of GFS rules, has not got methodologically consistent data. The researcher must scout national sources (as Ministry of Finance, Statistical Office, National Bank), rarely prepared on the same principles, convert and estimate comparable data. In the case of the members of ex-Soviet Union during the secession period (1990–1992), in the ex-Federal Republic of Yugoslavia during the civil war, in Czechoslovakia before the disunion even the national authorities had no acceptable data. The further problematic point is the conflict of sources. In several cases for the same data (and theoretically computed by the same methodology) the IMF and the World Bank publish two numbers, with a sevenfold difference. Which one is faithful?

The necessary exploratory work may be the subject of a separate paper.

In this paper, I will use only general government consolidated revenues, expenditures, and balance. For simplicity, the term budget balance will be used for the general government consolidated balance. All fiscal data, just as the inflation rate, come from EBRD Transition Report series, a profound and organic database of transition economies. All other data are based on IMF World Economic Outlook Database published in April 2004.

Empirical Evidence

The growth performance in transition economies was widely different by countries. The fall finished in 1992 in Poland, but was still pre-

Table 1. Fall and growth during the transition

Country	The year in which fall finished	Average growth rate from the start of growth (%)	The year in which 1989 level was reached	The 2003 GDP in % of 1989 GDP
Albania	1993 ^b	6.5	2000	120.1
Belarus	1996	5.6	--	97.7
Bosnia-Herzegovina	1995	15.5	--	62.1
Bulgaria	1998	4.3	--	69.4
Croatia	1994	4.3	--	95.3
Czech Republic	1993	1.9	2001	105.8
Estonia	1995 ^b	5.0	--	98.3
Hungary	1994	3.5	2000	115.1
Latvia	1994	4.7	--	74.7
Lithuania	1995 ^b	4.8	--	90.3
Macedonia	1996	1.8	--	84.0
Moldova	2000	5.3	--	40.1
Poland	1992	4.1	1995	139.6
Romania	1993 ^c	2.0	--	92.9
Serbia and Montenegro	1999 ^a	4.6	--	51.9
Slovakia	1994	4.2	2000	113.8
Slovenia	1993	3.8	1998	120.6
Ukraine	2000	6.3	--	45.2

Source: IMF (2004) and the author's calculation.

a) The Yugoslavian GDP increased between 1995 and 1998, then in 1999 failed remarkably.

b) In one year during the growth period the GDP declined.

c) Between 1997 and 1999 the GDP declined.

sent until 2000 in Ukraine. In 2003 only 6 countries outran their 1989 level of GDP (Poland, Slovenia, Albania, Hungary, Slovakia and the Czech Republic). By cluster analysis we can ag-group the countries which show the nearest characteristics. Different cluster numbers gave different classifications, but Bosnia-Herzegovina, Moldova, Serbia and Montenegro, and Ukraine were always in the same – worst – category. If we make many (more than three) clusters, Poland forms a detached cluster by its distinguished turnout. The most expressive classification, which makes real groups (without one element sets), is the 3-cluster case.

As Figure 2 suggests, the leading group (except for Albania, where the development in real terms is low) is forming a geographically connected area. If we take a look at the map, it seems that two rings are formed: the countries nearer Western Europe have had a faster reviviscence than others. This statement is confirmed by Fischer-Sahay (2000), who finds that the distance of an Eastern European capital from Dusseldorf is significant in measuring the decadence during the beginning of transition.

Relative growth performance is only one indicator which hides the real level of development (as the case of Albania denotes). Table 2 demonstrates the most common data to measure the welfare level, the *per capita* gross domestic product based on purchasing-power-parity (PPP) valuation.

