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**Title: Delayed Fiscal Adjustment and National Competitiveness:
Transmission Channels and Empirical Evidence**

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Abstract

This article argues that the assessment of the Delayed Fiscal Adjustment helps to focus on a renewed vision of fiscal consolidation amalgamating exogenous (neoclassical view) and endogenous (Keynesian view) measures in relation to national competitiveness. Empirical results, based on regression models for the case of Tunisia over the period 1975-2015, show that the failure to maintain fiscal disequilibrium under control, has a significant negative effect on national competitiveness measured in various ways: 1% increase in the delayed fiscal adjustment as a percentage of GDP could cause a loss in total factor productivity by 0.033%, a decline in the annual per capita growth by 0.6%, and a worsening of the primary current account by 0.23%.

Jel classification E62, H62, H63

Keywords: Fiscal consolidation, Delayed Fiscal Adjustment, National Competitiveness, Political crisis.

I. Introduction

When we focus on the effects of fiscal consolidation, (labelled fiscal adjustment or austerity) on national competitiveness, we are amazed by the absolutely bewildering variety of transmission channels, terminologies and related definitions. Evidently, we are too far from reaching a theoretical and empirical consensus. On the one hand, competitiveness is a multidimensional concept whose definition is problematic and, on the other, there is an ideological clash between actual renewed view of fiscal adjustment (i.e. Neoclassical approach) and the advocates of demand drivers of economic growth (i.e. Keynesian approach).

Recent imbalance in public finances caused by the economic, political and financial crisis in many countries (such as GIIPS¹ in Europe, Tunisia after the 2011 Revolution) have severely

¹ Greece (heavily indebted government), Ireland (banking system bust), Italy (slow economic growth), Portugal (negative balance of payments), and Spain (housing bubble)

constrained government ability to provide the required investments that enhance economic growth and improve current and future national competitiveness. It is within this context that an attracting growing interest in fiscal policy sustainability in connection with external competitiveness has been renewed.

Using the Global Integrated Monetary and Fiscal (GIMF, 2010) and Synthetic Control Method Model (SCM, 2015), research carried out at the IMF shows that fiscal adjustment causes output reduction and a rise in unemployment in the short run, while interest rate cuts and gains in price competitiveness boost net exports which soften the negative impact of austerity. According to IMF staff projections, fiscal consolidation equal to 1% of GDP causes a 0.5% reduction in output and 0.3% increase of unemployment over two years following - the initial implementation. At the same time, this consolidation induces real interest rate to fall by 20 basis points, and depreciates real exchange rate by about 1.1 %. In turn, the resulting increase in net exports (contribution in GDP by an additional 0,5 %) comes from more real exports responding to real exchange depreciation and less real imports as consequence of the slowdown in economic activity. However, despite the widespread recognition that it is difficult to disentangle the fiscal reforms from other factors, we find that in these IMF papers fiscal adjustment can lift medium-to-long term per capita growth by 0.75 % in advanced economies and even more in developing countries.

Using a sample of 17 countries over the period 1978-2009, Bludorn and Leigh (2011) have shown that 1% of GDP fiscal consolidation raises current account balance -to-GDP by about 0.6%. Some authors (Ilzetki *et al* (2013), Guajardo *et al* (2014), Bista *et al* (2016)) add to these findings that the positive effect of austerity on exports may not emerge (or lessened) when (i) trading partners engage simultaneous fiscal consolidation policies, (ii) countries involved are members of a currency union (even neutral effect) and or (iii) when a country has a fixed exchange regime.

Unlike much literature, our contribution in this paper is twofold: (i) to develop a new conceptual framework for a better understanding of the effects of fiscal consolidation on national competitiveness by reconciling the Keynesian and neoclassical views; (ii) to show how the Delayed Fiscal Consolidation (DFA hereafter) still has a significant effect on the overall competitiveness generation process. To that end, the rest of this paper is organized as follow: Section II reports the main channels linking fiscal consolidation to national competitiveness. Section III describes our methodology including an accounting model which is used to assess the DFA and draws lessons for a renewed vision to fiscal consolidation. Section IV is the case study of a country (Tunisia), in order to look at the effect of DFA on different measures of national competitiveness.

II. Literature review

A selective review of the huge array of literature on the effects of fiscal adjustment on growth and national competitiveness reveals a renewed interest in the *expansionary fiscal contraction view* which gives special importance to supply-side and demand-side channels. The academic debate, generated by the support for fiscal adjustment and promoting fiscal expansionary policies, has revealed both benefits and drawbacks for national competitiveness.

