

COMMENTS ON SESSION IV: MANAGING PUBLIC DEBT

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Introduction

The papers in this session address several aspects of government debt management. Some papers are more general and deal with theoretical developments and innovations in debt management in Europe, and with the relations between fiscal policy and debt management objectives. Other papers also study specific country realities concerning both theoretical and operational debt management issues in Australia, the Czech Republic, Italy, Japan, and Bulgaria.

Before commenting on the papers, let me first quickly illustrate the size of what debt managers are actually managing in Europe, putting the outstanding sovereign debt numbers into perspective. This is done through Figures 1 and 2 below.

All in all, one must be aware of some stylised facts for the outstanding sovereign debt at the end of 2003. First, in the EU-25 area, the main players in this segment of capital markets are Italy, Germany, with shares above 20 per cent, and France and UK, respectively with shares around 15 per cent and 10 per cent. Secondly, the ten newcomers to the EU account for just 1 per cent of the developed countries sovereign debt and for around 3 per cent of the EU-25 government debt. Thirdly, the size of the developed countries government debt (even if not including all OECD countries) is almost evenly split between the US (33.8 per cent), the EU-25 (33.8 per cent), and Japan (32.4 per cent).

Naturally, debt managers are aware of the aforementioned constraints and of its implications for their strategies, concerning namely market liquidity as a determinant of paid prices. Let me now turn to the papers that were just presented. My comments will follow their alignment in the session.

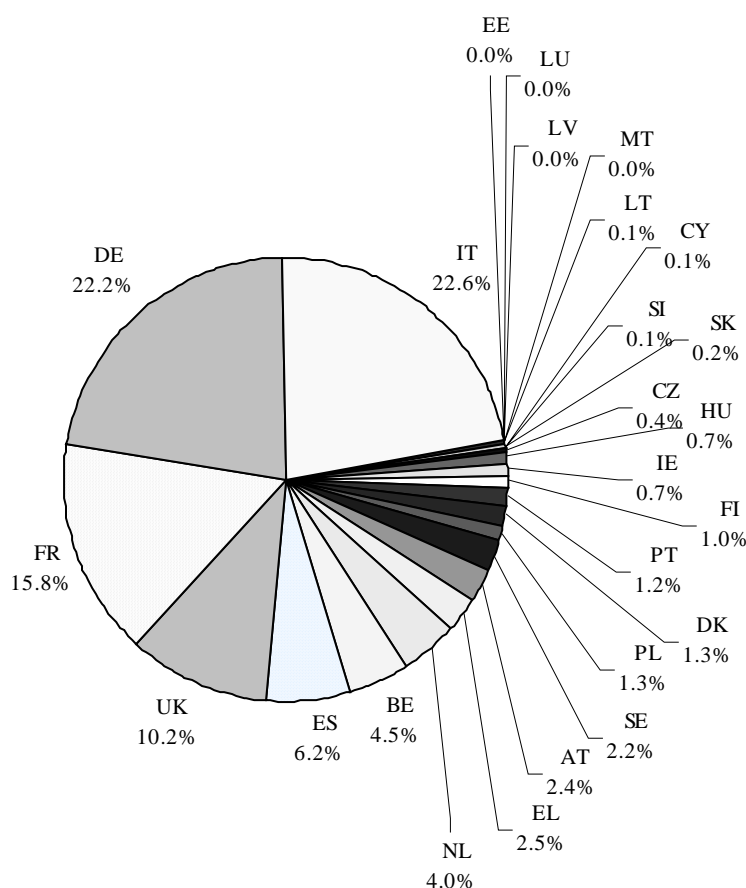
1. Debt management: theoretical developments and innovations in European practices

The paper by Wolswijk and de Haan addresses and reviews several developments in debt management, with a particular focus on the euro area countries. Briefly, the authors mention such factors as the convergence of debt