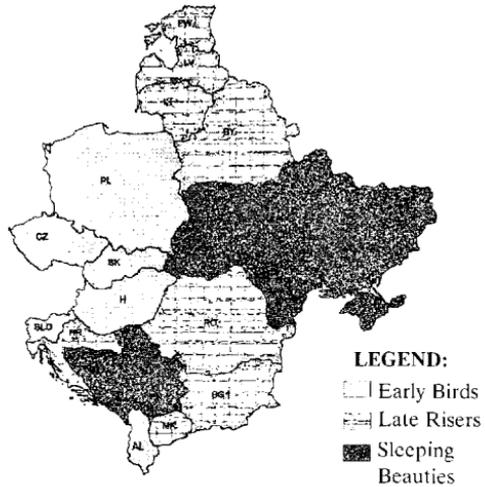


Figure 2. Country groups by the relative growth performance

Source: The author's construction.

Table 2. Per capita GDP on PPP in Eastern Europe

Country	1990	1995	2001
Albania	2649	2619	4146
Belarus	6780	4939	8453
Bosnia-Herzegovina	...	2943	5765
Bulgaria	5377	5086	5947
Croatia	6639	5851	8304
Czech Republic	11582	12325	15088
Estonia	7597	5958	9555
Hungary	8862	9010	13030
Latvia	7901	4734	7553
Lithuania	8136	5382	7982
Macedonia	6381	4102	4851
Moldova	4840	2130	2203
Poland	5436	6767	9760
Romania	6014	6235	6927
Serbia and Montenegro	4104	...	4103
Slovakia	8578	8130	11252
Slovenia	11378	12548	17762
Ukraine	7313	3600	4154

Source: IMF, 2004.



Figure 3. *Winners and losers of the transition in welfare terms*
 Source: The author's construction.

If we try to find some evidence of a relation between the initial conditions and the actual situation, a simple regression analysis will deliver us the anticipated results: there is a strong positive correlation between the 1990 and 2001 *per capita* GDP. If we separate the countries into two groups in pursuance of the modification of their borders, in the first group there are the countries which had the same borderlines in 1989 and in 2001, and in the second one the countries which were members of some confederation (USSR, Yugoslavia, Czechoslovakia), the regression coefficients will be significantly different. The first group shows a stable but not a fast growth; the second group is robustly divergent, there are real win-

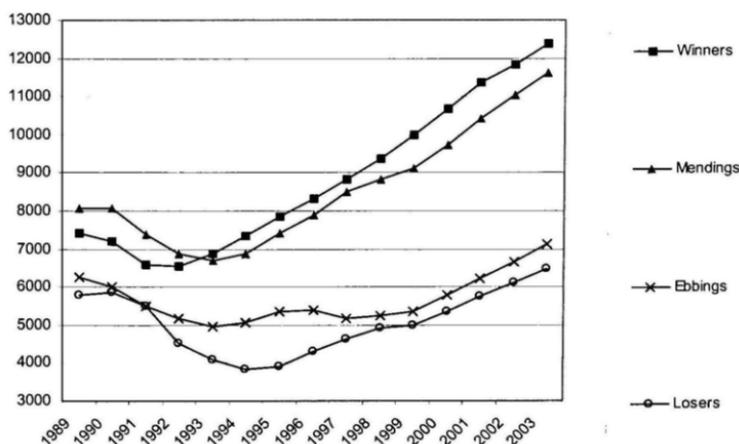


Figure 4. *Per capita GDP on PPP in Eastern Europe by country groups*

ners and losers of transition among these states. By the calculation, the losers are Latvia, Lithuania, Macedonia, Moldova, Ukraine and, because of the civil war, Serbia and Montenegro and Bosnia-Herzegovina. Otherwise, in ulterior regressions of this paper the separation dummy is not significant, it bears only on the standard deviation of growth.

In summary, we can avow that the growth performance in relative terms and in welfare terms is very dissimilar in transition countries. This alterity may have several reasons. Some papers find relevant the initial conditions, the geographical position, the law system, the unemployment or the inflation. In my opinion, the two latter variables are dependents of growth, manageable mainly in the simultaneous econometric model environment.

