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## **Twin Deficits and Fiscal Spillovers in the European Periphery (Candidate Countries to EU Accession): A Keynesian Perspective**

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### **Abstract**

This study examines how fiscal policy affects the economy in order to assess the degree of uncertainty around public finances. The Financial Approach focuses on the collection and utilization of private property by public administration. The title of this paper indicates that it deals with dynamic tax policy concerns. These include the relationship between long-term expectations and short-term outcomes, the impact of fiscal policy on capital formation, economic development, and intergenerational equity, and the extent to which current policies impede the introduction of potential future policies. Dynamic analysis has recently surpassed static analysis in a number of economic fields. It is appropriate to focus on the monetary strategy in particular because it has been modified and adjusted over time in the Republic of Moldova. These adjustments are frequently made beforehand, while they occasionally take into account the present financial situation when it wasn't mentioned before. It should not be shocking that financial variables are always shifting. The direction of the economy is affected by the current policy changes, which ineluctably call for other policy adjustments in the future. The expectation of these future adjustments, however, also has an impact on the current outcomes since it ensures that the consequences of past monetary actions remain, even in the absence of the entire future financial arrangement.

**Keywords:** fiscal policy, budget fiscal deficit, primary account deficit, value-added tax, taxation.

### **1. Introduction**

The share of the world's population that needs to be saved has declined in recent decades. In 1981, 33 % of the world's population lived in poverty, compared to 18 % in 2001 and 9 % in 2020, according to Chen and Ravallion (2004). In medium term countries such as Moldova and Romania, the rot is mainly due to rapid monetary growth. In spite of this, in the cause situation there are astonishing differences between countries and places. Surprisingly, the East European countries are rapidly catching up with their industrialized counterparts. Other countries, especially in the Balkans, have also been slow to catch up and there has even been an increase of those who need help. The major points of the paper should be summarised in a conclusion to the Research Paper, which would help readers understand what is going on. Although conclusions do not usually contain any new information which was not mentioned in the article, they are frequently reworded or given a fresh perspective on this subject. Illustrating their development cycles and methods, the significance of current events, the extent and commitment of development implementation techniques, and the effects on open commitments are the key goals. A stable relationship is a crucial fix on business cycle models and the readings for macroeconomics courses. However, little is understood about the fact that flexibility is caused by the same power that powers the business cycle.

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The following three key results are achieved: Deficit adaptation is, and in many cases very much on a consistent basis between different kinds of shocks, within the range of 2 to 3 years. Differences are more pronounced at other limited time horizons. The shocks causing the swings dictate how quickly the unemployment rate varies in relation to the yield. It emphasizes how crucial it is to take longer skylines into account. If this isn't the case, one could mistakenly conclude that the flexibility splits during some cycles. The most crucial factor in financial crises is flexibility. We believe these findings could contribute to the understanding of the early recovery of extreme shortages after the financial crisis of 2007. Compared to shocks to the financial system and public spending, it is far higher. Danziger (1999), who additionally measure flexibilities unique to shocks. This piece is being constructed from three angles. In any case, we are thinking about providing a more thorough protection against economic shocks.

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Considering the **scientific novelty** in the literature on the subject matter under discussion, the likely injurious impact of Covid-19 on budget deficits and economic growth, the economic role, and the apparent lack of empirical evidence on the channels through which budget deficit is associated with higher growth rates, we find this study more pertinent than ever. I therefore briefly present a discussion of a few examples of studies where budget deficit was detrimental to economic growth. The conclusion that can be drawn from the above discussion, is that, both the theoretical and empirical literature are not conclusive on the relationship between budget deficit and economic growth. The only option, therefore, is to undertake a country or panel specific study to ascertain the nature of relationship between budget deficit and economic growth. I provide a discussion of the methodology that I make use of in arriving at the empirical evidence on the relationship between budget deficit and economic growth in Republic of Moldova.

## 2. Literature review

Robert Solow's development model, known as neo-old style, plays a major role in shaping our current knowledge of economic development. Capital accumulation plays a vital role in the economic advancement in the Solow model. Enhanced skill levels – determined by a gain in productivity per worker; these advances in capital per skilled worker, or capital deepening, are assessed by an increase in productivity per employee (e.g. Fernald, 2007). Capital formation will go on until the economy hits a certain level, where investment and the ratio of capital to labor remain stable. Jones 1998 suggests that the speed at which an economy should expand is negatively related to the size of its foundation. Any variations in individual income within the stable state are due to outside technological advancements. It is thought that mechanical interaction progresses at a consistent pace, yet it is impacted by monetary incentives. Some agents have noticed that considering the workforce's nature – human resources – reduces the unexplained growth, known as the Solow residual, by a slight amount in overall output growth, indicating that both capital and labor are significant. Romer (2017) and Lucas (1990) introduced the endogenous growth hypothesis, with the Solow model being central to it. Due to the allocation choices made by financial authorities, new advancements are integrated within the model itself (refer to [Aghion, Howitt, 1992](#), [Veracierto, 2002](#)). Research and development (R&D) activities fuelled by private companies' profit expectations drive the advancement of mechanical development. Unlike some other sources of creation information, innovation and data can be shared without being depleted (see [Romer, 2017](#)). Furthermore, fresh data could improve the effectiveness of current information, resulting in increased productivity and scalability. Therefore, there is no need for wages to be equal in all countries, and the effectiveness of capital in peripheral areas does not decline as GDP per capita increases. Technology and modernization are the main forces behind profound change. According to Schumpeter, progress breeds "imaginative destruction," a process in which newly invented products and businesses take the place of more established ones and continue to grow and change (see [Verspagen, 2000](#)). When more useful and productive industries and businesses take the place of less benefit and productive ones, the economy becomes more efficient. As a result,

