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### THEORETICAL APPROACHES TO DETERMINING THE EFFICIENCY OF PUBLIC FINANCES

У статті проаналізовано сукупність теорій, що пояснюють поведінку урядів у сфері державних фінансів. Пріоритет для зменшення дефіциту і боргу, перш за все, більш низьких державних витрат вважається більш ефективним, ніж підвищення податків, що негативно впливає на бізнес та конкурентоспроможність економіки. Дослідження проведено у три основні етапи: виявлено регулярність скорочення частки запозичених ресурсів, розглянуто основні теоретичні концепції дефіциту і боргу, визначено статус кожної з них з урахуванням здатності передбачення оборотності явищ. Представлено вісім теорій політичної економії державного дефіциту і державного боргу, визначено їх оборотність, зокрема: необоротні теорії – взаємних послуг (Log-rolling) (клієнтелізм як політичних партій, так і електорату), стратегічного використання (уразливість стратегії владних кіл), теорія виборчого циклу (традиційна версія) (недалекоглядність виборців та політичний опортунізм); умовно-оборотні – негативного спадкоємства (бідність медіанного зріз виробної маси), теорія виборчого циклу (раціональна версія) (опортунізм політиків), теорія ангажованого циклу, теорія «війни на виснаження» (конфлікт політичних груп щодо бюджетних надходжень й розподілу податкового навантаження); самооборотна – «трагедія громади» (егоїзм осіб, що приймають рішення у розподілі суспільних ресурсів). Дослідження цих теорій дозволяє виявити, під впливом яких чинників (наприклад, патронажем політиків, партії фрагментації в уряді) можна пояснити збільшення витрат і дефіциту з одного боку, з другого, – передбачити результат жорсткої економії. У ході дослідження ефективності імплементацій даних теоретичних підходів до пояснення кризисних ситуацій у сфері державних фінансів (бюджетний дефіцит, державний борг) визначено, що незалежно від того, чи є вони оборотними, умовно-оборотними чи самооборотними, більшість із них формують узгоджений набір причинних механізмів, задіяних на трьох різних рівнях: мотивації, взаємодії і механізму реалізації.

The last part of the book deals with theories explaining the behavior of governments on public finances. Priority to reduce deficits and debt primarily by lower government spending is

assumed to be more effective than tax increases that would be detrimental to the business and the competitiveness of the economy. Moreover, debt is often criticized as a burden that present generations impose on future generations. Many proposals to reform the institutional framework, such as those that impose the rule of balance of public finances clans the Constitution, the creation of independent fiscal committees, etc. are presented as rational and effective.

Author revisits a set of eight theories of the political economy of deficit and debt, the aim of clans highlight their reversibility. In other words, he wondered whether these theories under the influence of some key factors (such as patronage of politicians, party fragmentation in government) can explain the increase of spending and deficits, may at Conversely, be mobilized in order to predict the outcome of austerity measures. Of the eight, only a theory is said to be self-reversible, and four are under certain conditions.

Ключові слова: публічні фінанси, державні доходи, державні видатки, державний борг, дефіцит державного бюджету.

Key words: public finance, public revenues, public expenditures, public debt.

When we do face the need for taking into account the social reality, too complex to be fully covered by a simple explanation, the two paths are open to us [1]. The first one, related to the common sense, is to describe only some partial aspect part by suggesting, would it be explicitly or not, that we did exposes just the key essential thereof. This approach has the advantage of being economical and the weakness of being inevitably impregnated with ideology and dogmatism. That's what we all do, every day, about everything. The second approach is that one used at scientific process. Its first task is to make explicit, within a theory, our assumptions or postulates and then we apply this theory within systematic observation frame. This approach is costly in resources and time, but a promising one, when wisely used, deliberating us from the dictates and prejudice and also to distance vis-a-vis the common opinion and traditions. But how should we to understand, for example, the fiscal policy of a government without reproducing the official line supporters or opponents' speech?

This particularly exciting article on the growth of governmental expenses in the twentieth century, Christophier Hood shows convincingly that the inability to predict the decay is a major weakness of many of the growth theories. Citing the historian Geoffrey Blainey, he wrote: «The parsimony [intellectual economy] and consistency [logical consistency] require that the same explanations would be applied to both war and peace [...] to the growth and the decrease of government» [2, p. 37]. In this research, we adopt the Hood's approach applying it to the political economy theories of deficit and public debt. Our initial question is: could the theories that predict the use of deficit and debt, predict also the opposite phenomenon of deleveraging? Here we proceed in three stages. Firstly we show that the episodes of deleveraging are regularly observed. Then we are considering the main political economy theories of deficit and debt to discuss the status of each of them in respect of their ability to predict the reversal of the debt phenomenon.