After getting a general view of growth performance and separating the main groups of the growth path, we can entertain the main cha-

racteristics of government fiscal activity. As I conclude in the previous section, the data are most consistent in EBRD's Transition Report series where general government fiscal balance, revenues and expenditures (in percentage of GDP) are published. The evolution of fiscal balance is demonstrated in Figure 5 by country groups defined in Figure 2. For Early Birds the average (unweighed average of countries) can be calculated from 1990, for the Late Risers time series it starts one year later and for Sleeping Beauties one more year later. It is widespread in the literature to use the term of transition year instead of real time, but it has an effect not on the shape of the curves but only on their positions. Otherwise there is no professional consensus on the starting year of transition in some countries; in a few regressions I will use it by the definition of Pirttilä (2001).

After the huge deficits of Sleeping Beauties and the worsening balance of the other

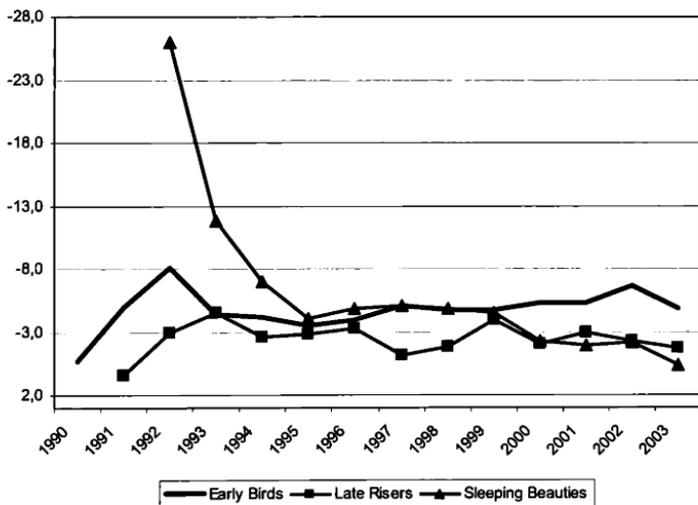


Figure 5. General government balance (per cent of GDP) by country groups of growth performance

two groups, in the second half of the nineties the itineraries were parallel, but in the 21st century Early Birds seem to be less efficient in balancing their budget.

From the first days of transition, Early Birds started to decline the state reallocation, by decreasing revenues the high relative expenditures (over 50% of GDP) fell to a 40% level. Finally, revenues have been stabilized at 35%, the expenditures increased over 40%. Late risers started their transition by a very low level of reallocation which augmented very fast, and in the middle of nineties the revenues dwelled slightly below 40%. The only exception is around 1999, when after the Russian crisis in the Baltic states and in Belarus the stabilization function of the government expenditures had to work. The Sleeping Beauties had very important problems with revenue collection in the early transition years what generated the huge deficits. From 1996, the revenues follow the expenditures.

Even if the path was different in the three groups, at the end of the reference period the level of expenditures was similar.

Generally, the revenue side has sharper characteristics, the graphs of group averages suggest that revenues play a more important role in growth performance than expenditures. It can be explained by the sharper cyclical nature of the revenue side: while a great part of expenditures does not depend on the performance of the national economy, it is not true for the revenues. This fact opens the possibility of fiscal illusion; systematic overestimation of growth rate can be the base of "surprising" fiscal deficits (Alesina-Perotti, 1999).

In Fischer and Sahay's (2000) opinion, there is not any relation between the budget balance and the growth performance, because the budget balance was continuously improving during the transition. They are right in the first part of their conclusion by the average, but not by the details, and they had a fault in the motivation. Neither the average nor the pooled data show any significant trend in the budget balance of transition economies. Country-by-country analysis warns a significant tendency in the half of the countries: in 5 cases (Croatia, Czech Republic, Poland, Romania, Slove-