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Figure 1

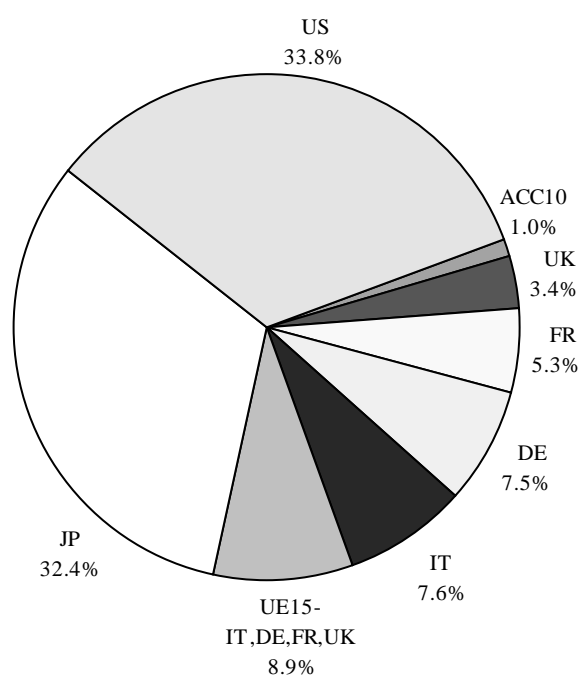
Breakdown of Outstanding Government Debt for the EU-25, 2003



Source: AMECO database, updated on 07/01/2004.

maturity, the set up of independent debt management offices/agencies, the scarce use of non-euro denominated debt in the euro area, and the use of derivatives, namely Interest Rate Swaps (IRS).

According to the paper, the objectives of the government are macroeconomic stability and/or tax smoothing. Sometimes this is not fully in line with the objectives of debt management, in principle the minimisation of the cost of interest payments on debt, according to the government guidelines. Indeed, and as the authors point out, debt management may not be very appropriate for deficit stabilisation, and, in my opinion, need not be.

Figure 2**Breakdown of Outstanding Government Debt for the EU-25, US and JP, 2003**

Source: AMECO database, updated on 07/01/2004.

Concerning debt management “independence”, the paper mentions the existence in the euro area of Special debt Management Offices (SMO) in four countries: Austria, Germany, Ireland, and Portugal. In the remaining euro area countries, debt management is more closely related to the Ministry of Finance. On this subject, I would not go as far as the authors in saying that these “countries emphasise the role debt management can play in public policy, e. g. regarding maintaining well-developed financial markets”. This could be misinterpreted since the aforementioned SMO do play a key role in developing financial markets.

Another point that is rightly mentioned is the fact that the increase in price stability in the euro area, due namely to the strengthening of central bank independence, allowed for the lengthening of debt portfolios’ maturity. This is true, even if in 2003 one may detect an increase in the share of the outstanding short-term securities in most euro area countries, eventually stemming from the attempt to lower interest payments on a growing stock of debt.

The paper also addresses the use of IRS to “correct” portfolios’ maturity, even if these can not clearly be labelled as risk free operations. The use of inflation-indexed debt, used mainly by the France, and to a lesser extent by Italy and Greece (and particularly by the UK), may also contribute to a higher sensitivity of budget to inflation. The authors also find out that non-euro denominated debt is seldom used, with the exceptions of Austria and Finland, and that domestic ownership of debt in the euro area decreased between 1997 and 2002.

The paper does a good job in surveying most of the relevant topics concerning debt management. To my mind, there could be two areas for further future development. First, it would be useful to extend the analysis to the other three countries of the EU-15: the UK, Denmark, and Sweden. Some references to the US experience might be interesting as a comparison of practices. Secondly, an area that is barely touched upon is risk management, and that I feel would contribute to the enrichment of an otherwise quite interesting paper. Nevertheless, this is a topic addressed by some of the other papers in this session.

2. Debt management in a low-debt environment: Australia

The paper by Comley and Turvey reviews the institutional framework underlying debt issuance in Australia, a country where debt ratios are quite small (below 10 per cent in 2001-02) and where there is no foreign denominated debt.

