Public debt management before, during and after the crisis

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Abstract

During the financial and economic crisis, the public debt ratio in the European Union increased significantly, and public debt management had to be carried out in a completely new and unfavorable environment. The authors of this paper explore the changes in public debt management during and after the crisis. They describe the way in which three members of the Union – the Netherlands, Ireland and Hungary – dealt with the challenge of government financing during the crisis. These three countries were chosen because they all had a comparatively well-developed public debt management system before the crisis, and also due to the fact that during the crisis those responsible for public debt management pursued a policy of active accommodation to current market circumstances. Therefore, these case studies can illustrate the capacity of public debt management to contribute to the prevention of a sovereign debt crisis. In the conclusion, the authors give an overview of public debt management in Croatia in the period of the crisis and compare it with public debt management in the three countries whose experiences are presented in the paper.

Keywords: public debt management, economic and financial crisis, European Union, Croatia

1 INTRODUCTION

This paper deals primarily with adjustments made to public debt management due to the changed circumstances that occurred during the global financial and economic crisis of 2008 to 2009 and in the post-crisis period that ensued in most European countries in 2010. The object of the paper is to provide an overview of contemporary public debt management, to describe the challenges that have been faced by those working in public debt management during and immediately after the global crisis and to show how three countries, which can serve as examples of good practice, coped with these challenges. This review paper strives to present examples of good practice in order to provide ideas for the improvement of public debt management in the Republic of Croatia in general and in particular in a period of impeded access to financing. The paper aims to demonstrate that if the public debt is managed in a flexible manner, public debt management can have a positive effect on a government's ability to obtain sufficient and affordable financing even during the crisis.

The two chapters that follow the introduction describe the development of public debt management in general and debt management in the European Union on the eve of the crisis. It is pointed out that in the last decade, in most countries of the EU and particularly in the euro zone, public debt management has taken great strides in development. The basic reason for this was the stiffening of competition in the public debt market among the member states, which was enhanced by two phenomena: the disappearance of currency risk due to the introduction of the euro, and a reduction in the volume of instruments issued, which resulted from the de-

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creasing level of the deficit and public debt. Consequently, the structure of debt has changed and so has the way in which it has been issued and traded, as well as the organization of public debt management and its objectives. Chapter three deals with the impact of the global financial and economic crisis on public debt management. In this period in Europe, the level of debt surged, while the demand for public debt instruments fell rather considerably. The fourth chapter describes how three members of the European Union faced the challenge of financing their governments' requirements – the Netherlands, Ireland and Hungary. These three countries were chosen because before the outbreak of the crisis they were all characterized by a relatively well-developed system for public debt management; and yet during the crisis they have faced different intensities of fiscal imbalance. As a result of the developed debt management systems, the three countries managed during the crisis to execute flexible debt management policies, which have helped them (so far) to avoid a public debt crisis brought about by the financial and economic crisis. Hence, the policies of these three countries are illustrations of the types of tools that public debt management can contribute to the alleviation of the public debt crisis. Chapter five casts a glance at public debt management in Croatia during the crisis and compares it with those of the three selected countries. The paper finishes with conclusions and recommendations.

2 DEVELOPMENT OF PUBLIC DEBT MANAGEMENT

The development of public debt management is primarily affected by the environment in which the government issues or manages the public debt as well as by the level of competence of the institution that is given the responsibility of public debt management. In most countries, the management of the public debt goes through several typical developmental phases: non-market government borrowing, transition towards a market-oriented system, asset-liability management and finally the provision of treasury services in combination with asset-liability management (Storkey, 2006).

In the first phase, governments rely on non-market instruments in order to finance debt that is due and to finance considerable amounts of fiscal deficits. An underdeveloped domestic debt market essentially restricts the choice of debt instruments, and the government on the whole takes on debt using banking loans or loans from international financial institutions, or preferential loans (Storkey, 2006). In this phase, even direct financing from a central bank can be one of the sources of government financing. Debt monetization as a way of deficit financing has pronouncedly negative implications for the economy, such as inflation caused by an increase in base money. When governments cease to finance through printing money, emphasis is put on public debt management and on the development of a market-oriented way of deficit financing.

In the non-market borrowing phase, the functions of debt management are limited and are comprised of keeping books and records on borrowing transactions and

the repayment of debt. Separate bodies which should be given the responsibility of managing the public debt have not yet been founded, and debt management does not exist as a distinct policy but is carried out within the framework of monetary or fiscal policy (Storkey, 2006).

The second phase of public debt management is the transition towards a market-oriented system of government borrowing. The main characteristic of this phase is reliance on debt management with an emphasis on risk management and the integration of debt management with the management of all government cash flows. In this phase, the primary financing mechanism is the financial market through which the funding for government needs is acquired by the issuance of bonds. The development of a domestic securities market enables a transition from a bank-oriented to a market-oriented borrowing system. Market orientation causes greater exposure to financial risks and, therefore, risk management becomes the crucial element of modern public debt management. Governments start to found separate organizational units or offices, called debt management offices or DMOs, which constitute an institutional solution for the operational aspects of public debt management. The establishment of independent organizational units implies the separation of debt management from fiscal policy, which leads to important changes in the way debt is managed. At the same time, management of public debt is split off from monetary policy, which enables the integration of debt and cash management and, thus, the reduction of expensive cash surpluses to minimal states and better planning of government bond issues.

The third phase of public debt management sees the government applying the approach of managing total assets and liabilities – in other words, asset-liability management (ALM) – so as to coordinate the financial characteristics of assets and liabilities and, thus, manage the risks to the government's balance sheet. Public debt management in this phase starts to include not only explicit debt but also contingent liabilities, which are an important source of fiscal risks. In this way, a realistic picture of the fiscal position of the state is obtained. Future budgetary revenues represent the main element of a government's assets, and they are most often denominated in the domestic currency and insensitive to movements in short-term interest rates and inflation. If debt and contingent liabilities are issued in the domestic currency and if the liabilities have short maturity and are not inflation-indexed, the government's exposure to exchange rate, interest and inflation rate risks can be considerably reduced (Wheeler, 2004).

The last phase in the development of public debt management is the provision of treasury services to other government agencies and local government units coupled with asset and liability management (Storkey, 2006). The scope of the functions of the DMO is widened to include the evaluation of government loans, advising government bodies about cash and risk management, advice or control related to public-private partnerships, services of taking deposits or extending loans

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to local government units or other public bodies. DMOs, through the services of receiving deposits and giving loans, provide an alternative to the use of bankers' services and, thus, enable government savings (NTMA, 2010b). The administration of government assets and liabilities includes active government asset management and specific government sector funds management (Williams, 2006).

3 MANAGEMENT OF PUBLIC DEBT IN THE EUROPEAN UNION JUST BEFORE THE CRISIS

Earlier on in the academic literature, it was taken for granted that public debt is managed only to achieve macroeconomic objectives such as smoothing the tax burden over a period of time or establishing macroeconomic stability. But practice has redefined the aims of public debt management. The primary or direct objective of a DMO in most countries, including in member states of the European Union, became the financing of government borrowing requirements at the lowest possible costs and achieving an acceptable level of risk. The development of the government bond market is secondary or an indirect objective of debt management, since a developed capital market can contribute to minimizing the costs of government borrowing. The separation of fiscal policy that determines the debt level from the policy of public debt management aimed at creating an optimum debt structure was the precondition for concentrating on the primary objective of debt management. Although separated, public debt management policy supports fiscal policy by reducing the interest expenditures and by avoiding the risks of excessive fluctuations in debt servicing.

DMOs in some countries are set up as separate agencies independent of finance ministries and central banks, since the greater complexity of products and competition among public debt managers requires greater operational independence and professionalism, which are easier to achieve in a non-governmental institution (Wolswijk and de Haan, 2005). Regardless of the institutional position of the public debt management office, a greater degree of operational autonomy will enable debt managers to do their job in accordance with market principles.