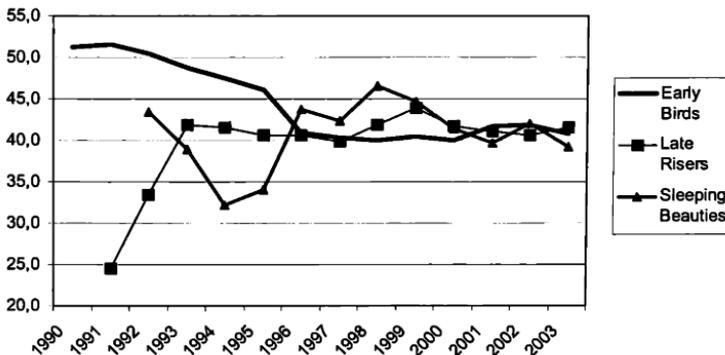


Figure 6. General government expenditures (per cent of GDP) by country groups of growth performance

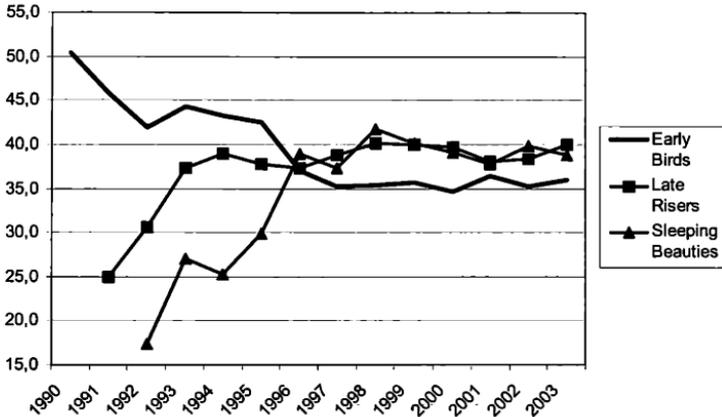


Figure 7. General government revenues (per cent of GDP) by country groups of growth performance

nia) a negative (failing) trend and in 4 cases (Albania, Bulgaria, Moldova and Ukraine) a significant positive trend is observable. From this point of view, there is no empirical evidence of Fischer and Sahay's statement.

As Figure 8 shows, there is no significant correlation between average balance and

growth, either without the evident outlier Albania or within the three groups. It is not amazing, as the dynamics of fiscal performance was different in some phases of transition, so only a detailed analysis can give us appropriate information. If we try to find a direct regression relation of budget balance as a predictor to

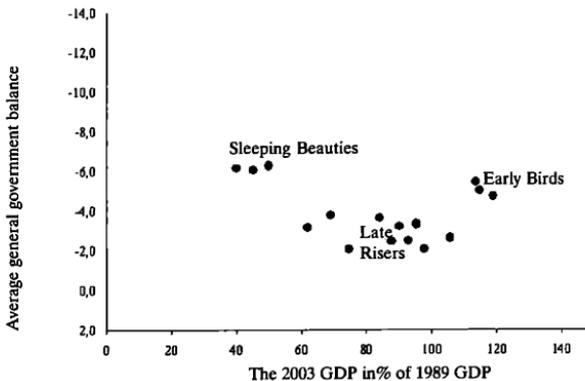


Figure 8. Average growth performance and fiscal balance

growth rate as a dependent variable, the regression $growth = 3.21 + 0.59 bal$ is significant at any level (one percentage point improving the budget balance generates a 0.59 percentage point increase in growth rate), but the explanatory power of this simple model is pretty poor ($R^2 = 0.075$).

It is clear that there must be a remarkable inertia in growth rate, thereby the presence of a lagged growth rate in the model is avoidless as a substantial determinant. Any model which includes the lagged growth rate is significant universally (F-test) through the correlation coefficient of growth rate and lagged growth rate ($growth_1$) of 0.642. The time (either a real year or a transition year) is significant in all models containing the lagged growth rate, but there is no evidence for a direct relation. The budget balance alone has really a weak explanatory power, but by some extensions it can be taken into the analysis.

