EXPANSIONARY AUSTERITY POLICIES: CONDITIONS FOR THEIR VALIDITY

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Abstract

The expansionary austerity hypothesis predicts that a reduction in government spending may lead to higher GDP rates even in the short run. Two different, non-mutually exclusive, explanations have been proposed in defense of this thesis: The expectation view and the labour market view. According to the first, fiscal austerity is expansionary if agents believe that fiscal tightening today eliminates the need for higher and more painful fiscal adjustments in the future. This belief may generate a positive wealth effect and an increase in aggregate demand. The other explanation stresses the effect of the composition of fiscal policy, i.e., whether the government's deficit is reduced via tax increases or spending cuts; it argues that as reduction in public spending (especially in transfers and wage bills) renders the labour market more flexible and thus economic activity is stimulated via the reduction in the wage bill. In this paper, we explore and criticize the theoretical basis of these two views. We argue that the expectations view holds provided that the world is free from "distortions", as liquidity constraints, uncertainty, etc., while the labour market view meets serious limitations which become more acute in periods of economic depression.

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1.Introduction[1]

The expansionary austerity hypothesis predicts that a reduction in government spending may lead to higher GDP rates even in the short run. This prediction is different from that of the conventional Keynesian model, according to which a reduction in government spending has contractionary effects on aggregate demand in the short run. The expansionary austerity hypothesis was introduced by Giavazzi and Pagano (1990, 1996), who studied fiscal consolidation policies in Denmark and Ireland, during the eighties. The authors did not provide a model for the expansionary austerity hypothesis, but rather described the conditions under which it was observed in these countries. The empirical literature that followed after the Pagano and Giavazzi papers does not provide a clear evidence in support of the expansionary austerity hypothesis (see footnote 2).

Supporters of the expansionary austerity hypothesis offer two different (non-mutually exclusive) theoretical explanations in defense of their thesis (Giudice, *et. al.*, 2003; Ardagna, 2004). According to the first explanation (*expectation view*) fiscal austerity is expansionary if agents believe that fiscal tightening today generates a regime that eliminates the need for larger and more painful fiscal adjustments in the future. This belief may generate a positive wealth effect and an increase in aggregate demand. This view was defended (among others) by Blanchard (1990), Bertola ad Drazen (1993), Sutherland (1997) and Perotti (1999). The other explanation (*labour market view*) stresses the effect of the *composition* of current fiscal policy, i.e., whether the government's deficit is reduced via tax increases or spending cuts. It suggests that a reduction in public spending (especially transfers and government wage bills) renders the labour market more flexible. Economic activity is stimulated via the reduction in the real wage, which is caused by the flexible labour market. This view was defended, among others, by Alesina, et. al. (2002), and Ardagna (2004).

The purpose of this paper is to *review* and *evaluate* the *theoretical* background of the expansionary austerity hypothesis. We argue that the expansionary effects of the fiscal austerity via the transmission mechanism, implied by the *expectation view*, are likely to be very weak or even non –existent, as this view depends on some stringent assumptions (Ricardian equivalence) that do not

conform to the real world. Ricardian equivalence presupposes a world, free *from distortions* (liquidity constraints, uncertainty, taxes that are not lump-sum) that prevent the representative individual from optimally maximizing its inter-temporal utility function. As far as the *labour market view* is concerned, we express the opinion, that it is a modern version of the Pigou thesis, according to which, with a perfect labour market flexibility, money wages will fall more than prices, and this will stimulate economic activity. But *what is important here is* not the requirement that money wages should fall more than profits, but the question of how the reduced money wages improve the *expected* profits of entrepreneurs:

 In a *closed* economy, this can be happen if falling wages lead to a reduction in the price level and hence to an increase in the real money supply allowing a decline in the interest rate. However, the decline in the interest rate is limited not only by the zero lower bound of the interest rate, but also by the form of the liquidity preference function. In the extreme case of liquidity trap, the fiscal austerity hypothesis does not work, as any reduction in the public spending is expected to produce an immediate and significant contraction. A strong objection against *deflation* is that it increases the burden of the debt both public and private. If the public debt is large, this becomes a major objection to any deflationary policy.

