Fiscal Policy Design in Greece in the Aftermath of the Crisis: An Algorithmic Approach

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Abstract

We present a framework for fiscal policy design that is based on algorithmic, linear feedback control methods. In particular, in the context of a linear, deterministic macromodel, we develop two algorithms which allow us to construct fiscal policy rules for government expenditures so that desired target-levels for GDP are exactly met (that is, complete tracking is achieved). In order to examine the effectiveness of our method we estimate a small macroeconometric model of the Greek economy and run some counterfactual policy experiments. These experiments indicate that expansionary fiscal policy in the beginning of the crisis is able to stimulate growth and reduce the debt-to-GDP ratio.

1 Introduction

For more than 20 years, monetary policy was considered as being potent enough to manage the fluctuations of the business cycle, effectively stabilizing the economy, while fiscal policy was tasked with ensuring debt sustainability. Among the reasons cited regarding the inferiority of fiscal relative to monetary policy are the lags in the recognition, design and implementation of fiscal policy measures combined with the political constraints entailed (see [2]). However, the global financial crisis of 2008 and the ensuing debt crisis that hit countries in the southern periphery of the EU have led to a resurgence of interest in the design of fiscal policy.

A highly illustrating example of fiscal policy design comes from the case of Greece. The greek economy suffered from persistent deficits combined with increasing debt-to-GDP ratios during the period up to 2009, thus leaving no fiscal space for exercising expansionary policy when the crisis hit. In May of 2010, the Greek government agreed to implement an adjustment program based on harsh austerity measures including, among others, reductions in government expenditures, tax increases, layoffs in the public sector etc. What is important to note is that the program was designed on the basis of the so-called *feedback* methodology: certain conditionality targets were set for the main macro-variables and the relevant measures were designed and implemented. A key element of the feedback approach is that the program must be evaluated over certain intervals e.g., quarterly and depending on the assessment, the necessary changes are designed. The greek program exhibited elements of "*positive*" feedback; that is, if a target was missed, then the measures were intensified in the same direction e.g., if the target for the primary surplus was missed, then further decreases in government expenditures were implemented.

Our aim in this paper is to propose a control-theoretic approach to the design of fiscal policy based on the algorithmic linear feedback methodology, utilizing a technique known as model matching. Specifically, once the (fixed) policy targets have been set, we use appropriate algorithms in order to calculate linear fiscal policy rules (or, *feedback laws*) for the instrument at hand (government expenditures), so that the policy objectives are exactly met. It should be noted that these policy rules are flexible, in the sense that their value depends upon lagged values of the target variables, and they represent a discretionary approach to fiscal policy. This is in contrast, for example, to the well-known Friedman growth rule, which stipulated that the money supply should be increased by a constant percentage in every period, regardless of the state of the economy. Also, following [3] and [4], we assume that fiscal policy adjustments will be made on a quarterly basis, as this will most likely allow for a smoother path for the economy following a severe economic downturn.

An advantage of our approach is that the solution technique ensures that the predetermined

sequence of policy targets will be exactly followed, without any deviations. Moreover, the solution technique is parameterized and thus, it allows for proper computational algorithms to be developed. However, the most important advantage is that based on these algorithms, a whole class of fiscal policy rules for solving the policy problems at hand can be constructed allowing the policymaker to choose the rules that are the most appropriate. Finally, this method ensures that not only is complete tracking achieved i.e. the policy targets are exactly met but, moreover, the time path of the instruments is such that we have an immediate adjustment of the system; that is, if the policy rule is implemented in period t, the targets are met in period $t+1$ (and all subsequent periods). The main disadvantage of our approach stems from the linear and deterministic nature of the model, which admittedly is quite restrictive. We opted for such a model based on its tractability and the fact that it would allow us to easily assess the effects of the fiscal policy plan implemented (we are currently working on applying the proposed method in nonlinear versions of the model).

Our results indicate that an economy facing a combination of hight debt-to-GDP ratios and large declines in GDP, needs to implement expansionary fiscal policy plans to ensure positive GDP growth rates.

The paper is organized as follows. In section 2 we present the model. In section 3 we state the problem and the solution technique. Section 4 presents the relevant algorithms. In section 5 we provide the counterfactual experiments. Section 6 concludes.

2 The Model

As already stated in the introduction, we opted for a linear, deterministic model of the macroeconomy, which will allow us to thoroughly assess the effects of the proposed fiscal policy plan. In particular, we use a variant of the standard multiplier accelerator model introduced in [8] (for a nonlinear version of the model see [6]) coupled with the government intertemporal budget constraint.

The multiplier-accelerator consists of an income identity and two behavioral equations. Assuming a closed economy, the income identity is the following:

$$Y(t) = C(t) + I(t) + \lambda_0 G(t) + \lambda_1 G(t-1) + \lambda_2 G(t-2) \tag{1}$$

This identity introduces our variation of the standard model, which is related to the treatment of the government expenditures variable. Following [5] we argue that the government's decision to spend in period t is not immediately realized into actual outlays; rather, actual spending is spread over the following periods. Thus, the $\lambda_i \in (0,1)$ parameters indicate the percentage

of the government's decision to spend that is realized in period $t+i$.
Regarding the behavioral equations, we follow [7] in assuming that consumption depends on lagged values of disposable income (Y^d):

$$C(t) = (1-s)Y^d(t-1) + sY^d(t-2) \tag{2}$$

where C is consumption and s is the marginal propensity to consume. That is, consumption in period t is the sum of consumption in period $t-1$ and the delayed consumption of period $t-2$. Disposable income is equal to:

$$Y^d(t) = Y(t) - T(t) \tag{3}$$

whereas, tax receipts are assumed to take a tax-on-income form:

$$T(t) = \tau Y(t-1) + E(t) \tag{4}$$

where τ is the (constant) tax rate.
Regarding investment, we assume that it depends on lagged values of income and the accelerator, ν:

$$I(t) = \nu(Y(t-1) - Y(t-2)) \tag{5}$$

The intertemporal budget constraint of the government has the standard form:

$$B(t) = (1+r)B(t-1) + G(t) - T(t) \tag{6}$$

where $B(t)$ denotes debt outstanding and r is the (constant) interest rate.
After all the necessary substitutions and some algebra, we end up with the following pair of equation:

$$\begin{aligned} &Y(t) - a_1Y(t-1) - a_2Y(t-2) + a_3Y(t-3) = \lambda_0G(t) + \lambda_1G(t-1) + \lambda_2G(t-2) \\ &B(t) - (1+r)B(t-1) - \tau Y(t-1) = G(t) \end{aligned} \tag{7}$$

where, $a_1 = 1+\nu-s$, $a_2 = s-\nu-\tau(1-s)$, $a_3 = s\tau$. This is the input-output form of the model, with $G(t)$ being the input, and $Y(t)$ and $B(t)$ being the outputs.
This discrete system can be rewritten more compactly via utilizing two alternative forms: the *state-space* form and the *algebraic* form. In order to write (7) in its state-space form, we introduce the state vector:

$$\vec{x}(t) = (Y(t), Y(t-1), Y(t-2), B(t), G(t), G(t-1))^T \tag{8}$$

and obtain:

$$\vec{x}(t) = A\vec{x}(t-1) + bG(t) \tag{9}$$

where A and b are appropriate matrices (see Appendix 1).
For the algebraic form we need the notion of the q-operator. This is a lag operator defined as: $q^m f(t) = f(t-m)$ for any sequence $f(t)$, $t = 0,1,2,\ldots$ (see [1]). Then, the system (7) can be written as

$$\mathscr{D}(q)\vec{z}(t) = \mathscr{K}(q)G(t) \tag{10}$$

where $\vec{z}(t) = (Y(t), B(t))^T$, and $\mathscr{D}, \mathscr{K}$ are q-polynomial matrices (see Appendix 1)

3 Formulation of the Problem

3.1 Targeting GDP levels

In this paper, we restrict our attention to the case where the policymaker sets as a policy target the levels of GDP, using government expenditures as an instrument. That is, the policymaker is interested in achieving certain growth rates for GDP and he wants to calculate fiscal policy rules that will provide him with the level of government expenditures necessary for meeting those targets. Moreover, in order to ensure the sustainability of public finances, the policy rules calculated will be such that the resulting levels of public debt will exhibit the least possible increase. In this case, he will manage to keep the economy on a positive growth path and, at the same time, reduce the debt-to-GDP ratio thus ensuring that debt is on a sustainable path.
The policy rules will be linear functions of the form:

$$G(t) = f\big(G(t-1),\ldots,G(t-k),Y(t-1),..,Y(t-l)\big) \tag{11}$$

As we can see, the instrument depends on lagged values of the target and the instrument itself; this guarantees the flexibility of the policy rule (this is known as the causality property in control theory) In order to solve the problem at hand, we utilize a technique known as model matching (or, model reference) control. In brief, model matching can be described as follows: the policymaker determines the desired values (the *reference sequence*) for the policy target (say, Y^* for GDP). Then, a linear system is constructed having the property that its output is exactly equal to the reference sequence. This is the so-called "*desired*" system; it is an artificial system, representing an "ideal" economy whose trajectory the policymaker aims to track. The reference sequences can be thought of as being equilibrium points of the "ideal" economy and the policymaker wants to manipulate the available instrument in such a way that the economy will successively hit these points. Having constructed the desired system, the

problem at hand reduces to that of calculating policy rules for the instrument which, when applied to the original system (the *open loop* system) will produce a *closed-loop* system that is identical to the desired one.
From a mathematical point of view, the open loop system has the following form:

$$\mathscr{D}_1(q)Y(t) = \mathscr{K}_1(q)G(t) \tag{12}$$

where $\mathscr{D}_1(q) = 1 - a_1q - a_2q^2 - a_3q^3$ and $\mathscr{K}_1(q) = \lambda_0 + \lambda_1q + \lambda_2q^2$
The desired system is:

$$\mathscr{D}_1^d(q)Y^*(t) = \mathscr{K}_1^d(q)u_c(t) \tag{13}$$

where $u_c(t)$ is the input variable representing government expenditures in the "ideal" economy. Finally, the fiscal policy rule is a linear function of the form:

$$\mathscr{R}_1(q)G(t) = \mathscr{T}_1(q)u_c(t) - \mathscr{S}_1(q)Y(t) \tag{14}$$

and will be such that it will ensure:

$$\min \|B_t^* - B_t\| \tag{15}$$

where B_t^* denotes the sequence of targets for the levels of public debt. The following theorem is central for the solution of the problem:

Theorem 3.1 *The feedback law of the form* (14)*, when applied to the open-loop system* (12) *modifies it in such a way that the resulting closed loop system will be identical to the desired one (13) if and only if the following hold:*

$$\mathscr{R}_1(q)\mathscr{D}_1(q) + \mathscr{K}_1(q)\mathscr{S}_1(q) = \mathscr{D}_1^d(q) \tag{16}$$

$$\mathscr{K}_1(q)\mathscr{T}_1(q) = \mathscr{K}_1^d(q) \tag{17}$$

(due to space limitations, the proof is omitted - it is available by the authors)

4 The Algorithmic Solution

In order to design the appropriate policy rules that is, calculate the polynomials $\mathscr{R}$, $\mathscr{S}$ and $\mathscr{T}$, we developed two algorithmic procedures in Mathematica: the "*Desired System*" algorithm and the "*Income Matching*" algorithm. For a detailed analysis of the "*Desired System*" algorithm see [6]. We now present the formal "*Income Matching*" algorithm:

Inputs: The polynomials $\mathscr{D}_1(q)$, $\mathscr{K}_1(q)$ and the reference sequence Y_t^*.