On the supply side, two doubtful transmission channels have been revisited by Meloni (2016), relating austerity to external competitiveness within neoclassical perspective: *productivity* and *wage channels*. By considering crowding out effect, a reduction in public expenditure would mobilize more available saving resources and would provide a lower interest rate to stimulate private productive investments, which in turn may increase productivity, foster growth and particularly exports. In addition, while increased supply leads to prices reduction and cheaper national goods, price competitiveness would be greater. As a consequence, lowering debt-to-GDP ratio reduces risk premiums, helps to anchor expectations and restore investor's confidence. This *productivity channel* reveals a current account improvement and enhances external competitiveness. The *wage channel* transmitted by structure reforms of the labour market comes to complete the whole austerity practice by introducing greater flexibility in the bargaining process and job agreements. As a result, lowered wages combined with domestic price reduction would strengthen price competitiveness based on unit labour cost and real effective exchange rate, improve current account and finally boost external competitiveness of the nation without using nominal devaluation. As summarized by Blyth:

Austerity is a form of voluntary deflation in which the economy adjusts through the reduction of wages, prices, and public spending to restore competitiveness, which is (supposedly) best achieved by cutting the state's budget, debts, and deficits. Doing so, its advocates believe, will inspire "business confidence" since the government will neither be "crowding-out" the market for investment by sucking up all the available capital through the issuance of debt, nor adding to the nation's already "too big" debt.(2013, p.2).

Considering that the crowding out effect is highly questionable, advocates of the *on-demand approach* support the view that fiscal expansion contributes to stimulating effective demand, creating added value and reducing unemployment. As a consequence, the created government's deficit tends to be self-financed by the presumed growth which may lead to more income tax revenues in the upcoming years. Contrariwise, a fiscal adjustment based on reducing public expenditures will have negative effects on growth since it causes a decline in consumption and investments which in turn worsens the unemployment problem. Ideologically driven and based on economic management freighted with politics, austerity is considered by Blyth (2013) as:

A dangerous idea for three reasons: it doesn't work in practice, it relies on the poor paying for the mistakes of the rich, and it rests upon the absence of a rather large fallacy of composition that is all too present in the modern world". (p.10).

However, according to expectation view theory, McDermott and Westcott (1996) stated that *"fiscal action viewed as necessary to restore government solvency could reduce the inflation and default risk-premia required by financial markets on public debt bonds. The consequent decrease in interest rates, in turn, could increase the market value of the stock of wealth in the consumers' portfolio and boost aggregate demand.*

In the same line, Zaghini (2001) argues that positive effects of fiscal adjustment on growth could be interpreted as the result of two channels: *wealth effect channel and the investment channel:*

- *Wealth effect channel: a serious commitment related to spending cuts leaving constant the tax revenues and fiscal adjustment persistence over time, leads "agents, perceiving that their future resources are permanently increased, to adjust the optimal consumption path to the higher level of permanent income".*
- *The investment channel: "reduction in the risk-premia paid on government bonds, leading to an overall saving on debt servicing and to a further decrease in the present and future need of funding, involves a generalized reduction in interest rates, which boosts private investment, and speeds the short-run growth of the economy."*

Some authors, like Melony (2016), argue that reducing aggregate demand has led to more current account improvement by limiting total imports via the *channel of marginal propensity to import*. It is also probably absurd to think that the resulting increase in unemployment would justify structural reforms which lead to market clearing of the wage rate and subsequently to more price competitiveness.

The recent trend in growing risks of the secular stagnation in Europe has led Mastromatteo and Rossi (2015) to argue *"that the deflationary effects of the conventional policy reaction to the euro-area crisis will aggravate recession over the medium-to-long run in that area, owing to their negative impact on demand in the product markets across the whole European Union, whose competitiveness will suffer under the very measures that are supposed to enhance it in the global economy"*

On the basis of the aforementioned channels, it should be clarified that *(i)* all the combinations are built on the conventional economic policy recommendations (e.g. Alesina and Perotti 1995), which favours expenditure cuts rather than tax rises. These channels disregard fiscal adjustment, as a package of revenues hikes and spending cuts, which is clearly shown by Theodoropoulou and Watt (2011) for most European countries. *(ii)* Fiscal adjustment processes cannot be undertaken unilaterally by the government against social dialogue and the will of trade unions

(iii) while the competitiveness concept has widespread support in economic management, it is not a well-defined or understood notion. It has been merely reduced to price competitiveness and to some announced enhancements in exports and external current account.