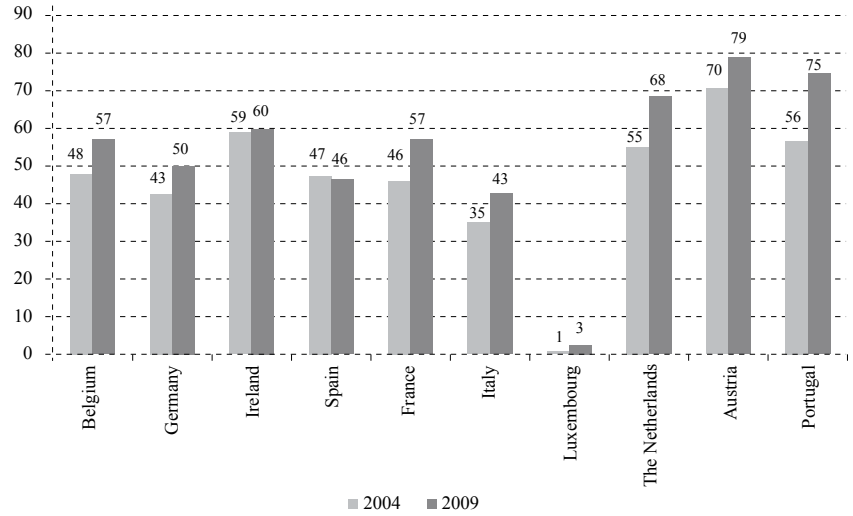
As public debt management policy has developed, and with the involvement of an increasing number of foreign investors, the degree of integration in European bond markets has increased, tending to produce convergence in the structure of the public debt of the European Union members. The creation of the European Economic and Monetary Union additionally speeded up the convergence process, and the main determinants of differences in the government bonds yields are the liquidity and default risks, not the currency risk, since bonds are denominated in the same currency (Favero, Missale and Piga, 2000). The disappearance of currency risk, the reduction of credit risk which was enabled by the fiscal discipline stipulated by Maastricht and the reduction on liquidity premiums were key influences in the reduction of sovereign borrowing costs for the countries that had joined the EMU.

Fostering the development of a liquid secondary market for government bonds led to an increase in the issuance of marketable debt instruments and the standardization of government bonds and market conventions. Standard long-term debt instruments now tend to be government bonds with fixed coupon interest without any incorporated options and common maturities of 2, 3, 5, 10 and 30 years. In addition to the standard bonds, increased importance is being assumed by inflation-linked bonds that preserve the value of investors' investments. The percentage of non-marketable debt has been much reduced, and the share of loans in total debt now comes to less than 10%. Instruments meant for households, savings bonds and savings banks in post offices have retained or increased their share (Favero, Missale and Piga, 2000). The development of interest swaps has enabled the issuance of long-term bonds on the liquid segment of the capital market and the achievement of reduced costs because of the low short-term interest rates (Wolswijk and de Haan, 2005).

The introduction of the single currency reduced the amount of foreign currency-denominated debt, and access to a broad investor base diminished the necessity to borrow outside the euro zone and at the same time brought about changes in debt ownership structure (figure 1).

FIGURE 1

Share of non-residents in ownership of general government debt in selected euro zone countries in 2004 and 2009 (in %)



Source: Eurostat.

In most states of the euro zone, over half of general government debt at the end of 2009 was in the hands of non-residents, but the share of foreign currency-denominated debt was small, i.e. less than 10 percent. Those states that borrow in

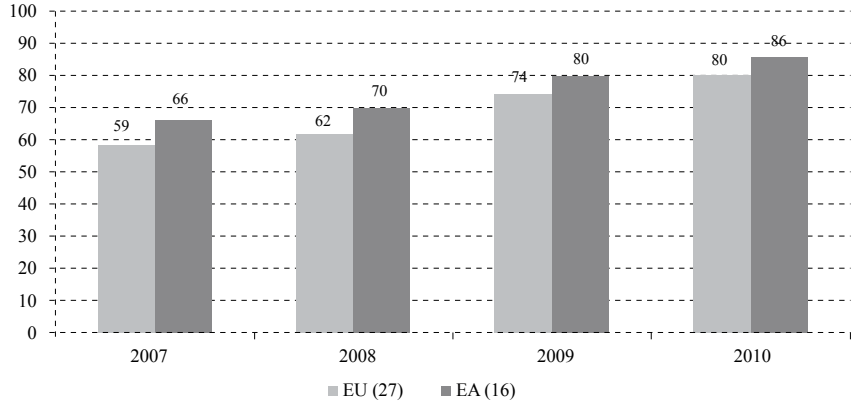
a foreign currency use currency swaps to reduce the exchange rate exposure of the debt. The establishment of the euro zone reduced long-term interest rates and increased the share of long-term debt in total debt. There has also been strong convergence in the average maturity of the debt, which in most euro zone states comes to about 6 years.

4 IMPACT OF THE FINANCIAL AND ECONOMIC CRISIS ON PUBLIC DEBT MANAGEMENT IN THE EUROPEAN UNION

One of the key conditions for countries to enter the euro zone, the public finance sustainability criteria, was achieved by fiscal consolidation i.e. the reduction of the share of deficit and public debt in GDP. Reduced need for government borrowing resulted in a smaller supply of government debt instruments and consequently with an endeavour to preserve liquidity on the government securities market. The financial and economic crisis has completely changed the situation. Government borrowing requirements have largely exceeded the previously planned amounts and financing these requirements has become uncertain.

Figure 2

Government debt in the EU and the euro area (in % of GDP)



Source: Eurostat.

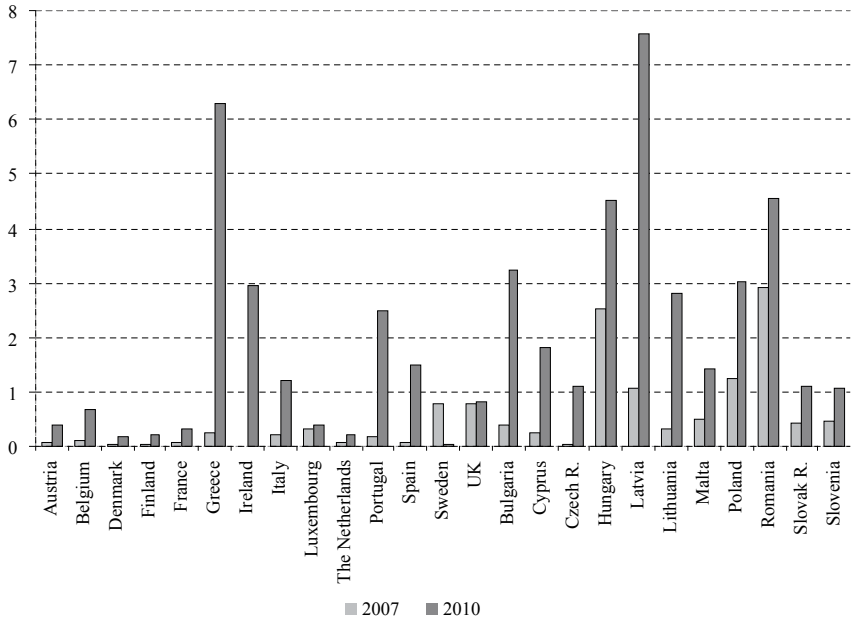
A significant rise in the general government debt ratio after 2007 can be seen in both the euro zone and the EU as a whole (figure 2). The rise in government borrowing needs was prompted not only by cyclical factors, but also by the additional capitalization and (re)nationalization of parts of the financial sector.[1] The yield on the EU country government bonds at the end of 2010 was on average lower than at the end of 2007, i.e. 4.7% as opposed to 5.4% (www.oenb.at). However, the rise

[1] In the EMU, operations in the form of recapitalization or purchase of parts of the financial system, that were undertaken up to the end of 2009 with an aim of stabilizing the financial sector, increased the share of public debt in GDP in these countries by 2.5% of GDP, while their contingent liabilities rose by a minimum 20% of GDP (Attinasi, 2010).

in the general government debt ratio and the reduced demand of investors in most countries, particularly in the new members of the EU, resulted in a considerable rise in sovereign yield spreads (figure 3).