We did find the three theories of deficit and debt that involve no mechanisms leading to debt reduction: the log rolling, the strategic use of debt and the traditional version of the electoral cycle.

The theory of log rolling is stressing the impact of elected officials onto budgetary decisions. This theory holds for that because the electorate is concentrated geographically, the elected officials tend to overestimate the benefits of public expenditures within their

electoral district and to underestimate the costs, paid by all relevant taxpayers. Thus a politician cashes his vote in exchange of the vote of another elected for the favor of projects in the region: I will support the construction of a school in your electoral territory provided you support the project of a new bridge in the mine one. In other words, the policy makers do not internalize the cost of their key programs expenses. The combined effect of their decisions does result in a new level of public expenditure and the deficit much higher than the optimal level [3]. This theory does never provide any mechanism leading to a budgetary surplus nor to debts reduction. It is irreversible.

The theory of debt strategic use considers that the debt represents a strategic variable binding the actual government to future governments. In such a way the reasoning goes. The governing political party chooses the type and level of the expenses or the tax level for strategic purposes. Manipulating the fiscal policy, the government can influence the key choice of his successors. A party that expects to be voted out does use debts to influence the decisions of his successor. With a higher deficit, it can create a constraint on future government hesitating to raise taxes and will have no choice but to honor the debt incurred by its predecessor by sacrificing a key part of its own expenses program. This model is therefore based onto the differences between the parties in terms of preferences [4, p. 1173–1176; 5, p. 406; 6, p. 325; 7, p. 122].

Table 1

Eight political economy theories of debt and deficit (developed by author)

N	Theory	reversibility	Postulates:		Conditions leading:	
			Good will of decision-makers	Institutional pertinence	To deleveraging delay	To deleveraging
1	Log-rolling	irreversible	not	yes	Politicians and electorate's clientelism	None
2	Strategic debt use	irreversible	not	yes	Governing party vulnerability	None
3	Electoral cycle (traditional version)	irreversible	not	yes	Voters «myopia» and politician opportunism	None
4	Negative inherence	Contingent-reversible	not	yes	Poverty of median electorate ( $rev.med < rev.aver$ )	Enrichment of median electorate ( $rev.med > rev.aver$ )
5	Electoral cycle (traditional version)	Contingent-reversible	not	yes	Politicians opportunism	Electorate learning
6	Partisan cycle	Contingent-reversible	not	yes	Left wing power	Right wing power

7	Attrition war	Contingent-reversible	not	yes	Fragmentation/unstability of government. Political groups conflict on fiscal revenue and burden distribution	Minister of finances providing a strong favorable policy
8	Communal tragedy	Self-reversible	No	yes	Egoistic decision-makers at the communal resources distribution	Resources exhausting or state effective policy expired

This theory does not provide for a debt reduction mechanism. It is irreversible.

The electoral cycle theory, namely its traditional version [8, p. 170–172; 9] is based on two key postulates: electorate's «myopia» and politicians' opportunism. The voter, as a victim of «fiscal illusion» does not understand the intertemporal budget constraints of the government; in particular, he overestimates the benefits of current expenditures and underestimates the future tax burden. He votes in retrospect that does mean, he evaluates the politician on his past performances. The politician meanwhile, just motivated by re-election, does profit from that confusion by adopting policies that make it seem competent to key voter eyes, especially by increasing expenditures or reducing taxes immediately before the election. This theory allows predicting that the deficits will be much important before elections than at any other times of the electoral cycle. The key results of empirical studies seem to confirm this hypothesis.

The electoral cycle theory in its traditional version is not reversible. Electorate's myopia combined the politicians' opportunism can only lead to debts creation.

Contingent reversibility theories. We found the four political economy theories of deficit and debt reversible under certain conditions (contingent reversibility): the theory of negative heritage, electoral cycle theory in its rational version, the partisan cycle theory and the theory of the attrition war. The theory of negative legacy proposed by Cukierman and Meltzer [10, p. 713–715] emphasizes the intergeneration cycle redistribution. In the current generation, some are «rich», and others are «poor.» The first ones do consider positive legacy to their descendants. For them, real is the Ricardian equivalence which means that the debt financing will be for the taxpayer, equivalent to financing the tax [11, p. 38–39]. The poor ones would prefer to leave a negative legacy. But this kind of inheritance is not allowed. Also they will support the use of deficit and the accumulation of public debt. Therefore they do borrow indirectly from the next generation. Summarising, the rich are indifferent to a mode of public expenditure financing while the poor do favor debt method of financing. A company being mainly composed of «poor» (the median income is lower than average income) its social choice tends to lead to an accumulation of public debt [10, p. 715–717].

