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БЮДЖЕТНО-ПОДАТКОВЕ КОРИГУВАННЯ УКРАЇНИ В ЄВРОПЕЙСЬКОМУ КОНТЕКСТІ

Розглядаються причини боргової кризи у ЄС і проблеми фіскальних консолідацій, які ведуть до скорочення величини державного боргу, але водночас стримують темпи економічного зростання у країнах ЄС. У загальноєвропейському контексті загострення протиріч боргових економік аналізуються проблеми стійкості державного боргу та ефектів фіскальної консолідації в Україні, гострота яких у нашій країні була підсилена внутрішніми економічними дисбалансами і зовнішньою воєнною агресією. Автором розраховано величину циклічно скоригованого первинного балансу Зведеного бюджету України у 2014–2015 рр., що засвідчує вплив дискреційної фіскальної політики на сукупний попит, очищений від впливу макроекономічних тенденцій на показники доходів і видатків бюджету. Встановлено, що за розміром циклічно скоригованого первинного балансу Зведеного бюджету (6,2% ВВП) у 2015 р. Україна стала "чемпіоном" серед країн з ринками, що формуються, і розвинених країн, які звітують до "Fiscal Monitor" МВФ, а величина фіскального імпульсу в Україні того ж року становила 4,3% ВВП. Автор оцінює набір інструментів фіскальної консолідації, що застосовувалися в Україні, на предмет їх відповідності цілям соціальної справедливості і підтримки темпів економічного зростання у довгостроковому періоді. Автор також класифікує заходи зі збільшення доходів бюджету чи скорочення його видатків як корисні та шкідливі для економічного зростання країни. У статті узагальнено макроекономічні та фінансові фактори, які впливають на величину фіскального мультиплікатора, а також з використанням методичного підходу Н.Батіні та ін. оцінено короткостроковий та середньостроковий фіскальні мультиплікатори в Україні. Розміри мультиплікаторів – 0,4 та 1,3 відповідно – дозволили оцінити економічні ефекти фіскальної консолідації в Україні у 2014–2015 рр. Зокрема, встановлено, що фіскальне стиснення у зазначений період стане причиною зменшення реального ВВП України на 8,9% в цілому упродовж 2014–2018 рр. На основі отриманих кількісних оцінок і якісних висновків запропоновано ряд практичних заходів для відновлення боргової стійкості та мінімізації негативних економічних наслідків фіскальної консолідації.

К л ю ч о в і с л о в а : фіскальне регулювання, державний борг, циклічно скоригований баланс, фіскальний мультиплікатор.

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UKRAINE'S FISCAL ADJUSTMENT IN EUROPEAN CONTEXT

This paper examines fiscal stance in the EU as controversial issues for economic research and policy debates; it also investigates the underlying fiscal and debt positions of Ukraine's government as a legacy of global crisis and the outcome of country specific economic problems. Author calculates the cyclically adjusted fiscal balance of Ukraine and provides evidence of a highly pro-cyclical and restrictive fiscal policy since 2014. Ukraine is proved to be a "champion" in recent international rank of countries with largest cyclically adjusted primary surpluses. Author assesses Ukraine's fiscal consolidation package from the point of view of its compatibility with

economic growth and social equity targets and distinguishes beneficial and harmful for economic growth fiscal policy instruments in Ukraine. The paper highlights factors affecting the size of fiscal multipliers and computes the short-term and medium-term multipliers in Ukraine, which proved to be 0.4 and 1.3, respectively. Next, the impact of fiscal adjustment on output has been estimated to be as high as a 8.9% fall in real GDP over the medium-term. On the basis of qualitative conclusions and quantitative estimates thereby derived, author draws policy recommendations which cover a mix of fiscal consolidation instruments, a pace of fiscal adjustment, the tools for government debt management, as well as a design and enforcement of the fiscal rules.

K e y w o r d s : fiscal adjustment, public debt, cyclically adjusted balance, fiscal multiplier.

J E L : F30, H87, H62, H63

Introduction

Over 2014-2015 Ukraine experienced a dramatic economic downturn, associated with destruction of the production facilities in the East of Ukraine, declining commodity prices on the world markets, a closure of the Russian market for national exports and a loss of confidence in Ukraine related to the armed conflict. Accumulated public debt proved to be unsustainable after unprecedented exchange rate devaluation and cut off the access to international capital market. In such circumstances, Ukraine's Government turned out under the strong pressure to consolidate public finance and to reduce expanding budget deficit. As a result of fiscal tightening, the fiscal impulse measure proved to be significant in 2014 and extremely large in 2015: 2.5% of GDP and 4.3% of GDP, respectively. It means that fiscal policy in Ukraine was highly pro-cyclical and, according to our estimation, fiscal consolidation will result in a real GDP decline by 8.9% over the medium term.

At present multi-faceted social and economic implications of rapidly changing fiscal policy don't draw sufficient attention of the Ukraine's political elite and scientific community. Excessive emphasis on macro-financial stabilization role of the fiscal policy and resulting contraction of government expenditure in real terms have produced a negative drag on economic activity, caused an impoverishment of vast segments of population and undermined the quality of human capital in Ukraine that will have long-lasting effect on productivity and economic growth.

In view of these, a goal of this study is to analyze Ukraine's problems of debt sustainability and fiscal adjustment in European context, to reveal the main factors driving the dynamics of budget aggregates in Ukraine, to assess the economic implications of fiscal policy in Ukraine, starting from 2014, to evaluate Ukraine's fiscal consolidation package from the point of view of its compatibility with economic growth and social equity targets, to highlight the evolving fiscal policy challenges over the medium term, as well as to draw policy recommendations, related to a desirable mix of fiscal consolidation instruments, a pace of fiscal adjustment, the mechanisms of fiscal rules' enforcement and the tools for prudent debt management.

Fiscal stance/debt positions in the EU countries and related problems

General government gross debt amounted to 90.4 % of GDP in the euro area countries and 85% of GDP in the EU countries (as of December 2015). Debt burden was significantly compounded by the huge increases in government direct and contingent liabilities in the wake of global financial crisis. As compared to 2007,

debt ratios increased by 27.5 p.p. of GDP in the EU-28 and by 25.4 p.p. in the euro zone. The mix of an aging society, social welfare state, and government bail-outs of financial sector put pressures on the public finance.

