DIRECTORATE GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICIES

ECONOMIC AND MONETARY AFFAIRS

Deficits and Debt Dynamics in Fiscal Sustainability

NOTE

Abstract

Historical evidence shows that in financial crises private debt becomes eventually public debt (Reinhart and Rogoff, 2010). First, governments (that is, taxpayers) are forced to bail out large banks and second, they need to expand public expenditure to compensate for the fall in private consumption and investment due to the recession in order to avoid a depression, as well as a result of letting the automatic stabilizers to operate.

After these very large public fiscal expansions euro area government fiscal retrenchment is needed because debt, as a percentage of GDP, is becoming unsustainable in the medium term inducing markets to increase the interest rate spreads at which they buy public debt or lend to governments and, as a consequence, to the private sector borrowers that operate in those countries given that the sovereign is the benchmark in every country. Fiscal expansions and contractions affect fiscal deficits and debt as well as monetary policy, interest rates, exchange rates, external imbalances and growth because all of them are interrelated.

IP/A/ECON/FWC/2009_040/C6 8 Sep 2010

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

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LINGUISTIC VERSIONS

Original: [EN]

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Manuscript completed in September 2010.

This document is available on the Internet at:
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Content

1. Deficits

Budget deficits occur when governments spend more than they collect as revenue and its accumulation over time becomes debt. Running fiscal deficits and increasing government debt can temporarily stimulate economic activity when the GDP of the country in question is growing at a rate below its potential growth, but, as soon as is getting closer to the potential growth rate, fiscal deficits can increase inflation expectations.

Budget deficits have many effects on the economy, but all of them tend to follow from an initial effect: because they reduce national saving. National saving is the sum of private saving (the after tax income that households save) and public saving (the tax revenue that the government saves rather than spends). When governments run budget deficits (either by cutting taxes or increasing expenditure) public saving is negative, which reduces national saving, even if it may also increase private saving as a reaction. The economists of the "Ricardian Equivalence" school argue that any budget deficit produced by a tax cut financed by debt, makers consumers to save 100% of it, so that deficits have no effect on national saving, but most economist think that the added private saving is only a fraction of the tax cut.

Following Ball and Mankiw (1995) and using standard macroeconomic identities, national saving equals the sum of investment and net exports, a budget deficit reduces investment or net exports or both in order to match the fall in national saving. If net exports fall, then the trade deficit increases, so that budget deficits create a flow of assets abroad. When a country imports more than it exports, it does not receive these extra goods and services for free; instead it gives up assets in return. Initially, these assets may be denominated in local currency, but foreigners will use them immediately to buy corporate or government bonds, equity or real estate. When a budget deficit turns a country into a net importer of goods and services, the country also becomes a net exporter of assets.

These effects are brought about by interest rates and exchange rates changes due to the budget deficit. As interest rates are determined in the market for loans, where savers lend money to households and firms, a decline in the national savings reduces the supply of loans available to private borrowers, which pushes up the interest rate, that is, the price of the loan. Facing higher interest rates, households and firms tend to reduce their investments. Higher interest rates also affect the flow of capital across national boundaries. When domestic assets pay higher returns, they become more attractive to investors both at home and abroad.

The increased demand for domestic assets affects the market for foreign currency: if a foreigner wants to buy a domestic bond, he must, first, acquire the domestic currency. Thus, a rise in interest rates increases the demand for the domestic currency in the market for foreign exchange, causing the currency to appreciate. The appreciation of the currency, in turn, affects trade in goods and services. Domestic goods become more expensive for foreigners and foreign goods become cheaper for domestic residents. Exports fall, imports rise and the trade balance moves towards deficit. In sum, budget deficits tend to reduce national saving, reduce investment, reduce net exports and create a corresponding flow of assets overseas, due to the fact that they raise interest rates and appreciate the value of the domestic currency.