The remainder of this paper is organized as follows. Sections 2 and 3 give a critical review and an evaluation of the expectation view and the labour market view respectively, while section 4 concludes.

2. The expectation view of fiscal policy

The key characteristic of the expectations view of fiscal policy is that the non-standard (non-Keynesian) effects of fiscal policy are explained by the role of current policy in shaping expectations about the future policy stance. These expectations have to be rational, if these non-standard effects are to be realized. This is the common characteristic of the most important models, that attempt to explain the expansionary effects of fiscal austerity through the expectations channel. These models include the neoclassical model by Bertola and Drazen (1993), the neo-keynesian (overlapping generations) model by Sutherland (1997) and the model proposed by Blanchard (1990).

Bertola and Drazen assume that public spending (relative to output) follows a stochastic process with positive drift. Since public spending (relative to output) increases over time, forward looking and infinitely living rational individuals expect that public spending will be sharply reduced, when it reaches a *critical level.* This critical level is known with probability p<1. As public spending increases and approaches its critical level, the probability of consolidation (in the form of a sharp cut in public spending) increases and, hence, lower fixed taxes are expected. Rational individuals recognize this and increase their spending, because they have to pay lower taxes in the future. Thus, public spending only partially crowds out private consumption, which means that the Bertola and Drazen model, despite its neoclassical characteridstics, has a Keynesian implication.

Sutherland (1997) attempt to explain the expansionary austerity hypothesis, by conceptualizing a rational looking agent within a finite lifetime within a "Keynesian" framework (overlapping generations model). In the model, debt evolves stochastically, and consumers expect that when the debt reaches a critical level, a major consolidation will take place. Consumers do not know the exact time of consolidation. The model predicts that when the level of debt is low, an increase in taxation depresses consumption. This is the usual Keynesian effect. When the level of debt is high and near its critical level, a moderate increase in taxation may be perceived by the current generation, as a relief from a major stabilization within their lifetime, and therefore may stimulate consumption.

The model proposed by Blanchard (1990) explains more clearly the conditions under which the expansionary austerity hypothesis is valid, and for this reason we focus on it. Blanchard considers the case of an economy that is run a deficit resulting in an increasing public debt. To satisfy its inter-temporal budget constraint , the government implements a stabilization program through consolidation. Consolidation means an increase in taxes such that the debt is stabilized at a constant rate forever. Blanchard's model is based on the following assumptions:

Assumption 1. *Higher taxes decrease output.*

If t is the tax rate, Blanchard assumes that there is a critical level of t, call it T, such that if t >T, output is lower by some amount σ. In particular, it is assumed that for $t < T$, $y = y^*$, and for $t > T$, $y = y^* - \sigma$

Assumption 2. *The longer the government waits, the larger the required tax increase for the stabilization of the debt.*

This means that the negative effects of increased taxation on output will be larger, the longer the government waits to consolidate (by assumption (1)). This assumption is derived from the inter-temporal budget constraint of the government, which Blanchard writes as:

$$db/d\tau = rb - ty$$

where b is the level of the debt, τ denotes time, and r is the interest rate. The tax rate t*, implied by consolidation, is thus given by:

$$t*(b) = rb/y$$

so that given y, t* increases with b and thus with time.

These two assumptions imply that there is a *critical level* of debt B, such that once it is reached, consolidation requires a tax rate which implies a low level of output $y* - \sigma$. Therefore, if consolidation takes place before the critical level of debt is reached, the danger of lower output is removed (output remains at y*). This may have positive effects on expected economic activity, through the following channels: The first channel works via a wealth effect. Higher taxes today may remove the need for larger and more disruptive fiscal measures in the future. This may generate a *positive wealth effect* that increases private consumption and aggregate demand. The second channel works through a decline in the interest rate. Consolidation may be associated with a decline in uncertainty. A decline in uncertainty reduces precautionary savings, and therefore the rate of interest (with given money supply). A decline in the interest rate stimulates investment and economic activity. Thus, consolidation may improve perception of future output and through it consumption. The question is then, how consumers react to changes in *expected* future output. This question is answered by the following assumption:

Assumption 3. *Consumers are optimizing their inter-temporal consumption function, with a subjective discount rate θ and a myopia coefficient (probability of death) p.*

Factor p expresses the *horizon* of the consumers: If p=0 (infinite horizons), Ricardian equivalence holds. If p>0 (finite horizons), Ricardian equivalence

fails. Blanchard interprets p as reflecting the development of the credit markets and the ability to borrow against future income. If p =0, there are no liquidity constraints in the system, and agents are able to borrow against future income. If p>0, the system is liquidity constrained.

