External debt statistics of the euro area

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1. Introduction

Based on newly compiled data recently released by the European Central Bank (ECB), this paper reviews the latest developments in the level and composition of the external debt statistics of the euro area and compares the situation with that of other economies. The gross external debt positions of major advanced economies have increased considerably since 2003. In many countries, this increase was partly driven by higher financing needs of governments in response to the financial crisis that started in the summer of 2007. In addition, heightened global risk aversion on the part of investors contributed to higher external debt levels, through replacing equity with debt.

This paper proposes the combined use of the *net* external debt and net interest payments to identify risks of financial distress stemming from external indebtedness.

The first section of the paper describes the gross external debt of the euro area and its member countries; this is followed by a discussion of the gross external debt of general government, the net external debt and net interest payments. After this there is a section on external debt statistics of countries outside the euro area. Finally, there is a section on external debt indicators and debt crisis.

2. External debt statistics of the euro area

2.1 Gross external debt

The gross external debt of an economy represents the outstanding amount of its actual (i.e., non-contingent) current liabilities that require payment of principal and/or interest to non-residents at some point in the future. These liabilities include debt securities, such as bonds, notes and money market instruments, as well as loans, deposits, currency, trade credits and advances due to non-residents. The debt may be issued with different maturity profiles by the general government, banks, and other sectors.

The Directorate General Statistics (DG/S) of the ECB compiles the euro area balance of payments and international investment position statistics, in close cooperation with the national central banks and statistical institutes of the euro area countries. As of May 2010, the ECB started to publish the gross external debt of the euro area.³

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Directorate General Statistics, European Central Bank. The views expressed in this paper are those of the author and do not necessarily reflect the views of the European Central Bank. I would like to thank Melina Vasardani, Francis Gross, Rodrigo Oliveira-Soares, Aurel Schubert, and IFC Conference participants for their useful comments and suggestions. Please address correspondence to jorge.diz_dias@ecb.europa.eu.

See ECB, "Euro area balance of payments in February 2010 and international investment position at the end of 2009", press release of 20 April 2010, and Table 7.3.8 in the May 2010 issue of the ECB's Monthly Bulletin.

See Table 7.3.8 of the <u>ECB's Monthly Bulletin</u> and the <u>ECB Statistical Data Warehouse (Home>Economic Concepts>External transactions and positions>International investment position>Gross external debt).</u>

The compilation of the gross external debt of the euro area is based on the national totals of each euro area country. However, debt positions between euro area residents are netted out to ensure that only positions vis-à-vis residents outside the euro area are considered. Typically, the intra-euro area debt positions account for about one-third of the total (unconsolidated) gross external debt of all euro area countries. As a result, the gross external debt-to-GDP ratios of individual euro area countries tend to be higher than the aggregate euro area ratio.

Table 1

Gross external debt of the euro area and its member countries
(percentages of GDP)

	2003	2004	2005	2006	2007	2008	2009	2003– 2006 change	2006– 2009 change	2003- 2009 change
Slovak Republic	54.3	56.2	56.4	57.5	58.9	55.1	73.1	3.3	15.6	18.8
Slovenia	57.4	61.9	71.3	77.5	100.6	105.7	115.0	20.1	37.5	57.5
Italy	96.2	95.3	94.1	113.0	120.4	103.5	124.2	16.9	11.2	28.0
Germany	136.0	125.4	135.2	138.1	143.1	148.5	147.8	2.1	9.7	11.9
Spain	110.7	105.9	123.8	136.6	145.2	149.7	164.3	25.9	27.7	53.6
Finland	112.6	120.3	117.9	121.0	119.2	132.5	165.1	8.4	44.1	52.5
Greece	105.5	109.6	106.8	123.2	145.2	141.1	172.0	17.6	48.8	66.4
France	127.5	138.4	149.9	161.1	173.7	182.6	191.2	33.6	30.1	63.7
Austria	145.2	156.5	179.8	194.6	205.0	213.1	207.4	49.4	12.8	62.2
Portugal	172.6	173.3	182.4	191.6	202.2	209.2	232.3	19.0	40.7	59.7
Belgium	250.3	267.6	261.2	259.2	289.9	270.3	243.5	8.8	-15.7	-6.9
Netherlands	260.6	273.6	261.0	309.2	335.4	280.7	312.3	48.7	3.1	51.8
Cyprus				279.5	325.5	394.8	486.9		207.4	
Malta			368.0	413.0	504.5	561.9	512.1		99.1	
Ireland	464.6	567.6	661.7	794.4	871.8	931.6	985.3	329.8	190.9	520.7
Luxembourg						3,674.6	4,326.0			
Euro area	75.1	80.7	93.4	101.5	110.8	118.2	116.6	26.4	15.1	41.5