This paper is interesting because, besides depicting the Australian reality also discusses the reasons why it is useful to have a sovereign debt market, even in a low debt environment. This is an issue that was actually quite discussed a few years ago when budget surpluses were being projected for the US (even if not anymore), as a result of the economic expansion during the late Nineties.¹

According to the authors, the reasons for having the government debt market can be summarised as follows:

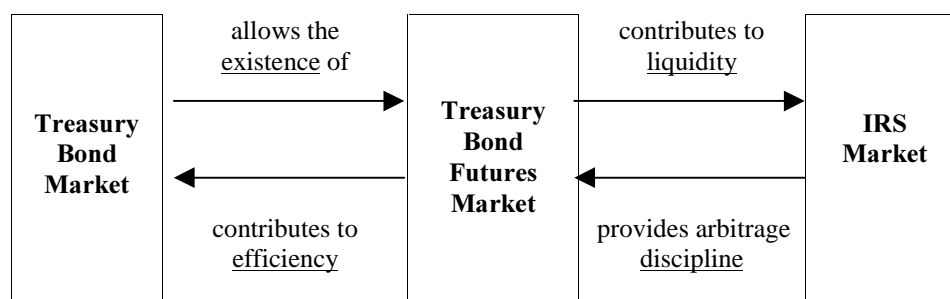
- sovereign debt plays the role of the risk-free asset,
- government debt is seen as a safe heaven instrument,
- provides a yield curve to the markets,
- foreign investors might not want to invest if there is no government market debt,
- the Central Bank can provide liquidity to the market through open market operations,
- contributes to develop financial markets,
- treasury bond futures are less expensive than IRS,
- the IRS market might otherwise not be viable.

¹ See for instance the proceedings of *Declining Treasury Debt*, a conference sponsored by the Federal Reserve Bank of Cleveland, October 24-26, 2001, and subsequently published in the *Journal of Money, Credit, and Banking*, Vol. 34 (3, Part 2), August 2002.

Concerning the contribution of sovereign debt to the liquidity and efficiency of derivatives markets, the authors rightly mention that the bond market allows the existence of a Treasury bond futures market, and that this improves liquidity in the IRS market. Figure 3 sketches such links.

Figure 3

Sovereign Debt and Derivatives' Markets



Just a comment on the aforementioned reasons for having a sovereign debt market, namely in what concerns the existence of a risk-free asset, usually assumed and used in equilibrium price models such as the Capital Asset Pricing Model and the Arbitrage Price Theory. Indeed, for those models what is relevant is the existence of an asset whose returns are not correlated with the market return, provided by a chosen market index, and not necessarily a risk free asset.²

Interestingly, in the case of Australia, the authors report that it was finally assessed as more useful to keep the issuance of government debt since the advantages clearly seemed to overtake the associated costs.³

3. Debt management in the Czech Republic

The paper by Matalík and Slavík deals with debt developments in the period 1993-2003 in the Czech Republic, and the authors identify two sub-periods. In the

² Indeed, what is necessary is the existence of an asset Z , not correlated with market portfolio, M , with $\sigma_{mZ} = 0$, and $\sigma_Z \neq 0$, that can successfully replace the free-risk asset F , characterised by $\sigma_{mF} = 0$, and $\sigma_F = 0$.

³ For some other related literature, one may mention Bohn (2002), who also discusses the possible consequences for debt management of a low debt environment, namely in terms of risk management.

first sub-period, 1993-1998, debt ratios decreased, while in the second sub-period, 1999-2003, the debt-to-GDP ratio increased. The authors mention that “a deficit-oriented fiscal policy has been pursued since 1999”. In this last sub-period, alongside high budget deficits, hidden debt was also explicitly recognised.