Different factors contributed to the EU debt crisis, in particular, macro imbalances at the euro zone's periphery, sovereign/ bank balance sheet loopholes after global financial crisis, crisis of confidence on the financial markets, driven by rising government indebtedness, regulatory/ supervisory failures, institutional flaws and weak fiscal policy coordination in the European Monetary Union. European sovereign debt crisis intensified in 2010 when some European governments were not able to meet their financing needs.

Currently, in many EU countries high debt constrains the scope for future discretionary fiscal policy, leaves the economies exposed to market shocks, and retards economic growth (that feeds into worsening the debt dynamics). EU countries with extremely high debt burdens are still facing the risks of falling into a bad equilibrium caused by self-fulfilling expectations.

Comprehensive response of the EU institutions and sovereign governments to the EU debt crisis encompassed several dimensions:

1) Response on the fiscal side appeared as reform of the Stability and Growth Pact (6- and 2-pack), and adoption of a Fiscal Compact (structural balance rule and debt "brake"),

2) Response on the monetary side developed via Securities Markets Programme, Outright Monetary Transactions, Longer-Term Refinancing Operations, and Asset Purchase Programme for the government bonds,

3) Response on the institutional side included formation of the Banking Union and European stability mechanisms. Stability mechanisms have fulfilled the role of a lender of "last resort", which curbed unsustainable refinancing costs, mitigated crisis of confidence, prevented negative spillovers among countries, and repaired institutional flaws.

Currently the critical phase of the EU sovereign debt crisis is over, but the crisis is not finally resolved. Debt positions of some euro zone countries are risky, and they raise an official financing.

Among national governments' policy responses to the evolving debt crisis, fiscal austerity measures were the most prominent. Since 2011, significant magnitude and quite fast pace of fiscal consolidations in the EU helped to reduce the average general government fiscal deficit from 6.4% of GDP in 2010 to 2.4% of GDP in 2015 (see chart 1).

In the nearest years additional fiscal adjustment efforts will be needed to bring the debt ratios to safer levels in the EU. According to the IMF forecast, by the end of the decade debt ratios will remain more than 100% of GDP, on average, in the advanced economies and approximately 88% of GDP in the euro area's countries.

The global financial crisis forced dramatic and pro-cyclical fiscal adjustments in many countries of Central, Eastern, and Southeastern Europe, which were triggered by a sharp tightening in financing conditions. Having assessed the fiscal consolidations in these countries, IMF experts argue that efforts undertaken by their governments have been quite successful. 10 of 17 economies improved their revenue structures, as tax burden shifted from income taxes to indirect taxes and non-tax revenues. Thus, taxes considered harmful to economic growth have been partially

replaced by neutral taxes. As for expenditures, Central European and Baltic countries reduced current expenditures, while preserving capital expenditures that improved their spending structures. By contrast, in Southeastern Europe and the CIS, public investment fell significantly, causing the expenditure structure to become less growth supportive. Most Central, Eastern, and Southeastern European countries still face significant fiscal adjustment challenges, essential for stabilizing their debt levels and returning to full compliance with the EU's fiscal rules. The need for further consolidation tends to be larger in Southeastern Europe [1].

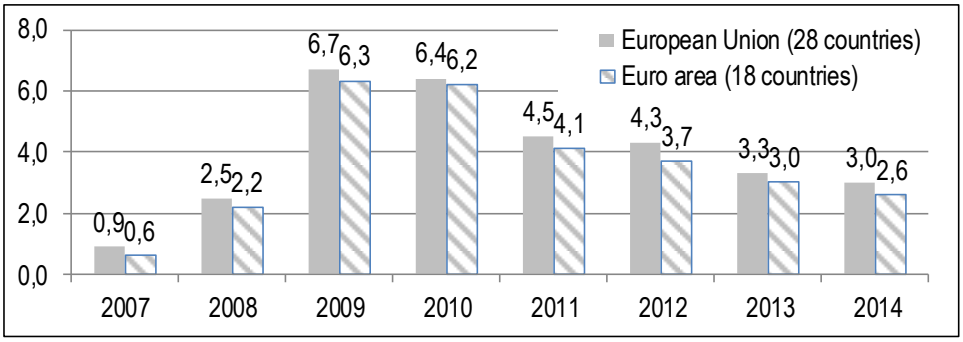

Chart 1. General Government Deficit in the EU, *% of GDP*

Source: Eurostat data.

On the whole, general government debt ratios exceed threshold value of 60% of GDP in 16 among 28 EU economies. Definitely, excessive debt levels justify the ongoing fiscal consolidations in the EU. However, a lot of scientists and policy-makers raise concerns about large economic and social costs, driven by radical fiscal adjustments in the EU.

Average real GDP growth rates amounted to -0.5% in 2012, 0.2% in 2013 and 1.6% in 2014 and 2.2% in 2015 in the EU-28. Among the general European population, some 24 million people are jobless. Unemployment rates amount to 9.4% in the EU-28 and to 10.9% in the euro area countries. Long-term unemployment and inactivity evolve into the serious problems of permanent skills and human capital erosion.

Current scientific and political discussions highlight the controversial issues of policy targets superiority (higher growth and more jobs or fiscal sustainability), drawbacks and merits of the fiscal tightening as well as societal challenges associated with high unemployment. For instance, the ECB President Mario Draghi declared, that maintaining the agreed strategy of differentiated growth-friendly fiscal consolidation is one of the Eurogroup's policy priorities. While Italy's Premier Matteo Renzi called for the EU's leaders to focus efforts less on budget cuts and more on ways to boost economic growth that would help to create sustainable jobs.

The IMF argues that further fiscal adjustment is needed in most advanced economies to bring down debt ratios to safer levels, but issues of pace and composition should increasingly take center stage; policies should strive to include elements supportive of a faster rebound in growth and employment within the constraints often imposed by limited fiscal space [2]. Expert community recognizes that the most evident solution of the problems of high unemployment and fiscal imbalances consists in shifting the tax burden from the labour to consumption and property.

Particular attention should be given to prioritising employment-friendly expenditure, as well as reallocation of public funds in favor of active labour market policy.

Many researchers and policy-makers suggest that design of the path of future fiscal consolidation in the EU should focus on supporting long-term growth potential, which requires a delicate balance between fiscal policy and structural policy, taking human capital concerns into account. To mitigate adverse effects, fiscal consolidations should be gradual and consisting of adequate mix of the fiscal instruments, compatible with economic growth and social policy targets.