Step 1: Using the "Desired System" algorithm, construct the polynomials $\mathscr{D}_1^d$ and $\mathscr{K}_1^d$ such that the output of the resulting system

$$\mathscr{D}_1^d(q)Y^*(t) = \mathscr{K}_1^d u_c(t)$$

is exactly equal to the reference sequence.

Step 2: Find a family of polynomials $\mathscr{R}_\theta(q)$, $\mathscr{S}_\theta(q)$ and $\mathscr{T}_\theta(q)$, depending on the vector of parameters $\vec{\theta} = (\theta_1, \theta_2, ..., \theta_i)^T$, such that the following system of equations is satisfied:

$$\begin{aligned} \mathscr{R}_\theta(q)\mathscr{D}(q) + \mathscr{K}_1(q)\mathscr{S}_\theta(q) &= \mathscr{D}_1^d(q) \\ \mathscr{K}(q)\mathscr{T}_\theta(q) &= \mathscr{K}^d(q) \end{aligned}$$

The polynomial $\mathscr{R}_\theta$ must be of the form $\mathscr{R}_\theta = 1 + \bar{\mathscr{R}}_\theta$,where $\bar{\mathscr{R}}_\theta$ is a polynomial that contains no constant terms.

Step 3: Construct the feedback law

$$\mathscr{R}_{1\theta}(q)G(t) = \mathscr{T}_{1\theta}(q)u_c(t) - \mathscr{S}_{1\theta}(q)Y(t)$$

Step 4: Apply the calculated feedback law to the original system (12) in order to obtain the closed-loop system. Steps 2 and 3 of the algorithm ensure that the closed-loop system is identical to the desired one, thus producing as outputs the desired sequences.

Step 5: Calculate $\hat{\theta}$ such that the error $\|B_t^* - B_t\|$ is minimized.

Output: The polynomials $\mathscr{R}_\theta$, $\mathscr{S}_\theta$ and $\mathscr{T}_\theta$.

The following theorem establishes the validity of the algorithm:

Theorem 4.1 *Given the open-loop system* (12) *and the desired system* (13) *the non-trivial outputs $\mathscr{R}_\theta$, $\mathscr{S}_\theta$ and $\mathscr{T}_\theta$ of the "Income Matching" algorithm can modify the behavior of the open-loop system and make it identical to the desired one via the linear, causal feedback law* $\mathscr{R}_\theta(q)G(t) = \mathscr{T}_\theta(q)u_c(t) - \mathscr{S}_{\sqcup}\langle\rceil\sqcup\dashv(q)Y(t)$.

Remark 4.1 *It is important to note that the algorithm provides a whole family of flexible policy rules appropriate for solving the problem. This allows the policymaker to choose the most appropriate rule, depending on the nature of the particular policy problem. For example, he may opt for the law that provides the smoothest transition path for the input.*

5 An Application

In this section we present some counterfactual policy experiments which will allow us to examine the efficacy of the proposed method for fiscal policy design. In particular, we focus our attention on the Greek economy because the design of fiscal policy in Greece since 2010 has come under heavy scrutiny mainly due to the recession it has caused. Using an estimation of the model presented in section 2 over the period 1995Q1-2009Q4, just before the signing of the adjustment program, we run some counterfactual experiments in order to examine the effectiveness of the proposed fiscal policy plan. In what follows, we assume that the interest rate r is equal to 0.04, while the tax-rate τ is equal to 0.4.

5.1 The Experiments

In this case, we assume that the policymaker aims for a 1% per quarter growth in GDP levels, starting from an initial value €62722 million, corresponding to the 4th quarter of 2009 while, at the same time, ensuring that debt accumulation is minimized.
The following table summarizes the target values for GDP regarding this policy experiment:

Table 1: GDP Target Values

Time	GDP
2010Q1	63349
2010Q2	63989
2010Q3	64622
2010Q4	65269

We examined different values for the λ_i parameters, in order to examine the effects of the lags in fiscal policy implementation. For example, assuming that $\lambda_0 = 0.7$ means that 70% of the government's decision to spend is immediately realized in period t into actual spending.
Figure 1 presents the evolution of government spending necessary in order to achieve the targets for GDP, under different specifications for the λ_i parameters (values are in €million). The solid black line represents the actual values of government spending.
One important conclusion is that, in all cases, government expenditures need to be increased compared to their actual values, in order to meet the GDP targets. However, the higher the value of λ_0 parameter (orange and green lines) the smaller is the necessary increase.
Of equal importance is to examine whether this policy program manages to keep debt in a sustainable path. Figure 2 presents the evolution of public debt (debt levels are in €billion).

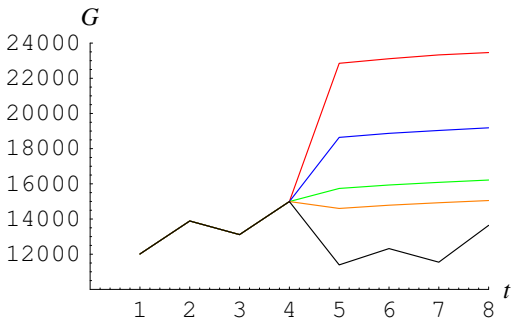

Figure 1: Government Spending

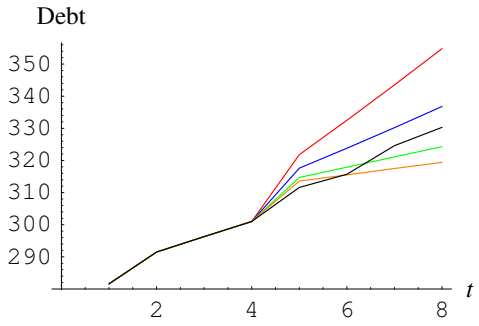

Figure 2: Debt

As we can see, in the case where λ_0 is high, the resulting debt levels are below the actual debt levels, which, combined with the fact that under this policy program 1% per quarter GDP growth is guaranteed, the debt-to-GDP ratio declines thus ensuring debt sustainability.

