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THE MYTH OF EXPANSIONARY AUSTERITY

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Abstract

Expansionary austerity (or expansionary fiscal contraction) forms the main dogma of the European policy today or, to paraphrase Keynes (1936, p.32) "the dogma of expansionary austerity conquered Europe as completely as the Holy Inquisition conquered Spain". According to this view a small increase in taxes today may reduce the need for an increase in taxes in the future. By raising the expected income of the private sector in the future and by increasing investors confidence, fiscal consolidation may stimulate private consumption and growth. Thus, the short term effects of fiscal consolidation may be expansionary. This contradicts the usual Keynesian prediction that rising taxes today may have contractionary effects on aggregate demand. In this paper, we argue that that austerity policies may work if economic agents have free access to credit markets in order to optimize their intertemporal consumption patterns. However, this is not possible for agents constrained by involuntary unemployment. In this case, the expansionary austerity hypothesis breaks down and the austerity policies will have contractionary effects. These contractionary effects may be reversed either by a sharp decline in the interest rates or by moving to a positive trade balance. We argue that the reduction of the interest rates depends on the shape of the liquidity function and therefore it may not be enough to offset the contractionary effects of the austerity programs, while the policy for achieving an export surplus, in a regime of fixed exchange rates, is a *beggar thy neighbor policy*.

Keywords: Expansionary fiscal consolidation.

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1.Introduction

The expansionary austerity hypothesis (or fiscal consolidation hypothesis) predicts that a reduction in government spending, that changes future expectations about taxes and public spending may (under certain circumstances) expand private consumption, resulting in overall economic expansion. Or, as Blanchard (1990) puts it, if public deficits are reduced via a reduction of public spending, rational economic agents will anticipate that smaller taxes will be required tomorrow. By raising expected private income and by increasing investors' confidence, fiscal consolidation may stimulate private consumption and growth. This prediction is different from that of the conventional Keynesian model, according to which a reduction in government expenditures or raising taxes have contractionary effects on aggregate demand in the short run. Neoclassical proponents of the expansionary austerity hypothesis typically rely on the principle of *Ricardian equivalence,* to make their case. The Ricardian equivalence (formulated and rejected by Ricardo as inapplicable, and revived by Barro (1974)) states that deficits simply postpone taxes. Economic agents recognize this and save more today, in order to be able to pay for their taxes in the future. Thus, the real consumption remains *unaffected.* It follows then (and this is the *expansionary austerity hypothesis*) that the expectation of future cuts in government spending will increase current consumption, because the government will not have to collect higher taxes in the future. Thus, by announcing that public spending will decrease, the government can *stimulate the economy today.*

The empirical literature does not provide clear evidence in support of the expansionary austerity hypothesis. 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) find that fiscal consolidations are correlated with rapid growth, particularly if implemented by reducing public expenditures rather than by raising taxes. These findings have been confirmed by Alesina and Ardagna (2010) in a research based on larger samples of countries and years. 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. Finally Perotti (2011), a supporter of the expansionary

austerity hypothesis, in his recent paper doubts the applicability of it under present circumstances. In other words, there is no robust empirical evidence that supports the expansionary austerity hypothesis. This implies that there are some factors that undermine its validity that are not explained (revealed) by the empirical research. These factors may be detected, only if we have a more complete theory of expansionary austerity hypothesis. *Without* such a theory the expansionary austerity hypothesis is an exercise in blind faith.

The purpose of this paper is to outline the whatever theoretical background of the expansionary austerity hypothesis, and to investigate the necessary conditions required for its validity *in the short run*. In section 2, we argue that the expansionary austerity hypothesis is a generalization of the inter-temporal theory of choice, but a number of factors (liquidity constraints and uncertainty) undermine its validity. Under these factors, fiscal austerity policies reveal contractionary effects. These contractionary effects may be offset either via a sharp decline in interest rates or by a move to a positive trade balance. These offsetting factors and their limitations are discussed in sections 3 and 4 respectively. In the final section we conclude.