Up to now, the literature review reveals a lack of conclusive empirical findings regarding the links in the chain between fiscal adjustment and national competitiveness. To the best of our knowledge, empirical studies were not intended to be explicitly detailed, but rather a snapshot of the renewed interest for *expansionary fiscal contraction view* in relation with exports, net exports and current account. However, Krugman (2010) and Perotti (2013) support the "Myth of austerity" argument and argue that in many cases of "expansionary fiscal consolidations" the negative effects of austerity were offset by others factors such as exchange rate depreciation after floating and the related net export boom in Ireland's and Sweden's experiences; hence the relevance and aim of the mechanism are not immediately obvious in the world as a whole.

On another note, there is a sizeable theoretical and empirical literature dealing with the successful fiscal adjustments in terms of substantial gains in growth and sustainable debt-to-GDP ratio but totally devoid of any explicit connection with national competitiveness. Earlier research on the *expansionary fiscal contraction* has been developed by Alesina et Perotti (1995); Alesina *et al* (1998), Zaghini (2001); and Barry and Devreux (2003). The most important lessons learned from these empirical works are: (i) it is not easy to implement causal relationships between fiscal adjustment and economic growth, (ii) the business environment and the characteristics of fiscal adjustment should be taken into consideration to ensure a comprehensive approach to deal with significant successful fiscal adjustment (iii) the "expansionary fiscal contraction" cannot be used as a systematic guide to implement fiscal consolidation, the actual circumstances are essential in the design of fiscal adjustment.

In recent years, using a sample of 107 countries and 79 episodes of discretionary fiscal adjustment measures during the period 1980-2012, Baldacci *et al* (2013) have shown that a mix of revenue hikes and spending cuts implemented gradually over time can boost output expansion and reduce public debt/GDP; however credit supply restrictions are a severe constraint which would dampen growth. The hypothesis that the effects of consolidations depend on their design is presumed to be valid in the context of OCDE countries.

According to Alesina *et al* (2014), simulation analysis of exogenous fiscal plans adopted by 16 OCDE countries over a 30-year period, show that spending cuts are much less costly in terms of output losses, than tax-based ones and have especially low output costs when they consist of permanent rather than stop and go changes. Business confidence and private investment play a crucial role in the transmission channels linking large fiscal deficits reductions episodes to output growth.

Using a quarterly panel-VAR analysis for the Euro area countries, Grazia and Metelli (2017) have analysed the effect of fiscal consolidation on the dynamic of the debt-to-GDP ratio. Fiscal consolidation is considered as "self-defeating" if the level of debt-to-GDP does not decrease compared the pre-shock level. They have found that cuts in primary public spending are more efficient than an increase in government revenues in terms of a reduction in debt-to-GDP ratio.

III. A Renewed Vision: The Distinction between Exogenous and Endogenous Fiscal Adjustment

This section provides an accounting model for assessing the DFA defined as the difference between the primary fiscal deficit and the sustainable one.

The most straightforward way to assess the sustainability of public deficits for the LDCs is to start from the government budget constraint. This is written in nominal terms as:

$$PD_t + i_t B_{t-1}^{int} + i_t^* E_t B_{t-1}^* = \Delta B_t^{int} + E_t \Delta B_t^* \quad (1)$$

where: PD_t is the primary fiscal deficit; B_{t-1}^{int} is the internal (domestic) public debt, i_t is the nominal interest rate on domestic public debt; B_{t-1}^* is the foreign currency debt at t-1, i_t^* is nominal interest rate on the external public debt, E_t is the nominal exchange rate; and Δ lag operator.

$$PD_t + (1+i_t)B_{t-1}^{int} + (1+i_t^*)E_t B_{t-1}^* = B_t^{int} + E_t B_t^* \quad (2)$$

Expressing all stocks and flows as shares of GDP:

$$pd_t + \frac{1+i_t}{(1+\pi_t)(1+g_{rt})} b_{t-1}^{int} + \frac{(1+i_t^*)(1+\hat{e}_t)}{(1+\pi_t^*)(1+g_{rt})} b_{t-1}^{ext} = B_t^{int} + B_t^{ext} \quad (3-1)$$

$$pd_t + \frac{1+r_t}{(1+g_{rt})} b_{t-1}^{int} + \frac{(1+r_t^*)(1+\hat{e}_t)}{(1+g_{rt})} b_{t-1}^{ext} = B_t^{int} + B_t^{ext} \quad (3-2)$$

where the lowercase letters denote the ratio of the corresponding uppercase variables to nominal GDP, π_t is the inflation rate at t, g_{rt} is the real growth rate, \hat{e}_t is the percentage depreciation of the real exchange rate, B_t^{ext} public external debt (Local Currency), π_t^* is the foreign inflation rate, r_t is the domestic real interest rate, r_t^* is the foreign real interest rate.