Currently, there is a high demand for academic and applied research responding to wide range of societal challenges associated with radical fiscal adjustments. Reasonable or "optimal" pace, magnitude and structure of fiscal adjustments are on the top of policy agenda. Solving these tasks, presumably, would help to put the public debts on a downward path, to accommodate more dynamic economic growth and sustainable social development.

This paper investigates the underlying fiscal stance and debt position of Ukraine's government in European context as a legacy of global financial crisis; moreover, the impact of country specific problems, evolving since 2014, is distinguished. Next chapter focuses on calculation of the cyclically adjusted budget balance and fiscal impulse indicators for Ukraine. It highlights a highly pro-cyclical and restrictive fiscal policy stance in Ukraine that moved it on the top of international rank of countries with largest cyclically adjusted primary surpluses. Further chapter highlights factors affecting the size of fiscal multipliers and computes the short-term and medium-term fiscal multipliers in Ukraine. Finally, author draws policy recommendations targeted at restoration of the fiscal sustainability and supporting economic growth in Ukraine.

Fiscal impulse in Ukraine and its major implications

The cyclically-adjusted balance is an indicator revealing the underlying government fiscal position when cyclical components are eliminated from the revenue and expenditure aggregates. It corresponds to the budget balance prevailing if the economy is running at its potential. The cyclically-adjusted balance (CAB) remains to date one of the key indicators for the analysis and conduct of the fiscal policy.

In theory and practices the CAB is used for several purposes: (i) to separate the contribution of discretionary fiscal policy to a given change in the headline deficit from the effect of the economic environment, (ii) to assess a fiscal impulse, (iii) to examine whether a given fiscal policy is sustainable. CAB concept is the backbone of the EU framework of fiscal surveillance, both in its preventive and corrective arms.

I computed the CAB of Ukraine's consolidated budget over 2013-2016, assuming elasticity of revenues with regard to GDP as 1.1 and elasticity of expenditures with regard to GDP as 0. I took over potential GDP figures for Ukraine from Bogdan, Yara, Konovalenko [3]. They followed an approach of Knotek and estimated Ukraine's potential GDP on the basis of Okun's Law as $Yp = Yr / (1 – K*(Uact – Unat))$, where: K – Okun's coefficient (2.5); Uact – actual unemployment rate in respective year, Unat – natural unemployment rate (6%). Calculations reveal dramatically high cyclically-adjusted primary balance (CAPB) in 2015 that stood for +6.2% of GDP and a quite significant CAPB in 2014, equivalent to +1.9% of GDP. Table 1 reports the evolution of consolidated budget aggregates over 2013-2016 and dynamics of indicators used for calculation of the CABs and CAPBs in Ukraine.

Table 1. Cyclically adjusted primary balance and fiscal impulse of Consolidated Budget of Ukraine over 2013-2015 and planned for 2016

	2013	2014	2015	2016 pl.
Potential GDP, *bn UAH*	1510,5	1730,6	2146,9	2424,4
Cyclically adjusted budget revenues, *bn UAH*	457,9	501,7	713,0	750,7
Cyclically adjusted primary budget expenditures, *bn UAH*	473,2	478,7	596,8	696,2
Cyclically adjusted balance (CAB), *% of potential GDP*	-2,8	-1,0	2,1	-1,4
Cyclically adjusted primary balance (CAPB), *% of potential GDP*	**-0,6**	**1,9**	**6,2**	**2,7**
Fiscal adjustment as a change in CAPB over 1 year, *% of potential GDP*		2,5	4,3	-3,5

Source: author's calculations on the basis of State Treasury of Ukraine data.

According to my calculations, fiscal impulse measure (a difference between CAPBs of current and previous years) proved to be moderate in 2014 and extremely large in 2015: 2.5% of GDP and 4.3% of GDP, respectively.

IMF's debt sustainability analysis (DSA) framework suggests that the assessment of the realism of fiscal projections should consider both adjustments in the primary balance, as well as its level. Areas of concern arise when:

1) fiscal consolidation needs are larger than 3% of GDP (in terms of **adjustment of CAPB**).

2) if the maximum projected 3-year average **CAPB level** is over 3.5% of GDP.

IMF experts argue, that if the country is placed in above these ranges, this should raise a warning flag, since large adjustments in the primary balance may be both economically and politically unfeasible [4]. Thus, in 2015 Ukraine exceeded both of the IMF's "warning" thresholds, in the patterns of annual CAPB level by 1.8 times and in the patterns of CAPB annual change by 1.4 times.

As we've seen in Ukraine the CAPB stood for 6.2% of potential GDP in 2015. With this high value, Ukraine has occupied a top position in the rank of countries reporting to "Fiscal Monitor" of the IMF [5]. In this rank of CAPBs the close neighbors of Ukraine are Hong Kong and Dominican Republic. In Hong Cong CAPB of general government amounted to 3.5% of potential GDP and in Dominican Republic to 3.3% in 2015. Average value of CAPB approached to -1.6% of GDP in emerging markets and middle-income economies, -0.9% in advanced countries, and +1.1% of GDP in the euro-zone countries (see Table 2).

The magnitude of fiscal consolidation was quite significant in Ukraine and took a shape of both revenue-enhancing and expenditure-reducing measures. On the expenditure side, Government focused its efforts on the spending cuts related to human capital development, social support of vulnerable segments of the population and subsidies to enterprises. Under the real GDP contraction, the budget expenditure ratio to GDP went up by 0.3 p.p. over the last 2 years and 9 month. On the other hand, the budget revenue ratio increased by 3.8% through 2014-2015 and declined by 1.4% of GDP in 2016 (Table 3). Starting from 2016, almost twofold reduction in the social contribution rate has contributed to fiscal loosening, while personal income tax, VAT, excise, and real estate tax collections have been risen constantly over the last several years.