FIGURE 3

Spreads of ten-year government bonds over German Federal bonds (in %)



Source: ECB, Thomson Reuters.

Quite often auctions of government bonds were postponed, cancelled or were unsuccessful due to sharper competition on the European capital market and due to weakened demand (Blommestein, 2009). In order to adjust to the new market conditions and to make sure the financial needs of the state were met, the managers of public debt brought in a number of innovations, with respect to the debt instruments and the way in which they were issued, as well as with respect to investor communications and orientation to new groups of investors (table 1).

In the period of crisis, syndicated bond issues became increasingly popular for the sake of ensuring sales and achieving a greater volume of issues on the market. Nevertheless, auctions are the preferred issue technique for the issuance of short-term and long-term debt. Some countries introduced auction fees, but there were also different changes in the actual technique of issuing, such as more the frequent organization of auctions and the post-auction facility.

Table 1

Changes in public debt management as a result of the global crisis in selected EU members

State	Changes brought about by the global crisis
Austria	Greater emphasis on the improvement of investor relations.
Belgium	Successive long-term debt issues. Increased use of EMTN (Euro Medium Term Notes).
Denmark	Private placements on foreign markets in 2008. More frequent auctions instead of successive bond issues.
Finland	Diversification of sources of financing, improving investor relations and better coordination with primary dealers.
France	Increased flexibility in line with investor needs. There were several off-the-run bond auctions from mid-2007 on.
Greece	From 2009, auctions of T-bills became single-price auctions. For all kinds of bonds and for off-the-run bonds syndicated issues were used.
Ireland	Introduction of syndicated bond issues and use of auctions even for short-term bonds. The introduction of T-bills and USCP (US Commercial Program) for short-term borrowing in the US. In 2010 a national solidarity bond was introduced, aimed at encouraging long-term household savings, with maturity dates of up to 10 years.
Italy	More flexible issuance procedures. Increased amounts of new issues and the possibility for offering additional amounts of off-the-run bonds in volatile market conditions. Adjustment of the price-setting mechanism at auctions (the issuer has the discretionary right to determine the amount for allocation within the previously published range). At T-bill auctions investors made bids expressed in yields. Range of maturities for sale to primary dealers according to non-competitive bids is increased. Introduction of regular meetings with investors.
Hungary	More flexible calendar of auctions and amount of issues. Introduction of auction fees and non-competitive bids at auctions. More frequent issuances of off-the-run bonds and conducting of buy-back auctions. Planned introduction of exchange auctions. Introduction of regular meetings with institutional investors.
The Netherlands	Increased frequency of off-the-run bond auctions. More frequent issuance of commercial bills, T-bills and intensification of repo operations with government bonds.
Germany	Successive sale for long-term debt and more frequent auctions.
UK	Introduction of mini-tenders (2008) and syndicated issues (2009 and 2010) as more flexible distribution channels along with the usual auctions. Introduction of the possibility of subscribing to additional amounts of government bonds for investors whose tenders were accepted at the auction, the post-auction facility.

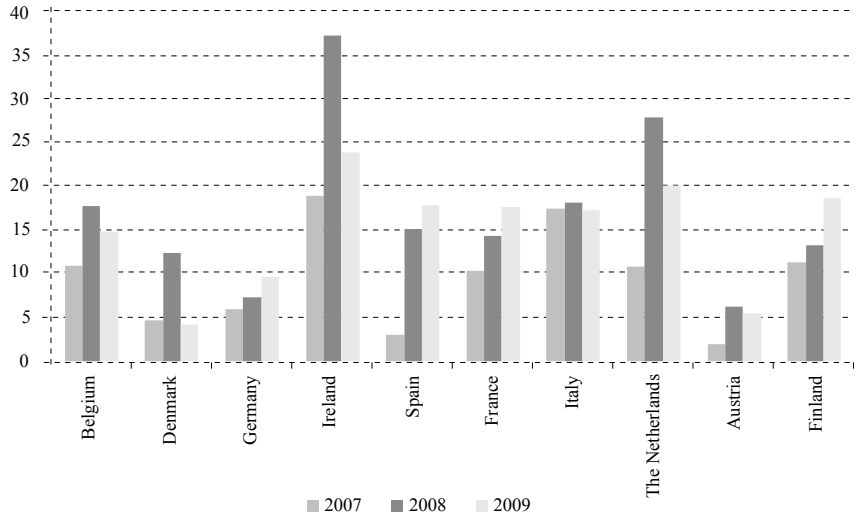
Source: Blommenstein, Vayvada and Ibarlucea (2010a) and the authors.

Aggravated conditions for the long-term debt issues and increased market volatility have been reflected in the maturity structure of debt. In the period from 2007 to 2009, there was a considerable rise in short-term debt, which mirrors the inve-

stor orientation towards short-term sovereign debt instruments, but leads to an increased roll-over risk. Among the changes in debt instruments, the most pronounced were the introduction of new short-term and medium-term instruments and the increased issuance of short-term bonds in accordance with investor preferences (figure 4).

FIGURE 4

Short-term debt as a proportion of total general government debt in selected EU countries from 2007 to 2009 (in %)



Source: Eurostat.

The crisis has also affected the primary dealers' efficiency in carrying out their tasks in the primary and secondary markets. Accordingly, governments decided to review the existing arrangements with respect to requirements for obtaining the primary dealer status as well as with respect to the obligations of the primary dealers. Some governments attempted to achieve better coordination with primary dealers, while others increased the scope of their obligations in order to enhance liquidity in the government bonds market.

In the much more difficult market circumstances in which member states competed with each other to attract investors, the DMOs were faced with demanding tasks. Flexibility in procedures for issuing government debt enabled debt managers more easily to adjust to the new borrowing conditions and make use of market opportunities once they occurred. Reduced predictability of government borrowing needs laid stress on the importance of developing collaboration not only with the market, i.e. domestic and foreign investors, but also with the central bank and other DMOs, so as to build up a transparent framework for public debt management by high quality communication (Blommestein et al., 2010b).

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Temporary impossibilities for bond placements, the shortfall in investor demand that led to the cancellation of auctions and competition in the government bond market particularly in the euro zone, led to the idea to create a common debt instrument to be issued by euro zone countries. Bonds of the European Financial Stability Facility (EFSF) bonds that were issued in order to gather financial resources to help Ireland can be seen as this kind of instrument. The idea to create a supranational financial instrument to be issued at the EMU level that would, thus, reduce speculation concerning an individual member state and make use of the liquidity of the single market represented an interesting consequence of the crisis, even if a dubious one in conditions of the relatively low fiscal capacity of the supranational EU level.

5 PUBLIC DEBT MANAGEMENT PRACTICE DURING THE CRISIS

This chapter will give a description of the way in which public debt was managed during or just after the crisis in three countries – the Netherlands, Hungary and Ireland. These three countries were selected because it can be considered that the debt management in these countries is fairly well developed and that it is conducted in line with good practice and the recommendations of the WB and IMF (World Bank, International Monetary Fund, 2001). In terms of the degrees of development outlined in chapter one above, management of public debt in Ireland is in the highest or fourth stage. In the Netherlands and Hungary, according to many of its features, debt management belongs to the highest stage too, but management of the totality of the government assets and liabilities is not employed. All three countries are members of the EU, with Ireland and the Netherlands also being euro area member states; while Hungary, a new member state, is still outside of the euro zone. The global economic crisis had different effects on the fiscal deficit and public debt development in these countries, as it did on the intensity of the challenges that public debt management institutions had to meet during the crisis (table 2).

All three countries faced a considerable rise in sovereign yield spreads very soon after the collapse of Lehman Brothers, i.e. in the early fall of 2008. Due to the important deceleration of international capital flows in early spring 2009, they saw another jump in their bond spreads. Thenceforward, spreads on Hungarian and Dutch bonds began to fall, while the spread on the Irish bonds, impacted by an exceptionally severe fiscal crisis, continued to grow. No recovery of the Irish government bond was anywhere in sight even at the end of the period under observation (figure 5). In addition, because of the deep fiscal crisis which was caused, among other things, by the state recapitalization of the financial system, in 2010 Ireland saw a negative rate of economic growth (Attinasi, 2010).