2.Theory

The expansionary austerity hypothesis is a corollary of the *Ricardian equivalence proposition*, according to which budget deficits have no real effects. This proposition rests on two fundamental assumptions: (i) Governments face an inter-temporal budget constraint and cannot run deficits forever. Therefore, a tax cut today must be financed by a tax increase in the future. (ii) Economic agents being rational recognize this and do not increase consumption in response to a debt financed tax cut but save more in order to be able to pay for the higher taxes in the future (economic agents exhibit Ricardian behaviour). The upshot is that private demand to savings assets increases with the supply of public debt, with no change in interest rates and private demand. *Budget deficits have no real effects and, therefore, they c*annot *stimulate the economy.*

The *expansionary austerity hypothesis* is derived from the Ricardian equivalence proposition, and can be stated as follows: (i) Given the government inter-temporal budget constraint, *higher* taxes today will be matched by *lower* taxes in the future. (ii) Rational agents recognize this and increase *present consumption* because the government will not have to collect higher taxes in the future (i.e., they save less today and by implication spend more). So, even without increasing public spending, in fact by announcing *that public spending will decrease*, *the government can stimulate the economy today.*

Ricardian equivalence is a straightforward generalization of the inter-temporal theory of consumption and in particular the permanent income/ life cycle hypothesis (Seater 1993). The same is true for its corollary, the expansionary austerity hypothesis. This means that economic agents are rational and, assuming that they are not liquidity constrained, they will optimize their consumption function (i.e., they will smooth their consumption over time) subject to their inter-temporal budget constraint. In short, economic agents will exhibit Ricardian behaviour. More specifically:

(i)It is assumed that a representative individual, facing perfect capital markets, wishes to maximize his inter-temporal utility function. The inter-temporal preferences of this individual, are represented by a system of indifference curves drawn in the consumption space. These curves are convex to the origin, and their slope shows the declining marginal rate of substitution between current and expected consumption.

(ii) The individual maximizes his inter-temporal utility, subject to his inter-temporal budget constraint. The inter-temporal budget constraint states that the present value of lifetime consumption is equal to the present value of lifetime income. If we assume that the time horizon is divided into two periods, then the inter-temporal budget constrain has the form:

$$c(t) + c(t+1) / (1+r) = y(t) + y(t+1)/ (1+r) - [T(t) + T(t+1)/(1+r)]$$

where c is consumption, y income, r the real rate of interest, T taxation and t time. It follows (and this is the main message of the Ricardian equivalence hypothesis) that changes in $T(t)$ and $T(t+1)$, that preserve $[T(t) + T(t+1)/(1+r)]$, have no effect on the inter-temporal budget constraint of the private sector.

The individual maximizes his inter-temporal utility function, at the point at which the "higher" indifference curve is tangent to his budget constraint. This equilibrium is disturbed when the government increases taxes today. Tax increases reduce the disposable income of the individual and this may reduce his present consumption. However, the individual recognizes that higher taxes today will be followed by lower taxes in the future, and therefore his expected disposable income in the next period will be higher. He can then restore equilibrium by borrowing, within the limits of his budget constraint, against his higher future income, increasing thereby his present consumption, as the expansionary austerity hypothesis predicts. The size of the expansionary effect depends on the value of the marginal rate of substitution of present to the expected future consumption. The more the present consumption is substituted for the expected future consumption, the stronger the expansionary effect will be.

Given the wide acceptance of the inter-temporal consumption theory as a framework for the analysis of the individual choice, it might be seen that the theoretical case for the expansionary austerity hypothesis is obvious. However, the assumptions that guarantee the Ricardian behaviour of the representative individual, that is those of no liquidity constraints and lack of uncertainty, are rarely met in the real world. The effects of liquidity constraints and uncertainty on the Ricardian behaviour (and by implication on the expansionary austerity hypothesis) are discussed below:

2.1. Liquidity constraints. It is assumed that individuals are able to borrow and lend within the limits of their budget constraint. This assumption is unrealistic. An explanation of the refusal of banks to extend loans to individuals is provided by Stiglitz and Weiss (1981) theory of credit rationing due to adverse selection. Another reason why individuals may face liquidity constraints is related to the conditions of the labour market. Individuals are more likely to be liquidity constrained when unemployed. The degree of development of the credit system plays also a role. One would expect that the behaviour of consumers is less Ricardian in countries where the credit system is less developed (Blanchard 1990, p.116). So, if individuals are liquidity constrained, then their behaviour will be less Ricardian, and thus the expansionary austerity hypothesis breaks down.

