The Quality of Fiscal Adjustments in Transition Economies

Jakość dostosowań fiskalnych w krajach przechodzących transformację ustrojową

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received: 13 March 2007, final version received: 7 May 2007, accepted: 28 May 2007

Abstract

An analysis of fiscal adjustment patterns in Central and Eastern Europe and Central Asia is conducted here, including recent years. The main question addressed in the article is whether sustainable fiscal adjustment has been achieved primarily through downsizing potentially less productive public expenditure, or possibly at the expense of potentially growth-promoting expenditure. In addition, the article also addresses a related issue of whether fiscal policy has been managed in a sufficiently counter-cyclical way in the countries in question.

Keywords: sustainability of fiscal adjustment, transition economies, public finances and business cycle

JEL: B32, E62, E65

Streszczenie

Artykuł przedstawia analizę epizodów zacieśnienia polityki fiskalnej w krajach Europy Środkowo-Wschodniej i Azji Centralnej. Artykuł odpowiada na pytanie, czy trwałe dostosowania fiskalne były dokonywane głównie poprzez ograniczanie potencjalnie mniej produktywnych wydatków publicznych, czy też kosztem wydatków potencjalnie prorozwojowych. Analizowane jest również dodatkowe zagadnienie charakteru polityki fiskalnej w odniesieniu do cyklu koniunkturalnego.

Słowa kluczowe: trwałość dostosowań fiskalnych, kraje transformacji ustrojowej, finanse publiczne a cykl koniunkturalny

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1. Introduction

Changes in fiscal deficit might be social welfare increasing, if they stabilized output[1] and output fluctuations were not caused, as some economists claim[2], by the response of economic agents – seeking to maximize their utility – to technology shocks. In particular, there are strong arguments for allowing automatic stabilizers to operate. If a government frequently adjusted distortionary taxes to prevent fiscal balance from changing over a business cycle, this would tend to increase deadweight losses generated by taxation. These losses would be proportional to the square of the tax rate. Thus, to minimize distortions, the government should set tax rates at a level which, guaranteeing the government's solvency, would be as stable as possible (Barro 1979; Elmendorf, Mankiw 1998). However, supplementing automatic stabilizers with discretionary changes in fiscal deficit would generally be unnecessary given the growing monetary policy ability to smooth a business cycle. Moreover, attempts to stabilize output through discretionary changes in fiscal deficit are often risky since there is usually a substantial lag between the moment where such changes are deemed desirable by policy makers and the time where they can actually be implemented. It may easily happen that fiscal policy stimulates aggregate demand during booms, and cools it down over recessions. Besides, it is by far easier to increase deficit than to reduce it later. Consequently, in many countries it was increased to such a high level that stabilization policy came to mean deficit reduction rather than the smoothing of business fluctuations through fiscal policy.

Fiscal deficit allows governments to brag about the benefits of increased public expenditure, while neglecting to mention the costs of taxation necessary to finance the expenditure in the long term. Such a separation of benefits from cost assessment has to lead to substantial inefficiencies. One may consider fiscal deficit to be a rough measure of that public expenditure which would hardly ever occur, if it had to be immediately financed through increased taxation. In turn, fiscal consolidation[3] can be understood as a return to the situation where the costs of and benefits from public expenditure are more or less balanced in the opinion of most economic agents.[4]

In addressing fiscal imbalances, governments have to tackle two interrelated issues. Firstly, fiscal consolidation ought to last. Secondly, it should be implemented in a way which maximizes the positive influence on long-term economic growth.

Transitory fiscal deficit may stimulate an economy, when it operates below potential, and accelerate the restoration of full employment.[5] Deficit becomes really harmful for long-term economic growth only when it becomes persistent. To remove that adverse impact on growth, deficit has to be removed. Deficit reduction, when it is not lasting, has hardly any positive effect on long term economic growth.

There is extensive evidence from OECD countries that the composition of fiscal adjustments matters for their sustainability. Consolidations that have relied primarily on tax increases and cuts in public investment have not been sustainable, while those underpinned by cuts in social transfers and expenditure on wages and salaries have had more lasting effects because they have tackled the main types of expenditure that revealed a strong upward drift.[6] At the same time, sustained fiscal adjustments have enabled faster growth already over the short or medium term because measures perceived as lasting have led, e.g. to the strengthening of wage discipline in enterprises and – as a result – to the widening of their ability and propensity to invest. This ability and propensity have been additionally enhanced by sharp reductions in real interest rates. These results have also been verified for developing countries, with the difference that when fiscal consolidations have been supported by better mobilization of tax revenues (through tax base broadening), the probability of sustainability has increased.[7] Work conducted for transition economies has come to similar conclusions: policies relying on expenditure downsizing have been more successful in producing lasting adjustments than those relying on revenue increases.[8]

An analysis of fiscal adjustment patterns in Central and Eastern Europe and Central Asia (ECA countries) is here conducted, including recent years (up until 2004). The main question addressed in the article is whether durable fiscal adjustment has been achieved primarily through downsizing potentially less productive public expenditure, or possibly at the expense of potentially growth-promoting expenditure. In addition, we also address a related issue of whether fiscal policy is being managed in a sufficiently counter-cyclical way in ECA.

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[1] One may find various estimates of the benefits of successful stabilization policy in e.g. Lucas (2003). It seems that these benefits would not necessarily have to be significant, even if stabilization policy could be effective in smoothing a business cycle.

[2] See, e.g. Prescott (1986).

[3] Fiscal consolidation, fiscal adjustment, fiscal contraction, tightening fiscal policy, all those terms mean curbing imbalances in public finances consisting in excess of expenditure over revenue.

[4] This would not guarantee, however, that public expenditure is set at a level conducive to economic growth. For instance, the fastest possible economic growth might not be compatible with economic agents' utility maximization. Secondly, up to a certain point the ruling majority/more active economic agents could impose taxes on various minorities/more passive economic agents who do not benefit from public expenditure.

[5] This does not imply that smoothing business fluctuations through counter-cyclical fiscal policy is recommendable. At the current stage of development of economics, a consensus has been reached that fiscal policy should not play such a role (see, e.g. DeLong 2000).

[6] See, e.g. Alesina, Perotti (1996); McDermott, Wescott (1996); Alesina, Ardagna (1998); Alesina, et al. (1998; 1999).

[7] See e.g. Giavazzi et al. (2000); Gupta et al. (2002).

[8] See e.g. Purfield (2003).

Box 1. Potentially growth promoting expenditure

It is generally assumed that certain categories of public expenditure may have positive effects on economic growth, and so they can easily be labelled 'desirable'. To affect growth positively, public expenditure has to enhance factors' productivity or their supply strongly enough to outweigh the adverse effects of taxation. Note that a larger share of any public expenditure in output may result in larger wastefulness.[1] On the one hand, its proper supervision is more difficult and more costly; on the other hand the possibilities for its productive location are scarcer.

If public expenditure left the factors' productivity or their supply unaffected or increased them only slightly, such expenditure would be costly in terms of economic growth, since all expenditure has to be financed, and most current ways of financing lead to deleterious consequences.

Some public expenditure is harmful for economic growth even abstracting from the costs of the taxation necessary for its financing. On the one hand, it may reduce the inputs' productivity if it changes the structure of aggregate demand and stimulates rent-seeking activities. On the other hand, it may lower inputs' supply, e.g. by increasing benefits from being unemployed or non-employed.[2]

Under public expenditure potentially conducive to economic growth, one should mention in particular public goods, i.e. goods for which individual payment is impossible and which may be consumed by any number of persons at the same time. The goods most commonly considered public, which at the same time are considered to enhance economic growth, are: first of all, law and order, if it ensures the inviolability of individual property and enables quick and full enforcement of contracts (inclusive of claims from dishonest business partners); [3] second, national defense, if it does not consume more resources than is necessary to convince economic agents that any potential aggressors are effectively deterred from attacking the country;[4] and third, basic scientific research.[5] The government's role may be sometimes limited to financing supply of these goods, actually provided by private enterprises.[6]

Another category of public expenditure that may positively influence economic growth is spending on merit goods, i.e. goods the beneficiaries of which are not only their direct users. Goods commonly classified under this category are basic infrastructure, education and basic health care.[7] This is expenditure which this article focuses on.

The notions of public goods and externalities related to merit goods entail a certain trap. Firstly, the definition of these notions is quite broad and creates certain risk that the government may enter spheres where its involvement is unnecessary or may even be harmful.[8] Secondly, the existence of such goods, despite the fact that it shows a certain market failure, does not necessarily mean, that the government is able to neutralize this imperfection without causing other disturbances.[9] Note that public authorities manage their resources on average less effectively than households do.[10]

[1] See e. g. Hulten (1996); Pritchett (2000); Heitger (2001); Afonso et al. (2003; 2006); Baldacci et al. (2004).
[2] An adverse impact of high public expenditure/consumption on economic growth was confirmed in, e.g. Barro (1991); Barro, Lee (1993); Guseh (1997); Fölster, Henrekson (1998); Heitger (2001); Dar, Amirkhalkhali (2002).
[3] See e.g. Keefer, Knack (1997); Sala-i-Martin (1997). However, the resolution of disputes between contractual parties need not be the exclusive responsibility of government; see, e.g. Balcerowicz (2003).
[4] See e.g. Landau (1996); Baffes, Shah (1998); Aizeman, Glick (2003).
[5] For an overview of the effects of public policies (inclusive of expenditure on basic research), see, e.g. Jaumotte, Pain (2005).
[6] See e.g. Balcerowicz (1995).
[7] See e.g. Aschauer (1989a; 1989b; 1989c; 1998; 2000a; 2000b); Easterly, Rebelo (1993); Baffes, Shah (1998); Ramirez et al. (2000); Miller, Tsoukis (2001); Bleaney et al. (2001); Easterly et al. (2003); Gyimah-Brempong, Wilson (2004).
[8] A textbook example of public goods are services provided by lighthouses, for which however individual payments were made in 19th century United Kingdom; see, e.g. Balcerowicz (2003).
[9] See, e.g. Krueger (1990).
[10] Empirical confirmation for this thesis can be found inter alia in Fischer (1991).

As far as we are aware, hardly any analysis of the type we are undertaking has been conducted. The analysis examines in more detail the composition of adjustments than have done most other studies, e.g. it discusses the functional distribution of public expenditures, an issue which has often been neglected in previous studies. Our analysis is also much more detailed as far as an issue of adjustments' sustainability is concerned, e.g. it indicates changes in main fiscal categories over 2 years after adjustments, which turned out to be sustainable and unsustainable respectively (surprisingly, also this issue has usually been passed over in previous studies).

The remainder of the article consists of six sections (numbered from 2 to 7). Section 2 identifies periods of fiscal adjustments in ECA. Sections 3 and 4 discuss the

size and composition of these adjustments. Section 5 analyses their sustainability. Section 6 indicates business cycle phase during which fiscal imbalances were mostly accumulated and reduced. Section 7 concludes.