Table 2. Comparison of General Government Cyclically Adjusted Balances in Emerging Markets and Middle-Income Economies in 2015,
% of potential GDP

	Cyclically Adjusted Balances	**Cyclically Adjusted Primary Balances**
Argentina	-7.7	-6.4
Brazil	-9.3	-0.9
Chile	-2.0	-1.8
China	-2.4	-1.9
Columbia	-3.0	0.1
Croatia	-3.1	-0.1
Dominican Republic	0.4	3.3
Ecuador	-4.9	-3.5
Egypt	-11.5	-4.7
India	-7.1	-2.5
Indonesia	-2.4	-1.1
Malaysia	-3.3	-1.6
Mexico	-4.0	-1.2
Marocco	-4.9	-2.2
Peru	-1.8	-0.8
Philippines	0.0	2.0
Poland	-2.8	-1.1
Romania	-1.2	0.0
Russia	-2.4	-2.0
South Africa	-3.7	-0.4
Thailand	0.7	1.3
Turkey	-0.9	1.3
Uruguay	-4.1	-0.5
Average for above countries	***-3.6***	***-1.6***
Average for advanced countries	***-2.4***	***-0.9***
Average for euro zone countries	***-1.0***	***1.1***
Ukraine (2015)	**2.1**	**6.2**

Source: Fiscal Monitor of the IMF [5], author's calculations on Ukraine.

Both expenditure cuts and revenue increases contributed to a deficit reduction from 4.5% of GDP in 2014 to 1.6% of GDP in 2015. Over January-September 2016 the consolidated budget deficit amounted to 1.9% of GDP that was in contrast to the previous year's surplus equivalent to 2.3% of GDP. The looser fiscal policy seems to be explained by the suspension of the IMF program and by the resignation of Yatsenyuk government.

Fiscal statistics demonstrates a *painful adjustment process in the general government sector, that, unfortunately, was poorly guided by structural reforms in the affected areas and was implemented predominantly in the form of severe financial constraints*. In 2016 Government combined fiscal restrictions with bold loosening of labour taxation, that undermined sustainability of the pension system and imposed an additional burden on the State budget.

Public debt of Ukraine increased sharply in the course of global financial crisis, i.e. from 12.3% of GDP at the end of 2007 to 39.9% of GDP at the end of 2010. Moderate budget deficits in 2011-2012 (1.8 and 3.6% of GDP, respectively) contributed to debt stabilization. However, since 2014 public debt of Ukraine has started to increase sharply as a result of the economic downturn, sharp devaluations of the national currency and contingent liabilities recognition. In 2014 public debt ratio to GDP increased by 31 p.p. and in 2015 by 10.1 p.p.

Table 3. Consolidated budget of Ukraine in 2013-2016, *% of GDP*

	2013	2014	2015	9 mont.15	9 mont.16
Revenues	**29,1**	**28,7**	**32,9**	**33,5**	**31,5**
Personal income tax	4,7	4,7	5,1	5,0	5,9
Corporate profit tax	3,6	2,5	2,0	2,3	2,4
VAT (net)	8,4	8,8	9,0	9,3	10,1
Excise tax on domestically-produced goods	1,8	1,8	2,0	2,0	2,4
Excise tax on imported goods	0,6	1,1	1,2	1,2	1,5
Import customs duties	0,9	0,8	2,0	1,9	0,9
Royalties on land	0,8	0,8	0,7	0,8	1,1
Royalties on oil and gas	0,8	1,1	1,7	1,3	1,4
NBU profit transfers	1,9	1,4	3,1	3,4	0,0
Own revenues of budgetary institutions	2,5	2,0	2,1	2,3	2,1
Other categories of revenues	3,1	3,8	4,0	4,1	3,7
Expenditures	**33,2**	**33,0**	**34,3**	**33,1**	**33,3**
State administration	1,9	1,7	1,6	1,4	1,4
Debt service	2,2	3,1	4,4	4,4	4,6
Defence	1,0	1,7	2,6	2,3	2,4
Public order, security and judiciary	2,6	2,8	2,8	2,5	2,7
Economic activity	3,3	2,7	2,8	2,3	2,1
Environmental protection	0,4	0,2	0,3	0,2	0,2
Housing and communal services	0,5	1,1	0,8	0,5	0,6
Health care	4,0	3,6	3,6	3,2	2,8
Culture, arts and sports	0,9	0,9	0,8	0,7	0,7
Education	6,9	6,3	5,8	5,4	5,2
Social security and welfare	9,5	8,7	8,9	7,9	10,6
Net credits, extended by Government	**0,0**	**0,3**	**0,2**	**0,2**	**0,0**
Overall budget balance	**-4,2**	**-4,5**	**-1,6**	**2,3**	**-1,9**

Source: author's calculations on the basis of State Treasury of Ukraine and State Statistics Service data.

In March 2015 Ukrainian Government started negotiations on the public debt restructuring with private investors in foreign currency bonds, issued by Government and state-owned companies. The restructuring deal was agreed in November, it provided for a 20% haircut and rescheduling of the remaining principal with 7.75% annual service due. In addition, GDP-warrants have been issued, coming into force since 2021 under the condition that real GDP growth rates be higher than 3%.

At the end of 2015 central government debt amounted to 79.4% of GDP. Drafted budget for 2017 foresees peaking the government debt to 88% of GDP at the end of 2017. Foreign currency debt dominates the debt structure and makes public finance highly vulnerable to the shocks associated with exchange rate movements and foreign capital flows. All this evidence suggests that Government of Ukraine faced serious fiscal sustainability challenges and significant fiscal adjustment was inevitable. However, the pace and the magnitude of fiscal adjustment, undertaken in Ukraine, raise serious concerns about economic and social implications of fiscal tightening.

In the wake of global financial crisis a lot of Central and Eastern European economies experienced a limited fiscal space and low crisis mitigation capacity. Policymakers in these countries, willing to cushion the downturn, were not able to rely on discretionary stimulus packages, strong automatic stabilizers and favorable borrowing conditions. Major part of these problems have been attributable to the fact, that governments in emerging markets have more difficult access to interna-

tional capital markets and they tend to borrow more externally and more in foreign currency than their counterparts in advanced economies.

In view of the high debt level and cut-off the international capital market, Ukraine was not able to conduct countercyclical and expansionary fiscal policy that would cushion the economic downturn in 2014-2015. However, highly restrictive fiscal policy stance was not reasonable from economic point of view; it seems to be explained by a lack of qualitative fiscal institutions, implementation of the IMF-supported program, unfavorable government debt structure & liquidity constraints, and high tolerance of Ukraine's population to economic difficulties under the pressure of Russian military aggression.