6 Concluding Remarks

Our aim in this paper was to present an alternative framework for the design of fiscal policy that is based on algorithmic linear feedback methods and the model matching technique. To this end, two relevant algorithmic procedures were developed and presented, which provide us with a family of fiscal policy rules appropriate for solving the problem at hand. The results from the counterfactual experiments indicate that for a country like Greece, suffering from a severe and prolonged economic downturn, expansionary fiscal policy can stimulate growth and keep debt accumulation at a minimum level.

Appendix 1

The state-space form of the model is:

$$\vec{x}(t) = A\vec{x}(t-1) + bG(t) \tag{18}$$

where A and b are:

$$A = \begin{bmatrix} 1+\nu-s & s-\nu-\tau(1-s) & -s\tau & 0 & \lambda_1 & \lambda_2 \\ 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ -\tau & 0 & 0 & 1+r & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}, \quad b = \begin{bmatrix} \lambda_0 \\ 0 \\ 0 \\ 1 \\ 1 \\ 0 \end{bmatrix} \tag{19}$$

The polynomial matrices $\mathscr{D}(q)$ and $\mathscr{K}(q)$ are the following:

$$\begin{aligned} \mathscr{D}(q) &= \begin{bmatrix} D_{11}(q) & D_{12}(q) \\ D_{21}(q) & D_{22}(q) \end{bmatrix} = \begin{bmatrix} 1-a_1q-a_2q^2-a_3q^3 & 0 \\ \tau q & 1-(1+r)q \end{bmatrix} \\ \mathscr{K}(q) &= \begin{bmatrix} K_{11}(q) \\ K_{21}(q) \end{bmatrix} = \begin{bmatrix} \lambda_0+\lambda_1q+\lambda_2q^2 \\ 1 \end{bmatrix} \end{aligned} \tag{20}$$

Appendix 2

In the estimation of the consumption and investment functions we used data downloaded from Eurostat (data updated on: 30/04/2015 and extracted on 01/05/2015) that span the 1995Q1 to 2009Q4 period, thus providing us with 60 observations. Since both equations contain distributed lags of the explanatory variables, we used the Newey-West estimator to account for possible heteroskedasticity and autocorrelation. Moreover, the standard test (including VIF) were implemented to account for possible multicollinearity; the results indicate that although the values of VIF exceed the rule-of-thumb value of 10, they are not so large to cause serious concern. In order to ensure the robustness of our results, we calculate the bootstrapped standard errors for both equations, and the results were almost identical. Regarding consumption, the estimation yielded:

$$\hat{C}_t = \underset{(0.058)}{0.301}Y_{t-1} + \underset{(0.071)}{0.218}Y_{t-2} + \underset{(0.059)}{0.166}Y_{t-3} \tag{21}$$

Regarding investment, the estimation yielded:

$$\hat{I}_t = \underset{(0.436)}{0.81}\,(Y_{t-1} - Y_{t-2}) \tag{22}$$

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Title: The Greek Banking System and Economic Development 1952-1980: Policy Aspects and Implications

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Abstract

After the Second World War, Greece faced a complex set of economic and political challenges. The country's destroyed productive infrastructure demanded significant amounts of funds in order to be refinanced, which at that point could not be covered by internal resources. The political instability that prevailed and the institutional disparities of the country, led to the creation of an institution, the Monetary Authority, which was responsible for the stabilization of the Greek economy in the context of the Bretton Woods requirements, the supervision of the banking sector, the credit and the monetary policy. The main goal of this paper is to shed light on the main institutional and policy aspects which shaped the decisions of the Monetary Authority regarding the country's credit policy and its implications for the Greek banking system.

Our goal in the present paper is to describe the main drivers that defined the implemented credit policy in Greece, during the period from 1952 to 1980. In particular, we seek to explore the connections and interactions between the country's post-war reconstruction, the development of the banking system and the formulation of credit policy. Further, we aim to trace the guiding principles, assumptions and the consequences associated with the implemented credit policy. Another important issue that we try to address is the conditions under which the Greek banking sector developed; to what extent its development was influenced by the strategy adopted by government and monetary authorities. A crucial question in this regard is whether the policy of the Monetary Committee as far as the banking sector was concerned had positive or negative implications for its stability.

For the purpose of the present study we assume that this 30 year period constitutes an entity in terms of credit policy principles and implementation. This does not mean that through this entire period there are no shifts or turning points, but that the elements of continuity prevail over discontinuity. However, detailed periodization of the abovementioned period is beyond the scope of the present essay.

In more detail, in 1946 Monetary Committee was established as a precondition in order for Greece to receive the financial help of international creditors (Psalidopoulos, 2014, p.37). The main goal of the Monetary Committee was to achieve the stabilization of the Greek Economy, which had been extensively damaged by the Second World War, and at the same time keep the inflation stable. In this context, the Monetary Committee was also responsible for the credit policy in Greece and the supervision of the banking system. These responsibilities were strengthened even more in 1948 with the law 588/1948, regarding the control of credit expansion, which provided the Monetary Committee the power to decide on the amount of credits per sector and which sectors were eligible for refinancing. Bank of Greece participated actively in the Monetary Committee not only through the enforcement of the Committee's decisions, but also in the conduct of the required analysis, the development of the credit policy strategy and the suggestion of relative measures.