Debt management in the Czech Republic is directly done by the State Treasury, since the costs of setting up an independent debt management agency seem to be higher than the benefits. The Czech National Central Bank does the auctions and supports the operational work, according with the policy decisions of the government. Foreign denominated Government debt has decreasing, with its share of total outstanding government debt going from 47.7 per cent in 1993 to 9 per cent in 2003.

Again, this paper gives an interesting example of the problems that might wait ahead for the new EU Member States in the EU framework. I am mentioning the so-called “hidden” debt that can be related namely to State guarantees. Indeed, the authors mention that debt management, as in other transition economies, seems to be closely linked to the management of State guarantees.

The impact of making explicit those operations, as a burden on public debt, can be illustrated in equation (1), the government budget constraint, written in nominal terms as follows:

$$(B_t - B_{t-1}) = \underbrace{(G_t + i_t B_{t-1} - R_t)}_{\text{budget balance}} - (M_t - M_{t-1}) + Z_t \quad (1)$$

where B is the public debt, G are the government expenditures, excluding interest payments, R are the government revenues, i is the nominal interest rate, M stands for the monetary base. Z stands for other operations impacting on the stock of debt, for instance privatisation revenues used by the government to repay existing debt, $Z < 0$, or other debt increasing operations, $Z > 0$, such as guarantees when they have to be paid and financed.

For example, in the Czech Republic, the effect of those operations is well exemplified with the deficit numbers of 2003. Indeed, after a previous reported deficit of 6.4 per cent of GDP, the number reported to the European Commission seems to be much higher, 12.9 per cent of GDP. The explanation for these developments is linked to a major one-off operation imputed to State guarantees (given between 1997 and 2003).⁴

According to the authors, other factors that may hinder the developments of fiscal policy in the Czech Republic seem to be the lack of sufficient financial management centralisation, namely the existence of off-budget spending institutions (that the government might have to bail out in the future).

⁴ See European Commission documents available on the Internet at: http://europa.eu.int/comm/economy_finance/about/activities/sgp/procedures_en.htm

4. Broadening the approach for Italian debt management

The paper by Cannata *et al.* discusses the determinants of an optimal issuance strategy, namely taking into account risk and cost considerations. The authors mention the use of such Asset and Liability Management (ALM) tools as Value at Risk (VaR), Cost at Risk (CaR), Budget at Risk (BaR), and exemplify the optimisation process to produce several possible issuance strategies.⁵ As far as I can tell, some management authorities in Europe already use these techniques.⁶

In theory, sovereign portfolio management is quite related to standard private portfolio management. Indeed, in practice one would have to solve optimisation problems such as the ones in (2) and in (3) respectively for the private portfolio and for the public debt portfolio, both bounded by institutional constraints:

$$\left\{ \begin{array}{l} \text{Min } \sigma_p^2 = \sum_{i=1}^n x_i x_j \sigma_{ij} \\ \text{s. to } \bar{R}_p = \sum_{i=1}^n x_i \bar{R}_i \\ \sum_{i=1}^n x_i = 1 \\ \text{inst. constraints} \end{array} \right. \quad (2)$$

$$\left\{ \begin{array}{l} \text{Min Costs} \\ \text{s. to } \sigma_p^2 = \sum_{i=1}^n x_i x_j \sigma_{ij} \\ \text{Portfolio Duration} \\ \text{gov. risk prefer.} \\ \text{inst. constraints} \end{array} \right. \quad (3)$$

As a summary, some of the differences that have to be considered in managing those two types of portfolios are outlined in Table 1.

As far as I understood, debt management in Italy, as well as in several other countries, still does not fully use these ALM related tools. Perhaps this is a development that might be somehow linked to the set up of debt management offices in each country. Probably the introduction of these approaches is more likely to

⁵ In practice, these are all related calculations, stemming from the VaR measure. There are several ways to compute the Value at Risk, and one can make the following classification: parametric (RiskMetrics and GARCH); non-parametric (historical simulation); and semi-parametric (extreme value theory quasi-maximum likelihood GARCH). A usual reference for the parametric VaR is J.P. Morgan (1996).

