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MACROECONOMIC EFFECTS OF FISCAL POLICY TRANSMISSION MECHANISM UNDER FINANCIAL CRISIS

Досліджено вплив елементів трансмісійного механізму бюджетно-податкової політики на реальний сектор економіки. Висвітлено головні підходи до виокремлення елементів передавального механізму бюджетно-податкової політики та дієвості впровадження відповідних заходів. Запропоновано формалізований опис впливів фіскальних імпульсів на основні макроекономічні показники. Вказано на необхідність застосування виваженої макроекономічної політики з метою виходу з фінансово-економічної кризи. Застосовуючи логічний метод та порівняльний аналіз, автор здійснив спробу сформулювати головні принципи оподаткування, здійснення державних витрат та управління державним боргом. Окреслено основні шляхи розробки фінансової політики.

Ключові слова: трансмісійний механізм бюджетно-податкової політики, оподаткування, державні витрати, сукупний попит, бюджетний дефіцит.

Исследовано влияние элементов трансмиссионного механизма бюджетно-налоговой политики на реальный сектор экономики. Высветлены основные подходы к выделению элементов трансмиссионного механизма бюджетно-налоговой политики и действенности внедрения соответственных мер. Предложено формализованное описание влияния фискальных импульсов на основные макроэкономические показатели. Обоснована необходимость применения взвешенной макроэкономической политики с целью выхода из финансово-экономического кризиса. Используя логический метод и сравнительный анализ, автор попытался сформулировать главные принципы налогообложения, осуществления государственных расходов и управления государственным долгом. Очерчены основные пути разработки финансовой политики.

Ключевые слова: трансмиссионный механизм бюджетно-налоговой политики, налогообложение, государственные расходы, совокупный спрос, бюджетный дефицит.

The paper focuses on specific effects of each of the element of fiscal policy transmission mechanism on real economy sector. Key approaches to fiscal policy implementation and fiscal transmission channels definition are highlighted. A formalized description is suggested as to the effect of fiscal impulses on main macroeconomic indices. A necessity of implementing of macro-prudential fiscal policy aimed to meet the financial crisis is emphasized. Using logical method and comparative analysis, the author made an attempt to formulate general principles of taxation, expenditure, and government debt management. Crucial ways to design financial policy are outlined.

Keywords: fiscal policy transmission mechanism, taxation, government spending, aggregate demand, budget deficit.

The current crisis, which started in the housing and financial sectors, has led to a strong fall in aggregate demand, reduction of output, and increase in unemployment. A successful policy package should address these appearances of financial crisis. During past two decades fiscal policy was a second-rate (compared to monetary policy) macroeconomic measure. The reasons were: skepticism about the effectiveness of fiscal policy (connected with Ricardian equivalence), lags in the implementation of fiscal policy, large variety of fiscal policy instruments, thus a complexity of its design and implementation.

The crisis has returned fiscal policy to center stage as a macroeconomic tool for two main reasons: first, to the extent that monetary policy, including credit and quantitative easing, had largely reached its limits, policymakers had little choice but to rely on fiscal policy. Second, from its early stages, the recession was expected to be long lasting, so that it was clear that fiscal stimulus would have ample time to yield a beneficial impact despite implementation lags [1, p. 9].

Range of issues concerning fiscal policy transmission mechanism was researched by a great number of scientists: V. Bazylevych, O. Baranovskyi, R. Barro, O. Blanchard, Ch. Blankart, A. Chuhno, V. Fedorov, V. Lepushynskyi, I. Lunina, G. Mankiw, R. Musgrave, V. Mishchenko, V. Oparin, I. Radionova, D. Romer, A. Socolovska, A. Somyk, O. Vasylyk et al.

The purpose of this paper is to demonstrate how fiscal policy transmission mechanism influences a real economy and to draw attention to the necessity of macro-prudential fiscal policy implementation under financial crisis.

Fiscal policy is governmental influence on economy through taxation, amount and structure of government expenditures aimed at securing full employment, avoiding and reducing inflation and disruptive influence of economic fluctuations [2, p. 690].

Effects of fiscal policy transmission mechanism were highlighted within at least two research paradigms – neo-classical (A. Hansen, J. Hicks) and Keynesian (J. M. .Keynes, G. Mankiw, R. Mundell).