Blanchard emphasized that the validity of the *expectation view* depends on the validity of the Ricardian equivalence proposition. If the Ricardian proposition fails, so does the expansionary austerity hypothesis. Suppose now that the Ricardian equivalence holds (p=0). Since the government acts within the limits set by its inter-temporal budget constraint, an increase in taxes today (that stabilizes the debt at a constant rate in the future) will be followed by a tax reduction in the future. Rational agents recognize this and increase their current consumption (reduce their savings) because they are not going to pay higher taxes in the future. Thus, agents behave according to the *rational expectations hypothesis*. Within the context of the Blanchard's, model an increase in taxation may generate a *positive wealth effect* (by assumption 2), that increases private consumption and aggregate demand. To the extend that consolidation removes uncertainty, interest rates decline with further positive effects on economic activity. Thus, provided that the Ricardian equivalence holds, fiscal tightening leads to an increase in private consumption. However, the output of the economy as a whole is not affected, because the increase in private consumption (or the reduction in private saving) is offset by a reduction in public spending (or the increase in public savings).

Thus, if Ricardian equivalence holds, individuals will tend to smooth their inter-temporal consumption, and their spending is largely independent to temporary changes of fiscal policies. In this case, fiscal multipliers are zero. If p >0, the behaviour of the individual changes. Liquidity constrained individuals do not maximize their inter-temporal utility function, but they adopt a more myopic behaviour, characterized by a high propensity to consume out of current disposable income. Therefore, fiscal austerity, by reducing current income, is contractionary. In this case, fiscal multipliers are greater than zero.

There are many reasons to believe that the value of p varies over the cycle. In fact, according to Blanchard (1990), p reflects the development of credit markets and the ability to borrow against future income. Given the development of the credit markets, there is at any given time a fraction of the total population that is *liquidity constrained*. Even in "normal" times, the credit

market is rationed (implying that there is an excess demand for credit at the equilibrium interest rate), due to asymmetric information (Stiglitz and Weiss, 1981). This fraction is more likely to decrease during a downturn, when unemployment is high, for two reasons: (i) Credit markets are normally lend against collateral, not just the promise of future repayment; this condition is difficult to be met by unemployed individuals.(ii) The uncertainty, that accompanies an economy during a period of economic depression, may lead to a sharp increase in liquidity preference and ,hence, to a rise in the interest rate. The rise of the interest rate limits the access of the individuals to the credit markets. Thus, during a downturn, when unemployment is high, a greater number of individuals are likely to find themselves liquidity constrained. We may, therefore, introduce a new hypothesis (not considered by Blanchard) as follows:

Assumption 4. *The value of p is positively correlated to the size of unemployment.*

This assumption links p with the cycle. We may hypothesize, that in "normal times" p takes a value near zero, implying that only a small fraction of the total population is liquidity constrained. And during a depression, when a large proportion of the population is unemployed (and for that reason liquidity constrained), p takes a positive value (p>0). Thus, if we accept the Blanchard's version of the austerity hypothesis, the Ricardian equivalence (and by implication the expansionary austerity hypothesis) holds during the periods of economic prosperity, and fails during the periods of economic depression. But this means that fiscal policy is *procyclica*l, because it reinforces the existing trend of the cycle (magnifies the boom during the upturn and dampens the economy during the downturn) and therefore *destabilizes* the economy. This is one of the weak points of Blanchard's approach.