⁶ See, for instance, IGCP (2002), Danmarks National Bank (2003) and SNDO (2004).

Table 1**Private vs Public Debt Portfolio Management**

Private portfolio manager	Sovereign debt portfolio manager
Short-time horizon	Long-term horizon
Buyer and seller	Mainly seller
Trade-off between risk and return	Trade-off between cost and risk

occur with a Special Debt Management Office, and might be less used when a debt management unit inside the Ministry of Finance implements debt management. One can see the first paper of this session for a characterisation of debt managers in the euro area.

5. Debt management in Japan

The paper by Fujii uses CaR and stochastic simulation to study future interest payments by the Japanese government on JGB. Several debt maturity scenarios are used alongside with interest rate hypothesis since the end of the Eighties. Interestingly, the results reported by the author seem to me rather in line with our general intuitions, and these simulations are always useful to confirm initial assumptions.

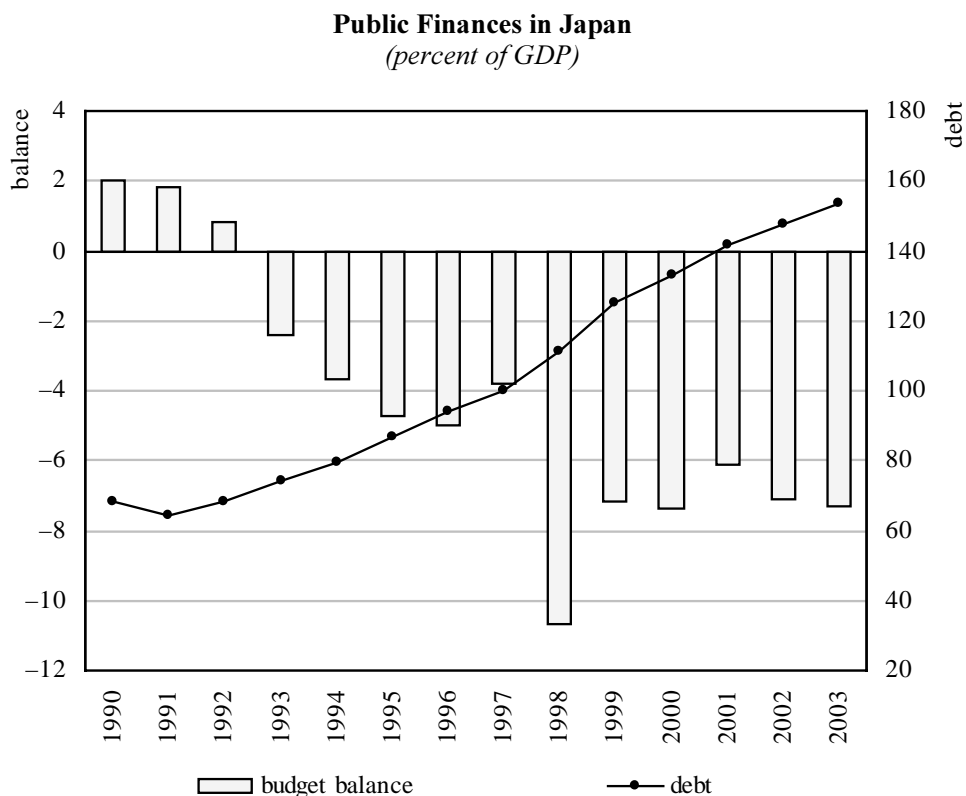
In a nutshell, the paper reports that short portfolios are riskier in terms of CaR, since the refixing ratio raises quickly above 30 per cent. On the other hand, CaR also becomes larger as the simulation period increases. The author then concludes that long-term JGB, with 20 and 30 years maturities, should then be issued.

This paper also provides interesting information concerning the holders of outstanding government debt, and we learn that in the end of 2003 the public sector and the Central Bank held 42.5 and 15 per cent respectively. This seems to mean that the Japanese Central Bank, besides having to monitor short-term interest rates and having to deal with inflation, also has an additional restriction: finance government deficits. This point links nicely with the next paper in the session.