Moreover, in terms of public debt flows, equation (3-2) can be rewritten as:

$$pd_t + \frac{r_t - g_{rt}}{(1+g_{rt})} b_{t-1}^{int} + \frac{(1+r_t^*)(1+\hat{e}_t) - (1+g_{rt})}{(1+g_{rt})} b_{t-1}^{ext} = \Delta B_t^{int} + \Delta B_t^{ext} \quad (4)$$

By considering the IMF benchmark which is reflected in the stability of debt-to-GDP around 40% as prudential limits that should not be exceeded on a long-term basis, equation (5) leads to:

$$Spd_t = \frac{g_{rt} - r_t}{(1 + g_{rt})} b_{t-1}^{int} + \frac{(1 + g_{rt}) - (1 + r_t^*)(1 + \hat{e}_t)}{(1 + g_{rt})} b_{t-1}^{ext} \quad (5-1)$$

$$Spd_t = \left[\frac{g_{rt} - r_t}{(1 + g_{rt})} \alpha_{t-1} + \frac{(1 + g_{rt}) - (1 + r_t^*)(1 + \hat{e}_t)}{(1 + g_{rt})} \gamma_{t-1} \right] B_{t-1} \quad (5-2)$$

$$\text{where } \alpha_{t-1} = \frac{B_{t-1}^{int}}{B_{t-1}} \times 100 \quad \text{and} \quad \gamma_{t-1} = \frac{B_{t-1}^{ext}}{B_{t-1}} \times 100$$

α_{t-1} denotes domestic debt as a percentage of total public debt, γ_{t-1} is the share of external public debt in total public debt, and Spd_t denotes the sustainable primary fiscal deficit. It is a sustainable level because it is consistent with the stability of debt-to-GDP ratio around 40% and constrained by the excess of real growth over the relevant real interest cost of domestic and foreign public debt.

Under the IMF *benchmark rule* of debt-to-GDP ratio equal to 40%, Equation (5-2) becomes:

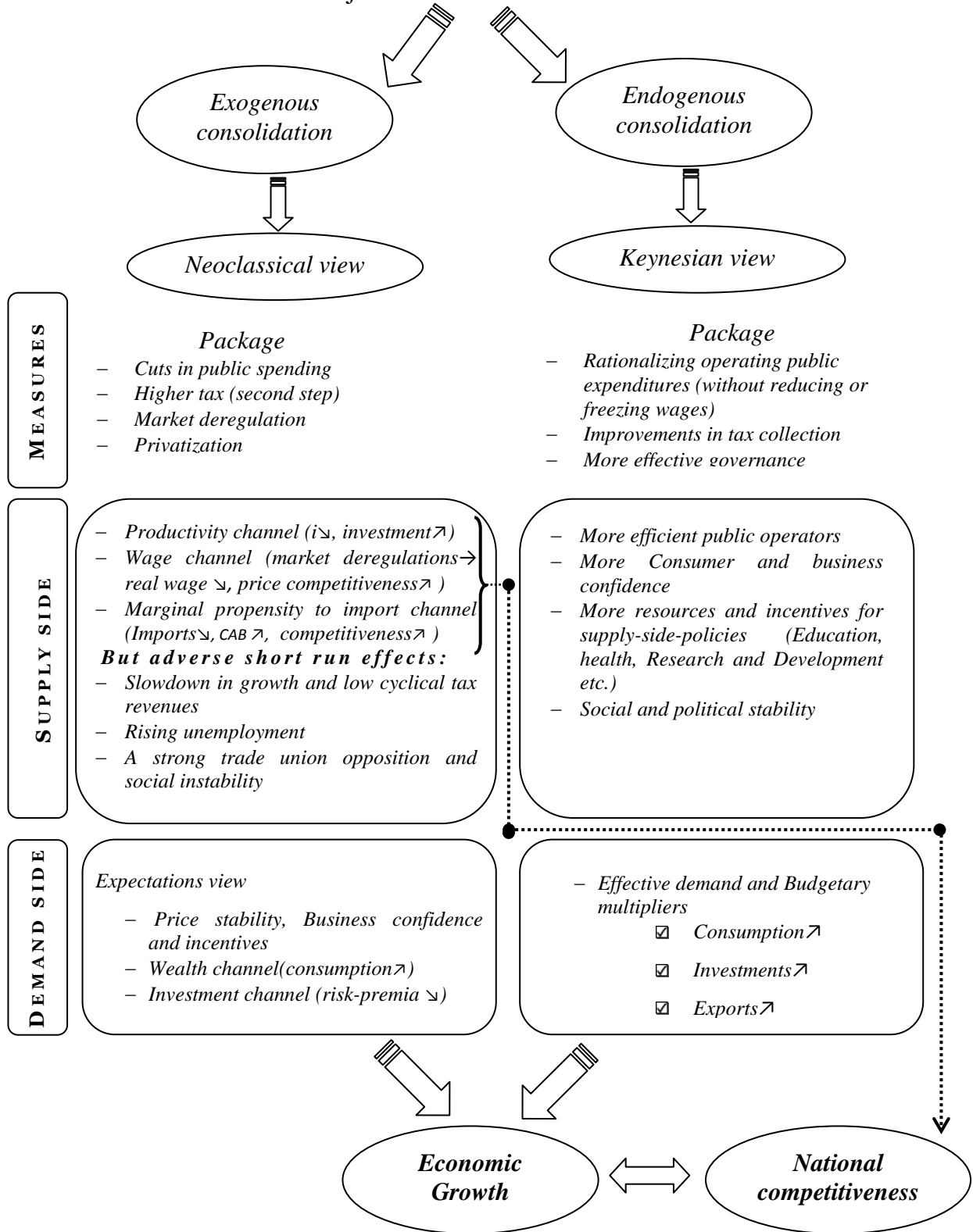
$$Spd_t = \left[\frac{g_{rt} - r_t}{(1 + g_{rt})} \alpha_{t-1} + \frac{(1 + g_{rt}) - (1 + r_t^*)(1 + \hat{e}_t)}{(1 + g_{rt})} \gamma_{t-1} \right] \times 40\% \quad (6)$$