2. Episodes of fiscal adjustments in ECA

This article focuses on fiscal adjustments, i.e. on discretionary fiscal deficit reductions. However, in transition economies it is hard to distinguish discretionary changes in fiscal balance from those driven by automatic stabilizers. To avoid analysing reductions which were presumably caused by cyclical factors, only significant reductions are considered. Despite this precaution, in the case of transition economies the risk of discussing episodes of fiscal adjustment which did not in fact take place is rather high because of incessant changes in the definition of general government. To minimize this risk, we also use data collected by other institutions (IMF and European Commission) and check whether it leads to

Table 1. *Episodes of fiscal adjustments in ECA in 1996-2004*

Countries[1]	Years of adjustment	Size of fiscal policy tightening according to:			Robustness of adjustment
		basic data set[2]	WEO[2]	AMECO[3]	
Russia	1998-1999	9.1	6.3	..	(robust)
Kyrgyzstan	1996-1997	8.8	9.8	..	(robust)
Albania	1997-1998	8.0	5.9	..	(robust)
Moldova	1998-1999	7.2	9.1	..	(robust)
Lithuania	2000-2001	5.8	6.4	0.2[4]	(robust)
Turkey	2000-2001	5.7	-1.6	..	(unrobust)
Macedonia	1999-2000	5.6	4.1	..	(robust)
Azerbaijan	2000	5.5	4.2	..	(robust)
Macedonia	2002-2003	5.4	5.5	..	(robust)
Bosnia and Herzegovina	2002-2003	5.0	3.7	..	(robust)
Bosnia and Herzegovina	2000-2001	4.8	2.8	..	(almost robust)
Georgia	2004	4.7	5.3	..	(robust)
Estonia	2000-2001	4.6	4.5	2.9	(robust)
Albania	2002-2003	4.3	3.4	..	(robust)
Armenia	2001-2002	4.2	5.4	..	(robust)
Georgia	1999-2000	4.1	2.8	..	(almost robust)
Moldova	2000-2001	4.1	2.0	..	(unrobust)
Kyrgyzstan	2001-2002	3.9	3.6	..	(robust)
Lithuania	1996-1997	3.7	2.9	..	(almost robust)
Kazakhstan	1999-2000	3.7	7.4	..	(robust)
Slovak Republic	2001-2002	3.5	0.6	3.8	(robust)
Romania	1998-1999	3.5	3.1	..	(robust)
Armenia	1996-1997	3.5	2.9	..	(almost robust)
Serbia and Montenegro	2004	3.3	..	..	(impossible to assess)
Belarus	2003-2004	3.2	1.9	..	(almost robust)
Russia	2004	2.8	3.3	..	(robust)
Azerbaijan	2004	2.7	1.8	..	(almost robust)
Russia	2000	2.6	4.6	..	(robust)
Czech Republic	2004	2.5	1.9	3.4	(robust)
Romania	2001	2.3	-0.2	..	(unrobust)
Azerbaijan	1998	2.3	-2.3	..	(unrobust)
Croatia	2000	2.1	1.9	..	(almost robust)
Latvia	2000	1.8	1.6	2.6	(strong according to Ameco)
Kazakhstan	2001	1.7	3.3	..	(strong according to WEO)
Additional episodes revealed in the WEO data set					
Estonia	1997	..	3.8	1.5	
Hungary	2003-2004	..	3.0	3.1	
Ukraine	1998-1999	..	4.0	..	
Moldova	1997-1998	..	5.0	..	
Turkey	1998-1999	..	8.8	..	
Memo: Average size of	10 largest adjustments[5]	6.6	5.3		
	adjustments from 11 to 20	4.2	4.0		
	adjustments from 21 to 30	3.0	2.2		
	all adjujstments	4.3	3.6		

[1] The data set does not include Tajikistan, Turkmenistan and Uzbekistan.

[2] Fiscal impulse is defined as a change in primary balance.

[3] Fiscal impulse is defined as a change in cyclically adjusted primary balance.

[4] According to accrual data reported in AMECO data base, fiscal tightening in Lithuania took place one year earlier.

[5] All averages are computed according to the decreasing order of adjustments' size, the implied by basic data set.

Source: AMECO, WEO, World Bank (ECA fiscal database)

similar conclusions to these drawn from the World Bank fiscal database – our basic source of data.

Some arbitrary decisions are unavoidable when defining the thresholds of fiscal deficit reductions taken for analysis. One decides to take into further consideration only periods during which the general government primary balance[9] improved by at least 2% of GDP within one year or by 1.5% of GDP per year over a period of two years. Similar thresholds were assumed by Purfield (2003), and Rzońca, Ciżkowicz (2005). Cyclically adjusted data, available for EU-8 countries, is used to verify whether these thresholds are set at levels suitable for the isolation of exclusively discretionary fiscal reductions. In the verification procedure we have applied the thresholds assumed, e.g. by Alesina, Perotti (1996) – i.e. we check whether in isolated periods of substantial primary deficit improvement, primary structural balance[10] increased by at least 1.5% within one year or by 1.25% per year over a period of two years.

We have narrowed the time span of the analysis down to the years 1996-2004, as we are searching for lessons still potentially useful for the countries under discussion – the lessons of the early transition period seem to be of limited applicability to their current situation. Besides, detailed data for the early transition period is rare and is likely to include larger measurement error than data for subsequent years.

32 episodes fall within the aforementioned definition of fiscal adjustment. 5 adjustments took place in EU-8, 10 in SE, 5 in middle-income CIS, 11 in low-income CIS, and 1 in Turkey. Large initial imbalances in public finances partly explain why adjustments were relatively frequent in ECA.

The results obtained seem to be fairly robust. 20 out of the 32 episodes tally with those obtained using the IMF WEO or Eurostat data set respectively. 7 episodes are almost robust, i.e. improvement in primary balance achieved during these periods is lower than the thresholds assumed, according to the IMF WEO data, by merely 0.1-0.2% of GDP. The robustness of 1 episode cannot be assessed due to the absence of the corresponding value in the IMF WEO data set. 4 episodes are unrobust. One may add 2 other episodes to the list of fiscal adjustments in ECA. Improvements in primary balance achieved during these 2 periods are close to the thresholds assumed, according to basic data, and exceed these thresholds by far according to the IMF or Eurostat data respectively. Lastly, at the bottom of the table 1, 5 other episodes are listed, which are distinguished using the IMF WEO data set, but whose occurrence cannot be confirmed in the basic data set, since it lacks the corresponding values (these 5 episodes are not discussed in detail).

3. Size of fiscal adjustments in ECA

Fiscal policy tightening was quite sizeable during the episodes considered. In each year, the general government primary balance improved, on average, by 2.7% of GDP. The average scope of fiscal impulse ranged from 2.2% of GDP per year in EU-8 to 2.8% and 2.9% of GDP per year in low-income and middle-income CIS respectively. However, adjustments were not as large (nor as frequent) so as to entirely remove imbalances in public finances in ECA.

Although the number of episodes for which we have cyclically adjusted data is limited, the large size of primary balance improvements on the one hand, and the moderate sensitivity of public finances to cyclical fluctuations revealed in data for EU-8, on the other hand, suggest that the thresholds for primary balance have been set high enough to properly distinguish between discretionary and cyclical improvements. The contribution of a cyclical component to the improvement ranged from a nil contribution in the case of Slovakia in 2001–2002 to 1% of GDP in the case of Estonia in 2000-2001. Note that the increase in GDP momentum in Estonia at this time (by about 6.2 percentage points) was quite strong even by ECA standards. As general government in EU-8 is larger than in other ECA countries, on average automatic stabilizers in the latter economies are supposed to be weaker than in the former economies. Besides, adjustments in EU-8, as measured by a scope of primary balance improvement, were, on average, not as large as in other ECA regions. If overall size of adjustments is taken into consideration, the strongest adjustments[11] were implemented in Russia in 1998–1999, in Kyrgyzstan in 1996–1997, in Albania in 1997–1998 and in Moldova in 1998–1999. In all these cases, primary balance improved by more than 7% of GDP. If one focuses on the scope of primary balance improvement per year, then one has to add to the strongest adjustment episodes fiscal policy tightening in Azerbaijan in 2000 and in Georgia in 2004. Note that none of the strongest adjustments came from EU-8.

The size of adjustments was strongly correlated with the initial fiscal imbalances in public finances. The larger these were, the stronger the adjustment which had to be made. Adjustment size also exhibited a weak positive correlation with initial public debt and initial public expenditure to GDP ratio (but only if

[9] General government primary balance is a difference between general government revenue and general government expenditure excluding interest payments; thus, primary balance is equal to fiscal balance plus interest payments. We focus on primary balance, since fluctuations of interest payments cannot be considered discretionary (Alesina, Perotti 1996).

[10] Structural balance is a fiscal balance adjusted for effects of business cycle. It cannot be computed for all countries subject to our analysis because majority of these countries have completed no single business cycle since the beginning of their transition. Thus, it is impossible to get reliable measures of output gap and of elasticity of fiscal variables relative to output gap. Both these measures are required to compute structural balance.

[11] Fiscal adjustment is considered to belong to the strongest ones if it was larger by more than one standard deviation from the average adjustment.

Table 2. *Size of adjustments in ECA in 1996-2004 and its possible determinants*

Type of adjustment	Number of episodes	Overall size of adjustment	Initial primary balance	Average primary balance 2 years after adjustment	Initial public debt	Initial general government expenditure excluding interest payments	Initial general government revenue	Initial tax effort
The strongest adjustment	4	Above 6.1	-9.4	-1.4	56.3	38.3	28.8	1.11
Moderately strong adjustment	10	[4.3; 6.1)	-3.6	0.5	39.8	37.1	33.5	1.15
Moderately weak adjustment	15	[2.4; 4.3)	-3.0	-0.7	32.8	32.1	29.1	0.90
The weakest adjustment	5	Below 2.4	-2.3	-0.9	35.7	33.3	31.0	1.09
Memo: correlation coefficient with size of adjustment			-0.57	-0.02	0.20	0.12	-0.06	0.18

Source: World Bank (ECA fiscal database).

the overall size of adjustments – and not per year data – was considered). It was apparently uncorrelated with initial general government revenue to GDP ratio, but it exhibited some weak positive correlation with initial tax effort.[12] Lastly, it was uncorrelated with the public finance situation following fiscal adjustments. (In most cases, independently of the adjustment's size, the government still ran a deficit after fiscal policy was tightened). All this suggests that fiscal deficit was usually downsized in ECA after imbalances rose to such a level that the government could not continue in its loose fiscal policy, and that these imbalances were rarely reduced beyond the minimum where that government could easily begin borrowing again.

4. Composition of fiscal adjustments in ECA

In 11 out of the 34 cases under consideration, the improvement of fiscal stance resulted solely from a fall in the public expenditure to GDP ratio. The fall ranged from 3.7 percentage points in Croatia in 2000 to 15.3 percentage points in Bosnia and Herzegovina in 2000–2001, and averaged 8.3 percentage points. Apart from Bosnia and Herzegovina, the deepest fall[13] took place in Moldova in 1998–1999, in Russia in 1998-1999, in Kyrgyzstan in 1996–1997, and in Lithuania in 2000-2001. In Bosnia and Herzegovina, Moldova and Lithuania, public expenditure was at that time curbed even in nominal terms – by 5.9%, 8.5% and 14.8% respectively. In all the five cases, it was cut in real terms: by about 15% in Bosnia, Lithuania, and Kyrgyzstan, and by 30–40% in Moldova and Russia who were tackling the consequences of the financial crisis. Note that 3 out of the 5 episodes of the largest cuts in public expenditure fell on periods of the strongest adjustments. This shows that the size of an adjustment is not independent of its composition, as in practice it is hard to reduce the largest fiscal imbalances by increasing taxes.[14]

With the 11 episodes mentioned, the large fall in public expenditure was often accompanied by a substantial decrease in general government revenue. In Armenia in 1996–1997, in Georgia in 1999–2000, in Estonia and Moldova in 2000–2001, this decrease did not exceed 1% of GDP, but in all countries it averaged 3.2% of GDP, and in Bosnia and Herzegovina, it reached 10.5% of GDP. In these cases, the reduction of imbalances in public finances meant an immediate lowering of tax burden.