6. The monetization of Japan's government debt

The paper by Lebow deals with the monetary and price implications of increasing government debt in Japan. The author uses the consolidated government and Central Bank balances sheets to determine the "appropriate" concept of government debt. Taking into account the general government financial assets, to

Figure 4



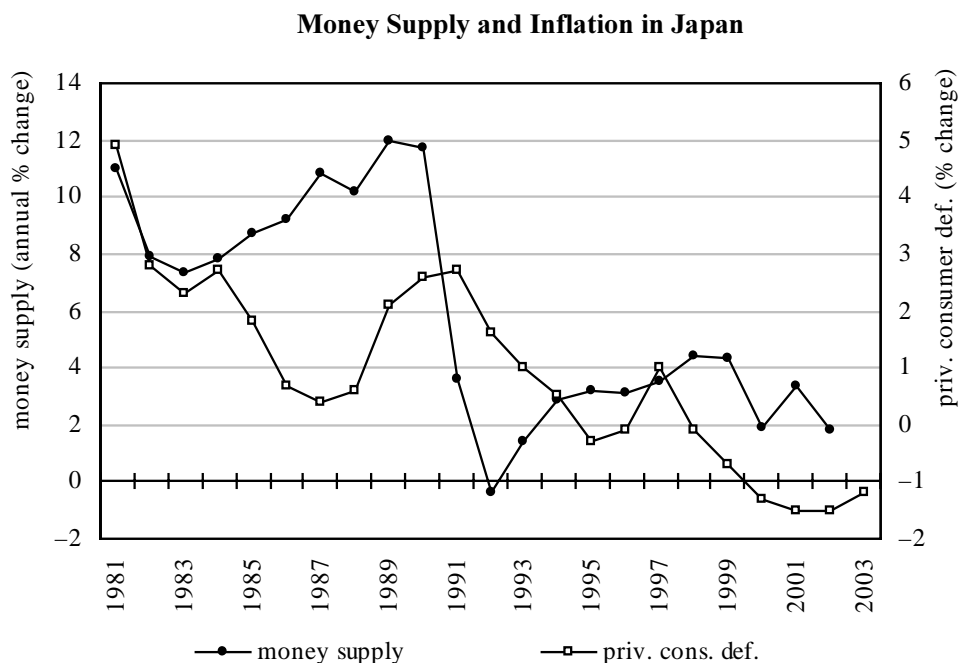
Source: European Economy, Autumn 2003.

compute the net debt, and the Bank of Japan net worth, a consolidated net debt-to-GDP ratio of 56.8 per cent is reported for 2003. This is a strikingly different number from the gross debt-to-GDP ratio of 154.6 per cent in 2003 (see Figure 4), and highlights the fact, has seen in the previous paper, that the public sector in Japan does hold a significant amount of government debt in its portfolio.

Moreover, with monetary base in the government and Central Bank consolidated budget constraint, the author envisages a substantial increase in nominal GDP and in the price level to reduce the real value of debt. This sounds familiar, and closely linked to the Fiscal Theory of the Price Level (FTPL), with the price level adjusting to the stock of government debt.⁷ I have a few comments that I would like to add to the discussion. First, it is true that since the Nineties there is a

⁷ For a critical review of the FTPL, see Buiter (2002).

Figure 5



Source: European Economy, Autumn 2003.