This reasoning means that fiscal policy can increase or reduce external imbalances. But, according to Lane (2010) using other macroeconomic models, results may be different. In a standard inter-temporal model of the current account, a "temporary· increase in government spending generates a current account deficit, since households tend to prefer to smooth private consumption rather than save it. In a new open economy macroeconomic model, the result is the same: if the budget deficit has been produced by a "temporary" surge in government consumption boosts domestic demand, generating a current account deficit. By contrast in an inter-temporal macroeconomic model a "permanent" increase in

consumption has no impact on the on the current account. Moreover, it can even generate a current account surplus in the new open economy model, since the long-term budget constraint means that households adjust downwardly private consumption.

The same happens with the dynamics of public debt, except under Ricardian equivalence. An increase in public debt associated with an increase in consumption may increase external debt. Such an effect may be reinforced when taking into account the investment channel given that it helps the pass through from fiscal to external. Conversely, fiscal policy interventions can be very helpful in facilitating the external adjustment process. This is even more important for member countries of the euro area, since fiscal policy can help to engineer the type of shifts in the real exchange rate than can be accomplished via nominal currency movements for countries outside the monetary union. Therefore, there is a case for deploying fiscal policy to mitigate distortions associated with excessive external imbalances within the euro area.

Beetsma and Giuliodori (2005) using a VAR model of government spending, quantify the international spillovers from fiscal policy shocks via trade in the European Union and find that a public spending increase equal to 1% of GDP implies 2.3% more foreign exports over the first two years and an equal size net tax reduction is only 0.6%.

Recurrent budget deficits tend to increase public debt and, conversely, countries can reduce debt by recurrent revenues exceeding recurrent expenditures plus the interest costs of servicing their debt. Usually, deficits are measured as "total deficit", although their most important measure for sustainability is as "primary deficit". Total deficit is spending, plus interest payments on its debt minus tax revenue. Primary deficit is defined as the difference between current government expenditures and total revenue out of taxes and other types of revenues. Deficits have two components: one cyclical and one structural. The first tends to be high at the lowest point of the cycle, when unemployment is high and government spending is also high, mainly due to social security and other automatic stabilizers and tax revenues are low, the contrary happening at the peak of the cycle.

The most important measure for fiscal sustainability is the structural deficit, given that it is the deficit that remains across the business cycle, because it is the real proof that the general level of government spending is too high for the prevailing level of tax revenues, over the cycle. The problem with structural deficits is that the business cycle is quite difficult to measure and estimates may get that measure wrong.

2. Debt

For simplicity, debt is measured in gross terms as a percentage of GDP, but this measure has a problem given that it compares a stock (debt) with a flow of valued added (GDP). Both net and gross debt measures are important indicators for fiscal analysis. It is generally agreed that gross debt s a better indication of rollover risk, but for assessing solvency and sustainability risks or the impact of debt on growth, net debt is preferred. For instance, in 2009, Japan had a gross debt of 200% of GDP but only a net debt of 80% of GDP and a more extreme case is Norway, where gross debt in the same year was 53.6% of GDP but in net terms had a surplus of 152%.

Thus, in order to better guess its sustainability of advanced countries which have also large assets, debt could be better measured in net terms, that is, total government assets minus total government liabilities. Nevertheless, it is not easy to use net debt given that some countries do not report net debt figures, others, as the UK, only net out relatively liquid assets, others use net debt as equivalent to financial net worth, netting out highly illiquid assets or even assets for which divestments would require changes in key policies, such as equity in public firms are not readily available to redeem debt. The IMF (2010) estimates

that, for advanced countries and excluding Japan, financial assets netted out against gross debt amount to about 20% of GDP, although with a large cross-country variation.

Moreover, for the same reasons of sustainability, total debt should incorporate the present value of future contingent liabilities, such a those related to ageing. This is the reason why Kotlikoff (2006) has proposed the measure of the "fiscal gap", that is the difference between government spending and revenue over very the long term, as a percentage of GDP, so as to know the percentage increase in revenues or the reduction on expenditures needed to balance spending and revenues in the long-run, including promised future government commitments, such as health and retirement pensions as well as of course of planned future taxes.