In what follows, I attempt to identify the effects of restrictive fiscal policy on the level of income. Actually, over 2014-2015 and afterwards the main lever of the contraction of budget expenditures in real terms seems to have been the slow and minor indexations of the social benefits and wage bills in the budgetary sector under the high inflation. According to my calculations, the real wages in main branches of the general government have been left behind the average real wage in the whole economy. For instance, in education the real wage in the first half of 2016 dropped to only 67.9% of the wage level in 2013, in health care to 70.3%, in research and development to 69.7%, in culture to 60.2%, in state governance and defense to 64.7% as compared to 2013 wages.

International experience suggests that fiscal consolidation is regarded to be sustainable and unlikely to be reversed only if supported by general public. Ball et al., using episodes of fiscal consolidation in 17 OECD countries over the period of 1978-2009, found that fiscal consolidation has typically had significant distributional effects by raising inequality, decreasing wage income shares and increasing long-term unemployment [6]. Other studies also argue that fiscal consolidations are typically associated with elevation in the level of poverty and increase in the income inequality.

As to Ukraine, the degree of confidence of local population in political elite is quite low, therefore, compounding fiscal adjustments and related increase in the level of poverty are hardly to be sustained over the medium-term. Obviously, consolidation strategies, which are socially painful and perceived inequitable, are more likely to be reversed.

Except essential social implications, fiscal adjustments in many cases incur apparent economic costs, which are captured by the notion of fiscal multiplier. Consequently, the issues of reasonable pace and "optimal" structure of fiscal adjustment (that would turn fiscal tightening into growth-friendly and socially acceptable policy) draw a special attention of researchers and policy-makers.

Fiscal multipliers in global dimension and its magnitude in Ukraine.

Fiscal multipliers are typically defined as the ratio of a change in output to an exogenous and temporary change in the fiscal deficit with respect to their respective baselines. Thus, the fiscal multiplier measures the effect of one unit change in spending or one unit change in tax revenue on the level of GDP. Two concepts of fiscal multipliers are commonly used, i. e. short-term multiplier and medium-term multiplier.

There are many ways of calculating multipliers, with the approaches often associated with certain theoretical frameworks. The most advanced techniques and

models are (i) structural econometric, (ii) vector autoregressions (VARs), and (iii) simulation results from dynamic stochastic general equilibrium (DSGE) models.

Baunsgaard et al. review a total of 37 studies including both model based (DSGE) and VAR approaches. For those studies government spending multipliers range between 0 and 2.1, with a mean of 0.8 during the first year after fiscal measures are taken. Government revenue multipliers range from –1.5 to 1.4, with a mean of 0.3 [7].

Eyraud and Weber show that in recent years fiscal multipliers in advanced economies have been close to 1, significantly above the average multipliers found before the recent financial crisis [8]. The negative impact of fiscal tightening on economic activity is amplified by the large number of credit-constrained agents, by the depressed external demand, and by the limited room for accommodative monetary policy.

Review of the existing literature suggests that negative short-term effect of fiscal consolidation is largest for advanced economies, significant for emerging markets, and small for less developed economies [9, 10]. Empirical research by Estevão and Samake shows, that the size of fiscal multiplier depends crucially on the business cycle stance, composition of fiscal adjustment, its persistence (short- versus long-run horizons), degree of financial integration of the country and on the extent to which monetary policy accommodates fiscal tightening. A fiscal consolidation is found to be more contractive, if made during a recession than during an expansion [11].

Auerbach and Gorodnichenko [12], as well as Fazzari et al. [13] use VARs which allow the parameters to vary over expansions and contractions. The common finding of these studies is that fiscal multipliers are substantially larger during economic recessions.

Sin [14] examined the government spending multiplier in a small open economy where financial frictions are present at both country and international levels. He reveals, when access to international capital markets is free, the multiplier in a five-year crisis is the same as that in normal times at 0.9. However, when there are more frictions in international capital flows, the fiscal multiplier becomes much bigger in a liquidity crisis than in normal times; in some cases the value of the multiplier increases from 1.58 in normal times to 1.91 in a five-year liquidity crisis.

Mitra and Poghosyan (2015) were the first researchers who estimated the fiscal multipliers in Ukraine. By applying a structural vector auto regression, they show that Ukraine's near term fiscal multipliers are well below one. Specifically, the impact revenue and spending multipliers are -0.3 and 0.4, respectively. However, over the medium-term, the revenue multiplier becomes insignificant, while the spending multiplier strengthens to 1.4, with about the same impact from capital and current spending [15]. Their empirical study was based on quarterly data over the period from 2001:Q1 to 2013:Q4 (before the current economic crisis hit) without distinguishing the periods of economic upturns and downturns with different fiscal multipliers.

Batini, Eyraud and Weber (2014) identify two types of determinants of the size of fiscal multipliers: (i) structural country characteristics which influence the economy's response to fiscal shocks in "normal times;" and (ii) conjunctural/temporary factors (cyclical or policy-related phenomena) that make multipliers deviate from "normal" levels. Structural country characteristics include: trade openness; the size of automatic stabilizers; the exchange rate regime; the debt level; public expenditure management and revenue administration [16].

To compute the magnitude of fiscal multiplier in Ukraine, I used a "bucket approach", developed by above authors, who proposed to bunch countries into groups (or "buckets") that were likely to have similar multiplier values, based on their macroeconomic, structural characteristics, a state of the business cycle and monetary policy stance. The core hypothesis within a "bucket approach" is that in emerging market and low-income economies where empirical and model-based estimates are not widely available and often of poor quality, the multipliers are affected by the similar factors. Authors don't account for the fiscal package composition, as recent papers show that spending multipliers are not necessarily higher than revenue multipliers.

By considering different structural and macroeconomic characteristics, I assigned the Ukraine's economy with a score "0" for trade openness, "1" for labor market rigidities, "1" for small automatic stabilizers, "0" for fixed or quasi-fixed exchange rate regime, "0" for low/safe public debt level, and "0" for effective public expenditure management and revenue administration. The total score of Ukraine, that stand at "2", is judged as being far below the upper ceiling of 6. In view of this, Ukraine was included into the group of countries with low fiscal multipliers. For this group of countries, according to Batini et al., the first-year multiplier ranges from 0.1 to 0.3 (this range is to be applied only in normal times).