In 8 cases out of the other 24, the improvement of fiscal stance was mainly due to a curtailment of public expenditure. During these episodes, general government spending was reduced, on average, by 2.4% of GDP, and revenue was increased by 1.1% of GDP. The fall in public expenditure to GDP ratio was the weakest in Azerbaijan in 1998 (1.9 percentage points), and the strongest in Russia in 2004 (2.8 percentage points). In Russia, general government revenue remained almost unchanged relative to GDP. In most other countries it increased by less than 1% of GDP. Much larger increases appeared only in Albania in 2002-2003 (2.1% of GDP) and in Azerbaijan in 2000 (2.7% of GDP).

In the six cases, fiscal imbalances were reduced mostly through a rise in taxes. In all these cases, general government revenue increased by more than 10% in real terms, and in most of them – by above 15%. In the three cases, i.e. in Bosnia and Herzegovina in 2002–2003, and Macedonia in 1999-2000 and 2002-2003, tax increases were very large also when taken relative to GDP, being close to 4% of GDP. At the same time, only during one episode, i.e. in Macedonia in 2002–2003, was public expenditure curbed in real terms. In one other case, that of Romania in 2001, its increase was moderate. In

[12] Tax effort index is a ratio of the actual tax revenue to the predicted tax revenue. The predicted tax revenue is calculated through regression linking tax revenue with various proxies for tax base and factors that may influence a country's ability to tax. Explanatory variables of predicted tax revenue may include: GDP per capita, ratio of imports and exports to GDP, share of mining and agricultural sectors in GDP, population growth, public/external debt to GDP, inflation. See, e.g. Piancastelli (2001) for more details on tax effort. We are grateful to E. Skrok for providing us with the data on tax effort in ECA countries.

[13] A fall in public expenditure to GDP ratio is considered to be very deep if it is larger by more than one standard deviation from the average change of that ratio during adjustments considered.

[14] However, the case of Albania in 1997-1998 indicates that strong adjustment may be revenue driven.

Table 3. *General composition of fiscal adjustments in ECA countries in 1996-2004*

Countries	Years of adjustment	Size of adjustment	Basic data set				IMF WEO			
			Change in		Contribution of		Change in		Contribution of	
			primary expenditure	revenue	primary expenditure to fiscal impulse	revenue to fiscal impulse	primary expenditure	revenue	primary expenditure to fiscal impulse	Revenue to fiscal impulse
			(in % of GDP)		(in %)		(in % of GDP)		(in %)	
Russia	1998-1999	9.1	-14.6	-5.5	159.9	-59.9	-12.0	-5.7	190.3	-90.3
Kyrgyzstan	1996-1997	8.8	-10.3	-1.5	116.8	-16.8	-12.0	-2.2	122.8	-22.8
Albania	1997-1998	8.0	0.5	8.5	-6.2	106.2	1.7	7.6	-29.1	129.1
Moldova	1998-1999	7.3	-15.3	-8.0	210.5	-110.5	-17.2	-8.1	188.4	-88.4
Lithuania	2000-2001	5.7	-9.1	-3.4	158.1	-58.1	-8.9	-2.5	138.3	-38.3
Macedonia	1999-2000	5.7	-1.4	4.3	24.2	75.8	-0.8	3.3	18.5	81.5
Turkey	2000-2001	5.7	0.7	6.4	-12.2	112.2	7.5	5.9	473.9	-373.9
Macedonia	2002-2003	5.4	-1.6	3.8	29.8	70.2	-5.6	-0.1	101.1	-1.1
Azerbaijan	2000	5.4	-2.7	2.7	49.8	50.2	-1.4	2.7	33.8	66.2
Bosnia and Herzegovina	2002-2003	5.0	-1.1	3.9	21.4	78.6	-4.3	-0.6	116.8	-16.8
Bosnia and Herzegovina	2000-2001	4.8	-15.3	-10.5	320.0	-220.0	-8.5	-5.8	310.0	-210.0
Estonia	2000-2001	4.7	-5.6	-0.9	119.7	-19.7	-5.5	-1.0	122.0	-22.0
Georgia	2004	4.6	1.3	5.9	-27.3	127.3	-1.5	3.9	27.3	72.7
Albania	2002-2003	4.3	-2.2	2.1	51.2	48.8	-2.6	0.8	76.6	23.4
Armenia	2001-2002	4.2	-2.5	1.7	59.1	40.9	-3.8	1.6	70.7	29.3
Moldova	2000-2001	4.1	-4.8	-0.7	116.0	-16.0	-3.3	-1.3	165.9	-65.9
Georgia	1999-2000	4.1	-4.3	-0.2	103.7	-3.7	-3.2	-0.4	114.7	-14.7
Kyrgyzstan	2001-2002	4.0	0.3	4.3	-8.1	108.1	0.7	4.3	-19.1	119.1
Lithuania	1996-1997	3.7	-2.1	1.6	57.6	42.4	-1.6	1.3	55.3	44.7
Kazakhstan	1999-2000	3.6	0.2	3.8	-4.2	104.2	-3.9	3.5	52.6	47.4
Slovakia	2001-2002	3.5	-0.7	2.8	19.3	80.7	-1.0	-0.4	172.3	-72.3
Armenia	1996-1997	3.5	-4.4	-0.9	126.5	-26.5	-3.0	-0.1	103.5	-3.5
Romania	1998-1999	3.4	0.2	3.6	-4.4	104.4	0.2	3.2	-4.9	104.9
Serbia and Montenegro	2004	3.3	-0.9	2.4	28.3	71.7	..	..	..	..
Belarus	2003-2004	3.2	0.1	3.3	-3.2	103.2	-0.8	1.1	41.1	58.9
Russia	2004	2.8	-2.8	0.0	99.4	0.6	-2.0	1.3	60.2	39.8
Azerbaijan	2004	2.7	-2.5	0.2	93.4	6.6	-1.8	0.1	96.0	4.0
Russia	2000	2.6	0.5	3.1	-20.8	120.8	-1.3	3.3	27.9	72.1
Czech Republic	2004	2.5	-2.1	0.4	82.7	17.3	-2.2	-0.4	119.3	-19.3
Romania	2001	2.3	-0.9	1.4	39.0	61.0	-0.9	-1.1	-378.0	478.0
Azerbaijan	1998	2.3	-1.9	0.4	80.9	19.1	2.8	0.5	120.6	-20.6
Croatia	2000	2.1	-3.7	-1.6	175.8	-75.8	-4.1	-2.2	215.6	-115.6
Latvia	2000	1.8	-4.4	-2.6	241.2	-141.2	-4.9	-3.3	299.3	-199.3
Kazakhstan	2001	1.6	1.4	3.0	-81.9	181.9	0.7	3.9	-21.2	121.2
Additional episodes revealed in the WEO data set										
Hungary	2003-2004	..	..	..	..	..	-2.6	0.4	87.3	12.7
Estonia	1997	..	..	..	..	..	-2.4	1.4	63.1	36.9
Ukraine	1998-1999	..	..	..	..	..	-8.2	-4.2	205.7	-105.7
Moldova	1997-1998	..	..	..	..	..	-3.3	1.7	65.4	34.6
Turkey	1998-1999	..	..	..	..	..	-6.9	1.9	78.7	21.3
Memo: 10 largest adjustments		6.6	-5.5	1.1	75.2	24.8	-5.3	0.0	135.5	-35.5
adjustments from 11 to 20		4.2	-3.5	0.7	78.8	21.2	-3.3	0.7	97.6	2.4
adjustments from 21 to 30		3.0	-1.4	1.6	46.0	54.0	-1.4	0.8	26.4	73.6
all adjustments		4.3	-3.3	1.0	71.1	28.9	-3.2	0.4	96.4	3.6

Source: WEO, World Bank (ECA fiscal database)

the remaining four cases, the real momentum of public spending amounted to about 5% or even exceeded this level. Its ratio to GDP fell only due to strong economic growth.

In the last nine cases a rise in taxes was the exclusive source of fiscal tightening. General government revenue momentum, which was high during the seven episodes previously discussed, in these cases reached extremely high values (except for Romania in 1998–1999). In the two extreme cases, that of Georgia in 2004 and Albania in 1997–1998, it amounted to about 50%. However, it is worth remarking that in all cases public expenditure was increased much less. Its ratio to GDP increased, on average, by 0.6 percentage points, whereas the corresponding revenue ratio rose by 4.7 percentage points. Public expenditure increased most

Table 4. *Basic features of fiscal adjustments in ECA in 1996-2004 ordered according to their general composition*

Size of adjustment	Adjustment based on:	Number of adjustments	Change in expenditure	Change in revenue	Fiscal impulse	Initial primary balance[1)]	Average prim. balance 2 years after adjustment	Public debt before adjustment	Expenditure before adjustment	Revenue before adjustment	Initial tax effort
Strongest adjustment	expenditure cuts only	3	-13.4	-5.0	8.4	-9.8 (-9.8)	-1.0	56.3	42.6	32.9	1.28
	expenditure cuts mostly	0	..	..	..	..	..	..	..	..	..
	tax increases mostly	0	..	..	..	..	..	..	..	..	..
	tax increases only	1	0.5	8.5	8.0	-8.5 (-8.5)	-2.6	..	25.1	16.6	0.63
Moderately strong adjustment	expenditure cuts only	3	-10.0	-4.9	5.1	-5.7 (-5.7)	0.9	14.2	48.6	42.9	1.33
	expenditure cuts mostly	2	-2.5	2.4	4.9	-5.0 (-5.0)	-0.8	36.1	25.6	20.5	0.90
	tax increases mostly	3	-1.3	4.0	5.3	-2.8 (-2.8)	-0.7	48.8	41.1	38.3	1.32
	tax increases only	2	1.0	6.2	5.2	-0.3 (0.4)	5.7	59.8	25.2	24.9	0.90
Moderately weak adjustment	expenditure cuts only	3	-4.5	-0.6	3.9	-2.9 (-2.9)	-0.4	27.9	24.6	21.7	0.77
	expenditure cuts mostly	5	-2.4	0.8	3.2	-3.6 (-3.2)	-2.6	24.6	35.0	31.4	0.90
	tax increases mostly	2	-0.8	2.6	3.4	-3.4 (-4.7)	-1.5	50.6	41.1	37.7	0.92
	tax increases only	5	0.3	3.6	3.4	-2.3 (-2.2)	0.2	37.0	30.0	27.8	0.97
Weakest adjustment	expenditure cuts only	2	-4.1	-2.1	2.0	-5.2 (-5.2)	-2.6	63.2	47.9	42.7	1.31
	expenditure cuts mostly	1	-1.9	0.4	2.3	-2.0 (-2.0)	-2.6	2.8	21.1	19.1	0.96
	tax increases mostly	1	-0.9	1.4	2.3	-2.1 (-2.1)	-0.2	23.9	30.4	28.3	1.10
	tax increases only	1	1.4	3.0	1.7	2.7 (2.7)	3.7	25.5	19.1	21.9	1.10
Total	expenditure cuts only	11	-8.3	-3.2	5.1	-5.9 (-5.9)	-0.6	38.1	40.3	34.4	1.16
	expenditure cuts mostly	8	-2.4	1.1	3.5	-3.7 (-4.3)	-1.9	24.8	30.9	27.2	0.91
	tax increases mostly	6	-1.1	3.1	4.2	-2.9 (-3.0)	-0.8	43.0	39.3	36.5	1.20
	tax increases only	9	0.6	4.7	4.1	-2.0 (-2.0)	1.1	41.9	27.2	25.2	0.90

[1)] Numbers in brackets refers to averages considering only these adjustments for which data on average primary balance two years after is available.

Source: World Bank (ECA fiscal database).

in Kazakhstan in 2001 (by 1.4 percentage points), and revenue increased most in Albania in 1997–1998 (by 8.5 percentage points). Thus, growing revenues were mostly used to reduce fiscal imbalances or were accumulated – and to a more limited extent – spent. On the other hand, in most cases public expenditure increased relative to GDP, despite strong economic growth. This situation could easily lead to large fiscal imbalances, if the economy slowed down.