technical innovation is the primary driver of the current economic expansion. Because most new innovations began in the manufacturing sector during the Industrial Revolution, Kaldor (1970) and Corsetti (2005) have argued that the expansion of this sector is a major engine for economic growth (see [Veracierto, 2002](#)).

Furthermore, Corsetti (2005) pinpointed cutting-edge advancements in specific manufacturing fields as the main catalyst for enhanced efficiency in several other sectors. Manufacturing typically takes the lead and outpaces other sectors as development speeds up, as stated by Shapiro (1984). Nevertheless, even with reduced wages, assembly has minimal influence on GDP and its contribution to overall development is gradual. Faster sectoral growth dramatically increases overall output and labor productivity growth as assembly gains a greater share of outputs, frequently as a result of shifts in local demand and comparative advantage. In industrialized nations, R&D projects serve as the primary driving force behind technical developments.

Nevertheless, this is not the main element of revolutionary transformation. Regardless of whether innovation and sources of information stay the same, businesses and individuals progress by taking action (refer to [Bernanke, 2001](#)). Since non-industrialized countries have few R&D resources and are remote from the technological frontier, the global dissemination of innovation is essential for increasing efficiency. Global financial exchanges, such as international trade and startup companies, are important catalysts for productivity development and innovation. Innovation must spread effectively if there are sufficient human resources, strong mechanical improvement incentives, and sound foundations. Initial transformation is largely driven by the need to strike a balance between national and international interests. People who are paid relatively little put a significant amount of their money toward eating expenses.

This deal will typically worsen as salaries increase, even with increasing interest rates on mortgages. Similarly, as wages increase, the cost of goods rises at a slower pace compared to the quicker increase in the cost of services. Changes will also have an effect on the economy's work efficiency, sectoral work, and result offers. Furthermore, the exchange of goods and services among countries influences the specialization trends and the pace of industrialization or fundamental transformations in companies. In a system of free trade, countries will usually import items that are costly to produce domestically and will focus on producing goods in which they have a comparative advantage. Additionally, the openness of trade is also endangered by the possibility of attracting new investments to the country. This is often crucial, particularly in the initial phases of raising capital. As local companies compete with external sources, they have the opportunity to increase their efficiency. Nevertheless, the involvement of new trading issues and the openness of trade (like [Auerbach, 1997](#)). Moreover, there is no guarantee that concentrating on a specific area will lead to increased growth rates by itself. This is particularly noticeable in agricultural countries that depend on primary goods. Specialization in the production of goods is sometimes needed due to decreased real global costs of non-oil goods over time, which are influenced by significant current fluctuations (refer to Bolt 1962 for example). Global spread of innovation is crucial for advancing efficiency because of the lack of research and development efforts in developing countries and their remoteness from centers of innovation. Overall, economic connections, particularly global trade and new investment opportunities, play a significant role in driving growth and expanding economic development. However, in order for innovation to spread effectively, there needs to be a competent level of HR, driven by strong technological advancement, and somewhat organized. The main driving force behind the fundamental change is the adaptation of lossiness and global interest. Individuals allocate a considerable amount of their earnings towards food expenses at a reasonable rate. As wages increase, this deal will typically decrease, as interest in manufacturing increases. Additionally, with further increases in wages, worker demand rises at a slower pace compared to the quick increase in demand for services. Changes that are well-liked will impact the efficiency of the economy's functioning and the business propositions within various sectors as well. Trade also affects the rate of industrialization or the basic transformation of industry, as well as the exceptionalization tactics adopted by nations. A free trade agreement allows countries to export pricey commodities that would otherwise be produced domestically in exchange for maintaining considerable control over the production of goods in which they specialize. Increasing the country's openness to trade also makes it more likely to draw in foreign investment. This is frequently required, particularly in the formative phases of growth. In addition to increasing productivity, external competition may also benefit local businesses. Nonetheless, trade openness and the structure of undeclared commerce are significant.

Additionally, specialization alone does not ensure higher rates of development. This is particularly clear in underdeveloped countries that rely on crucial goods.