2.2. Uncertain expectations. The second factor that renders the behaviour of the representative individual less Ricardian (and therefore undermines the expansionary austerity hypothesis) is uncertainty. If economic agents are uncertain about their future income levels, they will increase their liquidity preference for precautionary purposes, which implies a reduction in spending. Moreover, an increase in the liquidity preference will increase the interest rate (assuming given money supply), and this will have negative effects on economic activity. Thus, the expansionary austerity hypothesis breaks down. Blanchard (1990, p. 113) reverses this causality and argues that consolidation may be associated with a decline in uncertainty, leading to a decrease in precautionary savings and a decrease in the option value of waiting by firms to take investment decisions, but he does not introduce, in his discussion, the uncertainty effects more formally. However, Blanchard's approach (consolidation leads to a decline of uncertainty) evades the real problem which is the formation of expectations under uncertainty. In fact, the validity of the expansionary austerity hypothesis is based (in part) on the assumption that the representative individual is not myopic. This means that the decision of the individual to consume more (or less) today depends on his view of the future. But then uncertainty and expectations enter the scene, and a theory explaining the formation of expectations under uncertainty becomes necessary. The question then is how uncertain expectations affect the Ricardian behaviour of the individual.

Uncertainty exists when the representative individual is unable to calculate the numerical values of probabilities for future events. In the case we are examining, future events refer to the future level of taxation, and by implication to the expected level of disposable income. The theory of rational expectations, on which much of the current work on inter-temporal consumption behaviour is based, does not help because it rests on the assumption that the probability distribution about future variables is known. Thus, this theory deals with situations of risk rather than of uncertainty. Furthermore, the theory of rational expectations assumes that, at any point of time, the economy has a *unique equilibrium point,* which is determined ahead of time, so that economic agents form their expectations on that unique point. Thus, this theory does not apply if the economy possesses multiple equilibria. Finally, if the economic system is chaotic (in the sense that follows erratic behaviour or exhibits sensitive dependence on initial conditions) the rational expectations hypothesis is untenable, even when its assumptions obtain. In these cases (and for these reasons) we have to abandon the rational expectations approach and rely on other rules for expectation formation under uncertainty.

As an alternative, we propose to treat the formation of expectations under uncertainty within the framework of Keynes's logical theory of probability (Keynes, 1921). According to this theory, if the set of knowledge which constitutes our premises H justifies a *rational belief* in A of degree p, we say that there is a probability- relation of degree p, between A and H. Keynes considers three types of probabilities: (i) measurable or cardinal probabilities, (ii) ordinal probabilities and (iii) unknown probabilities. In case (i), all probabilities can be ranked and compared by distances between numbers and their absolute values. This is the domain of risk as defined by Knight (1921). In case (ii), the probabilities can be ranked, but they cannot be compared by their absolute values. We reason that an event is more probable than another but not how much more probable. This is the domain of uncertainty. In case (iii), probabilities are not comparable. This is the domain of irreducible uncertainty (Skidelsky, 2009).

Given this framework we may consider the expectations about future events, as conclusions derived from our knowledge about the present status of the economy, with a certain degree of rational belief. More specifically, we may denote by H the set of knowledge about the present situation of the economy that corresponds to a particular phase of the economic cycle, and by A our expectation concerning the level of taxation (and by implication the expectation concerning the level of the disposable income in the future). A is derived from H with a certain degree of rational belief p, where p takes values from the interval [0,1]. Since we are dealing with uncertainty, probabilities (rational beliefs) are *ordinal* in character. If the