All in all, expenditure curtailments were responsible for more than 70% of primary balance improvements during the episodes considered, and tax increases – for less than 30%. Adjustments driven by expenditure cuts were most frequent in EU-8, and in low-income CIS. In the former region, 5 out of the 6 adjustments were made mostly or exclusively through expenditure curtailment, and in the latter region – 9 out of the 12. Note that in EU-8 and low-income CIS, general government revenue to GDP ratio was the highest and the lowest in ECA respectively. In the case of EU-8, this suggests that taxes are popularly considered to be excessively high (at least if one assumes that governments introducing adjustments were guided by economic agents' preferences). In the latter region, the relatively high frequency of adjustments based on expenditure cuts may also confirm the presence of problems associated with the broadening of the tax base. In turn, in SE and middle-income CIS, adjustments driven by revenue increases prevailed. In the former region, 7 out of the 10 episodes had such a character, and in the latter – 3 out of the 5 episodes. In the case of SE, adjustments based on revenue increases were undertaken mostly in countries like Albania, with low revenue relative to GDP, or in countries like Macedonia and Romania, where this ratio is moderate. By contrast, in countries like Bosnia and Herzegovina or Croatia, where the tax burden is high in relation to GDP, fiscal imbalances were reduced through expenditure cuts.[15] In middle-income CIS, the timing of revenue based

[15] Attempts to relate the composition of fiscal adjustments in SE with initial tax burden encounters a certain limitation. In Albania in 2002-2003, primary deficit was reduced mostly through expenditure cuts, whereas in Bosnia and Herzegovina in the same period a rise in taxes was introduced. However, in the case of Albania, cyclical fluctuations may have played a role in determining the composition of the adjustment. In turn, in the case of Bosnia and Herzegovina, the assessment of the adjustment's composition changes if one applies the IMF WEO data.

adjustments clearly shows that increases in natural resource prices largely determined the composition of those adjustments.

Table 4 below summarizes the basic features of fiscal adjustments ordered according to their composition. Expenditure cuts were correlated with initial primary deficit and, as a result, with fiscal adjustment size. By contrast, taxes were often raised when initial imbalances were moderate. Strong fiscal adjustments were frequently accompanied by tax revenue decreases. Surprisingly, reductions in spending depended on initial public debt at most *oppositely* to the way one would have expected, i.e. the largest reductions were undertaken in countries with relatively low rather than large public debt. Highly indebted countries often tried to balance public finances with tax increases. Public expenditure was frequently cut only at the point where there was no further room for a rise in taxes. Strong adjustments driven by expenditure curtailments were undertaken mostly in countries with large tax effort. In the countries where the initial tax burden was relatively low, tax increases prevailed as a way to rebalance public finances. The countries in which adjustments were based exclusively on a rise in taxes were distinguished by limited tax effort. Attempts to base fiscal adjustments mostly on tax increases were also undertaken in the countries which already had a relatively high tax burden. In those countries where tax increases represented a major (but not exclusive) measure to reduce fiscal imbalances, tax effort before fiscal tightening was among the largest in the sample considered. However, these attempts usually failed. In these cases, two years after the adjustment the situation returned to similar imbalances in public finances to those exhibited prior to tax increases. In general, fiscal adjustments ended before a balance in public finances had been restored. Adjustments based exclusively on tax increases were the only ones which were followed by primary surpluses. This confirms that, on the one hand, governments rarely made an adjustment in public finances voluntarily (more frequently they were forced by financial markets), but, on the other hand, they did manage to refrain from spending all the windfalls from the rising prices of natural resources.

Not all detailed measures included in the programs of fiscal policy tightening were as conducive to economic growth as the adjustments' overall composition.

Looking at the positive aspects, in 20 out of the 34 cases,[16] the fiscal adjustment program contained measures aimed at lowering the momentum of public expenditure on wages and salaries below the GDP growth rate. In the case of adjustments driven by expenditure cuts, this category of spending was curtailed not only relative to GDP but in real terms as well. It is also worth remarking that the fall in expenditure on wages relative to GDP was particularly frequent in the case of adjustments based exclusively on tax increases. By contrast, this relation's fall was least frequent, when the rise in taxes was the most important but not the exclusive measure of reducing imbalances in public finances. Competitive salaries are by far less important for bureaucratic performance than, e.g., recruitment schemes based on fair and stable rules.[17] However, in many ECA countries such schemes have apparently not been implemented in practice. Moreover, in some of these countries salaries are often supplemented with unofficial incomes. When this is so, any increase in official income accruing to public servants would be likely to further enhance competition for rents related to government jobs.[18] Note that the public sector share in total employment in ECA is still distinctly larger than in most other countries. Thus, any change in the opportunity cost of working in the private sector instead of working in the state sector could have a much stronger impact on wage pressure in ECA than elsewhere.

Curtailment of subsidies to enterprises was almost as much a part of fiscal adjustment programs in ECA as of the cuts in expenditure on wages and salaries. The ratio of these subsidies to GDP was reduced in 18 cases,[19] but the reductions made led, on average, to larger savings than cuts in spending on wages and salaries. Subsidies were curtailed most often when a government based an adjustment mostly on expenditure cuts. Where a government reduced fiscal imbalances exclusively by a rise in taxes, subsidy increases prevailed over subsidy cuts. This indicates that windfalls from rising prices of natural resources were not only partly spent; they were spent on purposes potentially detrimental to economic growth. Subsidies, among other things, soften businesses' budgetary constraints, distort the regulatory mechanisms of prices and induce rent seeking activities.

Curtailment of subsidies was reflected in a fall of expenditure on economic affairs to GDP ratio in a functional breakdown of public spending. The fall occurred in the 15 cases.[20] The largest savings was reached due to cuts in expenditure on agriculture. Expenditure on fuel and energy was most frequently curbed, albeit differences between various types of spending on economic affairs in frequency of their reductions were not large. Total contribution of cuts in expenditure on economic affairs to primary balance improvement amounted on average to 0.6% of GDP and was the largest among all major categories of spending in the functional breakdown. Note that the average contribution was lowered by an increase in this expenditure in a vast majority of adjustments, based exclusively on rises in taxes.

[16] Or out of the 31 cases for which respective data is not missing

[17] See, e.g. Rauch, Evans (2000).

[18] See, e.g. Krueger (1974).

[19] Out of the 29 cases for which data on subsidies is available.

[20] Out of the 26 cases for which data on expenditure on economic affaires is available.

Table 5. *Changes in selected categories of public expenditure during fiscal adjustments in ECA in 1996-2004*

(a) Economic breakdown of expenditure

	Adjustment based on:	Economic breakdown					
		Capital expenditure	Current primary expenditure	Expenditure on goods & services	Wages and salaries	Subsidies	Transfers
Change in % of GDP	expenditure cuts only	-2.2	-5.8	-3.6	-0.9	-0.9	-0.5
	expenditure cuts mostly	-0.9	-1.0	-0.3	0.0	-0.5	-0.1
	tax increases mostly	0.1	-1.1	-0.7	-0.1	-0.5	0.1
	tax increases only	0.3	0.6	-0.4	-0.2	0.4	0.2
Frequency of decreases relative to GDP[1)]	expenditure cuts only	100.0	100.0	90.9 (100)	54.5 (60.0)	63.6 (77.8)	27.3 (37.5)
	expenditure cuts mostly	75.0 (85.7)	75.0	37.5 (42.9)	50.0 (57.1)	75.0 (85.7)	62.5 (71.4)
	tax increases mostly	33.3	100.0	83.3	50.0 (60.0)	50.0 (60.0)	33.3 (40.0)
	tax increases only	33.3	33.3	33.3 (42.9)	77.8	22.2 (25.0)	33.3 (50.0)
Change in real terms in %[2)]	expenditure cuts only	-33.4	-11.2	-12.5	-3.2	-24.7	6.0
	expenditure cuts mostly	-8.9	6.6	9.1	11.0	4.2	9.8
	tax increases mostly	18.9	4.1	1.9	6.0	22.9	8.0
	tax increases only	34.7	9.7	3.1	4.3	49.9	8.4
Frequency of decreases in real terms[1)]	expenditure cuts only	90.9	81.8	72.7 (80.0)	54.5 (60.0)	63.6 (77.8)	18.2 (25.0)
	expenditure cuts mostly	62.5 (71.4)	37.5	25.0 (28.6)	0.0	50.0 (57.1)	0.0
	tax increases mostly	16.7	16.7	33.3	33.3 (40.0)	23.3 (40.0)	0.0
	tax increases only	33.3	11.1	22.2 (28.6)	44.4	22.2 (25.0)	22.2 (33.3)

(b) Functional breakdown of expenditure

	Adjustment based on:	Functional breakdown						
		Expenditure on defense	Expenditure on public order and safety	Expenditure on economic affairs	Expenditure on social security and welfare services	Expenditure on housing and community amenities	Expenditure on education	Expenditure on health
Change in % of GDP	expenditure cuts only	-0.2	-0.3	-1.3	-1.5	-0.7	-0.5	-0.4
	expenditure cuts mostly	-0.2	-0.2	-0.6	-0.3	-0.3	-0.2	0.0
	tax increases mostly	-0.4	0.2	-1.4	0.3	-0.1	0.1	0.4
	tax increases only	0.0	0.5	0.4	0.7	0.3	0.1	0.2
Frequency of decreases relative to GDP[1)]	expenditure cuts only	36.4 (57.1)	45.5 (71.4)	54.5 (85.7)	45.5 (71.4)	45.5 (83.3)	27.3 (42.9)	63.6 (100)
	expenditure cuts mostly	62.5 (71.4)	62.5 (71.4)	50.0 (57.1)	50.0 (57.1)	37.5 (75.0)	62.5 (71.4)	50.0 (57.1)
	tax increases mostly	50.0 (75.0)	33.3 (50.0)	50.0 (100)	33.3 (50.0)	33.3 (50.0)	16.7 (25.0)	16.7 (25.0)
	tax increases only	55.6 (62.5)	0.0	22.2 (25.0)	22.2 (25.0)	11.1 (12.5)	33.3 (37.5)	22.2 (25.0)
Change in real terms in %[2)]	expenditure cuts only	2.5	-6.5	-21.6	-5.5	-18.3	-6.1	-11.5
	expenditure cuts mostly	13.7	-0.1	-2.4	6.4	-12.2	5.8	11.3
	tax increases mostly	-4.9	13.9	-7.9	10.6	16.2	11.7	16.0
	tax increases only	16.4	45.2	34.9	17.0	70.4	15.3	37.6
Frequency of decreases in real terms[1)]	expenditure cuts only	27.3 (42.9)	36.4 (57.1)	54.5 (85.7)	27.3 (42.9)	45.5 (83.3)	18.2 (28.6)	36.4 (57.1)
	expenditure cuts mostly	37.5 (42.9)	37.5 (42.9)	25.0 (28.6)	25.0 (28.6)	25.0 (50.0)	12.5 (14.3)	25.0 (28.6)
	tax increases mostly	50.0 (75.0)	16.7 (25.0)	33.3 (66.7)	0.0	16.7 (25.0)	0.0	0.0
	tax increases only	55.6 (62.5)	0.0	22.2 (25.0)	22.2 (25.0)	11.1 (12.5)	22.2 (25.0)	0.0

[1)] Numbers in brackets refers to frequency computed after missing values had been excluded.
[2)] GDP deflator is used in computations.

Source: World Bank (ECA fiscal database).