Sources (as at June 2010): ECB, IMF and author's calculations.

The gross external debt of the euro area has increased noticeably over the past decade. At the end of 2009, it amounted to 116.6% of GDP, slightly down from the maximum value of 118.2% in 2008 (see Table 1). Expressed in terms of GDP, the gross external debt has risen by as much as 41.5 percentage points since the end of 2003, clearly outpacing the growth of nominal GDP in the euro area.

The increase in the euro area's gross external debt was due to considerably higher national debt levels in the majority of the euro area countries. Only three of the 16 countries recorded increases lower than 20 percentage points between 2003 and 2009. By the end of 2009, half of the euro area member countries had a gross external debt position that was more than double their GDP.

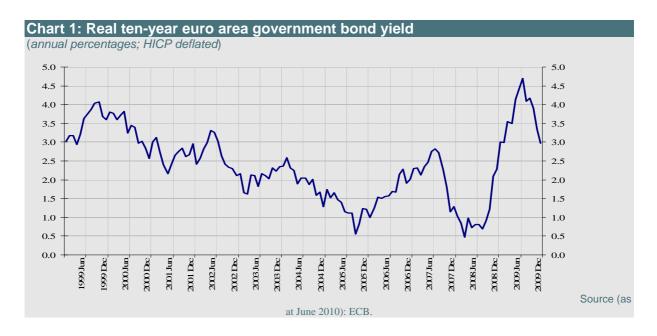
Stable macroeconomic conditions, notably between 2003 and 2006, and lower long-term real interest rates, partly accounted for the increase in the gross external debt in the euro area

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Changes in the national country totals can be related to intra-euro area counterparts or extra-euro area counterparts. When national totals increase due to only intra-euro area counterparts, the euro area aggregates do not change.

(see Chart 1). Indeed, evidence shows that, over the short term, favourable real interest rates provide an incentive to increase debt. However, excessive leverage may create difficulties with interest payments when real interest rates rise and/or income generation slows down, leading to the insolvency of some economic agents.



Turning to the composition of the euro area's gross external debt by type of instrument, debt securities with an original maturity of over one year and intra-group lending (main intercompany loans) accounted for almost half of the total gross external debt at the end of 2009. Moreover, about two-thirds of the long-term euro area debt securities held by non-residents are denominated in euro. This is partly the result of strong demand for euro-denominated securities from other countries, as well as for international reserve purposes. The denomination in euro dampens the currency risk associated with the issue of debt by euro area residents (see ECB, 2009).

2.2 Gross external debt of the general government

Part of the rise in gross external debt in the euro area countries in the period from 2006 to 2009 reflects the increased borrowing undertaken by many governments in response to the crisis. Expressed in terms of GDP over this period, the gross external debt of the general government sector in the euro area as a whole rose by 8.3 percentage points, reaching about 21.4% of GDP at the end of 2009 (see Table 2). The increase in gross debt positions of the general government during the crisis may also have reflected portfolio re-allocation on the part of investors from equities to debt, against the backdrop of higher global risk aversion at the time (see Chart 2).

The gross external debt of the general government of ten euro area countries reached levels higher than 30% of GDP at the end of 2009. For example, since 2004, the value of the gross external debt of the general government sector in Greece has been larger than the reference level of 60% for total government debt, i.e., including both domestic and external debt positions. Membership in the Economic and Monetary Union provided Greece with a cushion for it to withstand several years of very elevated general-government external debt levels. Membership supported investors' confidence, risk assessment and willingness to lend in cases of such exceptionally high external government debt.