TABLE 2

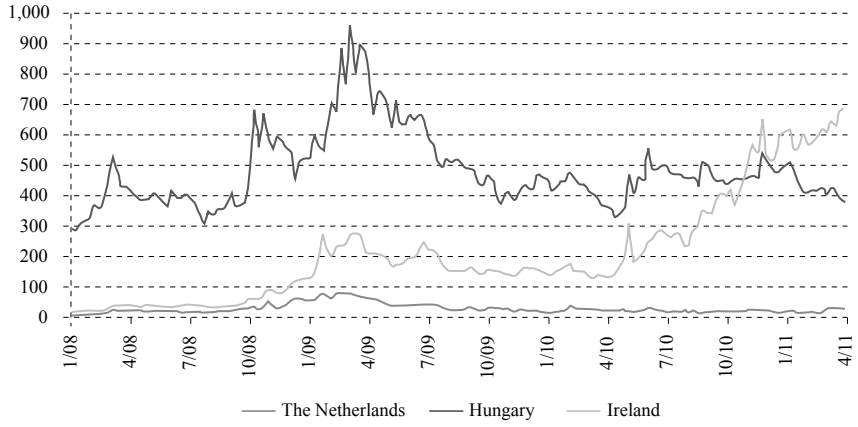
Fiscal indicators and government bond yields, 2008-2010

	The Netherlands	Ireland	Hungary
Fiscal indicators, in % of GDP, period average			
General government debt	61.1	68.0	77.0
Net general government borrowing	-3.5	-17.9	-4.1
Average yields on 10-year bond, %			
Minimum	2.5 (IX/10)	4.1 (III/08)	6.6 (III/10)
Maximum	4.7 (VII-VII/08)	8.3 (XII/10)	11.4 (III/09)
Average	3.6	5.1	8.2
Standard deviation	0.6	0.9	1.2
Spread on 10-year bond over German Federal bonds, %			
Minimum	1.1 (I-II, 0.8)	0.2 (I/08)	3.1 (I/08)
Maximum	0.7 (I-II/09)	5.5 (XII/10)	8.6 (III/09)
Average	0.3	1.7	4.9
Standard deviation	0.2	1.4	1.2

Source: Eurostat, ECB, Thomson Reuters, Dutch State Treasury Agency, Hungarian Statistics Office, authors' calculation.

FIGURE 5

Spreads of ten-year government bonds over German Federal bonds (in basis points)



Source: Eurostat, Bloomberg.

5.1 PUBLIC DEBT MANAGEMENT DURING THE CRISIS: THE CASE OF IRELAND

The National Treasury Management Agency (NTMA) was founded in 1990 when the government decided to change the organization of debt management. The rising amount and increasing complexity of public debt in the decade preceding its

foundation showed that within the framework of the Ministry of Finance it was impossible to employ and retain expert professional staff. Once the various organizational solutions for public debt management had been considered, it was finally decided to found a separate agency for debt management outside the public sector but still directly controlled by the Ministry. In addition to debt management, it expanded its functions to manage the whole of government finances and the associated risks (see: www.ntma.ie). Today the NTMA manages the National Pensions Reserve Fund (NPRF), the National Asset Management Agency (NTMA), the National Development Finance Agency (NDFA), and the State Claims Agency. In addition, some of the functions of the banking system once in the purview of the Ministry of Finance have been transferred to the Agency. The main goal of this Agency is to collect funding for the government at minimum costs and an acceptable exposure to risk, while attempting to outperform the benchmark portfolio and to meet a debt servicing cost forecasted in the budget.

Every year the NTMA issues its Annual Report and its Accounts, in which it presents a review of its activities in the preceding year. In these reports it describes sources of funding, debt management activity and the profile of the debt produced. The review of activities and debt instruments, the amount of the debt at the end of the year, data about primary dealers, a description of government finances and statistical data about economic trends in the previous year are available in the Ireland Information Memorandum which the Agency issues on a yearly basis. Along with these documents and an overview and the results of its operation in the past year, on its Internet site the NTMA provides regular information about activities related to public debt management and provides a great deal of information about debt instruments, announces the timetable of auctions to be held and publishes calendars for the issuance of T-bills and other relevant information.

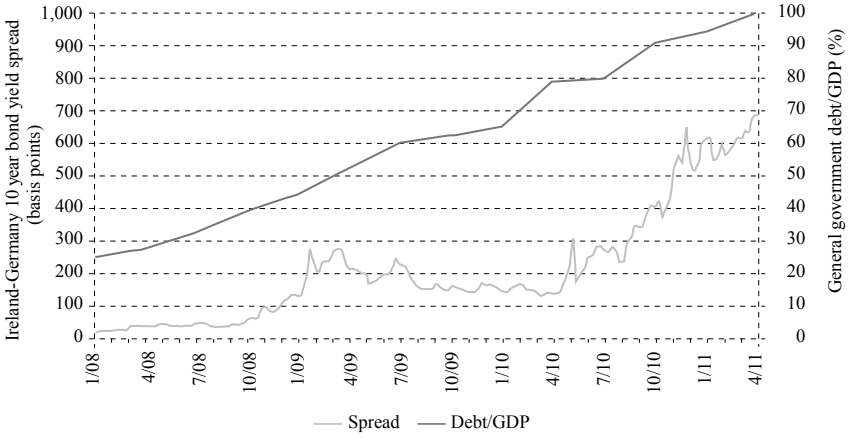
The real challenge for NTMA started in 2009, with the outburst of a severe economic crisis in Ireland. The country was faced with a rising and entirely unpredictable budgetary deficit that rose from 7.3% in 2008 to 14.4% of GDP in 2009, and then in 2010 to as much as 31.9%. The growth of the deficit had a substantial impact on the development of market yield on government bonds. The spreads on Irish 10-year government bonds over German government bonds expanded because of the banking crisis, the rise in the debt of general government, and the marked volatility on the capital market (figure 6).

The NTMA had to find a way of responding with sufficient flexibility to the increased government need for financing. It enlarged its manoeuvring space by adjusting the timing of the bond issue with the interests of investors. During 2009 the NTMA built up the strong cash position of the Ministry of Finance by an increased orientation to short-term borrowing. Diversification of short-term sources of financing was achieved by the issuance of standard T-bills and specific commercial bills, US Commercial Papers, meant for the collection of short-term liquidity surpluses on the American market in American dollars. The total unre-

deemed debt produced by the issuance of these short-term instruments came to 12.4 billion euro or 76.6% of the total unredeemed debt created by the issuance of short-term securities.

FIGURE 6

Ireland-Germany 10 year bond yield spread and the general government debt ratio



Source: Bloomberg, Eurostat.

By investing in various savings instruments during 2009, the household sector provided the state with a net inflow of 1.76 billion euro, which was the greatest amount raised since the foundation of the NTMA (NTMA, 2010b). In 2009 the government offered six savings instruments with maturities up to 5.5 years, and the unredeemed debt to households came to 9.3 billion euro at the end of the year. In 2010 NTMA introduced the National Solidarity Bond with redemption dates of up to 10 years in order to encourage individuals and families to save long term. Up to mid-2010, the private sector put 74 million euro into the NSB, thus, contributing to the financial bailout of the state; while the government, in return, offered the option of redemption on demand.

Four new benchmark series of government bonds were issued in syndicated issues, accounting for 68% of the total value of issued bonds in 2009. In 2010 Ireland had just one syndicated issuance of a new series of bonds amounting to 5 billion euro, which constituted only one quarter of the total value of bonds issued in that year. New series of bonds were issued with the objective of building up the government yield curve. In the middle of 2010, Ireland thus had 11 benchmark issues of bonds with maturities stretching to 2025 (NTMA, 2010a). From March to December 2009, NTMA once again held monthly auctions at which investors had the chance to choose between two issues of existing bonds, and it continued this practice up to September 2010. After the close of competitive auctions, non-

competitive auctions were held at which primary dealers could subscribe to post-auction facilities. Primary dealers had the option of subscribing to up to 15% of the value of the bonds issued at a competitive auction, in proportion to their shares in the subscribed bonds. An additional 15% was available for the three primary dealers who, according to the NTMA's assessment, were the most successful in maintaining the liquidity of the on-the-run government bonds (NTMA, 2010b).