Expenditure on defence was reduced even more frequently than spending on economic affairs. In almost two thirds of adjustments considered it decreased in relation to GDP and in more than a half of episodes – in real terms. However, only in the case of 2 adjustments (in Russia in 1998-1999 and in Bosnia and Herzegovina in 2002-2003) these cuts brought savings exceeding 1% of GDP – average savings were lower than 0.2% of GDP.

Considering the negative aspects of the adjustments' composition, note that only in 13 cases[21] did fiscal adjustments plans include cuts in transfers to households relative to GDP; in a similar number of episodes, this category of spending was actually increased. Merely in the case of adjustments driven mostly by expenditure cuts, transfer increases were clearly less frequent than their reductions. However, their value in real terms grew very fast during episodes of this type, with the average momentum approaching almost 10%. They grew perceptibly slower only in the case of adjustments based exclusively on spending curtailment. Their average momentum was still as high as 6%, but lower than GDP growth. So, transfer cuts in relation to GDP, while rare, turned out to be large enough to outweigh more frequent but more moderate transfer increases. All in all, fiscal adjustments were rarely used to reduce incentives to stay away from work.

This assessment is hardly altered when expenditure on social security and welfare services in the functional breakdown of public spending is viewed. This category of expenditure was reduced as rarely as transfers to households in the economic breakdown – it fell in relation to GDP in the 13 cases.[22] However, the functional breakdown reveals larger differences between adjustments based on expenditure cuts and tax increases respectively in an approach to welfare systems than does the economic breakdown. During adjustments driven by expenditure curtailments, spending on social security and welfare services was reduced relative to GDP. It also decreased in real terms, where fiscal tightening was exclusively based on expenditure cuts (albeit merely 2 adjustments, i.e. in Kyrgyzstan in 1996–1997 and in Russia in 1998–1999, mostly contributed to this decrease). By contrast, in the case of adjustments driven by a rise in taxes, increases in spending on social security were both frequent and large. Its growth in real terms noticeably outpaced output momentum. Furthermore, its increases were mostly accompanied by rises in expenditure on housing and community amenities – sometimes significant (as, e.g. in Kazakhstan in 1999-2000), whereas in the case of adjustments driven by expenditure cuts, this latter category of spending was often deeply curbed.

Leaving large part of public expenditure intact, governments often had to curb potentially growth-promoting expenditure.

In the 22 cases, capital expenditure was reduced.[23] Both the frequency of reductions and their average size were notably large during adjustments based exclusively on expenditure cuts. In no such episode, the category of spending considered was raised, and its average fall exceeded 2% of GDP, that is about one third of its initial level. By contrast, when the adjustments were driven by a rise in taxes, this category grew fast in real terms. It also slightly increased relative to GDP. The largest increase (2.2% of GDP) took place in Georgia (yet from a very low level) where revenue to GDP ratio was raised as a result of tax base's broadening. In countries benefiting from rising prices of natural resources these increases were more limited.

In the 12 cases, expenditure on education was cut.[24] The most severe reduction was made in Russia in 1998–1999 in the aftermath of financial crisis, in Romania in 1998–1999, also hit by crisis, and in Armenia in 1996-1997, when the pace of recovery after initial slump decelerated. In the other cases, the possible decreases in relation to GDP resulted from strong economic growth, as a real value of this expenditure mostly grew, and sometimes very fast.

In the 14 cases, expenditure on health was curtailed.[25] Again, a distinct difference between adjustments based on expenditure curtailment and these driven by tax increases respectively, occurs. In none of the former episodes did spending on health increase relative to GDP, whereas in the vast majority of the latter cases, it did.

In most cases, curtailing the last 3 categories of expenditure was not necessarily unreasonable from the perspective of long-term economic performance, given their usually low efficiency in ECA (see, e.g. Afonso et al. 2006). Thus, any negative assessment of these cuts stems largely from the fact that they often allowed governments to avoid dealing with an overgrown welfare system and social traps it creates.

5. Sustainability of fiscal adjustments in ECA

For reasons presented at the beginning of this article, one is interested not only in the number of episodes of fiscal adjustment or in their size and composition, but also in whether they were sustainable. To isolate successful adjustments from unsuccessful ones, one may again use the threshold similar to this in Purfield (2003). Hereafter, an adjustment is considered to be successful if the average primary balance over 2 years after fiscal policy tightening is still better by at least 2% of GDP relative to its level prior to adjustment[26]. From among sustained adjustments, a sub-group of the most successful episodes is distinguished, i.e. a sub-group of these episodes which were followed by further improvement in primary balance over 2 years after adjustment.

[21] Out of the 26 cases for which data on transfers to households are available.
[22] Out of the 26 cases for which data on expenditure on social security and welfare services to households are available.
[23] Out of the 33 cases for which data on capital expenditure are available.
[24] Out of the 26 cases for which data on expenditure on education are available.
[25] Out of the 26 cases for which data on expenditure on health are available.
[26] Out of the 26 cases for which data on expenditure on education are available.

Table 6. *Sustainability of fiscal adjustments in ECA countries in 1996–2004*

Countries[1]	Years of adjustment	Basic data set			IMF WEO		
		Primary balance		Assessment of adjustment sustainability	Primary balance		Assessment of adjustment sustainability
		a year before adjustment	over 2 years after adjustment		a year before adjustment	over 2 years after adjustment	
Russia	1998–1999	-5.5	4.7	Most successful	-3.5	6.4	Most successful
Kyrgyzstan	1996–1997	-16.1	-9.4	Successful	-17.4	-8.6	Successful
Albania	1997–1998	-8.5	-2.6	Successful	-7.5	-2.2	Successful
Moldova	1998–1999	-7.8	1.8	Most successful	-6.2	4.7	Most successful
Lithuania	2000–2001	-5.7	0.3	Most successful	-6.9	-0.3	Most successful
Turkey	2000–2001	0.4	5.7	Successful	6.5	0.1	Unsuccessful
Macedonia	1999–2000	-1.3	-4.1	Unsuccessful	0.2	-4.3	Unsuccessful
Azerbaijan	2000	-5.3	-0.7	Successful	-4.3	-0.2	Most successful
Macedonia[2]	2002–2003	-4.4	1.4	Most successful	-4.5	1.4	Most successful
Bosnia and Herzegovina[2]	2002–2003	-2.9	0.5	Successful	-3.8	0.5	Most successful
Bosnia and Herzegovina	2000–2001	-7.7	0.1	Most successful	-6.5	-1.2	Most successful
Georgia	2004	-1.0	..	Too early to assess	-0.4	..	Too early to assess
Estonia[3]	2000–2001	-3.8	2.1	Most successful	-3.9	2.4	Most successful
Albania[2]	2002–2003	-4.7	-0.9	Successful	-3.6	-0.9	Successful
Armenia[4]	2001–2002	-5.5	-0.9	Most successful	-4.7	-0.7	Most successful
Moldova	2000–2001	-0.5	2.9	Successful	2.9	2.2	Unsuccessful
Georgia	1999–2000	-4.9	0.0	Most successful	-3.9	-0.1	Most successful
Kyrgyzstan	2001–2002	-8.4	-3.5	Most successful	-7.5	-3.3	Most successful
Lithuania	1996–1997	-3.9	-4.3	Unsuccessful	-3.8	-5.7	Unsuccessful
Kazakhstan	1999–2000	-0.9	4.0	Most successful	-6.8	3.2	Most successful
Slovakia	2001–2002	-4.7	-1.5	Successful	-4.7	-1.5	Most successful
Romania	1998–1999	-3.1	-0.9	Successful	-1.4	0.7	Successful
Armenia	1996–1997	-3.2	-4.2	Unsuccessful	-5.7	-4.3	Unsuccessful
Serbia and Montenegro	2004	-2.1	..	Too early to assess	..	..	..
Belarus	2003–2004	-2.7	..	Too early to assess	-1.4	..	Too early to assess
Russia	2004	-0.1	..	Too early to assess	2.8	..	Too early to assess
Azerbaijan	2004	-3.1	..	Too early to assess	-0.6	..	Too early to assess
Russia	2000	3.7	1.2	Unsuccessful	2.9	4.0	Unsuccessful
Czech Republic	2004	-5.2	..	Too early to assess	-4.1	..	Too early to assess
Azerbaijan	1998	-2.0	-2.6	Unsuccessful	-1.5	-2.3	Unsuccessful
Romania	2001	-2.1	-0.2	Unsuccessful	0.8	0.1	Unsuccessful
Croatia	2000	-6.4	-3.4	Most successful	-6.4	-3.7	Most successful
Latvia	2000	-3.9	-1.9	Most successful	-3.2	-1.2	Most successful
Kazakhstan	2001	2.7	3.7	Unsuccessful	0.6	3.0	Successful
	Additional episodes revealed in the WEO data set						
Hungary	2003–2004	..	..	..	-5.1	..	Too early to assess
Estonia	1997	..	..	..	-1.4	-1.9	Unsuccessful
Ukraine	1998–1999	..	..	..	-3.7	1.0	Successful
Moldova	1997–1998	..	-0.3	..	-4.5	3.7	Successful
Turkey	1998–1999	..	5.5	..	-2.3	3.2	Successful

[1] Countries are ordered according to decreasing size of fiscal adjustments.

[2] The data on primary balance in Albania, Bosnia and Herzegovina and Macedonia in 2005 in basic data set is taken from WEO.

[3] The data on interest payments in Estonia in 2003 in basic data set is taken from WEO.

[4] The primary balance in Armenia in 2004 is computed without excluding privatization receipts from revenue

Source: WEO, World Bank (ECA fiscal database).

In 6 out of the 34 analysed adjustments, it is too early to assess whether or not they were sustained. 21 episodes turned out to be successful, inclusive of 12 adjustments followed by further improvement in fiscal stance. 7 adjustments were unsuccessful. Sustainability of 2 out of 21 successful episodes is not confirmed by data from the IMF WEO, and 1 episode is at the margin. On the other hand, 1 episode considered unsuccessful using basic data set is fairly successful according to the IMF WEO. This latter data set also indicates 3 more the most successful adjustments than does the basic data set. The frequency of successful adjustments relative to unsuccessful ones was more or less similar across ECA regions (in particular if one considers measurement errors in basic data set and the IMF WEO respectively to be comparable).

The most successful episodes were more or less equally distributed among adjustments of different size. However, one cannot claim that the size of fiscal adjustments was of no importance for their sustainability. Only 1 out of the 7 unsuccessful adjustments (in Macedonia in 1999-2000) was stronger than average and as many as 6 were weaker. This hardly comes as a surprise, since the strength of the deficit reduction is an indication of the government's determination to permanently improve the situation in public finances. Expressing the point in another way, the larger the reduction in fiscal imbalances, the longer the period with a given propensity of government to spend, before they approach their initial level. Obviously, the government's propensity to spend is not exogenous with respect to room for further spending. However, it is exactly its natural inclination to spend which makes large over-tightening of fiscal policy highly unlikely.

Sustainability was also related to the level of initial imbalances, broadly understood. Public debt in the

Table 7. *Basic features of unsuccessful and successful fiscal adjustments respectively in ECA in 1996–2004*

Type of adjustment	Fiscal impulse	Primary balance a year before adjustment	Average balance two years after adjustment	Change in primary expenditure	Change in revenue	Contribution of change in expenditure to fiscal impulse	Contribution of change in revenue to fiscal impulse	Public debt before adjustment	Primary expenditure before adjustment	Rev. before adjustment	Initial tax effort
S[1)]	5.0	-5.2	-0.1	-4.6	0.4	91.3	8.7	44.8	36.0	30.8	1.09
MS[2)]	4.7	-5.4	0.4	-6.3	-1.6	130.5	-30.5	45.9	38.3	32.9	1.10
US[3)]	3.1	-0.9	-1.5	-1.2	1.8	32.2	67.8	18.5	27.7	26.8	0.91

[1)] S means successful fiscal adjustments.
[2)] MS means most successful adjustments
[3)] US means unsuccessful fiscal adjustments.