Next, I adjusted the ranges of fiscal multiplier for the business cycle and monetary policy stance, accounting for the fact that, for fiscal adjustments undertaken in the downturn of the business cycle or when the monetary policy is not accommodative, fiscal multipliers are proved to be higher. Batini et al. suggest, if the economy is at the lowest point of the cycle, both the lower and the upper bounds of the fiscal multipliers range are to be increased by 60%. If monetary policy is at the effective lower bound and is fully constrained, both bounds of the multiplier range are to be raised by 10-30%.

After the above-mentioned adjustments for Ukraine, the first-year fiscal multiplier is estimated to range from 0.2 to 0.6. The average value of this interval is regarded to be a first-year fiscal multiplier in Ukraine that is 0.4.

Moving on now to the calculation of medium-term fiscal multiplier, I used again the approach of Batini et al., who argue that output effect of an exogenous fiscal shock vanishes within five years, and this effect does not decline in a linear way but usually has an inverted U-shape, with the maximum impact occurring in the second year. Mineshima and others revealed that a second-year multiplier is, on average, by 10–30 percent higher than in the first-year [17]. I assumed a 4-year period of persistence of fiscal multipliers in Ukraine and incorporated the hypothesis about fiscal multiplier in the second year that is 20% higher than in the first year with damping power for the next two years. While calculating the Ukraine's medium-term fiscal multiplier I also accounted for the effect of credit constraints. Thus, on the basis of above assumptions and estimates, I derived the following values:

First-year multipliers is 0.40
Second-year multipliers is 0.48
Third-year multipliers is 0.29
Forth-year multipliers is 0.14
Overall medium-term multiplier is 1.31

Taking into account the estimated values of fiscal multipliers, I calculated the medium-term impact of 2014-2015 fiscal adjustments. The results of these calculations are presented in Table 4.

Table 4. Medium-term effects of fiscal adjustments in 2014-2015,
% of real GDP decline

	GDP decline driven by fiscal adjustment-**2014** (2.5% of GDP)	GDP decline driven by fiscal adjustment-**2015** (4.3% of GDP)	Total GDP decline
2014	1,0	-	1,0
2015	1,2	1,7	2,9
2016	0,7	2,1	2,8
2017	0,4	1,2	1,6
2018	-	0,6	0,6
Total 2014-2018	**3,3**	**5,6**	**8,9**

Source: author's calculations.

Thus, Ukraine's real GDP is estimated to have shrunk through discretionary fiscal measures by 1% in 2014 and by 2.9% in 2015; it is predicted to shrink further by 2.8% in 2016, by 1.6% in 2017 and by 0.6% in 2018. ***Summing up: our calculations suggest that the radical fiscal adjustment of 2014-2015 has contributed to significant GDP declines in 2014-2016 and its effect will be pronounced also over the years 2017-2018. It will bring about a total medium-term real GDP fall by 8.9%.***

The output effect of discretionary fiscal policy-2016 needs to be calculated on the basis of annual data on budget execution. However, if we assume that at the end of 2016 the consolidated budget deficit will amount to 100.6 bn UAH or 4.4% of GDP as planned, fiscal policy will become expansionary and provide a positive fiscal impulse in the magnitude of 3.5% of GDP. In this case, *the impact of looser fiscal policy in 2016, probably, will lead GDP to grow by 1.4% in 2016, by 1.7% in 2017 and by 1% in 2018.*

Thus, in view of quite significant contribution of fiscal adjustment to the overall GDP decline, low tolerance of Ukraine's population to further elevation of poverty and deterioration of public services, the pace of fiscal adjustment has to be reasonable. Even the IMF (2016b) recognizes that speed of fiscal adjustment should be consistent with the economic environment, so as not to undermine the recovery, and the composition of fiscal consolidation package should be calibrated to reduce the short-term drag on economic activity. In social dimension fiscal consolidation strategies, which are socially painful and perceived inequitable, are supposed to be risky with high probability of being reversed. In democratic societies fiscal consolidations may be sustained over a medium-term only if supported by the general public.

Fiscal adjustment instruments and their desirable mix

Even after radical fiscal adjustment in 2014-2016, under the current high debt burden, reshuffling of government revenue and reduction of some expenditure items are still needed in Ukraine. A strand of literature argues that fiscal consolidation is in general contractionary in the short run, and it can be expansionary in the medium run, if properly designed and implemented.

Economic theory suggests some insights into how fiscal policies can support growth. For revenues, at an aggregate level, taxation of income tends to be more harmful to growth than taxation of consumption. Consumption taxes discourage neither savings nor employment. Some taxes, i. e. environmental taxes, can even

improve resource allocation and correct market failures. Taxation of capital income reduces the return on savings and investment, thus discouraging both domestic and foreign investments, and containing productivity improvements. On the expenditure side, public investment can boost returns to private investment, raise productivity and promote technological progress, and, therefore, is generally supportive to economic growth. Similarly, health and education spending can support human capital accumulation. By contrast, subsidies in most cases distort the allocation of resources and harm growth. Transfers such as unemployment benefits can reduce employment incentives and worsen labor market outcomes. There are no clear theoretical priors for spending on goods and services. Excessive levels of public consumption can be inefficient and growth-damaging. However, public consumption is comprised of basic public services which economies need to operate efficiently (International Monetary Fund [1]).

The IMF suggests that a composition of the fiscal consolidation, as determined by the mix of revenue and expenditure measures, has important implications for growth, employment, investment, and other key macroeconomic variables. A reduction in current expenditures yields the smallest GDP contraction in the short term and can increase output in the long term by stimulating labor participation and private investment. On the other end of the spectrum, a fall in government investments and corporate taxes are the most costly, as disincentives for private investment result in protracted declines in GDP.

The OECD's experts argue that output-enhancing effect of reducing government spending is likely to be stronger in the areas such as subsidies where public expenditure frequently distorts the allocation of resources in the economy. Similarly, cuts in public spending that can prompt a positive response of labour utilisation, such as in pensions, are likely to have a favorable effect on the long-term level of output per capita. From the other hand, spending reductions can entail potentially large long-term losses in output when they fall into areas where governments provide particularly valuable public goods. As to the revenue part, the OECD has developed a "tax and growth ranking", according to which taxation of corporate profits has the most adverse impact on growth, followed by labor taxation. By contrast, recurrent taxes on immovable property are the least distortive tax instrument, followed by broad-base consumption taxes, particularly VAT (OECD [18]). Table 5 summarizes the main OECD findings and reports the effects of fiscal consolidation tools on growth and equity.