The other *weak point* is that it ignores the factor of *uncertainty,* that may invalidate the expectations view even in periods of economic prosperity. Uncertainty exists when the representative agent is unable to calculate the numerical values of probabilities for future states of nature. Uncertainty is inconsistent with the rational expectations hypothesis, on which the Ricardian equivalence (and by implication the expansionary austerity hypothesis) rests. In fact, the formal proposition that underlies the rational expectations hypothesis (Muth, 1961) is that the expected value of a variable is equal to the value

predicted by the "relevant" economic theory, plus a random error the probability distribution of which is known. Apart from the question relating to the "relevant" economic theory, the assumption that the probability distribution of the random error is known, limits the application of the theory to a world of risk. However, the economic environment is characterized by uncertainty and in this case the only reasonable answer to the question "what tax rates will be in ten years time" is simply "I do not know". As Keynes has remarked (Keynes, 1937, p. 214), "About these matters there is no scientific basis on which to form any calculable probability whatever". Thus, in an uncertain environment, Ricardian equivalence breaks down and with it the expectation view of the expansionary austerity hypothesis.

The existence of *liquidity constraints* (expressed in Blanchard's model by $p>0$) and *uncertainty* imply that consumption depends more on current than on future income, and investment more on present than on future profits. Thus, a decline in output and employment (due to an austerity program) will lead to an immediate and severe contraction of economic activity as predicted by the conventional Keynesian models. This contractionary effect can be offset either by a move to a surplus position in the balance of current account or/and by a sharp decline in the interest rates. And since the world as a whole cannot move to a trade surplus, a decline in the interest rates is required. Thus, the interest rate is the key variable in stimulating activity during depressions. However, the decline in the interest rate is limited by the binding lower bound of the nominal interest rate, and, more general by the form of the liquidity preference function.

3. The Labour market view

The other channel, through which fiscal austerity may generate expansionary effects, is through the supply wide, and works via a reduction in *public spending*. In the traditional Keynesian and RBC models, government spending consists of final goods purchases only. Finn (1998) revisited the question of the effects of public spending on economic activity, by drawing a distinction between two of its components: purchases of final goods and services, and compensation of employees. She shows (in a general equilibrium model) that a reduction in spending in government employment (leading to a decline in the employment in the public sector) may be expansionary.

Finn's model is a general equilibrium model with perfect competition in which all markets (including labour market) clear. Ardagna (2001) considers a unionized labour market. According to her, the expansionary effects of fiscal contraction depend on the *composition* of fiscal policy. Stabilizations that result from cutting public spending, especially transfers and government wage bills, are likely to be successful and expansionary. Her argument runs as follows: She assumes that a monopoly union sets wages only for private sector workers, while the public wage is set exogenously by the government. Thus, public employment represents an alternative to employment in the private sector.

Because public employment represents an alternative to private employment, a decrease in the public employment (due to a reduction in public wages) decreases the probability of finding a job, if not employed in the private sector. The decreased probability of finding a job, decreases the *reservation utility* of the union's members. Reservation utility is the minimum level of utility that must be guaranteed by an agreement, to make it acceptable by the members of the union. The decline in the reservation utility, lowers pressure on the equilibrium wages, and renders the labour market more flexible (and, by implication, money wages more flexible). Increased flexibility in the labour market, *reduces the real labour compensation* and this increases profits and investment. Thus, the decrease in spending in the government sector is more than offset by an increase in the economic activity in the private sector. Thus, fiscal consolidation is expansionary. This argument is not very different from the old argument by Pigou, who argued that, with perfect wage flexibility, wages would fall more than profits, reducing real wages and allowing more employment.

However, there are *serious limitations* in the transition mechanism, implied by the labour market view, that are not revealed by the above analysis. These limitations are more acute during a period of economic recession, when unemployment is high. The effect of a fall on money wages on investment, that stimulates economic activity, would depend on what it did on the *expected* profitability of investment (the marginal efficiency of capital according to Keynes) and *the rate of interest*, i.e., on the factors that determine the level of investment. These effects are considered in turn:

(1)As Keynes (1936) has emphasized, in a *closed economy*, the investment expectations of the entrepreneurs will be favourably affected by the reduction

in money wages, if the wage cut is a *once-and- for- all* wage cut, i.e., a wage cut that is not expected to be followed by another wage cut. If the wage cut leads to the expectation of a further wage cut, entrepreneurs will postpone investment, until money wages have fallen to still lower levels. Since this condition (a once-and –for – all wage cut) can be obtained only by decree, it is not "practical politics" in a non- authoritarian society.