The first interesting model includes the lagged budget balance as well:

$$\begin{aligned}
 & growth = -2.549 + 0.52 growth_1 + \\
 & 0.527 transyear + 0.658 bal - 0.514 bal_1 \quad (1) \\
 & (p\text{-values: } 0.019 \quad 0.000 \\
 & 0.000 \quad 0.000 \quad 0.000)
 \end{aligned}$$

In this model, the $R^2=0.519$ signals that we are not far from finding the important elements of the root of growth. As the parameter of the current and lagged budget balance has almost the same value with the opposite sign, this model suggests to use the difference of budget balances (what I will call adjustment – adj). The new specification is:

$$\begin{aligned}
 & growth = -3.24 + 0.54 growth_1 + \\
 & 0.54 transyear + 0.48 adj \quad (2) \\
 & (p\text{-values: } 0.002 \quad 0.000 \\
 & 0.000 \quad 0.001)
 \end{aligned}$$

Both models confirm the inertia in growth and the fact that in the late phase of transition

the chance of growth is more important. The first one suggests that a better current budget balance is accompanied by a highest growth, while the lowest current growth is attached to a better lagged fiscal performance. The latter idea can be explained by the fact that the last year budget expenditures have expansionary effects in this year, or as a trace of expectations: if the economy realized a high deficit (i.e. rise of state debt, progressive tax burden on future generations), savings become higher and decrease the aggregate demand. But it is not pair with rational expectations that the current budget balance has the opposite effect. The second version of the model provides a key to our dilemma: the fiscal adjustment has a significant positive effect on growth, a 1% point increase in the fiscal balance (generally decrease in deficit) augments the growth rate by almost half percent point. We found empirical evidence of expansionary effects of restrictive fiscal impulses. An additional result to be mentioned is that adjustments are significantly and negatively correlated with the lagged budget balance, ergo a very bad balance has a stronger stimulation on improving decisively the budget.

The budget balance is a very important measure of fiscal policy, but says nothing about the state reallocation level and about the budget structure. When the budget balance is decomposed, the expenditures ($expend$) and revenues ($reven$) step into the model. (Naturally, the enter of expenditures and revenues with balance to the model would cause an exact multicollinearity, thereby only two of them can pertain to it.) In significant models, the variable (expenditures and/or revenues) and its lagged pair are always included together, so we have to use the same transformation as in the case of balance regarding the change of them ($cx-$

pend, creven). These results fortify the idea that it is changes that matter but not the stocks.

Adjustments are stronger correlated with changes of expenditures than with changes in revenues, so fiscal adjustments are more frequently changes in expenditures than in revenues. Moreover, growth is significantly correlated with revenues, but not correlated with expenditures and stronger correlated with changes of revenues than of expenditures. It means that while adjustments are usually made of changes of expenditures, the real effect is on the other side, by the change of revenues. The wholesome policy is atypical, consonant with Alesina's results.

The most powerful model including expenditures and revenues can be described as follows:

$$\begin{aligned}
 \text{growth} = & 0.493 + 0.645 \text{ growth_I} + \\
 & 0.970 \text{ creven} - 0.427 \text{ cexpend} \quad (3) \\
 \text{(p-values: } & 0.246 \quad 0.000 \\
 & 0.000 \quad 0.001) \quad R^2=0.574
 \end{aligned}$$

This model specification suggests that in the lack of a fiscal impulse (no change either in revenues or in expenditures) a 1.39% growth rate may be stable (steady state), and changes in revenues have a more than a double effect than changes in expenditures.

If we would like to improve the goodness-of-fit of our model, it would be necessary to include other macroeconomic variables. In the case of transition economies, unemployment data are very unreliable, in some countries only registered unemployment was compiled, what is far from real unemployment (in countries where the social system is poor, in absence of benefits it is not worth registering). For general development (stage of transition), the EBRD transition index can be a measure, but it is really a series of indexes usually correlated to each other. As the increase of multicolline-

arity is not an aim, any weighed average would be necessary. This supertransition index can be the subject of another research paper. Certain researchers are looking for political business cycles; in our models the "election year" variable is not significant in any specification (in the year of election or one year earlier, in relation neither with growth nor with budget performance). Maybe in a country-by-country analysis this effect is traceable (Kotosz, 2004).