Keynesians claim that fiscal policy can have strong effect on aggregate demand, output and employment when the economy is operating below full capacity national output, and where there is a need to provide a demand-stimulus to the economy.

J. M. .Keynes was the first who described fiscal policy effects. Government expenditures increasing and tax decreasing are main tools of expansionary fiscal policy aimed to extend aggregate demand (including customer and investment demand) and effective demand as a convenient way of macroeconomic stabilization.

$$G{\uparrow}(T{\downarrow}) \to AD{\uparrow} \to C{\uparrow}, I{\uparrow} \to AD^{ef}{\uparrow} \to$$
$$AD{=}AS \to Y{\uparrow} \to U{\downarrow} \to L{\uparrow} \to U{=}U^{*} \qquad [3]$$

A formalized description of fiscal impulse was provided for the first time within IS-LM model [4]. J. Hicks takes into consideration a multiplier: increasing of government expenditures equal to ΔG will extend output by $m_G{*}G$:

$$G{\uparrow} \to AD{\uparrow} \to Y{\uparrow}.$$

The following deficit in the money market raises an interest rate. Accordingly, investment and output fall:

$$Y{\uparrow} \to i{\uparrow} \to I{\downarrow} \to AD{\downarrow} \to Y{\downarrow}.$$

As we can se, there is a crowding out effect because of money market which reduces multiplicative effect.

According to Mundell-Fleming model, fiscal policy is effective under fixed exchange rate [5; 6].

Monetarist economists, on the other hand, insist that government spending and tax changes can have only a temporary effect on aggregate demand, output and employment. They also affirm that monetary policy is a more effective instrument for controlling demand and inflation. They do not support relying on fiscal policy as a counter-cyclical measure.

To sum up macroeconomic effects of fiscal policy according to different theoretical models we can use the table below.

Table 1. **Predicted effects of an expansionary fiscal policy on main macroeconomic indices**

Model	L^S	L^D	L	Y	W	C
Standard neoclassical	↑	=	↑	↑	↓	↓
Enriched neoclassical	↑	=	↑	↑	?	↑
Standard new Keynesian	↑	↑	↑	↑	↑	?
Enriched new Keynesian	↑	↑	↑	↑	↑	↑

Notes: ↑ signifies an increase, ↓ signifies a decrease, = signifies no change, ? signifies an uncertain change.
Source: [7].

Fiscal policy transmission mechanism is not exhaustively examined yet. That is why there is no generally accepted point of view on the issue of the elements of such a mechanism. For instance, E. Alimpiev discerns two key channels:

- budget channel: $G{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$;
- tax channel: $T{\downarrow} \to Y^D{\uparrow} \to C{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$ [8, p. 24].

G. Riley pays more attention to tax side of fiscal policy. Therefore he distinguishes the following elements of expansionary fiscal policy [9]:

- $T_{personal\ income}{\downarrow} \to (Y-T){\uparrow} \to C{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$;
- $T_{indirect}{\downarrow} \to P{\downarrow} \to ((Y-T)/P){\uparrow} \to C{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$;
- $T_{corporate}{\downarrow} \to$ "Post tax" profits${\uparrow} \to I{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$;
- $T_{on\ interest\ from\ saving}{\downarrow} \to (Y-T){\uparrow} \to C{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$.

As we can see, each of these element acts through disposable income (Y-T) or disposable profit (not through propensity to consume).

E. Baldacci, A. L. Hillman, N. Kojo discern channels of fiscal policy transmission mechanism using as basis intermediate link of such a mechanism. The key channels are:

- factor productivity, which is anticipated to be the principal transmission channel for expansionary fiscal adjustments in low-income countries
- investment, which is a channel prospectively linking fiscal policy and growth. Sustained reductions in government budget deficits increase private investment through reduced real interest rates and enhanced price and external stability [10].

Assume that there are two types of fiscal policy interventions: firstly, changes in government expenditures, secondly, changes in taxes. Each type of intervention has a different way of affecting the economy, thus – a different results of such an influence (equal amounts of tax cut and expenditures increase have different transmission mechanism and different changes in the level of output.