economic situation (corresponding to a certain phase of the economic cycle) H *justifies* the expectation A (that taxes in the future will be low and thus the disposable income high) with a *rational belief* that takes values in the neighborhood of 1, then the Ricardian behaviour is very probable, and so are the predictions derived from the expansionary austerity hypothesis. If p is very low, then the Ricardian behaviour is doubtful or uncertain, and so are the predictions derived from the expansionary austerity hypothesis. Thus, during a period of economic depression, and given the deterioration of the public finance because of this depression and the deterioration of the tax base, there are few reasons for the representative individual to expect that the higher taxes today will be followed by lower taxes in the future. On the contrary, as Boyer (2012, p. 304) notes, " the new demands, expressed by the European commission, European Central Bank (ECB) and IMF induce the feeling that these austerity measures will be strengthened from period to period."

Thus, liquidity constraints and uncertainty render the behaviour of the representative individual less Ricardian, which implies that austerity programs have contractionary effects. These contractionary effects may be offset either by a reduction in the interest rates or through a positive effect on *trade balances*. These two effects, and their limitations, are discussed in the following sections.

3. Interest rates

Austerity programs may lead to a reduction of the interest rates via two channels: crowding out and deflation.

3.1. Crowding out. The *crowding out* thesis maintains that fiscal deficits raise consumption by shifting taxes to future generations. If full employment is assumed, increased consumption necessarily implies less saving. Interest rates must then rise to bring capital markets into equilibrium. It then follows that fiscal austerity will reduce the interest rate, leading to an increase of private investment with positive effects on economic activity. It is assumed (implicitly) that the decline in public spending will be more than offset by an increase in private spending. This thesis does not have general validity. The effects of austerity on the interest rate, depend on the elasticity of the LM curve. The new-neoclassical approach, in its extreme form, assumes that the LM curve is vertical (the demand of money is independent from the interest rate) while the IS curve is horizontal at the given interest rate (which is determined by the intersection of the saving and investment schedules). The horizontal IS curve reflects the fact that the aggregate demand is irrelevant for the output and employment. Therefore, at a given output, a reduction in public spending will shift the IS curve below its original position, leading to a fall in the interest rate.

However, outside the new- neoclassical paradigm, a decline in the public spending does not necessarily lead to a decline in the interest rate. If the money supply is interest elastic (the LM curve is horizontal), a decline in the public spending, translated by a shift of the IS curve to the left, leaves the rate of interest unchanged. The horizontal LM curve does not necessarily imply that the economy is in a state of liquidity trap. In a regime of *fixed exchange rates and perfect capital mobility,* the LM curve of a small country is a horizontal straight line, at the international interest rate, reflecting the fact that the money stock is fully endogenous (Dornbusch, 1980, p. 179). In this last case, *fiscal austerity will lead the economy to an equilibrium characterized by lower income and unchanged interest rate*. This is justified as follows:

Under fixed rates and perfect capital mobility, the money supply is endogenous. This means that the LM curve is perfectly interest elastic at the world interest rate i*. The IS curve, representing the equilibrium of the real sector of an open economy, is given by the equation:

$$y = E(i^*,y) + T(y)$$

where E denotes aggregate spending by domestic residents and T denotes the trade balance. Aggregate expenditure is a function of both the international interest rate and the real income. Trade balance is considered as a function of the real income. The IS has a negative slope because with given output, a lower interest rate increases domestic demand, and creates an excess demand condition. Therefore, an increase in the output is required in order to restore equilibrium. Equilibrium is determined at the point of the intersection of the perfectly elastic LM curve with the IS curve. This equilibrium point is compatible with the equilibrium in the money market. Now, a real contraction, caused by austerity programs, translated by a shift of the IS curve to the left from its original position, tends to reduce the domestic interest rates as the transactions demand for money declines relative to the prevailing money stock. Since the domestic interest rates are lower than the international interest rates, there will be outflow of money, until domestic money supply equals domestic money demand at the given international interest rate i*.The final equilibrium will be established at a *lower income* and unchanged (international) interest rate.