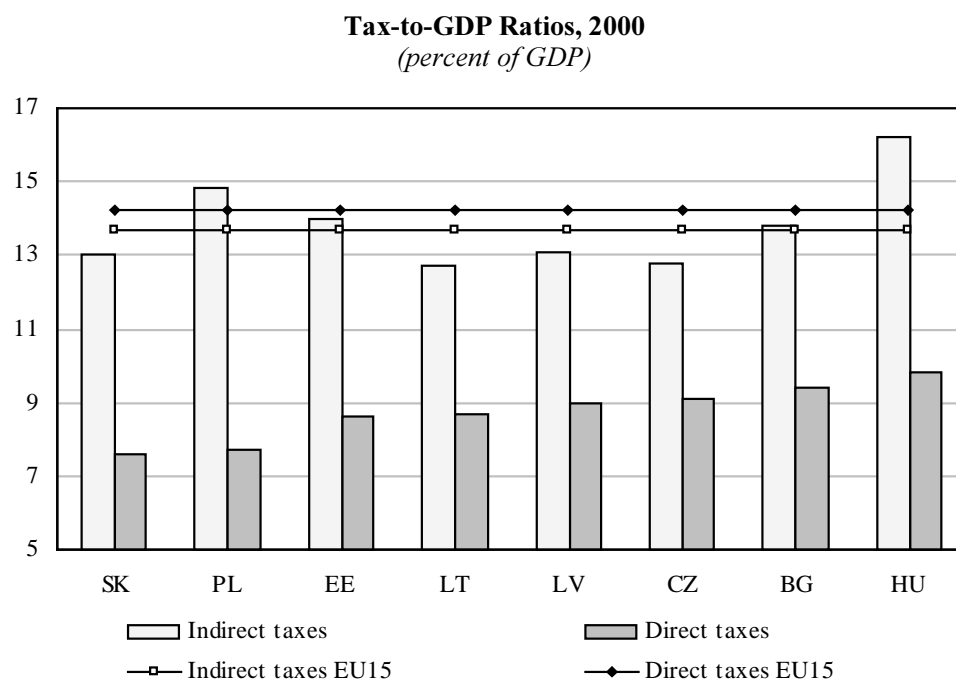
lack of a durable relationship between money and inflation in developed countries, leading to a progressive abandon of monetary aggregates as an intermediate objective of monetary policy.⁸ Nevertheless, in Japan money supply growth rates and inflation did decrease in parallel in most of the Nineties (see Figure 5).

Secondly, the quantity theory of money, which is put at stake by the FTPL, links money supply and price level.⁹ However, the link addressed by the FTPL, through the intertemporal consolidated government budget constraint, runs through the monetary base, not via the money supply. Thirdly, the reduction of the real value of debt would lead to a demand for higher coupon rates, and this is certainly an offsetting outcome of the benefit of reducing the real value of outstanding debt. Finally, shouldn't one rather concentrate on curbing budget deficits, which is surely the best way to reduce high government debt levels?

⁸ This point is made by Romer (2000): "(...) most central banks, including the U.S. Federal Reserve, now play little attention to monetary aggregates in conducting policy."

⁹ One may want to recall the classic reference for the identity of the quantitative theory of money, which can be presented as $M/P = ky$. k ($k=1/v$) is the proportionality factor used by Pigou (1917), and M is nominal money, P is the price level, y is real income and v stands for the income-velocity of money.

Figure 6



Source: European Economy, Autumn 2003.

7. Possible points of contradiction between fiscal policy and debt management objectives

The paper by Nenova and Kaloyanchev discusses debt accumulation patterns and reports on debt developments in Bulgaria in the period 1990-2003. It seems interesting to see how the new EU Member States compare in terms of financing resources *vis-à-vis* the other EU countries, namely in terms of tax revenues, and if indeed debt financing would be more appropriate or not. In Figure 6 it is possible to notice that in Bulgaria, as in several acceding countries, direct taxes were in 2000 below the EU-15 average. However, this is not the case for indirect taxes.

On the other hand, expenditure-to-GDP ratios in the new Member States are much more in line with the EU-15 average. This might be particularly critical for countries where debt ratios can be subject to some volatility and where those ratios are on an upward path. Moreover, the fact that the differences between the new Member States and the other EU countries is smaller in terms of indirect taxes-to-GDP ratios, does not help the idea of relying more on taxes than on debt to finance the deficits.

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