Source: World Bank (ECA fiscal database).

countries which succeeded in permanently reducing fiscal deficit was initially, on average, more than twice as large as for countries which turned out to be unsuccessful. The difference in an initial deficit between these two groups of countries was even more striking. In the former group, the initial primary deficit was larger than 3% of GDP except for 4 countries (Kazakhstan in 1998, Moldova and Turkey in 1999, and Bosnia and Herzegovina in 2001). Note also that the largest deficits preceded the most successful adjustments. In the latter group, it was generally much lower than 3% of GDP, with the exception of 2 countries (Armenia and Lithuania in 1995). It seems that costs of extremely large deficits are so visibly high that, once borne, they can effectively keep government, at least for some time, from returning to loose fiscal policy.

The composition of fiscal adjustments also mattered for their sustainability. This is also unsurprising given that, as shown in previous paragraphs, adjustment size and composition were closely related to each other in ECA. However, composition ought to matter in its own right as well, and this fact is clearly visible in the case of the most successful adjustments. Expenditure curtailment in the current period is likely to soften a government's inclination to increase spending in the future. Taking rents related to public expenditure away from some groups makes it more difficult to grant subsequent rents to other economic agents, since the first group starts to intently scrutinize government policy in this respect. Thus, by granting new rents government would take the risk of substantial political costs. In any case, seeking rents when other groups were forced to go without becomes embarrassing.

In ECA, deficit reductions driven exclusively by expenditure cuts were clearly more sustainable than other types of adjustments. 10 out of the 11 adjustments based exclusively on expenditure cuts were sustained. Furthermore, 8 out of these 10 episodes were among the 12 most successful adjustments. As a result, the scope of expenditure cuts in the case of most successful adjustments exceeded, on average, the size of successful primary deficit reductions. By contrast, in the case of unsuccessful adjustments, the bulk of the improvement in fiscal stance was due to tax increases.

However, the focus on expenditure cuts was not enough for ultimate success. Unsustainable episodes included all types of adjustments, and in similar proportions. One (in Armenia in 1996–1997) was exclusively driven by spending curtailments and two (in Russia in 2000 and in Kazakhstan in 2001) were based on tax increases only. Another 2 (in Azerbaijan in 1998, and in Lithuania in 1996-1997) were made mostly through expenditure reductions, while the remaining 2 (in Romania in 2001 and in Macedonia in 1999–2000) – mostly through a rise in taxes. However, all unsuccessful adjustments driven by reductions in spending were followed by the Russian crisis which had a detrimental effect on fiscal stance in the countries in question.

The sustainability of fiscal adjustments also correlated to some extent with initial tax burden (as measured by general government revenue to GDP or by tax effort), since the latter had an effect on both adjustment size and composition. It seems that when taxes reached a very high level, governments were reluctant to increase them further, but they did not refrain from increased spending. Once large fiscal imbalances had come about, expenditure curtailment turned out to be the only feasible way of reducing them.

Looking more closely at adjustment composition, one cannot help noticing other differences.

The successful adjustments included cuts in expenditure on wages and salaries whereas in the majority of unsuccessful adjustments this category of spending actually increased. In the case of the former adjustments, subsidies were mostly curtailed. Their cuts were most frequent in the case of the most successful adjustments. By contrast, unsuccessful episodes of fiscal tightening were distinguished by subsidies leveling off relative to GDP (with 2 exceptions – in Russia in 2000 they strongly increased, while in Azerbaijan in 1998 they were sharply reduced). Data on expenditure on economic affairs (in the functional breakdown of public spending) exhibits (qualitatively) a similar difference between successful and unsuccessful adjustments respectively. In the vast majority of the former adjustments this category of expenditure was reduced. During the latter

Table 8. *Changes in selected categories of public expenditure during fiscal adjustments in ECA in 1996–2004*

(a) Economic breakdown

	Type of adjustment	Economic breakdown					
		Capital expenditure	Current primary expenditure	Exp. on goods & services	Wages and salaries	Subsidies	Transfers
Change in % of GDP	Successful	-1.5	-2.8	-1.8	-0.6	-0.6	0.0
	Most successful	-2.1	-4.1	-2.8	-0.8	-0.6	0.1
	Unsuccessful	0.1	-1.0	-1.0	0.0	0.0	-0.1
Frequency of decreases relative to GDP[1)]	Successful	85.7 (85.7)	76.2 (76.2)	61.9 (65.0)	61.9 (65.0)	52.4 (57.9)	28.6 (31.6)
	Most successful	91.7 (91.7)	83.3 (83.3)	75.0 (81.8)	58.3 (63.6)	50.0 (66.7)	25.0 (42.9)
	Unsuccessful	42.9 (42.9)	57.1 (57.1)	57.1 (66.7)	42.9 (42.9)	57.1 (57.1)	42.9 (50.0)
Change in real terms in %[2)]	Successful	-19.3	-1.1	-2.5	-1.5	-0.1	8.2
	Most successful	-27.8	-3.7	-7.5	-3.7	-1.7	10.0
	Unsuccessful	20.4	5.3	1.2	13.1	11.8	9.2
Frequency of decreases in real terms[1)]	Successful	76.2 (76.2)	42.9 (42.9)	42.9 (45.0)	47.6 (50.0)	47.6 (52.6)	14.3 (15.8)
	Most successful	91.7 (91.7)	58.3 (58.3)	66.7 (72.7)	50.0 (54.5)	41.7 (55.6)	8.3 (14.3)
	Unsuccessful	28.6 (28.6)	28.6 (28.6)	42.9 (50.0)	28.6 (28.6)	28.6 (28.6)	14.3 (16.7)

(b) Functional breakdown

	Type of adjustment	Functional breakdown						
		Expenditure on defense	Expenditure on public order and safety	Expenditure on economic affairs	Expenditure on social security and welfare services	Expenditure on housing and community amenities	Expenditure on education	Expenditure on health
Change in % of GDP	Successful	-0.4	-0.1	-0.9	-0.6	-0.3	-0.2	0.0
	Most successful	-0.4	-0.2	-0.8	-0.9	-0.4	-0.3	-0.2
	Unsuccessful	0.2	0.1	-0.3	0.1	-0.1	-0.1	-0.1
Frequency of decreases relative to GDP[1)]	Successful	61.9 (86.7)	38.1 (53.3)	47.6 (71.4)	42.9 (60.0)	38.1 (57.1)	38.1 (42.1)	47.6 (52.6)
	Most successful	58.3 (87.5)	41.7 (62.5)	58.3 (87.5)	41.7 (71.4)	41.7 (62.5)	25.0 (37.5)	50.0 (75.0)
	Unsuccessful	28.6 (33.3)	28.6 (33.3)	42.9 (50.0)	14.3 (16.7)	14.3 (25.0)	28.6 (33.3)	42.9 (50.0)
Change in real terms in %[2)]	Successful	-8.5	4.4	-2.5	2.2	19.6	1.5	6.5
	Most successful	-8.8	-1.4	-0.2	0.8	25.33)	0.5	2.3
	Unsuccessful	34.1	19.6	2.2	11.4	7.3	7.6	1.9
Frequency of decreases in real terms[1)]	Successful	52.4 (73.3)	28.6 (40.0)	42.9 (64.3)	19.0 (26.7)	38.1 (57.1)	19.0 (21.1)	19.0 (21.1)
	Most successful	50.0 (75.0)	25.0 (37.5)	50.0 (75.0)	16.7 (28.6)	41.7 (62.5)	25.0 (37.5)	25.0 (37.5)
	Unsuccessful	14.3 (16.7)	14.3 (16.7)	42.9 (50.0)	14.3 (16.7)	14.3 (25.0)	14.3 (16.7)	28.6 (33.3)

[1)] The numbers in brackets refers to frequency computed after missing value being excluded.

[2)] GDP deflator is used in computations.

[2)] The average is biased by a three digit momentum of expenditure on housing and community amenities in Kazakhstan in 1999–00.

Source: World Bank (ECA fiscal database).

episodes its reductions were as frequent as its increases. Generally speaking, successful adjustments dealt with some of the most harmful rents created by public expenditure whereas unsuccessful fiscal tightening left these rents mostly intact.

As far as the functional breakdown of public expenditure is concerned, the successful adjustments also often included cuts in expenditure on defence. By contrast, in the case of unsuccessful adjustments this category of spending increased. During the former episodes expenditure on housing and community amenities mostly decreased, while over the latter episodes its increases were more frequent than its cuts.

However, it is not the case that successful adjustments compared favourably with unsuccessful ones in all details of the adjustment composition.

Let's return to the economic breakdown of public spending. Theoretically, fiscal adjustment achieved by cutting public capital formation should not be sustainable. If deficit was reduced through merely deferring government investment, it would be expected to quickly return to its pre-adjustment level. However, this rule did not hold in ECA. In the majority of successful adjustments, fiscal imbalances were reduced largely by cutting public capital formation. In only 3 episodes of sustained fiscal tightening did capital expenditure not fall relative to GDP (in Albania in 1997–1998, in Turkey in 2000–2001 and in Macedonia in 2002–2003). Furthermore, it decreased most frequently (and deeply) in the case of the most successful adjustments. There was only 1 such adjustment (in Macedonia in 2002–2003) which did not include capital expenditure cuts. By contrast, only in the case of 2 unsuccessful adjustments, capital expenditure was curbed in relation to GDP (in Armenia and Lithuania in 1996–1997); in the other cases it increased.

Table 9. *Changes in major fiscal variables 2 years after adjustments in ECA*

	Type of adjustment	Change in					
		average primary balance over 2 years after adjustment		average primary expenditure over 2 years after adjustment		average revenue over 2 years after adjustment	
		relative to year before adjustment	relative to last year of adjustment	relative to year before adjustment	relative to last year of adjustment	relative to year before adjustment	relative to last year of adjustment
Change in relation to GDP	S[1]	5.1	0.1	-4.5	0.2	0.7	0.4
	MS[2]	5.8	1.1	-6.7	-0.4	-0.9	0.7
	US[3]	-0.6	-3.7	1.9	3.2	1.3	-0.6
Frequency of fall in relation to GDP	S[1]	0.0	42.9	85.7	47.6	33.3	42.9
	MS[2]	0.0	0.0	91.7	50.0	50.0	25.0
	US[3]	71.4	100.0	28.6	14.3	28.6	57.1

[1] S means successful fiscal adjustments.
[2] MS means most successful adjustments
[3] US means unsuccessful fiscal adjustments.

Source: World Bank (ECA fiscal database).

Obviously, this does not mean that without cutting capital expenditure a government cannot sustain an improved fiscal stance. It does, however, reveal the deep-seated nature of sustainable fiscal tightening. It seems that successful adjustments are mostly those which are imposed on governments by market forces (recall that most successful adjustments were preceded by the largest fiscal imbalances). Imposed adjustments are likely to be sharp enough to improve fiscal stance for a longer period. As capital expenditure is more flexible than most current spending, it naturally falls first 'victim' to government difficulties in further borrowing. Conversely, if governments do not curtail capital expenditure, this presumably means that they are not under market pressure to tighten fiscal policy, and without such pressure they rarely undertake sufficiently 'tough' measures to permanently improve the situation in public finances.