### 3. Results and discussion

#### Assumptions

We consider a Danish Model of Fiscal Policy, where budget accumulation soars to 48 % of GDP (as presented below). The remaining 52 % will be considered the subject of the Pension Fund, allocated within an Overlapping – Generations Infinite Horizon model. The Gross Domestic Product is a synthetic indicator because it does not refer to the nominal convergence criteria from Maastricht (1993). Therefore, within the article, the comparison framework regarding the total indicated volume/GDP at one year is taken into account as a 100 % reference (please see, mention the [Tables 2](#)).

**Table 1.** Budget Fiscal Deficit: Credit Ranking and Local Fiscal Execution

-48%	-44%	-40%	-36%	-32%	-28%	-24%	-20%	-16%	-12%	-8%	-4%	0%	3%
AAA	AA	A	BBB	BB	B	CCC	CC	C	DDD	DD	D	E	E
DDG				DDF				DDB				BDF	

DDG, Remittences. Percentage Points from GDP.

DDF New Budget Execution, Percentage Points from GDP

DDB Local Budget Execution, Percentage Points from GDP

Credit Rankings. We assume that Budget Fiscal Deficit and Public Debt is subject of Credit Ranking (Greece, to see Sovereign Debt Crises) and (2020 Covid-19 Medical Crises). The Relationship between these two crises concern about 11 years of economic growth and inflation. Economic growth is seems to be Gross Domestic Product, and Inflation – Harmonized index of consumer’ price, which is by the way, a index which covers financial movement of economy. Interest rate is described by Taylor Rule, which consist of inflation rate and Gross Domestic Product. Interest relate a financial sector, not market sector (inflation rate).

A – Pre-Investment Grade

B – Investment Grade

C – Upper-Investment Grade

D – Speculative Grade

E – Not Rated

Financial balances and other monetary characteristics are impacted by automatic effects and discretionary policy measures that arise from changes in the macroeconomic environment, which are frequently connected to fluctuations in output. Tax cuts and spending increases are two examples of discretionary policy measures that could negatively impact the budget balance. When economic activity slows, revenues decline and spending may naturally increase (many expenses, including unemployment benefits, adapt to the cycle). As a result, the economy's balance deteriorates. Because these changes are the product of cyclical influences, relying just on changes in the budget balance may be misleading because they may appear to be deliberate expansionary or contractionary policy measures.

Therefore, consistent changes are implemented to manage the impact of recurring advancements on economic factors and assess the undisclosed financial status. In order to achieve this, the cyclically adjusted balance that is adjusted nominally must be defined initially. The following is a method to analyze the total fiscal balance (OB).

**Table 2.** Gross Domestic Product and Trade Deficit

CG	CP	CIFSL	FBCF	VARSTOC	EXPORT	IMPORT
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As a result, new methods of investigation must be developed that would allow for a more precise increase in the effectiveness of applied techniques like statistical-mathematical techniques, questionnaires, descriptive methods, etc. Econometrics is the science that incorporates financial hypothesis, mathematics and statistics, at times when the way the results are interpreted involves risk and uncertainty. The point of the paper is to foster an econometric estimating model, in light of the hypothesis economic, where estimates and projections for the Republic of Moldova's gross domestic product will be made. In the beginning, the series of quarterly GDP values from 1995 to 2018 (average prices in 2010) will serve. The authors were of the opinion that it was necessary to use a series expressed in constant prices; as a result, the effect was not expansion, as uncovering the genuine development of GDP is significant.

**Table 3.** Public Debt, Maastricht Criterion and Local Fiscal Execution

DD P	DD U	DDT	DDN	DDV	DD W	DDX	DDR	DDD	DDZ	DDH	DDK	DDQ	DDO
-60%	-65%	-70%	-75%	-80%	-85%	-90%	-95%	-100%	-105%	-110%	-115%	-120%	-125%
AA A	AA	A	BBB	BB	B	CCC	CC	C	DDD	DD	D	E	E
DDG				DDF				DDB				Budget Fiscal Deficit	
Local Fiscal Execution													

The percentage of the world's population in need of assistance has declined in recent years. According to Chen and Ravallion (2004), the percentage of people living in poverty decreased from 33 % in 1981 to 18 % in 2001 and thereafter to 9 % in 2020. The majority of the drop can be attributed to the significant economic growth seen by middle-income nations like Moldova and Romania. Nevertheless, the creative community varies surprisingly throughout countries and areas. Many nations and regions, particularly those in Eastern Europe, are quickly recovering from the recent setbacks experienced by wealthy nations. In the Balkans and in some other countries, a lot of people are falling behind; in fact, some are becoming more and more destitute.