3.2. Deflation. Austerity programs may reduce the interest rates (given the limitations outlined in the previous section) through deflation. The recession followed by an austerity program may be accompanied by a fall in prices and wages. Falling prices will increase real balances (the real money supply), and this will lead to a reduction in the interest rate (on the assumption that the money demand is given). Analytically, the process whereby flexible prices lead to lower interest rates is no different from that whereby the total money supply is

increased (via an expansionary monetary policy) in order to reduce the interest rate. However, there are strong objections to a deflationary policy for two reasons: The first reason is that deflation *increases the burden of debt both private and public[1],* and as Fisher (1933) emphasized, the increased burden of debt resulting from deflation is a major factor in depressions. The second reason is that greater expected deflation may induce people to hold more money rather than to buy goods. The increased liquidity preference will lead to an increase in the interest rate during depression, and this may destabilize the economic system.

Thus, the decline of the interest rates is limited by the shape of the liquidity preference function and the degree of uncertainty. This means that the decline in the interest (given the limitations referred to) may not be sufficient to stimulate the economy. 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.

4. Trade balance effects

 The other offsetting factor to the contractionary effects of austerity programs is the increase in income via a positive trade balance. Since the world as a whole cannot move to a trade surplus, we have to examine the problem from the point of view of a single country, keeping in mind, that while the policies aiming at a positive trade balance may be rational at the individual country level, they will lead to systemic distortions (Blanchard, Ferretti, 2009) if they are adopted by a significant fraction of the world economy. In the next two sections we discuss this issue under fixed and flexible exchange rates.

4.1. Fixed exchange rates. In a regime of fixed exchange rates, an improvement in the balance of payments can be obtained through the restriction of internal demand. However, these policies, are *beggar thy neighbour* policies, since the trade surplus of one country is obtained at the cost of the rest of the world. More formally, consider the case of two countries that are called 1 and 2 respectively, and assume (as in Dornbusch, 1980) that the quantity theory of money holds, the economy is fully employed and the prices are quickly adjusted to clear the markets. The last assumption implies that we can consider the relative prices as constant, so that the good markets are aggregated in one composite commodity. In a single commodity world, spatial arbitrage assures that the prices will be the same in both countries. If the nominal income of the world economy is equal to its nominal expenditure, we will have:

$$p(y+y^*) = vm +v^*em^* \qquad (1)$$

where py is the nominal level of income (p is the price level and y the full employment output), vm the nominal expenditure (v denotes the expenditure velocity and m the nominal money holdings) and e the exchange rate. Obviously, m+m*=M where M is the world money supply. The asterisk denotes country 2. The international economy is in equilibrium when:

$$py = mv = py^* = em^*v^* \qquad (2)$$

If country 1 reduces its nominal spending vm below its nominal expenditure py, by adopting austerity programs and wage restraints (i.e., if country 1 hoards), then country 2 must increase its nominal expenditure v*em* above its nominal spending py* (i.e., country 2 must dishoard) if condition (1) is to remain intact (i.e., if the world demand is to be equal with the world supply). The situation that emerges is described by the condition (3):

$$py - mv = em^*v^* - py^* \qquad (3)$$

Hoarding may be interpreted as the trade surplus of country 1, or the rate at which country 1 accumulates assets, and dishoarding as the trade deficit of country 2, or the rate at which this country loses assets. Both countries cannot run trade surpluses simultaneously. Country 1 is a creditor and country 2 a debtor. This is a disequilibrium situation.

Classical economists argued that these disequilibria are wiped out via the redistribution of money that acts like a transfer. In reality, however, there are no automatic mechanisms, since the restoration of equilibrium is "*compulsory* for the debtor and *voluntary* for the creditor" (Keynes 1980, p.28). The debtor has no other option but to deflate and allow unemployment to rise. The creditor has the option of investing abroad, expanding its domestic economy, or hoarding its surpluses. "The same is true if international loans are to be the means of adjustment. The debtor *must* borrow; the creditor is under no such compulsion" (Keynes 1980, p.28). But if the creditor insists on hoarding its surpluses (i.e., insists on keeping its surpluses), the debtor has to bear the burden of adjustment and its negative effects on employment and welfare.