Both types of adjustments also exhibited some similarities. The most striking of these casts further doubts on whether the improvements in fiscal stance so far considered successful will be sustained over a longer period: during adjustments of both types, social privileges were rarely touched. Transfers to households kept pace with strong economic growth. In the case of successful adjustments, they were the only major economic category of spending which increased in real terms. During most successful adjustments they increased even in relation to GDP. Note that, in general, they are distinguished by their tendency to grow. They have a recurring nature. Granting entitlements to new groups is rarely preceded by the removal of previous ones. It is more likely that the beneficiaries of prior social privileges will try to maintain their relative income position and will claim larger assistance.[27] Once these claims are met, it is easier to justify subsequent claims.[28]

Note also that bureaucracy has at least two reasons to expand social spending (even if there was no particular demand for it). On the one hand, public servants want to believe that their job is important, and on the other hand they are aware that any downsizing of the welfare system creates the risk that they may lose their jobs. In many ECA countries, transfers to households already represents a large share of public expenditure (in most EU-8 and SE countries it amounts to about 40%, and in the case of Macedonia it even exceeds 50%). So, any lasting improvement in public finances can hardly be achieved without curbing social privileges. Demographic changes make the downsizing of welfare systems more and more urgent.

The functional breakdown of public expenditure in ECA indicates that during successful adjustments, and in particular over the most successful ones, some steps to downsize welfare systems were nevertheless undertaken. Although expenditure on social security and welfare services were rarely curbed in real terms, its increases usually did not exceed output momentum. The fall in this category of spending relative to GDP along with the decline in expenditure on wages and salaries suggests that at least bureaucracy managing welfare systems was reduced. This was not the case of unsuccessful adjustments.

The low number of unsuccessful adjustments in ECA and their heterogeneity with respect to composition make it difficult to estimate any logit model of sufficient quality, which would explain in a more quantitative way what factors made adjustments sustained or – conversely – unsustained. However, attempts to construct logit model of adjustments' sustainability in ECA allow one to draw at least one binding conclusion. Results obtained confirm that majority of successful adjustments were preceded by significant imbalances in public finances and (at most) slow output growth.[29] Such results suggest

[27] Note that this inclination of economic agents in general, and of the beneficiaries of social assistance in particular, to compare their situation with the position of others would be sufficient to keep social spending from falling relative to GDP even if the number of beneficiaries was constant.

[28] The nature of capital expenditure strongly differs from that of social spending, e.g. building a new road to one place may encourage inhabitants of other places to demand a similar road, but persons from the former place are unlikely to claim another road – parallel to the one just built; at most, they will try to get maintenance financing.

[29] These 2 variables, i.e. primary balance and GDP growth a year before fiscal policy tightening entered various specifications of estimated logit model almost always in a statistically significant way. Change in expenditure on education was the only variable which made both these indicators statistically insignificant. Additionally, GDP momentum a year before fiscal tightening turned out to be insignificant also when change in capital expenditure was introduced into the equation.

that governments in ECA were usually incapable to undertake decisive measures to restore fiscal discipline unless they were driven to a wall by market forces.

Table 9 compares paths of primary balance, expenditure and revenue *after* successful and unsuccessful adjustments.

In the case of successful adjustments, initial fiscal policy tightening was mostly followed by a further improvement in fiscal stance: as is mentioned before, such an improvement occurred in 12 out of the 21 cases. Primary balance considerably worsened, i.e. by more than 2% of GDP, only in 2 countries (in Kyrgyzstan after the adjustment in 1996–1997 and in Albania in 1997–1998). However, the size of previous adjustments in these 2 countries was more than 4 times as large as the scope of subsequent worsening. Where a further improvement in fiscal stance occurred after an adjustment, it resulted mostly but not exclusively from an increase in government revenue relative to GDP. This increase was significant in 2 cases out of the 12 most successful adjustments (in Russia after the adjustment in 1998–1999, and in Bosnia and Herzegovina after 2000–2001). Revenue also increased strongly after another adjustment (in Moldova after 2000–2001), but in this case the increase did not result in an improvement in primary balance. After 3 out of the 12 most successful adjustments, revenue decreased, yet in no case was the fall in taxes strong. By contrast, tax to GDP declined after as many as 6 out of the 9 successful adjustments not followed by an improvement in primary balance. However, the lack of further improvement in fiscal stance could hardly be attributed to the decline in tax to GDP ratio, as only in 1 country was it significant (in Slovakia after the adjustment in 2001–2002). Where primary balance did not continue to improve after an adjustment, this was mostly due to an increase in public expenditure. Spending expanded in 3 countries (in Kyrgyzstan after the adjustment in 1996–1997, in Azerbaijan after 2000, and in Moldova after 2000–2001). In one country (Moldova), the expansion did raise expenditure to GDP ratio even above its pre-adjustment level. Expenditure considerably decreased merely after 1 successful adjustment not followed by a further improvement in primary balance (in Slovakia after 2001–2002). By contrast, public spending expanded merely after 1 out of the 12 most successful adjustments (in Russia after 1998–1999), and after the 6 adjustments, it decreased, sometimes considerably (in Moldova after the adjustment in 1998–1999, in Croatia and Latvia after 2000). All this suggests that expenditure cuts (which were the major source of primary balance improvements during the most successful adjustments) may actually ease long-term pressures put on government by various groups of interests to increase public spending. In any case, public expenditure, after being cut, does not return to its previous level as easily as it fills room made by tax increases.

Unsuccessful adjustments were followed by such a loose fiscal policy that, except for 2 countries (Kazakhstan and Romania after the adjustment in 2001), imbalances in public finances exceeded those prior to adjustments. The worsening of the primary balance was mainly driven by an expansion of public expenditure. Public expenditure did not increase in one country alone, and it stayed below its pre-adjustment level only in 2 countries, i.e. Kazakhstan and Romania, where the reversal in fiscal policy did not outweigh effects of its previous tightening. The revenue side of the budget also contributed to the worsening of primary balance. However, the revenue fall did not offset its previous increase, except for 2 countries (Armenia and Lithuania after the adjustment in 1996-1997). Changes in both expenditure and revenue after unsuccessful fiscal adjustments confirm that fiscal imbalances usually stem from too high expenditure and not from too low revenue. If a country lacks an effective mechanism to limit spending pressures, taxes will always be too low to cover public expenditure.

Sustainable fiscal adjustment pays off not only because it strengthens fundamentals for long-term economic growth. It can also reward a government for the effort of rebalancing public finances much sooner.

First, it may set in motion a virtuous circle of strengthened public finances and increased government credibility. The more balanced public finances are, the lower sovereign interest spreads and the less costly, on the one hand, new borrowing and, on the other hand, the servicing of debt previously incurred. Therefore, discretionary fiscal deficit reduction is subsequently strengthened by a fall in interest payments, which occurs if economic agents assess fiscal adjustment to be sustainable. Conversely, the larger the fiscal deficit, the more costly public debt servicing, including that debt which was incurred in the past. A government which wants to spend too much may end up in a situation where it will spend more but only on interest payments.

Successful adjustments were undertaken in a situation of growing interest payments. In the case of 13 out of the 21 episodes, the costs of debt servicing in the last year of adjustment were larger than a year before fiscal tightening. This suggests again that the bulk of successful adjustments were – to some extent – imposed on governments by market forces. However, after the reduction of imbalances in public finances, the poor assessment of the stability of the countries under discussion was largely revised. A year after adjustments, interest payments fell in the case of 19 episodes, and in the subsequent year – in the case of 14 episodes. Savings on costs of servicing public debt 2 years after the adjustment relative to last year of fiscal tightening,

Table 10. *Interest payments before, during and after fiscal adjustments in ECA in 1996–2004*

	Adjustments	Interest payments (in % of GDP)				
		Year before adjustment	During last year of adjustment	Year after adjustment	2 years after adjustment	
Average	Successful	2.9	3.9	3.1	2.7	
	Most successful	2.0	2.3	1.9	1.6	
	Unsuccessful	2.5	2.1	1.7	1.5	
			Relative to year before adjustment	Relative to year of adjustment	Relative to previous year	Relative to last year of adjustment
Frequency of increase	Successful		38.1	90.5	66.7	76.2
	Most successful		41.7	91.7	66.7	66.7
	Unsuccessful		85.7	57.1	71.4	71.4

Source: World Bank (ECA fiscal database).

amounted, on average, to 1.2% of GDP. Only in the case of 5 adjustments (i.e. in Estonia after the adjustment in 2000–2001, in Kyrgyzstan after 1996–1997 and 2001–2002, in Croatia after 2000, and in Macedonia after 2002–2003), interest payments did not fall. Interestingly, 4 of these adjustments (i.e. in Estonia, Kyrgyzstan in 2001–2002, Croatia and Macedonia) were among the most successful ones. Note however, that in the first of these countries interest payments were vestigial, while in the following two countries burden of public debt was among the largest in ECA and the adjustments considered merely alleviated fiscal imbalances (but did not remove them); in the case of Macedonia in turn, interest payments 2 years after the adjustment were similar to those in last year of fiscal policy tightening, but considerably lower than before the adjustment.

In the case of adjustments which turned out to be unsuccessful, interest payments started to fall already during fiscal tightening. This may be explained by, usually, a more limited size of initial imbalances than these preceding sustained adjustments. The costs of public debt servicing decreased during 6 out of the 7 adjustments. In the following two years, they dropped in the case of 4 and 5 episodes respectively. 2 years after adjustments, they were, on average, lower by 0.6% of GDP than in last year of fiscal tightening. They increased only after 2 adjustments (this in Lithuania in 1996–1997 and in Azerbaijan in 1998, i.e. in countries which severely experienced consequences of Russian crises in 1998; yet, in subsequent years both these countries undertook another adjustment which lastly lowered their interest payments).

Secondly, sustainable fiscal adjustment can lead to non-Keynesian effects,[30] that is to say it can strengthen economic growth not only in the long term, but in the short term as well. Non-Keynesian effects may occur if a government, facing the spectre of a fiscal crisis, decides to reduce deficit strongly enough to stop the growth of public debt. The origin of non-Keynesian effects in such a case is the credibility gained by the government due to its decisive fiscal adjustment. Such adjustment dispels the uncertainty left in the public mind by the government's previous unsustainable policy.[31] The occurrence of non-Keynesian effects may also depend on the fiscal adjustment's composition. Reducing expenditure, particularly on wages and salaries, softens wage pressure in the whole economy. A fall in real wage momentum increases the price competitiveness of businesses on the international market (real depreciations are lasting only if they are accompanied by fiscal policy tightening).[32] Strengthened wage discipline may also raise enterprises' profits, profits which affect both their capacity and their propensity to invest.[33] Note that fiscal adjustment's composition conducive to non-Keynesian effects' occurrence is similar to the composition of adjustment, which most often turns out to be sustainable.

The size of the deficit's reductions in ECA countries averaged out 2.7% of GDP per year, and in the case of successful adjustments it was by far larger. Thus, for the majority of the episodes considered, and notably in the case of adjustments sustained, it by far exceeded the thresholds assumed. This feature, in the light of previous empirical studies, increased the probability that they will induce non-Keynesian effects. Furthermore, the composition of fiscal adjustments was, in general, conducive to the occurrence of non-Keynesian effects, as 19 out of the 34 adjustments were driven exclusively or mostly by expenditure curtailments, and a number of adjustments based on rise in taxes included cuts in spending on wages and salaries. In the case of successful adjustments (not to mention the most successful ones), this dominance of expenditure reductions over tax increases was even more overwhelming. Most adjustments, inclusive of successful ones, had only one feature which made non-Keynesian effects occurrence less plausible. This was lack of cuts in transfers to households, i.e. cuts which

[30] Studies on non-Keynesian effects of fiscal adjustments started with the seminal paper by F. Giavazzi, and M. Pagano (1990). Surprisingly, there are still only few papers devoted to these effects in transition economies – see, e.g. Purfield (2003); Rzońca, Ciżkowicz (2005).