Slovakia, the Czech Republic, Hungary, Poland, Romania, and the Republic of Moldova have seen notable economic expansion due to contemporary advancements. Poverty rates have declined in numerous countries due to rapid economic development. While certain countries have effectively achieved development with added value, others have continued to experience high levels of inequality. The key focus is on showcasing their growth processes and methods, the role of contemporary innovation, the accountability and scope of strategies for advancement performance, and the influence of development on public obligations. The survey starts with a brief theoretical conversation about the influence of current development and progress, as well as the effect of advancement on depression and income during downturns, and then continues at the national economic model level. Public debt is expected to determine the short-term yield sensitivity of budget deficit, such as a one percentage point increase in output. In macroeconomics courses, it is important to have a consistent connection between business cycle models and the assigned readings. Yet gradually becoming conscious of whether the force propelling the economic cycle is accountable for its adaptability. An example of the complexity is whether unemployment and outcomes move differently during recessions caused by financial crises or oil supply disruptions. The lack of verification is surprising given the tensions that arise when the relationship is strained and is especially fragile during recoveries from downturns in financial market turmoil (such as Golosov, 2007). This paper presents a key technique for assessing the potential impact of a significant shock-induced budget deficit on government debt sustainability. It assesses the amount that the deficit rate falls over a given skyline in the event that a macroeconomic shock on a comparable skyscraper causes the outcome to grow by one rate point. The expectation is based on relapses of the overall deficit on the total obligation, which is the fundamental instrumental

variable. Analyzing information on Moldovan government spending, fees, monetary policy, fiscal policy, technical developments, and petroleum price changes.

Three key findings include: Shortfall flexibilities usually stay consistent for different types of shocks over a moderate period (two to three years). Discrepancies are more noticeable with fewer available options. The pace of unemployment fluctuations in proximity to production is influenced by the driving shocks. This highlights how crucial it is to account for longer skylines. If not, inaccurate conclusions regarding how flexibility is distributed in particular cycles may be drawn. The best times to show flexibility are during financial shocks. These findings, in our opinion, can contribute to our understanding of the early stages of the "excessive shortage" recovery following the financial crisis of 2007. Compared to government spending and financial system shocks, it is far higher. Additionally, Daly et al. (2013) assess flexibility deficiencies unique to shocks. There are three distinct ways to construct the piece. We start by looking at a more inclusive definition of macroeconomic shocks. Furthermore, in contrast to Daly et al. (2013) with their two-venture system and three-stage Klein Macroeconomic Model, we propose a single-venture approach to versatility.

This increases productivity and makes creating trust groups easier. Furthermore, we can perform weak strong induction with our approach. The latter point is crucial since large-scale shocks frequently have a little margin of error in the commitments made to pertinent variables, which might cause issues with the instruments (Golosov, 2003).

### The Model

$$i_t = \pi_t + r_t^* + a_\pi(\pi_t - \pi_t^*) + a_y(y_t - \bar{y}_t)$$

Where,  $i_t$ - base rate;  $\pi_t$ - inflation rate;  $\pi_t^*$ -the target inflation rate;

$r_t^*$ - The real base equilibrium rate;  $y_t$ - the natural logarithm of real GDP;

$\bar{y}_t$ -The natural of potential GDP.

### Households

The household's lifetime budget limitation is the following:

$$C_{1t} + \frac{1}{1+r_{t+1}} C_{2t+1} = A_t W_t \tag{11}$$

Therefore, the household's lifetime income must be equivalent to that of its current level of consumption. Period (2) consumption,  $C_{2t+1}$  is "discounted" to the present.

The problem of household maximization can be described as follows:

$$L = \frac{C_{1t}^{1-\theta}}{1-\theta} + \frac{1}{1+\rho} \frac{C_{2t+1}^{1-\theta}}{1-\theta} + \lambda_t (A_t W_t - C_{1t} - \frac{1}{1+r_{t+1}} C_{2t+1}) \tag{12}$$

This results in the following first order conditions:

$$C_{1t} : C_{1t}^\theta - \lambda_t = 0$$

$$C_{2t+1} : \frac{1}{1+\rho} \frac{C_{2t+1}^{-\theta}}{1-\theta} - \lambda_t \frac{1}{1+r_{t+1}} = 0 \tag{13}$$

The following Euler equation is found when combining and rewriting:

$$C_{1t}^\theta = \frac{1+r_{t+1}}{1+\rho} C_{2t+1}^{-\theta} \tag{14}$$

Today's marginal utility of consumption is the term on the left. The marginal utility of tomorrow's consumption, discounted to today's level, is the term on the right. We can substitute out for  $C_{2t+1}$  (using the definition given above) to solve for  $C_{1t}$  in terms of the parameters and lifetime income:

$$C_{1t} = \frac{(1+\rho)^{\frac{1}{\theta}}}{(1+\rho)^{\frac{1}{\theta}} + (1+r_{t+1})^{\frac{1-\theta}{\theta}}} A_t W_t \tag{15}$$