Giavazzi (2010) suggest that given the present government fiscal stance after the crisis, governments should commit for future spending cuts, large enough to stabilized debt levels over the medium term. But once, future sustainability is locked in, be able to afford to take some risks with current deficits, even delaying removal of the fiscal stimulus or even add some additional stimulus if private demand is slow to recover.

For instance, the IMF (2010) has compared the present fiscal cost of the crisis with that of ageing up to 2030, showing that in the average advanced countries belonging to the G-20, the present value of the cost of the crisis is around 30% of GDP, while the present value of the fiscal cost of ageing is around 400% of GDP. Many advanced countries are projected to face increases of 4 to 5 percentages points of GDP in spending for health care and pensions over the next two decades.

The Congressional Budget Office of the U.S (CBO, 2010) has made two long-term scenarios for the future costs of health care and social security. The "extended baseline scenario" which is the most positive shows that federal debt held by the public will increase from 62% of GDP to 80% of GDP. In the most negative "alternative fiscal scenario", debt, as a share of GDP, will exceed its historical peak of 109% in 2025 and reach 185% by 2035.

The most important issue with debt is that it makes possible to decouple saving from investment. When a government borrows it can absorb more resources for consumption or investment than are provided by their current revenue. The main problem of this decoupling is that while external contract reinforcement tends to be the rule for "private borrowers", it is much less so for "sovereign borrowers". External or third party enforcement of sovereign debt contracts are unusual although countries, at times, they may be forced by other nations or supranational organizations to meet their external obligations. Nevertheless, self–enforcement is the main rule for sovereign debt contracts. This is the reason why governments must always honour the sovereign debt bequeathed to them by their predecessors, even if the new government disapproves of the spending programmes or tax cuts that have generated such a level of debt.

In equilibrium, borrowing is only possible if someone else is willing to lend. In a closed economy, the government can only borrow more if the private sector borrows less. In an open economy, a country can only increase its external borrowing if the rest of the world is willing to reduce it or to increase its external net lending. The current global economic slowdown makes it desirable for every country to increase its external trade balance, what is an oxymoron. This is the reason why countries with large and unsustainable external deficits need to boost their trade balances to reduce their deficits and those with large external surplus should boost domestic demand to reduce their surpluses.

3. Fiscal Sustainability

Following Buiter (2009) fiscal sustainability is not only government debt sustainability but rather "state debt" sustainability, which comprises not only the government but the central bank as well, by consolidating general government debt and central bank monetary debt. Fiscal stability is more a useful conceptual tool than an operational concept. To achieve fiscal sustainability is always possible provided states are not engaged in financing existing debt (interest and principal repayments due) by issuing additional debt.

To achieve fiscal sustainability requires that the outstanding value of the non-monetary debt of the consolidated general government and central bank be no larger than the present discounted value of current and future primary budget surplus of the state. The primary surplus of the state is the overall budget balance minus debt service interest costs plus net interest income on assets plus the monetary issuance of the sovereign (that is, the change in the stock of base money issued by the central bank). In other words, it requires that the share of primary surplus of the state in GDP be no less than the outstanding stock of sovereign non interest bearing debt as a share of GDP, times the difference between the long-term real interest rate on the sovereign debt and the long-run growth rate of real GDP.

Therefore, it needs to meet two conditions: first, sustainability (the state primary surplus as a percentage of GDP equals the stock of state debt as a percentage of GDP) and second stability (the current real interest rate on the public debt equals the current or potential rate of growth of real GDP. In sum, the current state primary surplus as a percentage of GDP must equal the outstanding stock of sovereign debt as a percentage of GDP and the log-run real interest rate on sovereign debt must equal the long-run growth rate of real GDP.

The problems with fiscal sustainability show when it is used operationally, given that three of these four parameters are unobservable. First, the long-run real interest rate on debt and the long-run real growth of GDP are uncertain and need to be estimated and predicted. Second, the net debt-to GDP ratio is, in principle measurable and verifiable, but, unfortunately, most governments have adopted the habit of hiding significant liabilities and contingent exposures in off-budget and off-balance sheet constructs so net debt is difficult to measure accurately.