At the same time, the Committee aimed to set the development of the Greek economy on stable ground, in order to be able to compete with the other countries that participated in the European Economic Community. This has not been a very easy task if we consider a wide range of external factors (e.x political instability, Cypriote crisis etc.) during the study period that put at stake the fragile developing Greek economy. We argue that an elaborated analysis of the incorporated drivers in the credit policy will shed light on the problematic aspects that created anomalies and confusion in the Greek banking system over this period.

Through its work the Monetary Committee managed to be considered as a reliable counterparty for the country's borrowers, that ensured the economic stability in the context of Bretton Woods requirements.

Many scholar works have discussed the monetary policy in Greece during the period 1952-1980, however without making detailed reference on the specific sub-periods, emphasizing the general aspects of the economic and political system (Papadakis, 1979, Psalidopoulos,1994). Others, examine the combined effects and effectiveness of monetary and credit policies through the use of quantitative methods (Halikias,1978)

or focus on the money supply and its implications on the inflation and the economic or fiscal policy (Tsoris,1976:104-7, Leventakis et al.:1979, Paleologos, 1981, Panagiotopoulos: 1984, Garganas, 1989, Lianos et all,1990, 43-48).

In a somewhat different approach, our analysis will be committed solely on the definition of the credit policy and its interaction with the Greek banking policy. To this end, historical archives of Bank of Greece along with the Annual Bank of Greece Governor's Reports have been processed in order to detect and describe the following issues:

- The decision making process that the Monetary Committee adopted in order to specify the goals and the parameters of credit policy.
- The results of its implementation to the banking system.

Since 1952 the Monetary Committee intensified its efforts to stabilize the Greek economy, despite the fact that this was the first time after a long period that the price level remained stable, and the Greek economy was dealing with serious endogenous anomalies. The trust of the depositors to the national currency had been destroyed, something which subsequently did not allow the formation of a buffer of deposits able to fund the economic reconstruction of Greece. On the contrary, those "potential" depository funds were invested in the gold market, the construction of houses or in speculative actions (Zitridis, 1978, p.387).

Up to that moment Bank of Greece was the one to fund the productive activity and the gaps of the fiscal policy, thus increasing the pressure to the monetary policy. Moreover, the forthcoming interruption of the support of the Greek economy with foreign funds which were covering the gaps in the balance of payments demanded immediate actions from the Monetary Committee.

The abovementioned facts justify the limited credit expansion, although the country's productive infrastructure which had been seriously hampered during the Second World War and the civil war demanded its immediate and continuous funding. *The Monetary Committee acknowledging the importance of the reconstruction of the country's productive infrastructure introduced two basic Pillars in all its future decisions. The first one was to restore the depositors' trust in the national currency and subsequently in the banking system. The second one was to ensure the allocation of adequate funds able to support the productive sectors of the economy.*

At this point, we should clarify that the Monetary Committee made a crucial selection and decision on the sectors that would contribute the most on the country's economic development. According to the Committee's evaluation the most dynamic sectors were the agricultural sector, the industrial and exports. In the 1953 Bank of Greece annual report, it is emphatically stressed that the need for "*..the reasonableness support of the productive sectors*" *(Bank of Greece's annual report, 1954: XXVIII)*, was one of the main drivers of the credit policy.

Gradually the work of the Monetary Committee, which was mainly driven by the vision of Bank of Greece's governor X. Zolotas, managed to restore the confidence of the depository base from the amount of 66.5[1] bn. drachmas in 1959, to 832 bn. drachmas in 1980. The increase of deposits was used to fund the increase of credits to

[1] In prices of 1980-drachmas.

the Greek economy. In particular, the loans of the banking sector in 1959 amounted to 53,3[2] bn. drachmas, and eventually reached the level of 988 bn. drachmas in 1980.

The sector that benefitted the most by credit expansion was the industrial one, as *the Monetary Committee realized the inadequacies in the productive infrastructure of the Greek economy and through this support in credits aimed at promoting its modernization.* This would also enable the Greek industry to compete the advanced industries of the European Economic Community.

Moreover, the agricultural sector was supported in a twofold way. On the one hand, loans to agricultural sector have increased and on the other hand, many loans to farmers were written off by the government during this thirty years period. A prominent example of this trend was the decision of the Greek junta in 1968 to write-off loans of the Agricultural bank. Nevertheless, these actions clearly constitute manifestations of clientelism and were not dictated be economic rationality. The field of Exports was also one of the sectors that absorbed a large amount of the depository funds, as the Monetary Committee intended to boost the competiveness of the Greek exports.

The Monetary Committee tried hard to limit the amounts of lending funds that were transferred to consumption. This was the motivation behind its effort to limit loans to imports as the majority of them referred to luxury goods, with the exemption of imported goods which would enable country's economic reconstruction (ex. industrial machinery equipment). In the same context, the credit lines from the industry to commerce were also decreased.

The mechanism of the interest rates was also used to accomplish the goal of the economic policy, i.e. to support the selected sectors *"… diversify the interest lending rate system in order the companies, which contribute the most in the country's economic development, to borrow in lower rates " (Ministry of Coordination,1960:164).* The base borrowing rate for big and small industry regarding the development of infrastructure in 1965 for example, stood at 7% (8% with the commission included), meanwhile the base rate for the internal and import commerce stood at 10% (11% with the commission included) *(Historical Archives Bank of Greece –HABG, A2S1Y4F23-T1, p.36).*

Through this "expensive" interest rate for internal and import commerce, the Monetary Committee tried to limit the borrowing funds transferred to them, meanwhile the "favorable" interest rate for big and small industry aimed to force the industrialists to invest in their industry, to modernize their production and to grow the Greek industrial production.