Ireland presents a good example of a country that during the crisis managed to finance the government debt although it had exploded to unprecedented proportions. From this, it is clear that this success resulted from an innovative and flexible debt management, from the point of view of adjusting to market circumstances with respect to the category and residence of investors, as well as the type of securities, maturity dates, currencies, and manner of issuance.

5.2 MANAGEMENT OF PUBLIC DEBT DURING THE CRISIS: THE CASE OF THE NETHERLANDS

The Dutch State Treasury Agency (DSTA) has an exceptionally long tradition. It was founded in 1841 in order to assist the finance minister in running the government finances and servicing debts incurred during the time of Napoleon. It is an integral part of the government treasury and, hence, positioned institutionally within the Finance Ministry. Not only does it manage the debt, but it also has the responsibility of managing contingent liabilities; at the beginning of 2009 it was merged with the cash management department and took on the obligation to manage cash which includes the internal cash management of government and of a larger number of public and semi-public organizations and the strategic organization of the infrastructure of government payments and assessment of the budgetary cash position (see: www.dsta.nl).

At the end of each year, the DSTA publishes for the following year an extensive publication in which in addition to projections of macroeconomic and fiscal developments and developments on the financial market there is an assessment of the government borrowing requirements, the objectives and plan of government bonds issuance according to the types of bonds, a list of primary dealers and their obligations and an abundance of statistical information (Dutch State Treasury Agency, 2010). It also publishes quarterly publications and occasional papers, most often in connection with new issues of government bonds.

Of the three countries presented in this paper, the Netherlands got over the crisis and its effect on the possibility of borrowing and of managing debt with the fewest difficulties, although fiscal balance had been sensibly disturbed. The level of public debt rose from 45.3% of GDP at the end of 2007 to 64.4% at the end of 2010. The Netherlands applies an expenditure fiscal rule and, in spite of the crisis, managed to prevent excessive debt growth. Due to strict control over public finances, the amount of the debt at the end of 2009 and in 2010 was from two to three percentage points lower than had been planned earlier.

The price of Dutch government borrowing during the whole of the crisis did not rise significantly. It reached the maximum average coupon rate on a ten-year bond in mid-2008, when it came to 4.7%, and the spread, compared to the average coupon rate of the German ten-year bond, came to 0.7%. At the end of the 2010 the fiscal situation had completely stabilized, so the spread had fallen to below 0.2% over the ten-year German government bonds (table 2, figure 7).

During 2008 the Netherlands faced the highest rise in the government borrowing requirement in relation to the originally planned levels. Although in that year, according to ESA 95, the general government made a surplus of 0.6%, the cash deficit, which actually creates the need to borrow, came to as much as 14% of GDP.[2] Over 40% of the increase in the borrowing requirement resulted from the loan to the Fortis Bank Netherlands, and the rest was also in large part connected with the recapitalization and nationalization of this bank as well as the nationalization of ABN AMRO. The credit line was financed short term on the money market (DSTA, 2009). DSTA increased the frequency of auctions of T-bills from two to four times a month, and this frequency of auctions lasted from October 2008 to February 2009.

During 2009, although the borrowing requirement was again greater than planned, the DSTA attempted as much as possible not to use short-term but rather long-term capital market instruments. Due to the modest interest in subscribing to any bonds but the standard bonds, one more monthly auction was introduced; while in order to increase liquidity, the DSTA resorted to an additional issuance of larger amounts of three kinds of off-the-run bonds. Even during the period of the deepest crisis, the DSTA did not deviate from its principles of transparency, flexibility and continuity, which is reflected in the standard and long-term issues.

In 2010 there were no new surprises in the sense of increased need for financing as compared with the earlier plans. DSTA continued to accommodate the supply of government bonds to the market needs. In order to expand its investor base, DSTA added to its usual 3, 5 and 10-year bonds a bond with 30-year maturity. In 2011 plans to issue a bond denominated in the US dollars (DSTA, 2010).

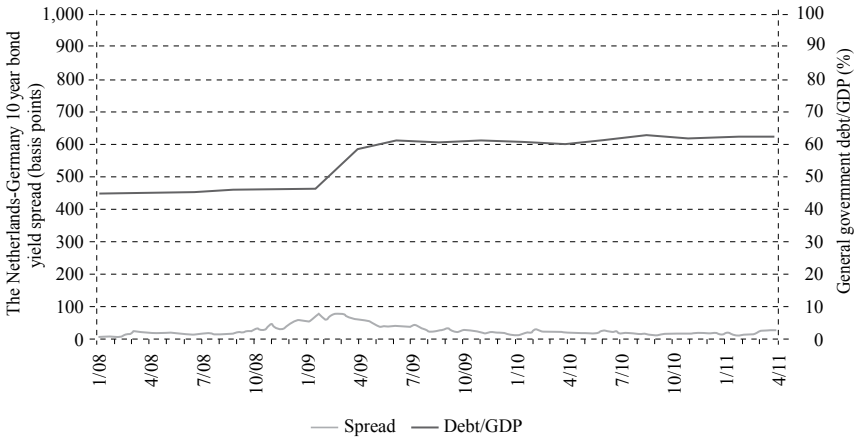
During the crisis, fiscal imbalance in the Netherlands was milder than in Ireland, but in 2008 and early 2009 the need for financing was also very high. In the Netherlands too, public debt management coped very well. On the one hand, attention was paid so that the determined debt management principles were not abandoned; while at the same time, market circumstances were taken into consideration and the types of issues were adjusted to them, as were the frequency and

[2] The difference between cash deficit and deficit according to ESA 95 is caused by financial transactions (mostly revenue from privatization and expenditures for extended student loans) and cash flows that occur in a year that do not coincide with the year of the transaction (DSTA, 2009). Cash expenditures related to the nationalization of banks occurred at the end of 2008 and were included in the measure of the deficit according to ESA 95 in 2009.

manner of issuing bonds. Here, public debt management helped in softening the impact of the crisis on the stability of public finances.

Figure 7

The Netherlands-Germany 10 year bond yield spread and the general government debt ratio



Source: Bloomberg, Eurostat.

5.3 PUBLIC DEBT MANAGEMENT DURING THE CRISIS: THE CASE OF HUNGARY

The Hungarian public debt management agency, called ÁKK, was founded in 1995 as an organizational unit of the Ministry of Finance. In the years to come it was to acquire increasing independence. It became an independent company in the portfolio of the Minister of Finance in 2001, and in 2010 in the portfolio of the Minister of the National Economy. The board of ÁKK is responsible for making decisions about public debt management, and in some cases the Minister of Finance as well. The functions of ÁKK include debt management and liquidity management of the single treasury account and keeping records about the public debt.

The basic objective of ÁKK is to provide the central government with financing at the lowest possible costs over the long run, taking into account risks. It is particularly devoted to its assignment of providing prompt and easily accessible information about government borrowing and the public debt market. It publishes a number of publications such as annual, quarterly and monthly reports about the management of the public debt, annual plans and a calendar of bond issues. Statistical data about the amount of the public debt, auction results, types of issues and developments on the secondary market are regularly updated and published on its Internet site (www.ákk.hu).

Hungary went through a fiscal crisis before the beginning of the global economic crisis. In the period from 2002 to 2007, its fiscal deficits came on average to 7.5%

and the level of the debt rose in the same period by 11 percentage points in terms of GDP. When the economic crisis broke out, Hungary experienced a severe capital flight, domestic bonds were sold by foreign investors, and the activity on the domestic debt market almost disappeared. In this period only the T-bills market remained active and households played a crucial role in the government bonds market (Government Debt Management Agency, 2010a).