Table 2

Gross external debt of the general government sector in the euro area and its member countries

(percentages of GDP)

	2003	2004	2005	2006	2007	2008	2009	2003– 2006 change	2006- 2009 change	2003- 2009 change
Luxembourg	0.0	0.0	0.1	0.1	0.1	2.4	2.8	0.1	2.6	2.7
Malta	4.9	4.5	3.8	3.0	2.6	5.2	4.1	-1.9	1.1	-0.7
Slovak Republic	12.5	16.0	11.4	13.4	12.3	11.2	12.8	0.8	-0.6	0.2
Slovenia	9.4	8.4	7.4	7.7	8.8	10.0	18.8	-1.8	11.2	9.4
Cyprus		18.9	16.7	13.9	13.4	13.7	23.5		9.6	
Spain	22.5	24.0	23.5	21.9	18.8	20.9	28.4	-0.6	6.5	5.9
Germany	24.7	27.3	31.0	30.3	30.5	33.9	37.4	5.6	7.0	12.7
Finland	36.5	39.2	36.1	33.3	29.6	28.4	38.5	-3.2	5.1	1.9
Netherlands	31.2	33.6	34.9	32.4	29.6	42.7	45.9	1.2	13.5	14.7
Ireland	16.9	17.2	16.6	15.4	15.9	31.8	46.0	-1.5	30.5	29.0
France	31.4	36.7	36.6	35.0	33.9	40.2	48.2	3.6	13.2	16.9
Italy	43.2	43.1	49.0	43.0	41.0	45.2	54.5	-0.1	11.5	11.3
Austria	47.9	49.9	52.3	50.8	49.8	53.6	55.3	2.9	4.4	7.4
Belgium	46.1	44.8	46.4	44.2	51.9	56.6	58.6	-1.9	14.4	12.4
Portugal	40.2	43.4	49.5	48.5	48.0	53.0	59.6	8.3	11.1	19.4
Greece	58.3	67.1	74.3	73.5	78.2	80.3	91.4	15.2	18.0	33.1
Euro area			14.1	13.0	13.8	18.3	21.4		8.3	

Sources (as at 25 June 2010): ECB, IMF and author's calculations.



The fiscal consolidation process that is moving forward in the euro area is expected to reduce the gross external debt of the general government in coming years, which will also alleviate the cost of (risk premium for) financing private sector debt. However, additional fiscal consolidation efforts may be needed to successfully reduce the external debt-to-GDP ratio, as GDP growth may be relatively subdued in the years to come.

The share of the general government sector's external debt in the total gross external debt of the euro area reached 18.4% at the end of 2009, after a share of 12.8% at the end of 2006. The bulk of the gross external debt of the euro area, about 47.2% of the total at the end of

2009, was issued by monetary financial institutions in the euro area (banks, including the Eurosystem).

2.3 Net external debt

It is important to note that gross external debt per se only captures one side of an economy's external exposure to international debt markets. In effect, the *net* external debt position, obtained by subtracting the gross external debt assets from the liabilities, provides additional insights into the sustainability of external debt.⁵

The recently massive use of certain types of financial contracts, such as repurchase agreements, securities lending, collateralised loans and securitisation issues, tend to drive up gross external debt figures. This is because these types of financial contracts simultaneously create new debt positions in both assets and liabilities, which can only be offset by using the net external debt position as an indicator. Thus the net external debt provides a better gauge of a country's risk exposure to international financial debt markets.

Table 3

Net external debt of the euro area and its member countries

(percentages of GDP)