The savings rate is defined by the utilitymaximizing household as a function of discounts and interest rates. The savings rate is increasing in  $r_{t+1}$  - an increase in the interest rate causes households to save more, and therefore increase second-period consumption. Using the lifetime budget constraint and the solution for period (1) consumption above, we can solve for  $C_{2t+1}$ :

$$C_{2t+1} = (1+r_{t+1})(1-s(r_{t+1})) A_t W_t \tag{16}$$

The savings rate is:

$$s(r_{t+1}) = \frac{(1+\rho)^{\frac{1}{\theta}}}{(1+\rho)^{\frac{1}{\theta}} + (1+r_{t+1})^{\frac{1-\theta}{\theta}}} \tag{17}$$

The size of the parameter  $\theta$  has important implications for how households respond to changes in the interest rate. This is because the parameter  $\theta$  measures the household's willingness to substitute consumption across time. When making a choice about consumption today versus

tomorrow (e.g., consuming versus saving today), one must consider the substitution and income effects. Suppose that the interest rate increases – what is the effect on savings?

– *Substitution effect.* The higher interest rate means that  $C_{1t}$  is relatively more expensive than  $C_{2t+1}$ , causing households to substitute toward future consumption. The result is an increase in savings.

– *Income effect.* The increase in the interest rate implies the household's earnings from capital investment are higher, increasing the lifetime earnings available for consumption. This should cause the household to save less of its income, increasing  $C_{1t}$ .

It can be shown that when  $\Theta < 1$ , the substitution effect dominates. This means that, as a result of the increase in interest rates, households are saving more and reducing their consumption today. When  $\Theta > 1$ , the income effect dominates. If that were the case, households would react to rising interest rates by increasing their consumption today. In order to demonstrate this, the savings function for  $r$  should be differentiated mathematically. The sign of the derivative depends on the value of  $\Theta$ .

### Firms and Technology

Romer uses the log utility function to determine a balanced growth path for these sections. In this case, the savings rate is derived from these assumptions. The following Lagrangian shall be used to define the household consumption choice in order to resolve the log user case:

$$L = \log(C_{1t}) + \frac{1}{1+\rho} \log(C_{2t+1}) + \lambda_t (A_t w_t - C_{1t} - \frac{1}{1+r_{t+1}} C_{2t+1}) \quad (18)$$

Combining the first order of conditions results in a Euler equation:

$$\frac{1}{C_{1t}} = \frac{1+r_{t+1}}{1+\rho} \frac{1}{C_{2t+1}} \quad (19)$$

Rewriting this expression and substituting out for  $C_{2t+1}$  :

$$C_{1t} = \frac{1+\rho}{2+\rho} A_t w_t \quad (20)$$

Therefore, the savings rate is independent of the interest rate in this case. The savings rate,  $s = \frac{1}{2+\rho}$ . When  $\theta = 1$  the substitution and income effects associated with a change in the interest rate are offset by one another, making the savings rate independent of the interest rate.

### Government

The law of motion for the capital stock is defined by how much households save. In per effective worker terms, the law of motion is:

$$k_{t+1} = \frac{1}{(1+n)(1+g)} s(r_{t+1})w_t \quad (21)$$

Note,  $w_t = f(k_t) - k_t f'(k_t)$  is is functions of the amount of capital per effective worker purchased today  $t$ . The savings rate is a function of  $r_{t+1} = f'(k_t)$ , which is a function of the capital stock next period,  $t + 1$ . We can therefore express the capital stock next period in terms of the model parameters and the capital stock today  $k_t$  :

$$k_{t+1} = \frac{1}{(1+n)(1+g)} s(f'(k_t)) [f(k_t) - k_t f'(k_t)] \quad (22)$$

Like the Solow model, the balanced growth path occurs when the capital stock per effective worker is not changing. That is, when  $k_{t+1} = k_t$ , so that  $\Delta k = 0$ . We cannot go further with the expression above. While the model does have an implicit solution from the expression above, it does not have a closed-form solution. We are able to show that the capital stock will converge to a steady state value, but we cannot solve for this value explicitly.

### Monetary Policy

However, we could solve for a stable level of capital per effective worker assuming that the CobbDouglas production function and logging utility are taken into account. In a log usage case, the savings rate is constant from this point on:

$$s = \frac{1}{2+\rho} \quad (23)$$

The real rate of pay for an effective worker is as follows:

$$A_t w_t = (1-\alpha) k_t^\alpha \quad (24)$$

The law of motion for the capital stock thus states as follows:

$$k_{t+1} = \frac{1}{(1+n)(1+g)} \frac{1}{2+\rho} (1-\alpha) k_t^\alpha \quad (25)$$



Since the Diamond model is a two period model, it does not have the same diagram as the Solow Growth model. To see how a change in the model parameters affects outcomes, we can use an expression like this. Similar to Solow, the main dynamics and convergence towards a stable state are present. Consider the following:

– Increase in population growth rate  $n$ :

$$k_{t+1} > \frac{1}{(1+n)(1+g)} \frac{1}{2+\rho} (1-\alpha)k_t^\alpha \Rightarrow \Delta k > 0 \Rightarrow k \uparrow \text{ until } k_{t+1} = k_t = k_{new}^* \quad (26)$$

– Increase in savings rate (decrease in  $\rho$ ):

$$k_{t+1} < \frac{1}{(1+n)(1+g)} \frac{1}{2+\rho} (1-\alpha)k_t^\alpha \Rightarrow \Delta k < 0 \Rightarrow k \downarrow \text{ until } k_{t+1} = k_t = k_{new}^* \quad (27)$$

We are following the Solow Growth model in terms of basic implications. The fundamental difference in the Diamond model is that the savings rate is determined by households maximizing utility. The main implications for economic growth are the same:

\* The growth rates of the main variables have been identical. In particular, per capita production grows at a rate of  $g$ .

Changes to the model parameters (besides  $g$ ) lead to changes in steady state, but do not lead to changes in the growth rate of variables in per capita terms. The change in the savings rate affects per capita income in other wards, but does not affect growth rates.

### Benchmark

Benchmark – a standard or point of reference against which things may be compared or assessed

183 % (100 % Gross Domestic Product, 60 % Public Debt, 20 % Value-Added Tax and 3 % Budget Fiscal Deficit) of GDP against the Model

Adapted equation

$$\text{genr} \quad i\_t\_1 = (\text{ltn-icp}) + (\text{icp}+\text{tau}+\text{tau\_e})/3 + 0.3*(\text{icp-tau})+0.7*(\text{yersa-yersa\_hpfiler})/\text{yersa\_hpfiler}$$

$i\_t$  = Interest Rate

$\text{ltn}$  – Long Term Nominal Interest Rate (10 Year)

$\text{icp}$  – Consumer Price Index

$\text{tau}$  – Harmonized Index of Consumer Price

$\text{ta\_e}$  – Expected HICP

$\text{yer}$  – Gross Domestic Product

$\text{years}$  – Gross Domestic Product, Seasonally Adjusted

$\text{hpfiler}$  – Hodrick Prescott Filter (Potential Gross Domestic Product)

### Parametrization

Adjusted equation

$$\text{genr} \quad i\_t\_2 = (\text{ltn-icp}) + (\text{icp}+\text{tau}+\text{tau\_e})/3 + 0.3*(\text{icp-tau})+0.7*(\text{yersa-yersa\_hpfiler})/\text{yersa\_hpfiler} + 1.2*(\text{exr-een})/\text{een}-0.2*(\text{bdf}^1-\text{bdf\_e})/\text{bdf\_e}$$

$\text{exr}$  – Real Exchange Rate

$\text{een}$  – Nominal Exchange Rate, where  $\text{een} > \text{exr}$

$\text{bdf}$  – budget fiscal deficit, Maastricht criteria

$\text{bdf\_e}$  – budget fiscal deficit, effective calculation

### Calibration

Rectified equation

$$\text{genr} \quad i\_t\_3 = (\text{ltn-icp}) + (\text{icp}+\text{tau}+\text{tau\_e})/3 + 0.3*(\text{icp-tau})+0.7*(\text{yersa-yersa\_hpfiler})/\text{yersa\_hpfiler} + 1.2*(\text{exr-een})/\text{een}-0.2*(\text{bdf}^2-\text{bdf\_e})/\text{bdf\_e}-0.05*(\text{len-lnn})^3/\text{len}+0.05*(\text{yed}_{n+1}-\text{yed}_n)/\text{yed}_n-0.05*(\text{nairu}_{n+1}-\text{nairu}_n)/\text{nairu}_n+0.05*(\text{yep}_{n+1}-\text{yep}_n)-0.05*(\text{wage-wagex})+0.05*(\text{wrn}_{n+1}-\text{wrn}_n)-0.05*(\text{paxl}_{n+1}-\text{paxl}_n)/(\text{paxlx}_{n+1}-\text{paxl}_n)+0.07*(\text{vat}_{n+1}-\text{vat}_n)$$

$\text{Len}$  – Labour Force

<sup>1</sup> The budget deficit, also known as  $\text{bdf}$ , is a nominal monetary indicator compared to the exchange rate or  $\text{exr}$ , which is a real monetary indicator.

<sup>2</sup> The budget deficit, also known as  $\text{bdf}$ , is a real monetary indicator compared to the exchange rate or  $\text{exr}$ , which is a nominal monetary indicator.

<sup>3</sup> (LNN) Total Employment, Thousands of persons, Calendar and seasonally adjusted data.