For this reason in November 2008, Hungary signed a 17-month stand-by arrangement with the IMF, later extended to October 2010. While the arrangement was on-going, and in spite of the financial crisis, fiscal consolidation was carried out and the fiscal deficit was reduced to 4.1% of GDP on average from 2008 to 2010. Due to the rapid decline in business activity, the public debt ratio kept growing and at the end of 2010 exceeded 80% of GDP. In 2010 the rate of growth in the debt/GDP ratio slowed from the previous year due to a mild recovery in economic activity.

In mid-2009 the government bonds market revived again and Hungary, in contrast to its original plans, managed to issue on the market a 10-year bond of 1 billion euro with a yield of 6.77%. At the same time it increased its financing based on short-term instruments (T-bills and T-bonds). In order to meet the needs of investors on the domestic market, ÁKK ceased to determine the types of bonds that were to be the object of regular announced auctions in advance. Instead, they agreed on the type of bonds with the primary dealers and advertised the agreement a week before the auctions. Successful bidders were able to engage in non-competitive purchasing after the auctions had been conducted. In order to encourage investment in government bonds on the retail market, citizens were offered inflation-linked bonds.

In its management of the public debt, ÁKK is guided by benchmark values for the currency structure of the debt, the proportion of the debt in foreign currency, the ratio of domestic and foreign debt, the fixed/flexible interest rate ratio, and the maturity and the amount of funds in the single treasury account. Most of the public debt is in marketable securities, which at the end of 2009 consisted of 30 bond issues denominated in Hungarian forints, 22 issues denominated in foreign currency (over 99% in euro) and 18 issues of T-bills denominated in forints (Government Debt Management Agency, 2010a).

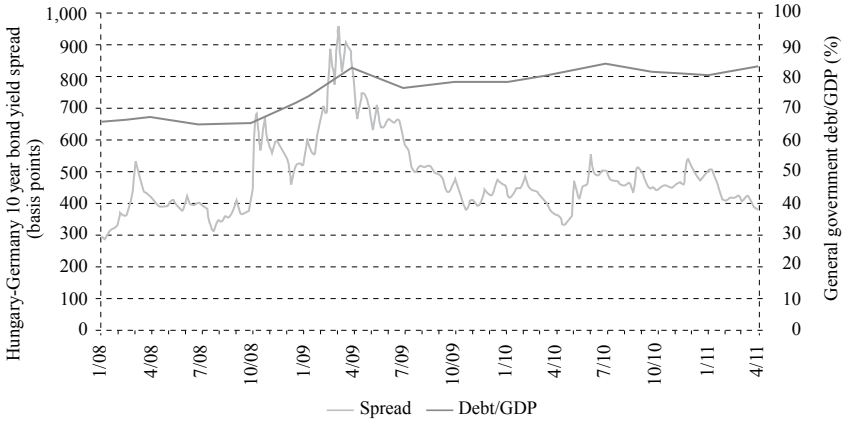
Management of the public debt in Hungary adheres to the principles of simplicity, transparency and liquidity. Simplicity and transparency are achieved with a restricted number of simple (plain vanilla) issues and the issuance of bonds in line with an issue calendar defined in advance. In order to boost the secondary market liquidity, in 2008 ÁKK carried out buy-back auctions in the amount of approximately 2 billion euro, and in 2009 stepped up the issuance of additional off-the-run bonds.

After the 2009 issue, Hungary issued three more bond series on the international market, one in 2010 and two in 2011. Apart from the most frequent 10-year bonds, it issued one series of bonds with a maturity of 30 years denominated in American dollars. This series bears a coupon interest rate of 7.625%. The 2011 plan does not include the specificities of the bond issues on the international market; rather, their characteristics and the timing of issuance is defined on the basis of the market circumstances (Government Debt Management Agency, 2010b).

The example of Hungary shows that not even a sound management of public debt can ensure financing when investors perceive fiscal policy to be unsustainable. In the situation of the fiscal crisis, Hungary had to rely on the assistance of international financial institutions. Still, due to flexible debt management, Hungary was able to restore investors' confidence soon after the crisis and ensured the necessary level of financing on the government debt market, although at high price.

FIGURE 8

Hungary-Germany 10 year bond yield spread and the general government debt ratio



Sources: Bloomberg, Eurostat.

6 MANAGEMENT OF THE PUBLIC DEBT IN CROATIA BEFORE AND DURING THE CRISIS

The objectives of public debt management in Croatia are defined in the Budget Law (OG 87/2008) and by the guidelines of economic and fiscal policy that are drawn up every year for the year to come. In accordance with international good practice, these documents state that public debt has to be managed in such a way as to ensure that the government's financing needs are met at the lowest medium- and long-term costs while assuming a prudent degree of risk. Apart from this general objective of debt management, in these documents not many more details about debt management plans for the period to come are revealed. Up to the moment of the onset of the economic crisis, only once was a document published in

which a strategy for managing the public debt was determined (*Annual Report and Public Debt Management Guidelines*, Ministry of Finance, 2007); and a new document of this kind was published only at the beginning of 2011, describing public debt management plans in the period from 2011 to 2013 (Ministry of Finance, 2011).

The institutional framework for public debt management has not changed much since its establishment, and debt management is still left in the hands of the Public Debt Management Directorate of the Government Treasury which, accordingly, is not independent of the Ministry of Finance. This institutional framework is reflected in the way in which information about details of public debt management is released. Scant information about the structure and amount of the debt is published in the monthly and annual publications of the Ministry of Finance (Monthly Statistical Reviews, Annual Reviews of the Ministry). Detailed information about the structure of the debt, past activities of debt management, plans or calendars of auctions are not available, which essentially diminishes the transparency and predictability of debt management. Far less can be found about public debt management in Croatia from publicly available sources than in many countries of the EU. According to the scope and characteristics of public debt management, it can be deemed that Croatia is in transition from the first to the second phase, with respect to development.

During the economic crisis, government financing became much more difficult and risk aversion of potential investors led to a strong rise in the price of borrowing. Hence, in Croatia too, as in many other countries, the financial needs of government had to be met in line with what was objectively possible, and not according to the objectives and plan set in advance.

The period of the economic crisis for Croatia was also a period of excessive need for government financing, not only because of the disturbed fiscal balance and the rise in net government borrowing. The additional causes of increased need for financing were that a large part of the existing debt was due for repayment, and there was a need to finance the payment of the so-called pensioners' debt which caused the debt increment to exceed the amounts of the annual deficit. The general government borrowing requirement was, for these reasons, very high in 2009 and 2010 when it rose to 8.4 and 11% of GDP respectively (see table 3). In the period from 2007 to 2010, which will be considered here in order to gain a good understanding of public debt management during the economic crisis, one can observe not only a constant rise in the public debt level, but also considerable change in its structure.

Unlike the period before and at the beginning of the crisis, when the explicit objective of public debt management was oriented towards borrowing on the domestic market, during the crisis this objective was abandoned and after November 2009 the government again started borrowing more vigorously on the foreign

markets. Hence, the share of central government foreign debt fell from 34% at the beginning of 2008 to 27% in October 2009 and then rose, and at the end of 2010 came to 32%. Although potential liabilities are not an object of particular consideration in this paper, it should be mentioned that from the beginning of 2008 to the end of 2010 the total consolidated government guarantees issued rose by 20 billion kuna, that is, almost 50% (figure 9).