Nevertheless, the implemented policy of supporting specific productive sectors caused remarkable distortions. First of all, it has become evident that industrialists relied to a large extend on borrowed than their own funds and the structure of their companies' capital was of poor quality (HABG, A2S1Y4F30, p.10). Despite the support received by the Monetary Committee, it seemed that industrialists did not use it for productive purposes. In the 1963 Bank of Greece annual report, it is stressed that the investments in industry were inadequate compared to the needs of modernization required in order

[2] In prices of 1980-drachmas.

for the Greek industry to become competitive in the international environment (Bank of Greece's annual report, 1964: p.71).

Moreover, it should also be noted that the Monetary Committee in order to define the amounts that each sector could borrow or the cost of banks' credits seems not to have used a risk base approach. Such an approach would evaluate the risks that banks faced through the implemented credit expansion. In addition, the centrally determined interest rates did not allow the mechanism of free markets to work and define an equilibrium rate. *Another point of criticism is that the most attractive sectors for lending from the banks perspective were the ones that contributed the less in the country's economic development, as they experienced higher interest rates.*

Taken the above into consideration, it is reasonable to wonder whether the stability and the "sustainable" development of the banking sector, were among the primary goals of the Monetary Committee. The preliminary findings of our research show that this was not the case. The banking sector was considered rather as the "funding vehicle" for the economic reconstruction of the country and not as an independent sector that needed to be separately examined and monitored by the Monetary Committee. Moreover, no specific analyses for the support of the Greek banking sector under the prospect of the country's accession to the European Economic Community were undertaken. At this point it should also be noted that the oligopolistic characteristics of the Greek banking sector discouraged competitive foreign banks to increase their operations in the Greek market (Mitsos, 1981, p. 252-253).

On the other hand, it should not be understated that the Monetary Committee defined the general principles of the banking supervision (Zitridis, 1978, p.321). In February 1952, Bank of Greece, one of the leading members of the Monetary Committee, (Halikias, 1976, p.13 and 36), incorporated under its organization structure a dedicated department related to the supervision of the banking system, which can be considered as a significant step to the enhancement of the stability of the banking sector. In various annual reports by the Bank of Greece, there are statements which induce the banks to better assess their customers' requests for credits under the requirements established by the credit policy.

Moreover, the Monetary Committee established in 1952 the Credit Committee which was mainly responsible for making decisions on the problems raised by the credit policy. The Credit Committee followed long and complicated procedures in order to decide on the various issues that were escalated to it. Through the abovementioned actions, the Monetary Committee tried to ensure that banks provided their credits to the selected from the Monetary Committee sectors, following the predefined requirements. *This established bureaucratic mechanism created distortions to the disbursements of loans and increased the operational cost of banks.*

- To sum up, our research so far has provided little evidence that the supervision authorities followed consistently a risk base approach to evaluate the risks that banks faced through the implemented credit policy. It would be fair to argue that their main concern was to ensure the funding of the selected productive sectors. In particular, our main conclusions from the archival research conducted so far, involve the following remarks: The country's economic

development and the re-establishment of its productive infrastructure were the main goals of the Monetary Committee.

- The Committee worked unbiased to accomplish the abovementioned goals for almost 30 years, with the exception of the period 1967-1974, taking also into account that the country's productive sectors would face the competition of their peers when the country would join the European Economic Community.
- For the Committee it was crucial to ensure the funding of the sectors that were considered capable to promote the country's economic development.
- To this perspective the banking sector was used as the mechanism that would collect the available funds from the depositors and then would transfer these funds to credits for the selected "productive" sectors.
- Our research has not revealed any thorough impact studies from the Monetary Committee, regarding the impact of the undertaken measures or the risks that credit policy entailed for the banks.

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The European Union's Structural Deficiency and the Cypriot Bail-in

By Michalis Zivanaris[1]

Abstract: The European Union's response to the exceptional conditions created by the economic crisis reveal two levels of structural deficiency: the practical and the theoretical. By analysing the case of Cyprus and the bail-in the paper discusses the effects of the EU's crisis management mechanisms on European democracy. Moreover, by analysing the case of Cyprus through the work of Carl Schmitt, the paper argues that the European constitutional framework has been deformed to the extent of being transformed.

With the outbreak of the economic crisis in Europe, the structural deficiency of the Union was revealed. Using the case of Cyprus as an example, the paper attempts to trace the EU's structural deficiency in two levels: the practical and the theoretical. At the practical level, the constant migration of power from democratic institutions to executive bodies signalled the mark of a post-democratic era in European governance. At the theoretical level, the EU's lack of theoretical grounding renders the constitutional framework contingent and therefore susceptible to change. Against this background and by employing Schmittian theoretical tools the paper argues that in exceptional moments such as the case of Cyprus, the EU's constitutional arrangement can be deformed to the extent of being transformed.