Then, it is possible for policymakers to *quantify* the *Delayed Fiscal Adjustment* (DFA_t) as the difference between observed primary fiscal deficit as a percentage of GDP, d_t , and the sustainable primary budget deficit :

$$DFA_t = d_t - Spd_t \quad (7)$$

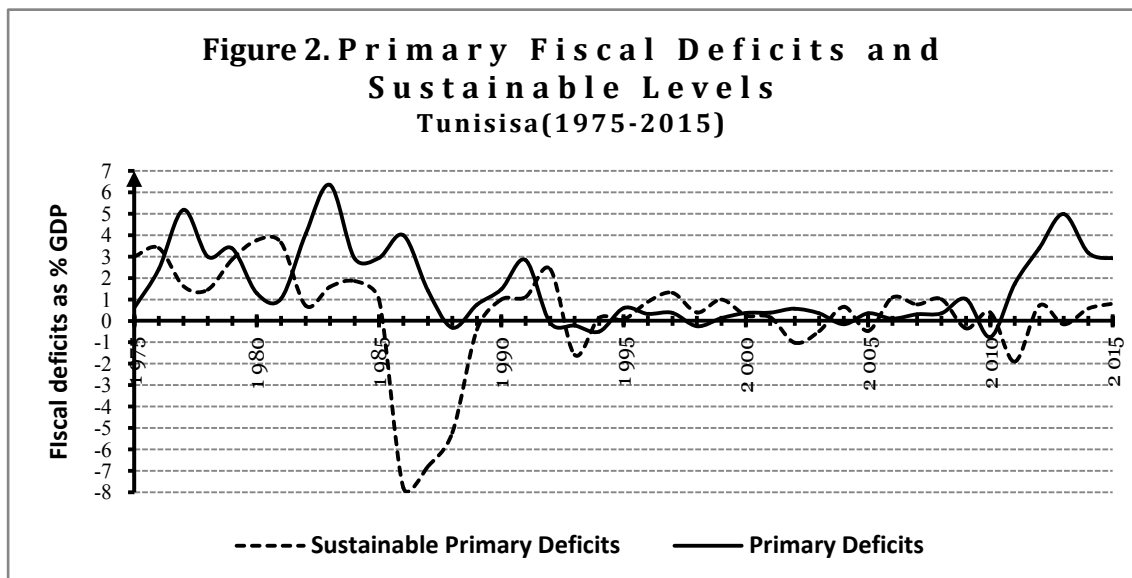
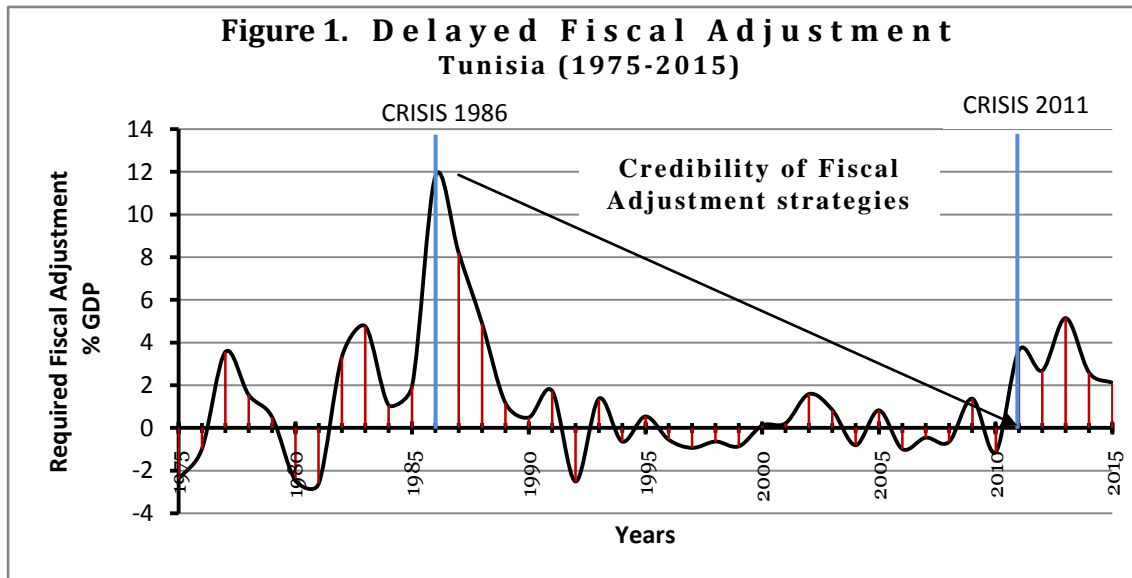
Equations (6) and (7) show that fiscal adjustment is likely to stem from two sets of measures: explicit measures to reduce the primary fiscal deficit ($d_t \downarrow$) and/or increase implicitly the sustainable level ($Spd_t \uparrow$). Fiscal adjustment could bring into play very significant opposite strengths which incur and complement each other. Comprehensive public spending and fiscal reforms reduce the DFA significantly and translate the policy-makers' willingness and ability to adjust. At the same time, supporting policies and/or complementary actions aimed at enhancing economic growth and maintaining price stability increase the level of the authorized (Spd) fiscal deficit and lessen the DFA. Similarly, by using these arguments, we develop a framework whereby *fiscal adjustment* could be divided into *exogenous and endogenous measures which may contribute to improving the standard of living and national competitiveness*.