Having applied the OECD framework, we arranged Ukraine's fiscal consolidation instruments into 2 groups, conditional on their estimated effect on economic growth in long run: positive effect - beneficial policy, negative effect - harmful policy. Table 6 reveals the magnitude of specific expenditure and revenue categories in terms of their budgetary saving or revenue enhancing effect, achieved over 2014-2015 and planned for 2016.

The most powerful effect seems to be produced by real pensions decline. Pension fund expenditures are estimated to decline by 5.5% of GDP over 3 years. Although depreciation of real values of pensions and wages in public sectors contributed a lot to degradation of human capital and to elevation of poverty in Ukraine, from the point of view of their aggregated impact on long-term growth, it might be positive (this effect operates through better labour utilization).

Table 5. Impact of fiscal consolidation tools on growth and equity

	Economic growth		Equity	
	Short-term impact	**Long-term impact**	**Short-term impact**	**Long-term impact**
Spending cuts				
Education	--	--	-	--
Health services	--	-	-	-
Other government consumption (excluding family policy)	--	+	-	
Pensions	-	++		
Sickness and disability payments	-	+	--	-
Unemployment benefits	-	+	-	
Family benefits	-	-	--	--
Subsidies	-	++	+	+
Public investments	--	--		
Revenue increases				
Personal income taxes	-	--	+	+
Social security contributions	-	--	-	-
Corporate income taxes	-	--	+	+
Environmental taxes	-	+	-	
Consumption taxes (other than environmental)	-	-	-	
Recurrent taxes on immovable property	-			+
Other property taxes	-		++	+
Taxes on sales of goods&services	-	+	-	-

Source: OECD [18, p. 13].

Table 6. Evaluation of fiscal consolidation instruments in Ukraine from the standpoint of their long-term effect on economic growth,
(budgetary effect of relevant instrument in % of GDP)

	2014	**2015**	**2016**	**3 years total**	**OECD, long-term impact**
Beneficial policy*					
Fall in real pensions*	-1,7	-2	-1,8	-5,5	2 plus
Drop in subsidies for coal industry	-0,4	-0,5	0	-0,9	2 plus
Rise of royalties for oil, gas and other minerals	0,3	0,4	n.a.	0,7	1 plus
Drop of subsidies for agriculture	-0,2	0	-0,1	-0,3	2 plus
Small spending cut on state administration	-0,2	-0,1	0,2	-0,1	1 plus
Growth of capital expenditures	-0,6	1,1	0,6	1,1	2 plus
Corporate income tax reduction	-1,1	-0,5	0,3	-1,3	2 plus
Harmful policy					
Education spending cut	-0,6	-0,5	-0,2	-1,3	2 minus
Rise of personal income tax	0	0,4	0,4	0,8	2 minus
Health care spending cut	-0,4	0	-0,5	-0,9	1 minus

* human capital and equity considerations are not accounted for.

Source: compiled by authors on the basis of own assessments of beneficial and harmful instruments, numerical values are taken over from Table 1 and budget plans for 2016.

However, at disaggregated level *contraction of government consumption and of basic public services supplies, which economies need to operate efficiently, may be harmful. Areas of concerns in this regard are education and health care*. Budgetary financing of education is expected to fall by 1.3% in the course of 2014-2016, and financing of health care by 0.9% of GDP. Inevitably, such policy will bring about a serious deterioration of human capital and loss of labor productivity that will yield negative long-run effects on economic growth.

Rise in personal income taxation is also considered as a harmful policy instrument, since growing the tax burden tends to reduce labour supply. In Ukraine, a rise in the basic tax rate, introduction of a war tax and passive income tax yielded 0.8% of GDP of extra revenues to budget.

Among **beneficial policy instruments** we should mention:

- cut of subsidies for coal industry and agriculture (budgetary effect of 0.9% of GDP and 0.3% of GDP, respectively);
- small spending cut on state administration (economy of 0.1% of GDP);
- rise of royalties for oil, gas and other minerals (extra revenues of 0.7% of GDP).

Presumably, improved economic resource allocations, driven by minimizing government subsidies, lower administrative burden on the economy, as well as better pricing of mineral resources and taxing of the natural rent will effect positively economic development in long run. Moreover, these instruments are likely to have a positive impact on equity.

As beneficial policy instruments we should also note a drop of corporate income tax and growth of capital expenditures. Although these changes have nothing in common with fiscal consolidation, their estimated impacts on long-term growth are likely to be positive.

Summing up, ***a future fiscal consolidation path should rely on instruments with a positive effect on economic growth in the long run and minimum or neutral effect on growth in the short run. Government should go ahead with the fiscal consolidation instruments, mentioned in Table 6 as beneficial, and suspend cutting down expenditures on education and health care*** *(see recommendations below for details);* ***moreover, a gradual restoration of the real value of wages in general government sector via indexation mechanism is advisable***.

Conclusions and policy recommendations

Significant magnitude and quite fast pace of fiscal consolidations in the EU helped to reduce the average fiscal deficit from 6.4% of GDP in 2010 to 2.4% in 2015. Fiscal consolidation is still needed in many countries of the EU since debt ratios exceed threshold value of 60% in 16 among 28 economies. However, a lot of scientists and policymakers raise the concerns about large economic and social costs caused by radical fiscal adjustments in the EU. Research and policy recommendations as to the pace, magnitude and structure of fiscal adjustments in the EU and neighboring countries are on the top of policy agenda.

To estimate a fiscal impulse in Ukraine, I calculated the cyclically-adjusted primary balances (CAPBs) of Ukraine's consolidated budget over 2010-2015 and revealed a dramatically high CAPB in 2015, that stood for +6.2% of GDP. With such magnitude of CAPB, Ukraine has occupied a top position in the rank of countries, reporting to "Fiscal Monitor" of the IMF. Ukraine's fiscal impulse measure proved to be moderate in 2014 and quite high in 2015 (4.2% of GDP). On the expenditure side, Government focused its efforts on the spending cuts related to human capital development, social support of vulnerable segments of the population and subsidies to enterprises. Under the real GDP contraction, the budget expenditure ratio to GDP went up by 0.3 p.p. over the last 2 years and 9 month. On the other hand, the budget revenue ratio increased by 3.8% through 2014-2015 and declined by 1.4% of GDP in 2016.