Borrowing is a measure to make up the excess of government expenditures and lack of tax revenues as a result of stimulating economy. However, government debt management is a certain fiscal policy instrument, thus deficit and government debt assumed to be a discrete fiscal transmission channel.

In turn, government expenditures can be split in government purchases, government investment, social transfers and government debt servicing cost. Certain elements of government expenditures differ in theirs influence on key macroeconomic indices.

A direct influence of social transfers on average income level within households: $Tr{\uparrow} \to Y{\uparrow}$.

Government purchases influence aggregate demand through commodity market: $G{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$.

Government investment affects resources owners' incomes through resource market: $G{\uparrow} \to I{\uparrow} \to (K, L)^D \to Y{\uparrow}$ [11].

Debt servicing costs can be really huge to involve a country into a debt crisis: $Def{\uparrow} \to B{\uparrow} \to G_{debt\ servicing}{\uparrow} \to Def{\uparrow}...$

Changes in taxes take the form of lump sum taxes (theirs amount doesn't depend on revenue: land tax, real estate tax) and distortionary taxes (labor taxes, corporate taxes, value-added taxes, assessments to social funds).

Subject to way of implementing fiscal policy instruments can be divided into discretionary and automatic.

Discretionary fiscal changes are intentional changes in taxation and government spending. They include lump sum taxes (amount of which can be regulated by tax rate altering), government purchases and investment. Discretionary fiscal policy has two shortcomings: firstly, it suffers from implementation lags, including a political decision-making process influenced by multiple (possibly contradictory) considerations; secondly, discretionary policy is not automatically reversed when the economic cycle improves, giving rise to a potential deficit bias.

Automatic fiscal changes are changes in tax and government spending arising automatically as the economy moves through decline and growth of the business cycle. Automatic stabilizers of fiscal policy consist of automatic changes in tax returns under progressive tax system, in unemployment benefits and social transfers are parts of automatic stabilizer. The automatic stabilizers reflect revenue and some expenditure items that adjust automatically to cyclical changes in the economy Built-in automatic stabilizer is an economic mechanism, which reacts to changes in macroeconomic situation automatically, without any governmental decision-making process.

Automatic stabilizers do not suffer from the shortcomings of discretionary fiscal policy. Their implementation is well-timed and gradual as tax and expenditure respond in a countercyclical way. No political decisions are required. That means implementation lags are minimized. As for fiscal sustainability, automaticity also provides a timely turnaround of a fiscal expansion; videlicet the fiscal loosening during a recession is automatically followed by a tightening on the rise. This may enhance the impact of a fiscal expansion on demand with respect to discretionary action, as the latter may raise solvency concerns and affect interest rates [12].

As for tax policy, it seems possible to boost consumption by increasing propensity to consume due to tax reducing as consequence of automatic stabilization:

$$T{\downarrow} \to c{\uparrow} \to C{\uparrow} \to AD{\uparrow} \to Y{\uparrow}.$$

While choosing fiscal stimulus instrument it is necessary to take into consideration the fact that government purchases multiplier is larger than tax multiplier. This statement is proved theoretically (for instance, [13, p. 80 – 83]) and confirmed empirically [14, 15]. Thereby economy (including Ukrainian economy) is more responsive to increasing in government spending (especially purchases and investment) than to tax cut or social transfers. An explanation is as the follow. Government purchases and investment directly influence aggregate demand (taking into account a corresponding multiplier): $G{\uparrow} \to AD{\uparrow} \to Y{\uparrow}$. However there is a caveat: the scale of waste in the public sector is high.

Tax cutting and social transfers' assignment leave assets within households where they could be split in consumption, saving for investment and precautionary saving.

The last one reduces an amount of assets disposable in economy, thus causes inefficiency:

$$\left\{ \begin{array}{l} C\uparrow \rightarrow AD\uparrow \rightarrow Y\uparrow \\ T\downarrow, Tr\uparrow \rightarrow (Y\text{-}T)\uparrow \rightarrow \ S\uparrow \rightarrow I\uparrow \rightarrow AD\uparrow \rightarrow Y\uparrow \\ S_{precaut}\uparrow \rightarrow S > I \rightarrow Y < Y^* \end{array} \right.$$

Indirect taxes act through price level: $t\downarrow \rightarrow P\downarrow \rightarrow (M/P)\uparrow \rightarrow C\uparrow \rightarrow AD\uparrow \rightarrow Y\uparrow$. Nevertheless indirect tax changing causes consumption distortions, consequently a risk of excess tax burden is high in this case.