Fiscal adjustment: A renewed vision



IV. Delayed Fiscal Adjustment Assessment: The Case of Tunisia

Using Equations (6) and (7) and data from the World Bank Development Indicators, the Tunisian Central Bank Reports, the Ministry of Finance, and The National Statistics Institute, the assessment of the Delayed fiscal adjustment over the period 1975-2015 for Tunisia leads to the following evolutions:



This assessment, covering 40 years of Tunisian public finance history, involves three quite separate phases that correspond to the main shifts in the fiscal policy; the phases are interrelated by the emergence of two politico-economic crises (Figure 1).

In the first period 1976-1986, the sustainable levels of fiscal deficits were positive and relatively high and, in the same time, fiscal policy had taken an expansionary turn financed by external borrowing. However, as shown in figures 2 and 1, the upward trend in primary fiscal deficits and the downward trend in the corresponding sustainable thresholds, over this period, have severely

raised the Delayed Fiscal Adjustment. This DFA reached its highest level in 1986. These fiscal imbalances, along with the deterioration of overall national competitiveness, were major factors that triggered the first crisis (1986). This crisis was initially economic, and then became political and economic after the government overthrow in 1987. During the second period (1986-2011), the government authorities were obliged to implement a Structural Adjustment Program (SAP) prepared by IMF Staff based on a neo-liberal agenda. Consequently, a fiscal consolidation plan was implemented and economic accompanying measures, such as market liberalization, privatization, local currency devaluation, were introduced. As a result, a significant downward trend in the DFA was recorded over this period. Figures 1 and 2 depict this trend line and may illustrate *combined exogenous and endogenous fiscal adjustment measures*, which are reflected in by the primary fiscal deficits ($d_t \downarrow$) and sustainable thresholds ($Spd_t \uparrow$) around 0% and 1%. The second period (1987-2010) revealed the authorities' willingness and ability to adjust.

The third period (2011-2015) highlights shortcomings of the on-going political crisis in the aftermath of the Revolution (14 January 2011). There has been a reversal in the declining trend of fiscal adjustment that started in 2011. This shift over the third period (2011-2015) is mainly explained by five interrelated factors: (i) the revolution that is social, political and democratic in nature, (ii) a deterioration in public finances resulting particularly from large public sector wage increases and social transfers aimed at combating the marginalization and social exclusion of both individuals and rural areas, (iii) Strong trade union organisations and their bargaining power with the government, (iv) Political instability (six governments during 5 years) , (v) and a pronounced slowdown in economic activity which has led to low cyclical tax revenues and a significant increase in fiscal deficit sustainable thresholds.