[31] See e. g. Blanchard (1990); Sutherland (1995).

[32] See, e.g. Edwards (1989).

[33] Increase in taxes, accelerating wage momentum, would have precisely opposite effects. See, e.g. Alesina et al. (1999); Lane, Perotti (2001).

Table 11. *Economic performance before, during and after fiscal adjustments in ECA in 1996–2004*

	Adjustments		GDP growth (in %)			Capital formation contribution to GDP growth (in p.p.)		
			Year before	During adjustment	Over 2 years after adjustment	Year before	During adjustment	Over 2 years after adjustment
Average	Successful	All	1.5	3.9	6.6	-0.1	-0.2	3.0
		Expenditure cuts only	0.8	3.7	5.9	-0.8	-0.8	2.6
		Expenditure cuts mostly	6.9	9.0	8.8	2.1	1.4	4.3
		Tax rise mostly	0.6	3.6	4.8	-0.8	1.5	1.0
		Tax rise only	0.4	1.2	7.6	0.5	-1.2	4.2
	Most successful		1.8	3.9	6.8	-0.8	-0.3	2.6
	Unsuccessful		5.4	7.7	5.0	1.1	4.2	1.3
				Relative to year before adjustment	Relative to period of adjustment	Relative to year before adjustment	Relative to year before adjustment	Relative to period of adjustment	Relative to year before adjustment
Frequency of increase	Successful	All		68.2	72.7	81.8	59.1	68.2	86.4
		Expenditure cuts only		60.0	70.0	90.0	50.0	80.0	80.0
		Expenditure cuts mostly		66.7	33.3	66.7	66.7	66.7	100.0
		Tax rise mostly		100.0	100.0	100.0	100.0	33.3	100.0
		Tax rise only		60.0	100.0	80.0	40.0	80.0	80.0
	Most successful			58.3	75.0	91.7	58.3	66.7	83.3
	Unsuccessful			85.7	14.3	28.6	66.7	0.0	50.0

Source: World Bank (ECA fiscal database).

would have led to an increase of labor supply and consequently would have further ease pressure on wage increases in the economy.

Successful adjustments were undertaken in more difficult economic conditions than adjustments which turned out to be unsustained. Average GDP momentum a year before the former ones did not exceed one third of growth which preceded the latter ones. GDP slumped a year before the 8 successful adjustments. Only in the case of every third successful fiscal tightening output growth exceeded 5% (in the case of the most successful episodes this proportion was even worse with merely every fourth adjustment preceded by strong growth). By contrast, no unsuccessful adjustment was preceded by recession. Majority of them were preceded by strong growth

Not surprisingly recession often forced governments to base fiscal adjustment exclusively on expenditure cuts. Four out of the 8 successful adjustments preceded by recession had such a composition. However, contrary to intuition, the other 4 episodes preceded by GDP slump were driven by a rise in taxes (moreover, 3 out of these 4 episodes were based exclusively on tax increases).

During both successful and unsuccessful adjustments output growth accelerated, but in the case of the latter ones it was still twice as fast as in the case of the former. Growth did increase in 15 out of the 21 successful adjustments and in 6 out of the 7 unsuccessful ones.

Two years after successful adjustments growth further increased and exceeded average output momentum in countries where fiscal tightening was unsustained. Growth acceleration relative to a year of adjustment took place in 16 countries which reduced imbalances in public finances in a lasting way and only in 1 country which did not succeed on that score. Growth acceleration was particularly frequent after the most successful episodes – 9 of these adjustments were followed by faster growth. Compared to a year prior to adjustment, growth increased in the case of 16 successful adjustments. As many as 11 out of these 16 adjustments were the most successful episodes. By contrast, only 2 unsuccessful adjustments were followed by stronger growth than one which preceded fiscal tightening. However, despite growth deceleration, which followed most unsuccessful adjustments, output momentum still remained high. This suggests that even unsuccessful attempts to balance public finances do not necessarily have to be costly in terms of economic growth.

Growth increased most strongly after adjustments based exclusively on a rise in taxes. Deficit reductions driven exclusively by expenditure cuts were also distinguished by significant growth acceleration. Moreover, it occurred sooner than in the case of adjustments based on tax increases only. Note that both types of uniform composition adjustments were often undertaken in a difficult economic situation, yet they never lead to its worsening. Mixed composition adjustments were followed by somewhat weaker output momentum acceleration. Moreover, in the case of adjustments based mostly on tax increases not only growth change but also its rate was visibly lower than after the other types of fiscal policy

tightening. In particular, it was in stark contrast with output momentum after adjustments driven mostly by expenditure cuts. All this suggests that composition of adjustments matters for their outcomes in terms of short term output growth. It may be of minor importance only where initial conditions are really bad. Then, the crucial task ahead of a government is to curb fiscal imbalances so as to avoid a prolonged crisis.

About two thirds of growth acceleration after successful fiscal tightening was explained by an increase in capital formation momentum. In turn, more than a half of growth deceleration after unsuccessful adjustments could be attributed to slowdown in investment. Note however, that capital formation positively contributed to GDP growth only after entrepreneurs became convinced that improvement in fiscal stance was sustained. On impact, growth increase was driven in about three fourths by improvement in net exports and in one fourth by growing private consumption.

A detailed study of whether GDP growth acceleration during adjustments in ECA was driven by non-Keynesian mechanisms or rather occurred in spite of fiscal tightening, goes far beyond the scope of this article. However, one may safely point out that adjustments did not create any visible short term costs in terms of economic growth.

6. Business cycle and fiscal adjustments in ECA

The last issue addressed in this article is in what business cycle phase fiscal imbalances were mostly accumulated and in what phase they were reduced.

To tackle the issue of whether a fiscal policy in ECA was conducted in counter- or rather pro-cyclical way, one has to isolate, apart from periods of adjustment, also episodes of discretionary fiscal loosening. To find the latter, one uses the similar thresholds to these applied in searching for the former, but obviously with opposite sign.

The results presented below have to be considered with even greater caution than these discussed so far. The whole analysis carried out in this article may be biased by possible large measurement error included in fiscal data for ECA and problems with distinguishing discretionary changes in fiscal policy from cyclical ones. Below, another problem arises. To determine a course of the business cycle in ECA, the standard procedure of filtering GDP time series is used.[34] However, in the case of most ECA countries, no single business cycle was finished, and in the meantime they experienced sharp and multiple structural changes. Thus, potential output was likely to be very unstable there. All in all, the standard and well known weaknesses of using HP filter to calculate potential output are presumably even more serious in the case of ECA than elsewhere, and it is hard to ease them.[35]

This having been said, it seems that in the vast majority of cases, a fiscal policy in ECA had to be tightened in spite of unfavourable business cycle conditions. 18 out of the 21 successful adjustments were made where GDP was below potential output. Within 3 counter-cyclical successful adjustments, 2 episodes were followed by a further improvement in primary balance, while after 1 adjustment fiscal policy was loosened. In the case of unsuccessful adjustments, the proportion between counter- and pro-cyclical adjustments was even worse. 6 out of the 7 adjustments were undertaken when the output gap was negative. Only very recently some countries started taking advantage of favourable business conditions to reduce imbalances in public finances or to accumulate surpluses. In all 6 last episodes of fiscal tightening GDP exceeded potential output.

This picture hardly improves if one looks at the output gap a year before adjustments. The total number of episodes of counter-cyclical tightening increases merely by one episode and their distribution slightly changes. Successful adjustments include 4 more counter-cyclical episodes (yet merely 1 out of these 4 episodes was not quickly reversed), and recent adjustments – 2 counter-cyclical episodes less; the number of unsuccessful but counter-cyclical adjustments falls to zero.

The assessment changes more significantly when one uses differences in momentums of GDP and potential output respectively (instead of differences in levels of these variables) to distinguish between various phases of business cycle. When such an approach is applied, the total number of counter-cyclical adjustments increases to 22 episodes. All recent adjustments are still counter-cyclical, the number of unsuccessful but counter-cyclical adjustments increases to 6, and the number of successful counter-cyclical adjustments – to 10. However, still more than a half of successful adjustments had to be made under unfavourable business cycle conditions. This means that the previous fiscal policy was either pro-cyclical (as imbalances in public finances had their cause), or ineffective in boosting aggregate demand, or presumably both – pro-cyclical and ineffective in boosting demand.

A bird's eye view on the episodes of fiscal policy loosening seems to confirm both presumptions.

First, if fiscal policy was loosened, this was, in fact, quite frequently done in a pro-cyclical way. Six

[34] HP filter is applied with smoothing parameter amounting to 100. Such a parameter is usually used for annual data.

[35] E.g. to take into account possible larger variability of potential output in ECA than in developed countries, one could consider to smooth raw data on observable GDP less than is usually suggested. However, one would have to be sure that potential output variability in ECA mimicked (in the statistical sense) this of observable output; next, one ought to have a clear idea of what exact smoothing parameter to use and maybe, when to change it.

out of the 18 episodes of fiscal policy loosening took place when GDP was above potential output level. The number of episodes of pro-cyclical loosening increases to as many as 13, if one focuses on differences in GDP and potential output momentums respectively.

The assessment does not change too much, if one bases it on the data from a year prior to fiscal policy loosening. Four such episodes were preceded by a positive output gap, and 15 – by GDP growing faster than potential output.[36]

Second, fiscal policy loosening did boost aggregate demand at most moderately. GDP growth during loosening was, on average, lower by 2.1 percentage points than a year before. Over the two-year period after loosening, it accelerated by 1.5 percentage points, but did not exceed its level prior to fiscal stimulus.

7. Conclusions

Nine main conclusions can be drawn from the analysis conducted here.

1. Fiscal adjustments in ECA were quite sizeable, but not as large (nor as frequent) so as to entirely remove imbalances in public finances.

2. They usually occurred only after imbalances rose to such a level that a government could not continue in its loose fiscal policy.

3. The size of an adjustment was not independent of its composition, as in practice it was hard to reduce the largest fiscal imbalances by increasing taxes. Thus, in the vast majority of the cases considered, the improvement of fiscal stance resulted solely or mainly from a decrease in the public expenditure to GDP ratio. By contrast, taxes were often raised when initial imbalances were moderate. Moreover, the timing of revenue based adjustments clearly shows that increases in natural resource prices largely determined the composition of those adjustments.

4. The fiscal adjustment programs often contained curtailment of public expenditure on wages and salaries, of subsidies to enterprises or of expenditure on defence. However, they rarely reduced incentives to stay away from work. Leaving social expenditure intact, governments often had to curb potentially growth-promoting expenditure.

5. The most successful episodes were more or less equally distributed among adjustments of different size. This was mainly the composition which mattered for the adjustments' sustainability. The scope of expenditure cuts in the case of most successful adjustments exceeded, on average, the size of primary deficit reductions. By contrast, in the case of unsuccessful adjustments, the bulk of the improvement in fiscal stance was due to tax increases.

6. Successful adjustments dealt with some of the most harmful rents created by public expenditure (e.g. with subsidies to enterprises), whereas unsuccessful fiscal tightening left these rents mostly intact. However, it is not the case that successful adjustments compared favourably with unsuccessful in all details of their composition. In the majority of successful adjustments, fiscal imbalances were reduced largely by cutting public investment. By contrast, only in the case of unsuccessful adjustments, capital expenditure was generally increased.

[36] The share of pro-cyclical episodes in all periods of fiscal policy loosening hardly alters, if one lowers the thresholds to 1% and 2% of GDP for worsening in public balance lasting 1 and 2 years respectively (thresholds are lowered by the value of largest cyclical factors' contribution to change in primary balance, observed in data for EU-8).

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