	2003	2004	2005	2006	2007	2008	2009	2003- 2006 change	2006- 2009 change	2003- 2009 change
Luxembourg						-2,616.9	-3,087.4			
Ireland	-285.3	-252.4	-199.9	-213.5	-227.6	-166.0	-231.1	71.8	-17.6	54.2
Malta			-81.5	-84.2	-84.3	-78.7	-94.2		-10.0	
Cyprus				-37.6	-13.4	-37.3	-48.1		-10.4	
Germany	18.4	12.1	8.9	-0.2	-4.3	-1.7	-8.6	-18.6	-8.4	-27.0
Netherlands	22.5	23.2	17.6	15.5	9.4	14.8	16.6	-6.9	1.1	-5.9
France Slovak			6.4	8.4	10.4	20.9	20.1		11.6	
Republic	-5.6	-1.0	2.4	10.0	11.0	15.9	22.6	15.6	12.6	28.2
Finland	-7.1	-7.1	-4.9	-3.8	-3.1	8.6	24.4	3.3	28.2	31.5
Austria	24.0	22.7	22.1	19.4	22.7	28.0	26.3	-4.6	6.8	2.3
Belgium				-15.5	-12.3	-10.6	29.6		45.0	
Slovenia	-5.2	-1.3	26.9	28.1	18.3	26.5	30.1	33.3	2.0	35.3
Italy	32.5	30.2	27.4	34.2	39.4	33.3		1.7		
Greece	55.9	58.3	54.8	64.8	72.7	69.2	84.6	8.9	19.8	28.7
Portugal	31.8	34.0	49.5	56.1	65.1	75.9	85.1	24.2	29.0	53.2
Spain	34.7	35.0	44.5	57.8	68.1	74.9	87.2	23.1	29.4	52.5
Euro area	8.1	8.2	7.7	6.4	6.6	14.6	12.6	-1.7	6.1	4.5

Sources (as at 25 June 2010): ECB, IMF and author's calculations.

The net external debt position of the euro area, about 12.6% of GDP at the end of 2009, is significantly lower than its gross external debt position (see Table 3). The net external debt increased noticeably as a consequence of the financial crisis in 2008, reaching an all-time

The overall net external financial position of a country, which includes, in addition to the net external debt, the net positions in equity and in financial derivatives, is provided by the net international investment position.

high of 14.6% of GDP. Spain, Portugal and Greece had a net external debt in excess of 80% of GDP at the end of 2009. Most of the euro area countries are currently net debtors.

The countries in which the financial sector plays an increased international role, relative to the size of the respective economy, tend to have high gross external debt, as holds true of Luxembourg, Ireland, Malta, Cyprus, the Netherlands and Belgium. However, the financial sector of such countries usually also holds a large amount of cross-border debt assets, thus lowering the net external debt substantially. It is important to note that in countries in which the investment fund industry is very important, the external debt statistics may portray high negative net external debt (meaning that they are creditor countries). This is due to the fact that the international statistical standards classify holdings of investment fund shares/units as equity (and not debt), so that they are not included in the gross external debt statistics (see IMF, 2003). In some cases, however, parts of these amounts are used by the investment funds to purchase external debt, thus increasing the country's gross external debt assets.

2.4 Net interest payments

A key macroeconomic aggregate in the analysis of the solvency risks related to external debt are the net interest payments. The net interest payments (i.e., interest payments minus interest receipts originated by the external debt positions) show how much of the income generated by an economy in a given year is to be allocated to servicing the costs through net external debt.

Net interest payments of the euro area amounted to 0.2% of GDP in 2009 and have been remarkably stable over the period 2003 to 2009 (see Table 4). As regards the member countries, some have reached net interest payments larger than 3% of GDP, increasing the risks of external debt insolvency and financial instability.

Table 4

Net interest payments of the euro area and its member countries

(percentages of GDP)