Practical Structural Deficiency

With the Cypriot banking sector on life support and the ECB threatening to pull the plug on the economy by ending the Emergency Liquidity Assistance (ELA), the newly elected government of Cyprus was invited to negotiate a rescue package with European institutions and international creditors. In an attempt to avoid a costly bail-out, European institutions and the IMF adopted a harsh and rather rigid stance against Cyprus, insisting that depositors should contribute to the restructuring of the banks. During the course of the negotiations it became evident that the Troika and the ministers comprising the Eurogroup would not retreat from their initial declarations[2]. Faced with outright blackmail, the Cypriot government was left with no alternative but to give in to the demands of the Eurogroup and agree to a depositors bail-in (Orphanides 2013). Usually, the bail-in is employed in order to include debt holders and shareholders (investors) share the burden of a defaulting banking institution. However, in the case of Cyprus the definition of a creditor was extended to include depositors. Therefore, the bail-in required all creditors (bond holders and depositors)

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[2] In an interview to public broadcaster ARD, German Finance Minister Wolfgang Schaeuble claimed that: "It was the position of the German government and the International Monetary Fund that we must get a considerable part of the funds that are necessary for restructuring the banks from the banks owners and creditors - that means the investors,» , eKathimerini 17 March 2013, http://www.ekathimerini.com/4dcgi/_w_articles_wsite2_1_17/03/2013_488337

of a bank to bear the burden of the institution's failure by having their debt (bonds and deposits) written off. Initially the agreement involved a tax levy, otherwise termed as a "horizontal haircut" (6.75% for deposits below €100.000 and 9.9% for uninsured deposits over €100.000), applicable to all banks and every depositor. This first agreement was rejected by the Cypriot Parliament, sending the government back to another Eurogroup meeting. With the banks closed and the economy of the island paralysed, the need for an agreement reached an apogee. Despite fierce public criticism and the rejection of the first agreement by the Parliament, the Eurogroup insisted on a depositor's bail-in. It was soon made clear that no other solution would be accepted; it was either a bail-in or bankruptcy. A second, harsher some have argued, agreement was reached whereby a 'haircut' would be implemented on all uninsured deposits in Laiki Bank and 47.5% on uninsured deposits in the Bank of Cyprus. Crucially, in order to facilitate this agreement a new law was introduced[3], changing pre-existing insolvency law and the order of priorities (Jack and Cassels 2013, 450-463). Following the bail-in, Cyprus would receive a €10billion loan subject to a Memorandum of Understanding which would introduce and regulate a series of strict austerity measures.

Drawing from the case of Cyprus, we can observe the dominance of executive actors to the expense of democratic institutions. European institutions such as the Council, the Commission, the European Central Bank in addition to executive bodies which where created specifically in order to face the economic crisis such as the Euro Summit and the Eurogroup, are no longer confined to "normative, rule-making governance", but can now influence internal matters of member-states such as budgets and macroeconomic policy, indicating a shift from "economic governance" to "economic government" (Curtin 2014, 1-32 : 3-6). As we have seen in Cyprus, these decisions are taken by the executives on the EU and imposed upon other member-states. The process of *legitimisation* through national democratic parliaments is therefore nothing but a formal requirement with no real significance. Once again, Cyprus is a good example to illustrate this since the parliament had no other option but to accept a worst deal than the one it previously rejected. As a judge of the Supreme Court of Cyprus has put it, the decisions taken by the Eurogroup and the Troika lacks transparency, accountability and democratic legitimacy while ignoring fundamental European principles[4]. What we have therefore is a *structural deficiency* in the way the economic crisis is handled, allowing for the constant empowerment of executive actors to the extent that democratic institutions only act as a "formal shell" (Crouch 2004; Crouch 2013), leading to the effective hollowing of European democracy (Curtin 2014, 1-32; Mair 2013).

Theoretical Structural Deficiency

It becomes clear that amidst the financial crisis Europe lacks a constitutional arrangement that can safeguard basic democratic principles and effectively regulate the exercise of power. Consequently, the rules of the game are made and remade according to particular circumstances, ignoring any form of significant deliberation

[3] *The Resolution of Credit and Other Institutions Law 2013*
[4] *Myrto Christodoulou v Central Bank of Cyprus, The Governor of the CBC and the Minister of Financial Affairs*, Supreme Court of Cyprus, 7 June 2013, per Justice Erotocritou G.

with the affected countries. Habermas describes this new stage of European governance as a "post-democratic … executive federalism", where a self-authorising European Council exercises political authority over internal matters such as fiscal and economic policy, social policy, education, health and employment (Habermas 2012). Others have characterised it as a post-democratic style of rule albeit the preservation of a democratic organisation of power, leading to a form of autocracy coupled with "institutional structures of democratic government" (Azmanova 2013, 23-38); as the emergence of a "Distributive Regulatory State" (Chalmers 2012, 667-693) or as "Authoritarian Managerialism" (Joerges and Weimer 2012). Common to all of these accounts tracing the constitutional reality of the European Union is the lack of "any theoretical / conceptual paradigm" (Joerges 2012). Therefore, what the crisis calls us to consider is not the democratic deficit of the EU, which focuses on the democratic effectiveness of institutional proceedings, but instead divert our focus to the structural theoretical deficiency of European integration. Certainly, the question of a democratic deficit does not become irrelevant, however, it is time to consider the cause, not the effects, of the problem.

Ever since its inception, the European Union puzzled constitutional lawyers and political theorists. Described as a polity without political theory (Muller 2000, 1777 : 1777), the Union's political arrangement remains, to this day, unclear. A democratic constitution, to be characterised as such, needs to be created by the "direct decision and political participation of the sovereign popular subject, outside all forms of pre-existing authority"(Kalyvas 1999, 1525 : 1540). This is what we term as the *constituent power* and is located prior to and above any constitutional formation (Schmitt 2008). Negri defines constituent power as the power "to make a constitution and therefore to dictate the fundamental norms that organize the powers of the State. In other words, it is the power to establish a new juridical arrangement, to regulate juridical relationships within a new community" (Negri 1999 :2). *Constituted* power, on the other hand, is the result of the operations of constituent power and can be defined as "the positive constitutional forms created by the constituent subject, which determine how public power is to be exercised and how ordinary laws are to be created" (Colón-Ríos 2010, 199 : 205). A democratic constitution therefore determines both the way through which power is legitimised and the way through which power is organised.