This conclusion is not without implications for monetary unions. Given the endogenous money supply, there are no means open to the authorities for countering unemployment at home (or achieving economic growth) except by struggling for a trade surplus. A positive trade balance means an increase in the supply of the common currency leading to a decline in the domestic interest rate. And since the trade surplus by one country, is obtained at the expense of its trade partners, we are led to a situation described by equation (3). This situation tends to persist, because there are no "automatic" mechanisms able to restore equilibrium. However, the symbiosis of the surplus countries with the deficit countries (reflected in (3)),

cannot last for a long time for the following obvious reasons: (i) Since the deficit countries have to finance their deficits by borrowing, they may face, sooner or later, the threat of a debt crisis. (ii) If the surplus countries insist on maintaining their surpluses, the deficit countries have to bear the burden of adjustment, and its negative effects on employment and welfare. Adjustment is painful for the deficit countries because they cannot depreciate. (iii) If the deficits in the current account of the deficit countries tend to increase, this may lead to massive outflows of capital and bank runs. Eventually, some of the members of the currency area may be forced to leave it, but not without a cost (Demopoulos and Yannacopoulos, 2012b).

4.2. Devaluation. Exchange rate changes move relative prices and thereby induce substitution, income and employment effects. It must be emphasized however that an increase in the relative price of imports does not necessarily improve the trade balance. A rise in the relative price of imports (a deterioration in the terms of trade) will improve the trade balance provided that the sum of import and export elasticities exceeds unity (Marshall-Lerner condition). Obviously devaluation is not available in a monetary union.

5. Concluding remarks

The following conclusions are derived from the previous analysis.

(1)The expansionary austerity hypothesis, which is a corollary of the Ricardian equivalence proposition, rests on two unrealistic assumptions: (i) lack of liquidity constraints and (ii) lack of uncertainty. Both assumptions are unlikely to be met under conditions of unemployment. Thus, the expansionary austerity hypothesis breaks down and austerity policies are contractionary in the short run.

(2) These contractionary effects may be offset either by a move to a positive trade balance or by a sharp decline in the interest rates. Interest rates can be reduced either via the crowding out effect or via deflation. In both cases, the extent of the fall in the interest rate will depend on the shape of the liquidity function. This means that the decline in the interest may not be sufficient to stimulate the economy. Deflation as a mechanism of reducing the interest rate may lead to an increase in the burden of the debt both public and private. If the public debt is large, this becomes a major objection to any deflationary policy. A move to a positive trade balance is *a beggar thy neighbor policy* in a regime of fixed exchange rates, and *a fortiori* in a monetary union with consequences of destabilizing the currency area.

(3) We have not discussed the thesis of *market confidence,* and the role that this psychological factor plays in investment decisions. The argument is that markets reward fiscal probity.

When governments demonstrate a credible commitment to fiscal consolidation they are rewarded by reduced costs of borrowing in the sovereign debt market. This is not entirely true. Markets reward a credible commitment to fiscal consolidation because they *expect* that fiscal consolidation will improve the debt /GDP ratio. But the market confidence breaks down and the costs of borrowing are increased when markets discover that the debt /GDP ratio worsens due to the contractionary effects of the austerity programs.

Historical experience suggests that austerity programs show a relatively high failure rate. In the more successful cases, there were factors at play that neutralized the recessionary effects of the austerity programs. The possibility of devaluation, a policy that is not available for the members of a monetary union, was one of these factors. Finally, one must be reminded that the most successful austerity policies, were those implemented by Germany and China. In both cases, the decline in the domestic demand, due to the domestic austerity programs, was offset by an increase in the demand (and by implication by the current account deficits) of their trading partners. These neo-mercantilist policies contributed to the appearance of systemic distortions in the world economy (reflected in global macroeconomic imbalances) that are responsible for the economic problems that plague the international economy today (Demopoulos and Yannacopoulos, 2012a).

Notes

1.“Thus inflation is unjust and deflation is inexpedient. Of the two perhaps deflation is, if we rule out exaggerated inflations such as that of Germany, the worse; because it is worse, in an impoverished world, to provoke unemployment than to disappoint the *rentier.*” (Keynes 1923, p. 36).

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