This theory is reversible. To the extent that the proportion of poor decreases (the median income exceeds the median income), the support for policies favoring debts decreases. Indeed, more there are rich people in a society, the more there will be number of bondholders unfavorably considering the risks of lax fiscal policy. These voters will prefer a lower deficit or the surplus. Thus the process leading to debt reduction may then engage. Unlike the traditional version, the rational version of electoral cycle theory [12, p. 3–8] considers a rational voter evaluating the politician prospectively (forward-

looking). He votes for the politician who is likely to maximize his anticipated well-being. The behavior of a politician trying to express his competence induces the same fiscal policy cycle but the rational voter is never fooled by this strategy.

Indeed, this theory rational version predicts that the experience of several electoral campaigns accumulated, the voter decodes the politician strategy and punishes anyone who threatens his anticipated well-being by engaging people in an abusive way. Having realized that the accumulated deficits reduce the politician's future flexibility and prevent from adopting the policies they prefer, the voters elect the opposite candidate. In other words, the rational voter can never be fooled in the long term. Over time, the use of deficit becomes a signal of incompetence when speaking of voters' expectations realization. Thus the deleveraging may then engage. The electoral cycle theory in its rational version is reversible (contingent reversibility) to the extent that the voter learns from past experiences. When the condition that induces debt is reversed through improved voter information, the deleveraging process can begin.

As to the partisan cycle theory, the politicians are ideologists and they make decisions based on the preferences of their parties and voters who support them rather than on the preferences of all voters [13, p. 1457–1462, 14, p. 361–373]. In its simplest form, this theory posits that there exist two types of decision makers, each supported by a different group of voters whose maximized interest it embodies. One group supports higher public spending (left orientation), and therefore a higher deficit, the other relies upon lower expenses and a lower deficit (right orientation). The assumption of voter's myopia is not required for this theory. On the contrary, we consider here that the voter does understand the difference between the parties and votes accordingly. From the partisan cycle theory we inferred the hypothesis that the deficit is higher when the left party is in power, and lower when the right one is at government

The partisan cycle theory is a contingent reversibility one because it predicts that the phenomenon of debt is reversed when the condition leading to it (the presence of a left-wing party in power) disappears. But empirical research has invalidated this theory: the left governments made deficits not higher than these created by right-wing governments. On the contrary, some studies have shown that right-wing governments systematically have lower budget balances [15, p. 225–230; 16; 17, p. 285–288; 18, p. 111–118]. It is possible to reconcile these empirical results by reformulating the theory, based on the vision of the budget (total or partial) of a government [19, p. 130–141] Indeed the left wing is distinguished from right not by the criterion of use of deficit and debt, but by the size of government: the lefts are more, and the rights are less numerous. In addition, each group has a favorite ideological budgetary instrument. The left wants more expenditures, the right wants less taxes. Thus, each pursuing its objectives, both deficits accumulate and debt grows. But the adoption of a conservative fiscal behavior does not depend on the government preferences in State's respect. It depends on his vision of the budget: the balanced budget is it is more important than the outcome dictated by the ideology of the right or left wing? If so, then we say the party has a global version of the budget. The government maintaining a global view of budget balance will favor the balance and a partial view over tax cuts or expenses increase both these factors being able to generate deficits. Thus, the alternation between governments with partial vision and governments having a global vision could create in fiscal policy a cycle, showing a

deficit when the partial-viewing government is in power. The policy would be reversed when a global-vision government will replace it.

The model of attrition war has been proposed by Alesina and Drazen [4] having analyzed the budget outcome emerging at a political system where different socio-political groups must take all budget decisions. Not defending the same interests, government members do face a «prisoner's dilemma» in respect of budget cuts. Even though they all prefer a restrictive policy to reduce the deficit, each coalition member willing to protect his own expenses program against austerity measures. In the absence of effective coordination between the coalition members for the cooperative outcome creation, the balance does appear only due to non-cooperative «no budget reduction» solution. So the deficit increases, the debt accumulates. The same reasoning applies to the conflict opposing an elite to the rest of population. Neither side is not aimed onto assuming the costs of fiscal consolidation: the elite refusing to pay more taxes, the people refusing the effects of austerity measures.