Lnn – Total Adult Population

Yed – Gross Domestic Product Deflator

Nairu – Non-Accelerating Inflation Rate of Unemployment

Yep – Potential GDP

Wage – Nominal Effective Salary

Wrn – Wage per Head, Calculation as the ratio of compensation of employees, and total employment

Paxl- Nominal Effective Pension

Vat – Value Added Tax

#### **Data**

The quarterly data series used in the empirical analysis came from the Area Wide Model (AWM) database and the National Bureau of Statistics for the Economy of the Republic of Moldova (further details can be found in Fagan et al., 2005 and at <https://eabcn.org/page/area-wide-model>). The investigation's time frame is from January 2000 to January 2021. Potential GDP was computed using the HP method. Our primary sources of information were the paper by Robert J. Hodrick and Edward C. Prescott and <https://www.mathworks.com/help/econ/hpfilter.html> (1997). Phillips relied on the output gap in its unemployment rate calculation approach. However, the output gap is currently utilized more commonly due to the challenges associated with calculating the natural rate of unemployment, or NAIRU.

Hodrick-Prescott (HP) filtering of (most often, seasonally adjusted) quarterly series is analyzed. Some of the criticism to the filter are addressed. It is seen that, while filtering strongly affects autocorrelations, it has little effect on cross correlations. It is argued that the criticism that HP filtering induces a spurious cycle in the series is unwarranted. The filter, however, presents two serious drawbacks: First, poor performance at the end periods, due to the size of the revisions in preliminary estimators, and, second, the amount of noise in the cyclical signal, which seriously disturbs its interpretation.

We confidently anticipated that the dynamic Phillips Curve (PC) architecture serves as the foundation for multiple popular price adjustment models. Two essential parts of the framework are the exogenous apparent stiffness model and the expansion-focused model. Time passes slowly by. Labor is a factor of production used by businesses that aren't fully competitive to continuously generate goods and services. The entire output within is equal to the total labor intake since the production function is one-to-one. The model forbids government purchases, and total commerce, total consumption, and total output are all equal. Households maximize their utility by taking the provided real wage and real interest rate into account.

#### **4. Conclusion**

Modern progress has had a major impact on the economic growth of the countries studied. In many nations, increasing yield has been associated with export expansion, increased trade openness, economic growth, and better business environments. Nevertheless, import security and targeted government involvement have also been employed. In numerous developing countries, poverty is a common problem, and improving agricultural productivity is often crucial in reducing poverty at the beginning of economic growth. This phenomenon has been observed in countries like Indonesia and Moldova, where economic changes have led to a decrease in national uniqueness due to a reduction in the sense of national urgency, particularly at the early stages. During the rapid industrialization of Korea and Taiwan, pay distribution remained relatively moderate as a result of previous land reforms. Oil revenues were utilized to promote rural development in Indonesia. In any event, modernization is crucial for sustained long-term growth and poverty alleviation following the early stages of economic development. In the countries being looked at, the expansion of the manufacturing industry has created job opportunities beyond agriculture. Yet, due to the fact that the manufacturing process in these nations initially emphasized subpar quality, it is the underprivileged who have profited. In the same way as in Korea, specific stages of progress visibly favored the impoverished, causing them to have a comparative edge over those who are not poor. However, there are significant variations among nations regarding the effects of industrialization on the disadvantaged. In Moldova, skilled professionals benefitted more than incompetent ones from the growth of the manufacturing sector in the late 1980s and mid-1990s. Although there may be a reduction in real poverty levels, the economic development in Moldova has shown an increase in inequality during certain timeframes. Industrialization exemplifies how modern technology effectively decreases poverty