V. Empirical Evidence

Identification

Drawing from the empirical literature on the twin deficits hypothesis, our research will focus on new issues involving the effect of the DFA on national competitiveness, regardless of whether it comes from deliberate changes in fiscal policy and/or from the automatic effect of business cycle fluctuations. This will be done by exploring the following minimalist specification:

$$NCI_t = \alpha + \beta RFA_{t,i} + \lambda_t ControlVariables + \gamma_t dummies + \varepsilon_t$$

where subscript t indexes years, the dependent variable, NCI , is National Competitiveness Indicators, DFA is the DFA encompassing all sources of fiscal imbalances, control variables involve others explanatory regressors useful for the identification model, period dummies are binary variables which take 1 when a crisis occurs at t and 0 otherwise, ε_t is mean-zero error

term, α is the intercept, β , λ_i and γ_i are the coefficients associated with the related set of regressors.

At macroeconomic level, competitiveness is far more complex and not so easy to analyse and define. Krugman (1994) described macro-competitiveness as a “*dangerous obsession*” and an “elusive” term which can be restricted to “a poetic way of saying productivity.” In line with this approach, Porter (1998) supported the argument that “*the only meaningful concept of competitiveness at national level is national productivity*” (p.6). Moreover, the World Economic Forum defines competitiveness “*as the set of institutions, policies, and factors that determine the level of productivity of a country*” (Global Competitiveness Report, 2014 p.4). Relying on this view, many practitioners and academics have broadened their focus toward *standards of living* and *country ability to sell on international markets* and to keep its current account on a sustainable path. The European Commission stated that “*an economy is competitive if its population can enjoy high and rising standards of living and high employment on a sustainable basis. More precisely, the level of economic activity should not cause an unsustainable external balance of the economy nor should it compromise the welfare of future generations*”

In our Regression models, national competitiveness is considered by taking into account two dimensions: (i) *Internal competitiveness* described by two variables: per capita GDP growth ($grth$) and Total Factor Productivity (tfp) and (ii) *External competitiveness* is defined by improvement in the primary current account deficit-to-GDP ratio ($pcad$), and by the terms of trade (tot) which states that any improvement means that export prices are increasing faster than import prices, and therefore have adverse effects on national competitiveness. Although the Delayed Fiscal Adjustment (dfa_{t-1}) is the main explanatory variable in the baseline regression, control variables are considered to add additional explanatory power and robustness to the related regression models.

Estimations and Results

Non stationarity tests (ADF) show that all-time series, except dfa and $grth$, are I(1) processes and therefore are considered in first difference in all regressions. Using the OLS method and statistical checks for the causal effects of the associated regressors, our findings are presented in Table 1 below.

**Table 1. Delayed fiscal adjustment effects on national competitiveness:
Case of Tunisia(1975-2015)**

<i>National competitiveness Indicators</i>			
<i>Dependent variables</i>	Model (1)	Model (2)	Model (3)
<i>Explanatory variables</i>	$GRTH_t$	ΔTFP_t	ΔCAD_t
Intercept(α)	3.7*** (0.000)	0.006* (0.079)	0.016** (0.014)
Delayed Fiscal Adjustment			
<input checked="" type="checkbox"/> <i>DFA</i>	-	- 0.001** (0.039)	-
<input checked="" type="checkbox"/> <i>DFA_{t-1}</i>	- 0.559*** (0.000)	0.001 (0.348)	0.006*** (0.001)
Control variables			
<i>ΔTFP_{t-1}</i>	0.482*** (0.000)	0.23** (0.012)	-
<i>ΔTOT_t</i>	-	-	-0.29** (0.013)
<i>Per capita Growth Rate ($grth_{t-1}$)</i>	-	- 0.006*** (0.000)	0.004** (0.019)
Period dummies			
<i>Crisis1986</i>	4.570* (0.08)	- 0.018 (0.18)	0.012*** (0.88)
<i>Crisis2011</i>	-4.976*** (0.021)	0.008 (0.4)	-0.014 (0.34)
<i>Adjuted -R²</i>	0.41	0.76	0.32
Prob F-Statistic			
<input checked="" type="checkbox"/> <i>Regression model</i>	0.000	0.000	0.01
<input checked="" type="checkbox"/> <i>Godfrey serial correlation LM tests</i>	0.40	0.86	0.78
<input checked="" type="checkbox"/> <i>Heteroskedasticity Test: Breusch -Pagan-Godfrey</i>	0.41	0.57	0.94
<i>Sample</i>	1976-2014	1980-2013	1976-2015

The dependent variable in all regressions is National Competitiveness Indicator measured in different ways : Real per capita GDP growth ($grth_t$), Total factor productivity, tfp_t , and primary current account deficit, $pcad_t$, RFA_t and RFA_{t-1} are the key explanatory variables in our regression models. Control variables are represented by the lagged variables related to TFP, $grth$ and terms of trade (ΔTOT_t). Period dummies are dichotomous variables coded one "1" when crisis occurs (crisis1986 and crisis2011) and zero "0" otherwise. All regressions use Ordinary Last squares method. *, **, *** denote significance at 10%, 5% and 1% levels respectively. Numbers in brackets () refer to the p-values.