Third, whether the permanent primary surplus of the state as a percentage of GDP is going to equal the outstanding stock of debt depends on many social and political factors, including the determination and credibility of present and future governments, the willingness of citizens to pay higher taxes or accept lower public spending programmes and the ability of the central bank to extract real resources through the issuance of base money (seigniorage). Thus the best guide to future primary surpluses is the government capacity for having generated primary surpluses in the past, when doing so was not easy.

The recent crisis and its aftermath, where governments and central banks have been forced to be expansionary, has shown how difficult is to achieve fiscal sustainability given that markets have been wary about future defaults. Thus, sovereign default risk spreads have increased sharply, even in the euro area, producing a "positive feedback" mechanism from higher debt burdens to higher default risk premium to higher deficits and higher debt burden. The IMF (2010) estimates that the gross general government debt-to-GDP ratio for advanced economies is projected to rise from almost 91% at the end of 2009 to 110% in 2015, bringing the increase from pre crisis levels to 37 percentage points.

The euro area is providing the clearest demonstration of the increased attention being paid by markets to different underlying fiscal conditions across member countries, as borrowing conditions now vary among them to an extent that would have been unimaginable in the recent past, so that countries have to be very careful not to take policy missteps or showing lack of preparedness because the costs in terms of spreads would be very high. Moreover, average government debt maturities have shortened very fast.

Using the same models than the European Commission mechanical debt projection of the euro area to 2011, released in May 2010, the Danske Bank (2010) has extended it to 2015 showing that the average debt to GDP ratio of the largest 11 member countries of the euro area could reach 94.2% in 2015. Its standard deviation is high, ranging from a maximum of 169.7% of GDP to a minimum of 56.6% of GDP. Thus, in 2015 only one euro area member country would be below 60% of GDP and six member countries will be above 100% of GDP.

But the main problem going forward is that long-term fiscal sustainability requires that future contingent liabilities be priced in, which is still not today the case, in most advanced countries. The way to priced them in is through the use of real option pricing methods and adding their results to net debt. It is also very important to use the marked to market value or the marked to model value of any contingent assets that the government has been forced to acquired as part of its banking and financial bail-out operations and subtract them from net debt.

Cecchetti, Mohanty and Zampolli (2010) using the European Commission and CBO data, have conducted an empirical analysis of the long term future debt dynamics of a dozen of major industrial OECD countries, showing that on average increase in age related annual government expenditure from 2011 to 2050 will be of seven percentage points of GDP and unless the stance of fiscal policy changes or age related spending is cut, the primary deficit to GDP ratio will have to rise between 3% and 13%, debt to GDP ratios will go reach on average more than 150% of GDP in the next decade and could reach 300% of GDP in 2040, and the fraction absorbed by interest payments may go from 5% of GDP to 10% of GDP in 2040.

Under this future threat some countries with higher debt to GDP ratios may have even higher CDS as markets no longer consider that sovereign debt is a low risk. If their default risk premium could not be addressed directly through guarantees from other nations or international financial organizations, the only way to stabilize a explosive debt-deficit spiral is through a larger primary surplus, that is: higher taxes as a share of GDP or lower government spending as a share of GDP or increases in seigniorage or all at the same time depending on the level and speed of the spiral.

Public debt sustainability may be helped by other factors. The first is that when debt is financed in a large proportion with national savings it becomes easier to finance it and, often, at better interest rates than in the international markets. This is the case of Italy and Japan which have very high levels of debt to GDP but a large part of it is financed by national savings. The second is that the higher the level of private debt in the country, the more difficult is to maintain medium term sustainability of total debt.

Third, if a country has a long history of fiscal prudence and has won the reputation of investors, spreads will be lower than of other countries for the same debt levels or even lower. Fourth, if the currency of a country has reached world dominant status or is considered as a safe currency, it may sustain levels of debt higher than the rest even more in global crisis situation. This is clearly the case of the U.S. Germany, and even Switzerland.