For the description of overall monetary processes, the inflation rate is the most generally used, consistently calculated and available datum. With the exception of Bosnia-Herzegovina, for all the transition period this type of data is disposable. The inflation rate, not only in theory but by the empirical facts, is a significant determinant of growth and fiscal performance, negatively correlated with both macroeconomic indicators.

If we add the inflation rate to model (3), the new parameters are:

$$\begin{aligned}
 \text{growth} = & 1.355 + 0.574 \text{ growth_I} + \\
 & 1.032 \text{ creven} - 0.539 \text{ cexpend} - 0.006 \text{ infl} \quad (4) \\
 \text{(p-values: } & 0.001 \quad 0.000 \\
 & 0.000 \quad 0.000 \quad 0.000) \\
 & R^2=0.644
 \end{aligned}$$

With the additional variable the structure of the parameters does not change, with the exception of the constant. The coefficient of inflation is relatively small, 167% point of change is necessary to induce a 1% point change in growth rate. In a fictive Eastern Europe, where there is no inflation and fiscal impulse, the steady state growth would be 3.18%, more than double than in the real inflationary situation. It can be a measure of inflation costs.

As a high inflation destabilizes the economy and there is a considerable inertia in growth, the lagged inflation rate may have a role, as model (5) describes.

$$\begin{aligned}
\text{growth} = & 1.720 + 0.525 \text{ growth_1} + \\
& 1.092 \text{ creven} - 0.568 \text{ cexpend} - 0.005 \text{ infl} - \\
& 0.003 \text{ infl_1} \quad (5) \\
\text{(p-values: } & 0.000 \quad 0.000 \\
& 0.000 \quad 0.000 \quad 0.000 \\
& 0.002) \quad R^2=0.662
\end{aligned}$$

This modification adds some power to the model, but does not give a more economic message (without measuring inflation costs, the steady state would be 3.62% of GDP growth).

During the analysis of the budget balance diagrams, we concluded that in the early transition all country groups had different characteristics than in the late years. It is worth to cut the sample into two subsamples and investigate the behaviour of significant models. I offer a 2-cut method: the first breaking point is the end of the fifth transition year and the second in 1997. For some late reformer countries it means the same date, for early movers the first breaking point is earlier.

In early transition the same regressions are significant, with a higher value of fit and a slightly less significant lagged inflation rate (significance level 1.9% and 4.2% by the two methods). In late transition, we find that the fit of regressions is much worse. If the breaking point is defined by real time, lagged inflation becomes insignificant and multicollinearity gets force because of the clear tendency of a stronger relation between expenditure and revenue changes. Even the $VIF > 3$, it seems to be better not to reject one of these variables, their macroeconomic role is important. The estimations rest unbiased and consistent. If the breaking point is by transition year, the models in which only significant variables are included are as follows:

$$\begin{aligned}
\text{growth} = & 2.409 + 0.495 \text{ growth_1} + \\
& 0.635 \text{ creven} \quad (6) \\
\text{(p-values: } & 0.000 \quad 0.000 \\
& 0.000) \quad R^2=0.430
\end{aligned}$$

$$\begin{aligned}
\text{growth} = & 2.456 + 0.409 \text{ growth_1} + \\
& 0.530 \text{ adj} - 0.009 \text{ infl} \quad (7) \\
\text{(p-values: } & 0.000 \quad 0.000 \\
& 0.000 \quad 0.013) \quad R^2=0.467
\end{aligned}$$

During the two phases of transition the *correlation structure* of variables is decisively different. While in the early period revenue changes and inflation were significant estimators of the budget balance (but it was not the adjustment), in the late period the level of revenues and adjustments was the determinant. While in the early stage mainly changes of fiscal policy and of price level were correlated with growth, in the late stage the budget balance and the level of revenues showed this kind of correlation.