To assess the validity of our modelling specifications, (i) Breusch–Godfrey serial correlation LM tests, under the null hypothesis of no serial correlation of any order up to p , are conducted to check for autocorrelation in the residuals, and (ii) Breusch-Pagan-Godfrey Heteroskedasticity Tests, under null hypothesis of homoskedasticity, are used to check the problem of Heteroskedasticity. In all regression models, the corresponding p-values to F-Statistics remove the serial correlation and heteroskedasticity problem.

The estimated coefficients related to the Delayed Fiscal Adjustment variable in different regression models are statistically significant which confirms the intuition that large imbalances in public finances could be detrimental to national competitiveness. In fact according to models (1), (2) and (3), the Delayed Fiscal Adjustment has a significant negative effect on national competitiveness measured by per capita GDP growth, Total Factor Productivity and Current Account Balance:

- A 1% increase in the Delayed Fiscal Adjustment as a percentage of GDP in $(t-1)$ reduces annual per capita growth by 0.6 % in period t ;
- by cumulating the estimated responses of a permanent 1% increase in the Delayed Fiscal Adjustment, we found that TFP would decline by 0.033%;
- Similarly, by cumulating the estimated responses of a permanent 1% increase in the Delayed Fiscal Adjustment, the primary current account deficit is likely to widen by 0.23%.

These findings confirm our research hypothesis according to which the failure of fiscal adjustment is harmful to national competitiveness. Contrariwise, the authorities' ability and willingness to undertake an effective fiscal adjustment leads to strengthen national competitiveness through the transmission of fiscal austerity channels as described above. It is interesting to note that our findings are consistent with IMF supported program implemented after the crisis of 2011: *"Fiscal consolidation over the medium term is expected to proceed gradually, anchored by wide consensus on tax and civil service reforms which are essential to improve budget composition. The consolidation should help create space for contingencies, including from a more depreciated exchange rate, and allows for a sizable increase in public investment."* (p.12)

The operational effectiveness of the transmission fiscal austerity channels depends largely on political stability. As shown in figure 1 and 2 and confirmed by the regression model (1), political, economic, social crises (1986 and 2011) are viewed as disabilities to sustain fiscal and external balances and as specific causes of vulnerability: Indeed, after the overthrow of the government in 2011 and the political transition to democracy (2011-2015), (i) eroded

macroeconomic fundamentals such as fiscal and external disequilibrium, (ii) downgrading of Tunisian rating, (iii) and several changes of government have been observed. This on-going crisis due to socio-economic-political problems has severely hampered Tunisian competitiveness which dropped, throughout the period, from 32nd place over 148 countries and leader in Africa in 2010 to 92nd place in 2015 (WEF, 2016).

C o n c l u s i o n a n d R e c o m m e n d a t i o n s

This paper explores the transmission channels linking fiscal adjustment and national competitiveness. It highlights strong evidence, for the Tunisian case, that the failure of consolidation policies to put the nation's fiscal house in order, has been harmful to national competitiveness; as it thwarts the authorities' ability and willingness to undertake an effective fiscal adjustment leading to total factor productivity gain, boosting economic growth, and therefore to improving national competitiveness.

Using an accounting model to assess the Delayed Fiscal Adjustment and OLS regression models, this paper shows that the Delayed Fiscal Adjustment is significantly and negatively related to national competitiveness indicators measured by the per capita GDP real growth, by the Total Factor Productivity, and by the primary current account balance. However, the socio-economic and political crisis of 2011 has contributed to weakening the state and the ability to enforce the rule of law, which naturally undermine the adjustment forces and decline the fiscal credibility. Indeed, the Delayed Fiscal Adjustment has followed an upward trend and a severe worsening of national competitiveness which required an IMF-supported program of intervention: a fiscal consolidation and an inclusive growth based on a neoliberal view. Nowadays, transition to democracy has imposed its own rules and constraints, the formulation and the ruling out of a new comprehensive and consistent fiscal consolidation involving the government, employers' organisation and workers' Trade Union which is an available guidance to restart past adjustment forces.

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