In a case of debt financing of budget deficit the transmission mechanism will be the next.

$$\left\{ \begin{array}{l} I^D\downarrow \rightarrow K\downarrow \rightarrow \ MPL\downarrow \rightarrow W\downarrow \\ G>T\rightarrow Def\uparrow \rightarrow B\uparrow \rightarrow i\uparrow \rightarrow \\ I^F\uparrow \rightarrow q\uparrow \rightarrow NX\downarrow \rightarrow AD\downarrow \rightarrow Y\downarrow, TB<0, BP>0 \end{array} \right. \left\{ \begin{array}{l} \\ MPK\uparrow \rightarrow Profits\uparrow \\ \ \end{array} \right.$$

Government borrowing provokes interest rate boosting aimed to cover extra risks. On the one hand, domestic investment falls so far as the money is more expensive. Thereby reduced amount of capital in economy incites marginal productivity of labor decreasing and marginal productivity of capital rising. Consistent simultaneous wage cutting and profits increasing aggravate economic inequality in society.

On the other hand, foreign investment increasing and domestic currency revaluation provoke aggregate demand falling in the part of net export. In addition, imbalance between trade balance and balance of payment favours flight of capital out of a country.

The resulting higher debt burdens may have long-term consequences which are far worse than the short-term increase in GDP. Analysis shows that the crowding-out effects of government debt are substantial, both at home and abroad. Fiscal deficits lead to a substantial deterioration in the current account, about half the size of the decline in the revenue-to-GDP ratio, during the entire period of fiscal loosening [16, p. 43].

Conclusion. To sum up, we frame certain principles of macro-prudential fiscal policy.

Firstly, to choose fiscal instrument, it is necessary before to estimate and compare benefits from multiplied effect of government purchases and detriments from implicit waste rates.

Secondly, it is required to elect the more effective tax instrument: lump sum taxes influence disposable income (so, this is a derivative fiscal stimulus), while automatic stabilizers affects propensity to consume causing however customer choice distortions.

Thirdly, the policymakers should weigh positive multiplier and negative crowding out effects.

Fourthly, to weigh tax revenues and excess tax burden before new tax imposing.

Ultimately, concerning debt policy, to evaluate short-term benefits from budget balancing and long-term loss connected with a debt burden.

These theoretical generalizations require future empirical evidence and corresponding detailed models of macro-prudential fiscal policy.

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LAND MARKET FORMATION IN UKRAINE: KEY OPPORTUNITIES AND THREATS

В статті досліджено можливий вплив формування ринку землі на українську економіку. Зазначено ключові можливості та загрози для ринкового регулювання землеволодіння та землекористування. Визначено головні проблеми концентрації та централізації на ринку землі. Запропоновано способи запобігання монополізації на ринку землі.
Ключові слова: ринок землі, ціна землі, землеволодіння, землекористування, концентрація земель.

В статье исследовано возможное влияние формирования рынка земли на украинскую экономику. Указаны ключевые возможности и угрозы для рыночного регулирования землевладения и землепользования. Обозначены главные проблемы концентрации и централизации рынка земли. Предложены способы ограничения монополизации на рынке земли.
Ключевые слова: рынок земли, цена земли, землевладение, землепользование, концентрация земель.

The paper examines possible effects of land market formation on Ukrainian economic system. Key opportunities and threats are pointed out for market regulation of land tenure and land use. Major problems of land market concentration and centralization are identified. Ways for avoiding monopolization on land market are suggested for governmental policy.
Keywords: land market, land price, land tenure, land use, land concentration.

Land market formation can be considered as a final stage of national economy liberalization. Therefore, this process can lead to serious problems in land ownership and land redistribution, while decreasing role of government in land use regulation. Moratorium on land sale will soon be repealed in Ukraine and agricultural land market will start functioning [1]. Sure enough, legal basis, land condition, as well as the condition of land improvement systems and facilities should have been well prepared by that time – which is still arguable question. Uncertainty about results of land market formation in Ukraine causes necessity for detailed research of possible consequences, opportunities and threats of land reform.