4. Debt and growth

There is a large literature on the potential adverse effects of high government debt to GDP ratios on investment and growth, via higher long-term interest rates and expectations of higher future distortionary taxation (Elmendorf and Mankiw, 1999) Also high debt levels may limit space for countercyclical fiscal policies, which can result in higher volatility and lower growth and increased vulnerability to crises. Nevertheless, there is very little systematic empirical analysis of the impact of high public debt in advanced economies on growth.

One is by Reinhart and Rogoff (2010) who find that the median GDP growth rate differential between low debt (below 30% of GDP) and high debt (above 90% of GDP) countries is 2.6%, based on comparison of annual growth rates of GDP for the four debt level categories over the period 1946-2009.

Kumar and Woo (2010), have conducted an estimate of the negative relationship between the initial government debt and subsequent per capita GDP growth over five-year periods. Its result shows that a 10 percentage points of GDP increase in initial debt is associated with a slowdown of per-capita GDP growth of 0.25 percentage points. It also shows that the average growth rate during periods of rising debt is lower than that during periods of falling debt, both in G 7, in OECD and in emerging countries and, finally, that the adverse impact of debt on growth appears to be larger in emerging economies.

Given the considerable strain on public finances in the euro area and their fast increase in their Debt to GDP ratios, Checherita and Rother (2010) have tried to guess what would be the threshold after which high levels of debt are likely to be deleterious for growth and fiscal sustainability. They show that for the 12 largest euro area countries the debt to GDP ratio that affects negatively growth of GDP per capita is roughly between 90% and 100% on average although its effects start at levels around 70% to 80%. This impact on economic growth is channelled through private savings, public investments, total factor productivity and long-term nominal and real interest rates.

5. Ten Commandments for fiscal adjustment

The advanced economies are facing today the difficult challenge of implementing fiscal adjustments strategies without undermining a still-fragile economy. On the one side, fiscal adjustment is necessary to stimulate private investment and long-term growth as well as to, in some cases, avoid disorderly financial market conditions, which could have a more immediate impact of growth through effects on confidence and lending. But too much adjustment could also hamper growth, which is also a major risk.

Blanchard and Cottarelli (2010) have proposed Ten Commandments to face this challenge successfully.

1) Have a credible medium-term fiscal plan with a visible anchor in terms of either an average pace of adjustment or a fiscal target to be achieved within 4-5 years. An average improvement in the cyclically-adjusted primary balance of 1 per cent per year during 5 years would be consistent with gradually closing the output gap.

2) Not front-load the fiscal adjustment unless financing needs require it. A steady pace of adjustment is more important than front loading, which could undermine recovery.

3) Target a long-term decline in the public debt-to –GDP ratio, not just its stabilization at post-crisis levels. The current fiscal doldrums are due not only to the crisis but also to fiscal policy mismanagement before the crisis.

4) Focus on fiscal consolidation tools that are conductive to strong potential growth. This will require a bias towards current spending cuts, containing public-sector wages and shifting from universal to targeted social transfers, while protecting the poor.

5) Pass early pension and health care reforms, as current trends are unsustainable. Increases in pension and health spending represented over 80% of the increase in primary public spending to GDP ratio observed in the G 7.

6) Be fair, fiscal adjustments should be equitable in order to be sustainable. Maintain an adequate social safety net and the provision of public services and fight tax evasion.

7) Implement wide investment friendly reforms to boost potential growth. Strong growth has a staggering effect on public debt. One percentage point increase in potential growth, assuming a tax ratio of 40%, lowers the debt ratio by 10 percentage points within 5 years and 30 pp within 10 years.

8) Strengthen your fiscal institutions, which allowed a record level of public debt before the crisis. Better fiscal rules, budgetary processes, fiscal monitoring and independent agencies.

9) Coordinate properly monetary and fiscal policies, interest rates should not be raised as rapidly as in other phases of economic recovery.

10) Coordinate your policies with other countries. The reduction of budget deficits must come via a reduction of current account deficits. Emerging surplus countries need to increase domestic demand to absorb your exports and reduce external imbalances.

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