Table 3

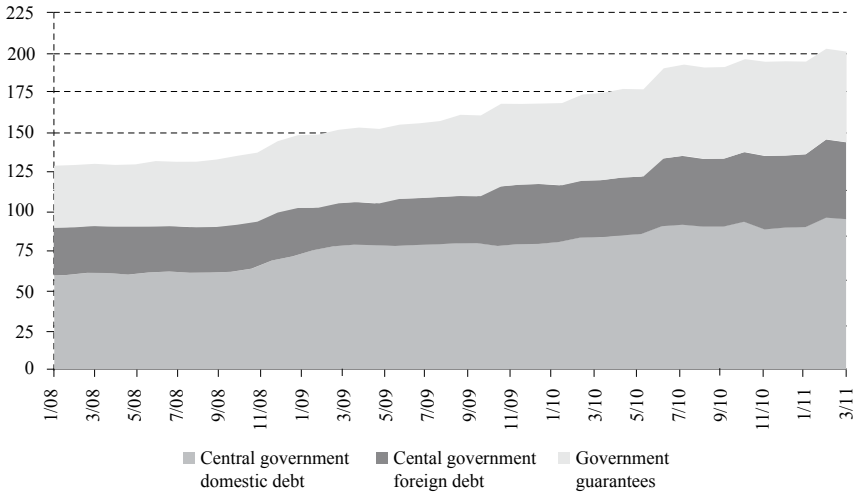
Deficit, debt and borrowing requirements of consolidated general government (billion kuna)

	2007	2008	2009	2010
Net borrowing of consolidated general government	4.4	3.0	10.4	14.3
Net interest costs of general government	5.6	5.0	5.6	6.3
General government borrowing requirement	11.6	13.4	28.1	36.9
Change in the debt from previous year	2.0	-4.4	17.7	21.3
Total general government debt	104.5	100.1	117.8	139.2
In % of GDP				
Net borrowing of general government	1.4	0.9	3.1	4.3
Net interest costs of general government	1.8	1.5	1.7	1.9
General government borrowing requirement	3.7	3.9	8.4	11.0
Change in the debt from previous year	0.6	-1.3	5.3	6.4
Total general government debt	33.2	29.3	35.4	41.6

Source: Ministry of Finance of the Republic of Croatia, CBS.

Figure 9

Consolidated central government debt (billion kuna)

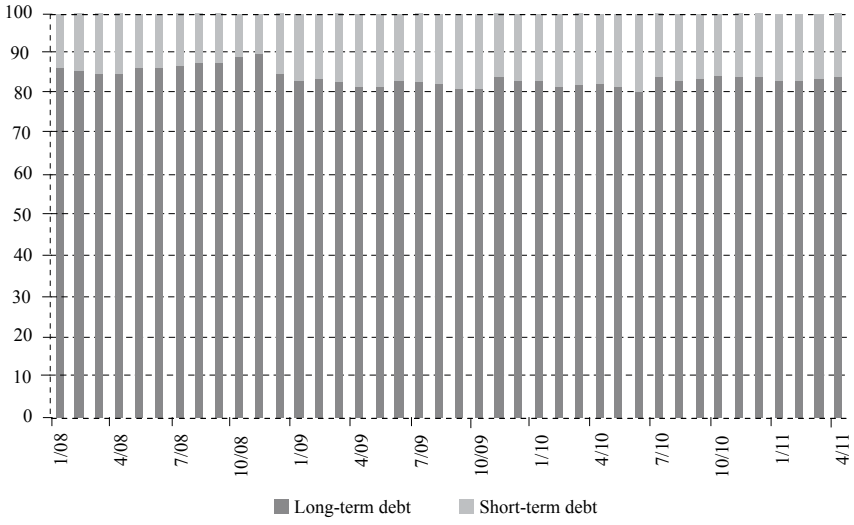


Source: Croatian National Bank.

During the crisis, tax revenues increasingly diverged from the usual and planned amount, and the need for financial resources rose in a way that could not have been predicted when the budget was prepared and the way of deficit financing was determined. Because of the unexpectedly poor collection of tax revenues, and because of the impossibility of, or high costs involved in, long-term financing, from the end of 2008 the need for financing was increasingly met by short-term borrowing. At the beginning of 2008, the proportion of short-term debt in total central government debt came to about 13%, in some months in 2009 and 2010 reaching almost 20% (figure 10). As a result of this, the roll-over risk to which debt management was exposed rose considerably.

Figure 10

Maturity structure of consolidated central government debt (in %)



Source: Croatian National Bank, Ministry of Finance of the Republic of Croatia.

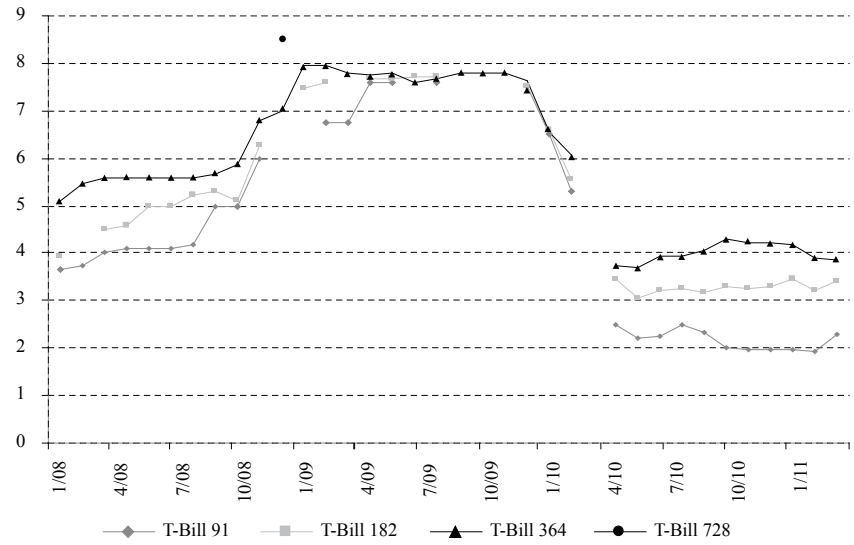
This way of financing was also connected with rising market risk due to the fact that interest rates on T-bills rose at the first signs of the outbreak of the crisis and culminated in a period when the inflow of capital from abroad dropped off markedly, that is, from the end of 2008 to the end of 2009 (figure 11). After international government bonds had been issued in the middle and at the end of 2009 and after the liquidity of the banking system had increased, due to measures of monetary policy, interest rates on T-bills fell to levels lower than those from the beginning of 2008.

Auctions of T-bills were held more frequently than had been common before – in some months up to five times. There were particularly frequent auctions of T-bills with maturities of 364 days. In November 2008, T-bills with a maturity of 728 days were issued for the first time, but after that no further issues of T-bills with

that maturity were issued. From March 2009 on, there were regular auctions of 364 days T-bills denominated in euro.

Figure 11

Average monthly interest rate on T-bills

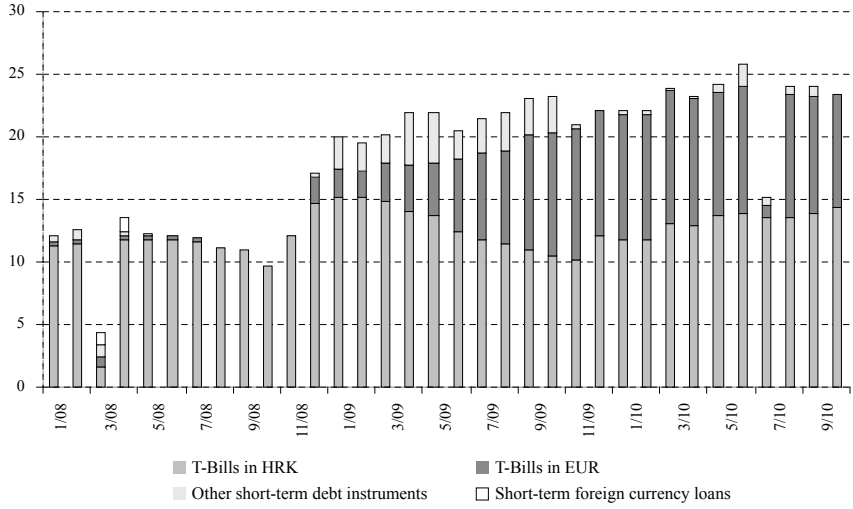


Source: Croatian National Bank.