(2) The reduction in money wages, accompanied by a reduction in the general price level relative to the stock of money, will increase the real money supply allowing a fall in the interest rate that will stimulate investment and economic activity. The extend of the fall in the interest rate is limited by the form of the liquidity preference function. This means that expansionary austerity may fail because interest rates are very low, and therefore cannot be reduced further to a level consistent with that required to improve economic activity. Note that one of the reasons given by Perotti (2011) on the limited applicability of the austerity programs, under present circumstances, is that the interest rates are too low, and they cannot be reduced further (Erceg and Linde, 2013). Furthermore, falling prices may *reduce the expected profitability of investment* (the marginal efficiency of capital) more than the fall in the interest rate, and this may reduce investment. Finally, falling prices will lead to an *increase of the real burden of debt* both public and private (Fisher, 1933; Keynes, 1936). The effect of falling prices on the real burden of the public debt, and hence on taxation, is likely to have negative effects on the business confidence, and on the expectations of the entrepreneurs. If the public debt is large, this becomes a major objection to any deflationary policy.

Thus, the expansionary effects of fiscal austerity are not likely to be large, especially during periods of economic depression, when the liquidity preference tends to become absolute. At the same time, the increase of the burden of the debt, may partly offset the positive reactions of the entrepreneurs from the reductions of money wages. Finally, in an open economy, operating in a regime of fixed exchange rates and free capital mobility, the negative impact of austerity programs may be amplified through trade links (Holland and Portes, 2012).

3. Concluding remarks

We considered two different explanations for the expansionary austerity hypothesis. One of these explanations emphasizes the effects of fiscal

contraction on the demand side of the economic system (expectations view), while the other on the supply side (labour market view). We have argued that the expansionary effects of fiscal austerity via the transmission mechanism implied by the expectation view are likely to be weak or even inexistent as this view rests on the validity of the Ricardian equivalence. The Ricardian equivalence presupposes a world free from "distortions" (like, liquidity constraints or uncertainty) that prevent rational individuals from maximizing their inter-temporal utility function. If these "distortions" are considered then, the expansionary austerity hypothesis breaks down and austerity policies are contractionary in the short run.

The labour market view is a restatement of the Pigou thesis, and requires a general *deflation* to work. The decline in the price level leads to a reduction in the demand for transaction balances relative to the stock of money, allowing a fall in the interest rate. Deflation as a mechanism of reducing the interest rate is not without defects. *First*, the fall in the interest rate is limited by the fall of the liquidity preference function. *Second*, it may lead to an increase in the burden of the debt, both public and private; if the public debt is large, it becomes a major objective of this policy. *Finally*, falling prices may reduce the expected profitability of investment more than the fall in the interest rate, and this may reduce investment. The conclusion is that the expansionary effects of fiscal austerity are likely to prove negative, especially during the periods of economic depression, when the liquidity preference tends to become absolute.

Notes

1. This is an extended and updated version of the authors' paper, "The Myth of expansionary austerity" (2012).

2. Giavazzi and Pagano (1990, 1996) show that fiscal consolidations are sometimes correlated with an expansion on private consumption within one year. Alesina and Perotti (1997) and Alesina and Ardagna (2010) find that fiscal consolidations are correlated with rapid growth, particularly if implemented by reducing public expenditures rather than by raising taxes. Finally, Alesina (2010, p.3) insists that many sharp reductions of budget deficits have been accompanied by "sustained growth rather than recession even in the short-run." These results are not accepted by all. In the *World Economic Outlook* (2010), the IMF emphasizes that austerity programmes are contractionary in the short run, though they may be expansionary in the long

run. Similar results have been reached by Guardo, Leigh and Pescatori (2011) who found that fiscal consolidations are contractionary even in economies with high perceived sovereign default risk. They also found that the decline in private consumption and investment is mitigated by a rise in exports associated with a fall in the value of the domestic currency. Perotti (2011), an earlier supporter of the expansionary austerity hypothesis, doubts the applicability of it under present circumstances. Finally, in two recent publications by Blanchard and Lee (2013) and the World Economic Outlook of the IMF (2012), it is argued that, in advanced economies, stronger planned fiscal consolidations have been associated with lower growth than expected.

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