Conclusion

The growth performance in the Eastern European transition process was widely different. The path was partly determined by initial conditions, but the final itinerary emerged along with the decisions of governments. Many factors have influenced the occurrences, one of them being fiscal policy. In theory, the government's financial activity should make the national economy prosper, but the literature is not unanimous on its right way.

In Table 3, I summarize the main regression results to explain the growth performance. We can find out that the growth process has a large inertia, the current growth rate is almost semi-determined by the previous growth rate, but by various channels the budget balance, or rather its changes have an effect. Some other political or macroeconomic elements (e.g., elections) are not significant in any model, thereby they rank among those not investigated at all; these variables are not included in the summary table.

Table 3: Regression results

Variable	Model Period 1 All	2 All	3 All	4 All	5 All	8 Late	9 Late	8 Early
Lagged growth rate	0.520 (8.96)	0.540 (9.13)	0.645 (13.9)	0.574 (13.1)	0.525 (11.55)	0.398 (8.97)	0.419 (9.53)	0.588 (6.16)
Transition year	0.527 (3.86)	0.540 (3.83)						
Budget balance	0.658 (4.98)					0.280 (2.43)		
Lagged budget balance	-0.514 (-3.90)							
Adjustment		0.48 (3.36)				0.401 (2.61)		
Revenue change			0.970 (7.83)	1.032 (9.06)	1.092 (9.67)		0.703 (4.45)	1.045 (6.09)
Expenditure change			-0.427 (-3.38)	-0.539 (-4.60)	-0.568 (-4.95)		-0.465 (-3.19)	-0.486 (-2.65)
Inflation rate				-0.006 (-6.17)	-0.005 (-4.81)	-0.008 (-2.53)	-0.008 (-2.39)	-0.004 (-2.70)
Lagged inflation rate					-0.003 (-3.17)			-0.003 (-2.08)
R ²	0.519	0.486	0.574	0.644	0.662	0.493	0.496	0.632

All estimations are made by OLS (backward method), early transition period is 1990–1996, late transition period is 1997–2003, t values are in parentheses.

The regressions show that the changes are more determinant than the budget balance and its two main components (expenditures and revenues) themselves. Typical and useful actions do not coincide, tight fiscal policy is more expansionary. The regressions for the early transition years fit better, during the last years the changes have less effect, the economy of transition countries seems to be still. The fact that increasing revenues and decreasing expenditures have a positive impact on the growth rate indicates the presence of non-Keynesian effects in Eastern Europe. By adapting to market economy, participants are learning the rules, but this process of learning is slow.

The results of this paper are partial, a lot

of extensions are possible. In further researches fiscal policy can be investigated by country groups (classical sorting: CEE, Baltic States, Southern Eastern Europe, or by growth performance: Early Birds, Late Risers, Sleeping Beauties) or by countries. This dissection permits to see the reasons for changes, but because of the short time series the numeric results will not be so robust as those of the pooled regression. Finally, the most important work of great volume would be a survey of a detailed budget. Earlier papers prove that in advanced economies the details matter, inasmuch as this paper confirms the general results of Alesina, Giavazzi, Pagano, and Perotti for transition economies.

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FISKALINĖS POLITIKOS VEIKSMAI KAIP ŪKIO PLĖTROS PAPILDINYS : PEREINAMOSIOS EKONOMIKOS ŠALYS

Balazs Kotosz

Santrauka

Straipsnyje nagrinėjamos pereinamosios ekonomikos šalyse egzistuojančių ūkio augimo skirtumų priežastys. Empirinė analizė patvirtina, kad BVP augimas yra didesnis šalyse, kur valstybė persikirsto mažesnę dalį bendrojo vidaus produkto ir kur yra ypač griežta

fiskalinė politika. Galima išskirti keletą biudžeto apribojimo atvejų, ypač tada, kai biudžeto deficitas yra staigiai sumažinamas. Tokie neokeinsistiniai rezultatai visai gerai atitinka ankstesnes Alesina, Perotti ir Giavazzi išvadas, taikomas EBPO šalims.

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