This model is reversible one. It provides that a reversal of the condition leading to the deficit (fragmentation of decision-making) will lead to a debt elimination policy. The reversal of this condition can be achieved through the adoption of rules to strengthen the Minister of Finance authority either to limit its maneuvering scope (introducing an anti-deficit law, for example), or by the use of force in conflict between the elite and the population.

Self-reversible theory. Just one unique theory among those that we have identified is self-reversible. It implies that the same condition leads to deficit and debt would also serve to deleveraging. Here is the tragedy of the communal level. The «communal tragedy» theory describes a society divided into several interest groups, everyone benefiting from a particular program of governmental expenses. It postulates that the government is weak in the sense that each group can influence authority budget to transfer money within desired scope. The budgetary process is fragmented. Again, the public costs provide benefits to certain groups, but these costs must be borne by all society groups so there exist inherent incentives for expenditures and deficit variations. Indeed, the net assets of the government (the present value of the future stream of income less debt) or its borrowing capacity representing a common property of budgetary authorities, however, a problem similar to the «communal tragedy» appears. Indeed, two distortions occur when  $n$  agents share a common pool of resources. The first one stems from the fact that each relies upon key decisions on consumption or spending the entire resources and not an « $n$ -th» part of the whole set. The second relates to income from savings. Perceived in such a manner by each agent, that income corresponds to the interest rate or the growth rate of the entire whole of natural resources minus the part, that the other  $n-1$  agents derive. So insofar the savings depend on the rate of return, each agent «dissaving» (or «overspending» in the case of fiscal policy, or in the case of overexploited natural resources) That means that deficits occur and debts accumulate where a benevolent central decision maker forms a balanced budget [20].

This theory is self-reversible because it is enough that the debt producing process (overusing key borrowing capacity of government) will continue so that the effect is reversed. Members of the government are overusing state's key borrowing ability. Ultimately, they eventually destroy the resource (investors refuse to buy government

bonds). This involves either the default and bankruptcy (some key debt then removed and, over time, the state restores its creditworthy and borrower reputation) or the austerity measures aimed at increasing taxes and cutting expenses (the debt is repaid gradually and eventually reaches a tolerable level for investors). The Velasco model holds key account on these fiscal stabilization efforts, i.e., changes in fiscal policy that put an end to the debt accumulation process. Indeed the groups 'benefit depends on the debt accumulated by the government. As the debt grows and the government is impoverished, the efficiencies associated with stabilization become more attractive in comparison to the profits that the groups could get continuing an aggressive transfer of public resources. The interest groups can then mutually coordinate to bring the deficit to zero by threatening key return to excessive deficits if any defection. Debt is decreasing gradually.

The key political economy theories of deficit and debt, would they be reversible or not, are guided through empirical research in cross-sectional comparisons trying to predict, under certain conditions, the deficit or debt changes by the elections proximity, the ideology of the ruling party, the fragmentation and instability of government, stringent fiscal rules or through referendum. But these theories can also help us understand the events unfolding before our eyes, including the crisis of Greek sovereign debt.

The principles of parsimony and consistency do favor for reversible theories, that is to say, theories that can predict a phenomenon and its opposite. In the area of fiscal policy, a theory which predicts both debt and deleveraging would be preferable to another others predicting only one of two aspects of the phenomenon. From the eight theories of the political economy of deficit and debt, three are irreversible, the four are contingent reversibility and one is a self-reversible. When we examined these theories usefulness to explain the crisis of the Greek s debt we have seen that reversible or not, many theories formed a coherent set of causal mechanisms exhibiting at three different levels: the motivation, interactions and mechanisms.

Research on the debt phenomenon raises questions on the principles of parsimony and consistency, while they can be helpful for scientific research. As we have seen and explained, the question of reversibility arises as less acute. At this level, it would be unfortunate if, in the name of their theoretical deficiencies, the alternating theories would be neglected, if not abandoned. Explaining their merits we observe them in undeniable. But when the question of prediction, the reversibility becomes a requirement, difficult to avoid. This involves either using models originally irreversible or modifying as cleverly as possible irreversible explanations for them to acquire this property. As the reader can see, at least in the specific case of debt and deleveraging, prediction and explanation may have different requirements.

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