Determining the actual constitutional formation of the EU, in other words what the EU *actually is*, has not been an easy task, primarily due to the constant evolution and reformation of the Union. However, we can draw upon certain characteristics in order to picture Europe's constitutional arrangement. It is apparent that there has been some sort of constitutionalization through Treaties and certain European Court of Justice judgments such as the cases of Van Gend en Loos[5] and Costa v ENEL[6], establishing the principle of direct effect and supremacy respectively. These developments shaped the EU into a "kind of Rechsstaat - i.e. an entity which guarantees the rule of law" (Muller 2000, 1777 : 1777). Nevertheless, such a constitutional arrangement can neither be called a state nor a federation, allowing some commentators to argue for a *sui generis* formation "suspended between *Bundeststaat* (federal state) and *Staatenbund* (federation of states)" (Muller 2000, 1777 : 1777-1778). In order to

[5] (1963) Case 26/62
[6] [1964] ECR 585 (6/64)

describe this sort of "federalism beyond the state", in other words this middle ground, political thought created a new word – supranationalism (Schütze 2012 : 48). The EU was therefore perceived as containing intergovernmental, supranational and infranational elements, mixing "aspects of 'representative government', in the broadest sense, with 'confederal, consociational' democracy, which aims at decisional efficiency and inter-executive-elite accommodation" (Muller 2000, 1777 : 1790. See also: Weiler 1999; Chryssochoou 1998). Notwithstanding the democratic deficit such an ambiguous process of integration the European *demos* has silently accepted the non-democratic turn in European politics. Since the EU could not draw legitimacy from its constitutional arrangements but was nevertheless accepted by the people, lawyers and political scientists created a new term to define this form of legitimacy: output legitimacy; "a notion of 'self-legitimation' based on instrumental criteria" (Muller 2000, 1777 : 1778). It becomes clear that despite the above-mentioned elements, the EU has no political form; in other words, the Union's political structure remains *contingent* and, by extension, *undefined*.

Despite its contingent nature, the EU's constitutional framework depends upon one constant variable and that is the presupposition of a sovereign nation state. This is evident in Jan Muller understanding of the constitutional order of the European union under conditions of *normalcy and economic prosperity*. Muller argues that the Union started off as an "intergovernmental enterprise" where sovereign member-states, representing their people, agreed to form a Union, constituting a Community of nations. Therefore, the "initial constituent power was a plural one" and despite the initial "direct democratic deficit…there was no lack of a democratically constituted plural constituent power". The paradox arising from this formation is that the constituent power is already constituted, rendering it both within the constitution (due to the appearance of member-states in the Council of Ministers) and "outside, as in those moments when the member-states, as high contracting parties redesigned the constituent power". A key aspect of this interpretation is that in "*exceptional* moments of constitutional remaking of the Union, the member-states reassert their sovereignty" whereby a decision is then affirmed, or authorized, by the member-state's own constituent power (Muller 2000, 1777 : 1791-3). However, Muller's account of the European constitutional formation presupposes a sovereign member-state. With the continuous transferring of power to the executives and the unprecedented influence of these executives in the internal affairs of those member-states affected by the crisis, this fundamental presupposition is disputed.

Schmitt defines the sovereign as he who decides on the exception, indicating the capability of either a person or an institution firstly to decide whether a situation is to be considered as an emergency and, secondly, to dissolve the normative legal order in order to decide on the act in response to the emergency (Schmitt 2005). Analysing the case of Cyprus using Schmitt's conception of sovereignty reveals the new, or previously concealed, dimension of the European constitutional formation; this time under moments of an exceptional crisis. As we have seen in the case of Cyprus, the ensemble of European institutions imposed a decision upon a member-state without any regard to democratic procedures or the will of either the government or the citizens. It could be argued here that the exceptional circumstances were both determined and defined by the financial conditions. However, the decision of what is to be done in this exceptional case rests with the executive institutions of the EU. They operated outside the normative legal order by bypassing every democratic

procedure, they decided on the bail-in and they constructed a new insolvency regime to facilitate this decision. Therefore, in moments of crisis European institutions[7], acting as sovereigns decide on the exception (Schmitt 2005. Also, for a similar argument and conclusion see: Douzinas 2013 :100). The moment when European institutions are capable of deciding issues such as fiscal and budgetary policy, which previously fell within the ambit of sovereign states, is the moment when the constitutional arrangement of both the EU and the member-states was altered. If we accept this proposition, it means that the case of Cyprus challenges our theoretical understanding of the EU in one vital respect. Member-states no longer operate outside the constitution in the sense that they can no longer act as constituting powers since the constitutional order can be altered without their consent - as in the case of Cyprus. What we have is a new political formation, one that the political lexicon cannot capture nor describe adequately.

Conclusion

As the Union loses every form of legitimacy, the need for a radical re-imagination of European integration and politics becomes more evident. Political theory is called to reconceive basic principles of social organisation such as the role and position of the state, the nature of sovereignty, the conditions for legitimacy and the basis of constitutionality, the role and limits of power as well as the rights and obligations of individuals. A descriptive analysis focusing on the practical and theoretical deficiency of the EU serves as propaedeutic for the pressing debate arising from the economic crisis which is nothing more than the question of what kind of European integration do Europeans want to achieve.

[7] It is, admittedly, challenging to determine the locus of sovereignty in this case since. A number of European institutions (the Commission and the Eurogroup) and other stakeholders (such as the ECB and the IMF) or the conglomeration of such institutions (Troika), as well as powerful member-states (such as Germany), each played a crucial role in imposing the decision of the bail-in in Cyprus. However, it is vital to recognise that in a state of emergency it was the combination of the above-mentioned forces, which was capable of acting as a sovereign.

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