It can be observed that the government, with this type of borrowing, assumed an ever greater currency risk, since up to the end of 2008 it issued even more euro T-bills. In some months of 2009, the share of euro-denominated T-bills reached almost 50%, and their share in total outstanding T-bills remained above 40% even at the end of 2010 (figure 12). In the period in which the difficulties in meeting the government borrowing needs were most pronounced, from January to October 2009, the government occasionally resorted to the non-market financing by short-term loans from domestic banks.

Financing with non-marketable debt instruments increased during the crisis. Apart from short-term financing from domestic banks, at the beginning of 2008 the government started to be financed with syndicated foreign currency loans – the amount of which had increased from the initial 500 million to 1.6 billion euro by the end of 2010. As a consequence, the share of non-marketable debt of the central government increased from 20% at the beginning of 2008 to 34% in the first half of 2009. After that, the share of marketable debt began to recover (figure 13). It is evident that in the period of the most severe crisis the government had given up on some of the pre-crisis objectives stated in the Annual Report and Public Debt Management Guidelines – that is, widening the investor base and the development of a domestic market for debt securities by issuing kuna bonds with varying maturities and creating a yield curve (Ministry of Finance, 2006).

FIGURE 12
Short-term central government debt (billion kuna)



Source: Ministry of Finance of the Republic of Croatia.

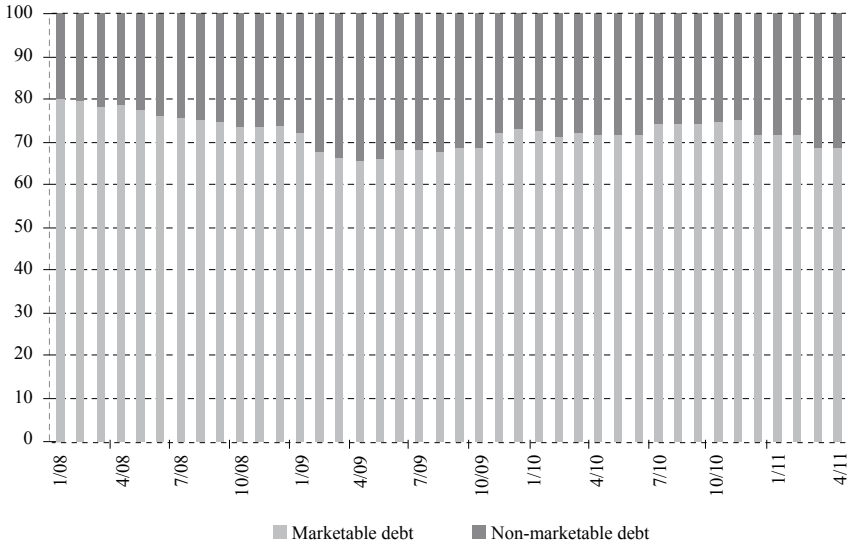
In the period from early 2008 until the end of March 2011, the only long-term debt instruments the government issued were three domestic and four international bonds. On the foreign bond market, it issued bonds for the first time in June 2009, and on the domestic market only in June 2010. Of the four foreign issues, one refers to an issue in euro and three to bonds issued on the American market in American dollars. Only the last foreign issuance of dollar-denominated bonds of March 2011 was hedged against currency risk. One of the three domestic issuances of government bonds refers also to a foreign currency, i.e. a euro-denominated bond. Accordingly, the currency risk also figures largely in financing through government bonds.

Based on the moment in which the government decided to make a bond placement on the foreign and then on the domestic market, it can be concluded that the government postponed the issuance of bonds until the market risk premium associated with Croatian bonds expressed by Credit Default Swaps (CDS) started to stabilize (figure 14). This notwithstanding, all seven government bonds have high coupon interest rates ranging from 6.25 to 6.75%, there being no noticeable difference between the level of interest rates on domestic and foreign issues. Since Croatia issues government bonds relatively rarely, and since they are of diverse characteristics, while the Public Debt Management Directorate gives potential investors very little information about future issuances nor has it instituted a system of primary dealers, it can be argued that the interest rates reflect an assessment of the credibility of public finance management as well as the liquidity risk associated with the Croatian government debt.[3]

[3] For determinants of government bond spreads, see for example Attinasi, Checherita and Nikel (2009) and Favero, Missale and Piga (2000).

FIGURE 13

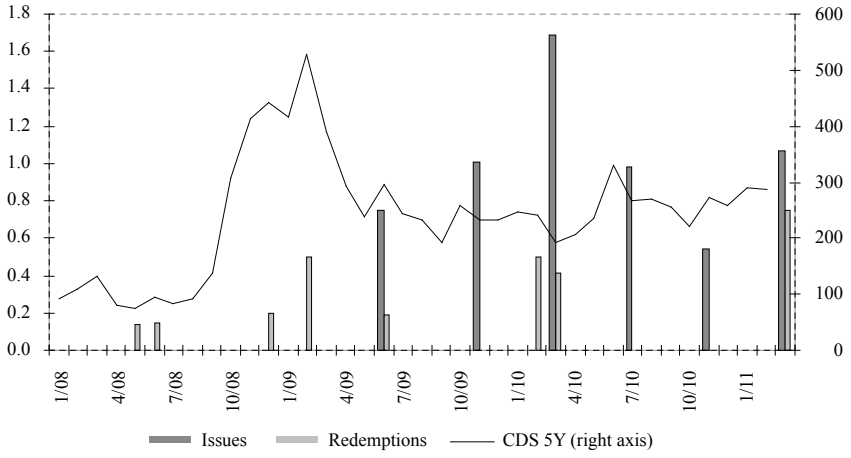
Consolidated central government debt in terms of its marketability (in %)



Source: Croatian National Bank, Ministry of Finance of the Republic of Croatia.

FIGURE 14

Issuances and repayments of government bonds (in billion euro) and price of CDS on a 5 year Croatian government bond (in basis points)



Source: Ministry of Finance, Bloomberg.

7 CONCLUSION AND RECOMMENDATIONS

During the global financial and economic crisis, it was once again evident that public debt management cannot replace prudent fiscal policy. Many EU countries

even before the onset of the crisis had considerable deficits and general government debts and attempted to alleviate the crisis with fiscal stimulus measures, which additionally distorted fiscal imbalances. Nationalization and recapitalization of parts of the financial sector and activation of contingent liabilities led to, in some countries, an exceptionally large rise in the public debt in many countries. A strongly enlarged need for financing in the period of falling demand on the government debt market created, even in countries with developed debt management, large problems.

One of the ways of adjusting to changed market conditions was enhanced flexibility and innovativeness in the policy and techniques for managing public debt, as is shown by the examples of Ireland, Hungary and the Netherlands. Croatia was not faced with the direct risk of sovereign debt crisis, but it did come upon obvious problems in meeting the government borrowing needs. Unlike other European countries that attempted to diversify the instruments of short-term financing, Croatia resorted to non-market financing to a larger extent. It did not develop long-term instruments of financing, nor did it focus on new groups of investors. While other countries involved households and other small non-institutional investors in the financing of the government, management of the public debt in Croatia did not develop in this direction. Nor was there any improvement in the practices of debt issuance and trading. As before, bonds were sold only through syndicated issues and no system of primary dealers to maintain liquidity on the secondary market for government debt was introduced. A large part of the sovereign debt is denominated in a foreign currency.

From all this, it can be concluded that public debt management in Croatia is coupled with considerable risks – interest, currency and liquidity risks. In addition, because of the nature of the relevant institutions, it is not independent of fiscal policy and the availability of information about public debt management is exceptionally poor. The system for managing public debt has not improved at all since 2004 when the World Bank and the IMF drew up and published a report about the state of public debt management (WB, IMF 2005).

Although in spite of these weaknesses, government financing was not endangered during the crisis, it can be assumed that with greater flexibility in public debt management, government financing requirements would be met with higher certainty and at lower costs. The existing method of managing public debt in Croatia ensures only one part of its basic objective – that is, meeting government borrowing needs. However, it does not guarantee the achievement of minimal costs with an acceptable risk level and cannot provide any appropriate contribution to fiscal policy in the sense of reducing interest expenditure. Public debt management should be given greater attention and be developed in line with good practice in EU countries.

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