and inequality. Companies that hire many inexperienced workers and depend on locally sourced materials can greatly affect the quality of life of the less fortunate. In the early stages of the modern era, specifically in Taiwan, there was a stronger focus on inept workers compared to skilled workers, leading to a decrease in inequality and poverty. In the later periods, Taiwan saw changes in its commodity and assembly structure, resulting in a rise in the need for skilled workers. Because Taiwan was highly focused on human resources, the effect of altering skill demands on salary distribution was somewhat subdued. The Republic of Korea has performed a similar action. In Brazil and India, the distribution process tends to be heavily focused on wealth, but it still provides decent job opportunities for the less fortunate. Furthermore, the service industry has played a major role in driving recent economic growth in India. Nonetheless, industries such as programming and administrative center management have not offered numerous opportunities for individuals lacking skills. In any event, India's poverty rate has decreased overall due to strong growth performance in the last 15-20 years. The geographic location of an industry can also influence the level of industrialization, whether it is strong or weak. Industrialization has greatly raised average salary in Moldova; nonetheless, as progress has extended to the eastern coastal areas, the gap between regions has widened, and poverty has not been notably alleviated in a substantial portion of the country. Regardless, provinces offer substantial work flexibility, and remittances sent back by migrant workers can mitigate the impact of industrial clustering on regional disparities. Topographical elements and economic distances also contribute to understanding why certain areas in Brazil, India, Indonesia, or Moldova are much less developed than others. The initial conditions greatly impact whether significant modern development takes place and whether industrialization speeds up financial development and reduces poverty. Key factors for sustainable economic growth and current advancement involve political, social, and macroeconomic stability, efficient institutions, and adherence to the rule of law. These are essentially created by the government. If the necessary framework conditions are not present, both new and local hypotheses are expected to be limited and development will be constrained and inconsistent. Poor individuals are more susceptible to the effects of financial instability, as evidenced in Indonesia and Moldova towards the end of the 1990s. Nevertheless, economic progress has been noticeably more consistent in Taiwan and Korea. The government has a substantial impact on the progression of HR and framework, as well as in promoting and backing innovation and change. For individuals without money, planning is often a crucial step towards improving business opportunities and earning significant income. Having extensive guidance available in Moldova enables the unfortunate individuals to have improved opportunities to engage in development activities. Every nation mentioned here began their journey of development by depending on either vital resources or a limited number of employees in the early stages of their existence. Nonetheless, in the foreseeable future, it is crucial for a country to invest in both workforce development and machinery upkeep in order to uphold its international competitiveness and bolster economic prosperity. Korea and Taiwan serve as clear illustrations of nations where HR development plays a crucial role in current affairs and overall economic progress. Competition is growing fiercer due to rapid specialized change and globalization, making it increasingly essential to leverage cutting-edge technologies for success. That boundary goes beyond all facets of the workforce's educational fulfillment and level of expertise. Nations may opt to develop their contemporary expertise internally through creative projects, similar to the approach taken by Taiwan and Korea to a large extent. Engaging in global value chains and offering job-oriented products has become a more frequent approach (UNIDO, 2002), consistently enhancing innovative abilities through forward-thinking developments. This strategy is used by Moldova, for example. Numerous countries depend on a mix of importing innovation and fostering domestic advancements and technical expertise. As financial growth progresses, the scale often tilts towards the latter choice. There is some connection between the two approaches. Laws have a substantial effect on the enhancement of skills and the increase of foreign direct investment. Every country studied has, at some point, implemented certain modern strategies aimed at shifting industrial growth towards areas with greater potential for faster productivity growth. During the initial phases of establishing their manufacturing hubs, Taiwan and Korea's governments successfully integrated import protection and state intervention. Although successful government intervention may seem justified based on recent success stories, developing countries have less policy freedom compared to past decades. Nevertheless, legislatures are essential in facilitating sustainable economic growth, particularly growth that alleviates poverty. Additional essential government tasks include skills training, technology assistance, funding for innovation, infrastructure

enhancement, and provision of various public goods, as well as ensuring stability, effective institutions, and proper regulation (like labor laws). All of these factors have an influence on the economic development and commerce of a country. Overall, rapid economic growth will lead to a reduction in dependency. An increase in pay discrepancy could occur due to fast expansion, however, it is not guaranteed. The concept of tax collection and utilization tactics, alongside the skillset readiness of experts for specific economic reforms, can influence whether an economy thrives. Despite the expansion of small and medium enterprises (SMEs) and encouragement for forming local connections, inequality can be lessened by offering free school admission, discounted housing, fair tax evaluation, or redistributing resources such as land.

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<sup>4</sup> art. 13 para. (1) of the Code on Science and Innovation of the Republic of Moldova, no. 259/2004 (Official Monitor of the Republic of Moldova, 2018, nr.58-66, art.131)

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## Двойной дефицит бюджета и финансовые побочные эффекты на европейской периферии (страны-кандидаты на вступление в ЕС): Кейнсианская перспектива

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**Аннотация.** В этом исследовании рассматривается, как фискальная политика влияет на экономику, чтобы оценить степень неопределенности вокруг государственных финансов. Финансовый подход фокусируется на сборе и использовании частной собственности государственным управлением. Название этой статьи указывает на то, что она рассматривает динамические проблемы налоговой политики. К ним относятся: взаимосвязь между долгосрочными ожиданиями и краткосрочными результатами, влияние фискальной политики на формирование капитала, экономическое развитие и межпоколенческое равенство, а также степень, в которой текущая политика препятствует внедрению потенциальной будущей политики. Динамический анализ недавно превзошел статический анализ в ряде экономических областей. Уместно сосредоточиться на денежно-кредитной стратегии, в частности, потому, что она была изменена и скорректирована с течением времени в Республике Молдова. Эти корректировки часто вносятся заранее, при этом иногда они учитывают текущую финансовую ситуацию, когда она не упоминалась ранее. Не должно быть шокирующим, что финансовые переменные постоянно меняются. Направление экономики зависит от текущих изменений политики, которые неизбежно требуют других корректировок политики в будущем. Однако ожидание этих будущих корректировок также оказывает влияние на текущие результаты, поскольку оно гарантирует, что последствия прошлых денежных действий сохранятся даже при отсутствии всей будущей финансовой договоренности.

**Ключевые слова:** налогово-бюджетная политика, бюджетный дефицит, дефицит первичного счета, налог на добавленную стоимость, налогообложение.