To compute the magnitude of fiscal multipliers in Ukraine, I followed a "bucket approach", developed by Batini, Eyraud and Weber [16]. The 1st-year fiscal multiplier in Ukraine is estimated to be 0.4 and medium-term multiplier 1.3. On the basis of these, I calculated the effect of fiscal adjustment on output. Real GDP is estimated to have shrunk by 1% in 2014, by 2.5% in 2015, and predicted to shrink further by 2.8% in 2016, 1.6% in 2017 and 0.6% in 2018. Thus, according to our estimation, a radical fiscal adjustment of 2014-2015 will contribute to real GDP decline by 8.9% over the medium term.

I argue that a gradual fiscal consolidation spanned over several years and choosing the right mix of the fiscal instruments, may reduce the adverse effects of consolidation on economic growth and social equity. I suggest that Ukraine's Government should go ahead with the following **instruments of fiscal consolidation**: a further cut of direct subsidies to enterprises and elimination of tax exemptions; a rise in ecological tax and excise taxes with noticeable effects on rich categories of population and energy consumption; a consolidation of numerous social benefits programs, extending the scope of the means of testing for the majority of government programs, a design of the comprehensive pension reform, aimed at equalization of Pension Fund revenues and expenses (in short run a rise in the retirement age and elimination of the privileged pensions are advisable).

As to education and health care, I recommend a suspension of fiscal austerity measures in these sectors and planning their higher budgetary financing in 2017-2019. Notable rise in budgetary allocations for *health care sector* and reforms-driven redistribution of spending within a sector are essential. The most challenging structural reforms are strengthening primary and emergency care, rationalizing hospitals (in-patient services), transforming the model of health care financing from the input-based towards output-based. Sufficient budgetary financing, including capital investments into the sector, must back all these reforms. As to *education sector*, in view of the current distortions, some redistribution of public spending in favour of primary and secondary education is advisable. To my mind, Government should retain the overall financing of education in relative terms at the level of 2016 and allocate more budgetary funds towards investments into the physical infrastructure, software, information resources, etc. for both secondary and higher schools.

As a short-term measure I also recommend to put a **temporary legislative ban on the government bail-out transactions**. While consolidated budget deficit stood for 1.6% of GDP in 2015, the government issued T-bills with a face value of 3.9% of GDP in order to cover the operational losses of banks, "Naftogas" and Deposit Guarantee Fund. These transactions were recorded as acquisition of the financial assets by government, which failed to compound the size of budget deficit. However, they contributed directly to the huge increase in public debt of Ukraine. For 2016 the IMF-supported program envisions further accumulation of public debt for banks support in the amount of 7.3% of GDP. Such a situation raises serious equity concerns: while millions of Ukraine's inhabitants suffer from a higher tax burden and declining social benefits and real wages, big state-owned companies and banks are abundantly supplied with government funding, which is spent without appropriate control and fuels corruption schemes. Government bail-out transactions are carried out in a non-transparent way, lack legislative authorization and proper accountability. From the point-of-view of equity, efficiency and debt sustainability considerations, the fiscal adjustment pro-

gram should extend its coverage beyond a conventional budget and grasp all public funds, including those related to recapitalization of state-owned companies and banks.

To sustain the size of a public debt in the long run and to improve the investors' confidence a **proper design and enforcement of the fiscal rules** are advisable. In particular, I recommend imposing a long-lasting constraint on cyclically-adjusted deficit of the general government, extension of the coverage in debt rule beyond the central government, and introducing an automatic correction mechanism. Cyclically-adjusted balance rule, as compared to conventional balance rule, allows a counter-cyclical conduct of fiscal policy that smoothen economic fluctuations. Among Ukrainian scientists, Gasanov, Kudryashov and Balakin [19] also emphasize the expediency of incorporation of budget balance rule and automatic debt correction mechanism into the budgetary legislation of Ukraine.

In Ukraine only the central government is liable to debt rule (of 60% of GDP), while in international practices the limits on general government debt are used more frequently. Thus, debts of the municipal governments and of social insurance funds have to be included into the debt rule coverage in Ukraine. Moreover, the EU experience suggests that fiscal rules' enforcement and credibility are strengthened by automatic correction mechanisms (that specify in advance when and how to correct deviations from the fiscal rule).

Since Government of Ukraine has overrun a debt limit and such a breach has been in place for 2 years without any implications, an *automatic correction mechanism* is a matter of the utmost urgency. I recommend including into the budgetary legislation the following provisions:

- until a general government debt ratio converges to the benchmark level (60% of GDP), government is obliged to prepare a balanced budget, excluding the periods of foreign troops invasion into the territory of Ukraine;
- transfers from the State budgets to the social insurance funds mustn't exceed the absolute amount of transfers in the previous year;
- government is prohibited to assume any financial obligations which don't provide for the inflows of borrowed funds into the consolidated budget;
- government entities are prohibited to issue any loans from the State and municipal budgets.

Finally, **improvements in the government debt structure** are essential for enhancing the fiscal space in Ukraine and efficient public debt management. In particular, I advise to strengthen the domestic capital market, to decrease the issuance of foreign-currency denominated debt, to float more long-term bonds, to establish a proper risk assessment and integrate a management of contingent liabilities into the debt management practices.

A deep and liquid domestic market for government securities is a naturally-determined outcome of persistent macro-financial stability, high degree of confidence in government policy, protection of the creditors' and investors' rights. However, **to push the government bonds market development** these efforts need to be supplemented by the following technical and organizational measures:

- regular issuance of the government domestic bonds with benchmark maturities (6, 12 month, 2 and 3 years), that enable to create a "yield curve", enhance the market liquidity and raise the investors' demand;

- more transparency and predictability of the government's borrowing and debt transactions for market agents, conduct of a regular dialog and mutual negotiations between government agencies and market agents;
- reliable forecasts of the government cash flows and efficient cash flows management, targeted at accurate assessment of the government financing needs;
- setting up broad and competitive channels for the sales and purchases of the government bonds (auctions, syndications, offers for the retail investors, etc.);
- assignment of the primary dealers with the functions of bid and ask quotation on the secondary market and their operation as the market-makers for a predetermined list of government bonds.

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