	2003	2004	2005	2006	2007	2008	2009	2003– 2006 change	2006– 2009 change	2003- 2009 change
Luxembourg	-107.5	-106.7	-98.1	-107.1	-115.2	-112.6	-81.1	0.4	26.0	26.4
Malta		-3.9	-4.6	-5.6	-6.6	-7.1	-8.1		-2.5	
Ireland	-7.6	-7.0	-6.2	-7.2	-9.0	-6.6	-3.3	0.4	4.0	4.3
Cyprus	-0.4	-1.2	-1.2	-2.0	-3.2	-2.0	-2.9	-1.6	-0.8	-2.4
Belgium	-1.1	-1.2	-1.4	-1.4	-1.7	-2.6	-2.2	-0.3	-0.9	-1.2
Germany	1.1	0.7	0.3	-0.1	-0.5	-0.7	-0.5	-1.1	-0.4	-1.6
France	0.4	0.2	0.2	0.2	0.0	-0.2	-0.2	-0.3	-0.4	-0.7
Slovak Republic	1.1	0.7	0.6	0.4	0.7	1.1	0.0	-0.8	-0.3	-1.1
Finland	1.0	0.0	0.2	0.1	0.0	0.2	0.6	-1.0	0.6	-0.4
Slovenia			0.4	0.6	1.3	1.9	0.9		0.3	
Austria	0.7	8.0	0.7	1.0	1.5	1.3	1.2	0.3	0.2	0.5
Netherlands	1.0	0.6	1.5	1.9	2.0	1.8	1.7	0.9	-0.2	0.7
Italy	0.8	8.0	0.6	0.6	1.3	1.6	2.0	-0.3	1.5	1.2
Portugal	0.9	1.1	1.2	2.0	2.7	3.4	2.4	1.1	0.4	1.6
Spain	1.3	1.3	1.8	2.4	3.3	3.7	2.8	1.0	0.4	1.5
Greece	2.0	2.0	2.3	2.8	3.3	3.8	3.6	0.8	0.8	1.5
Euro area	0.3	0.1	0.1	0.0	0.1	0.2	0.2	-0.2	0.2	0.0

Sources (as at 25 June 2010): ECB, IMF and author's calculations.

3. Cross-country comparisons of external debt statistics

In this section, the indicators discussed for the euro area are compared with those of other countries. Starting with the gross external debt, several countries show figures in excess of 200% of GDP, as in the case of some euro area countries (see Table 5). The United States ended 2009 with gross external debt in the order of 96.5% of GDP, 12.9 percentage points higher than at the end of 2006.

In contrast to most of the euro area countries, most countries in Table 5 show ratios of the general government sector's external debt to GDP that are below 30%. The two exceptions are Argentina in 2003 and Hungary in 2009. The external debt of general government of the United States reached 25.9% of GDP at the end of 2009, an increase of 9.4 percentage points in comparison with the end of 2006.

Overall, the net external debt of the countries in Table 5 is larger than that of the euro area countries. This reflects the fact that euro area countries own considerable external debt assets. The United States show a growing imbalance in their net external debt, which reached 49.2% of GDP in 2008, partly as the result of strong demand for US dollar-denominated securities by other countries, as well as for international reserve purposes.

Table 5

External debt indicators for selected countries

(percentages of GDP)

	Gross external debt			Gross external debt of general government			Net	external	Net interest payments			
	2003	2006	2009	2003	2006	2009	2003	2006	2009	2003	2006	2009
Switzerland	248.5	266.2	250.3	5.1	7.1	4.0	-117.0	-102.3	-120.9	-3.5	-3.0	-3.3
Japan	32.0	34.7	42.1	5.4	9.5	13.3	-39.0	-50.6	-48.1 [*]	-1.3	-1.9	-1.8
Korea	24.4	27.3	50.2	1.8	1.1	3.5	-11.1	-10.9	3.1 [*]	-0.4	-0.5	-0.8
Euro area	75.1	101.5	116.6		13.0	21.4	8.1	6.4	12.6	0.3	0.0	0.2
Denmark	139.7	164.6	198.0	18.1	11.7	16.7	23.4	36.1	29.9	1.3	1.0	0.3
Brazil	42.6	18.3	18.7	15.0	6.5	4.3	28.0	7.8	2.0*	2.4	1.0	0.6
Philippines		45.4	33.6		18.9	20.3	43.6	15.0	7.7*	2.3	1.5	0.9*
Argentina	129.3	51.1	39.1	70.8	28.7	19.6	-10.4	-24.2		5.7	0.5	8.0
Canada	66.9	54.3	71.3	16.0	11.3	15.5	35.7	22.2	19.5 [*]	2.1	1.4	1.2
United Kingdom	290.2	378.2	416.4	6.8	11.5	18.2	37.3	48.8	38.0	1.0	1.7	1.3
United States	62.3	83.6	96.5	13.5	16.5	25.9	30.7	39.9	49.2 [*]	0.8	1.3	1.3
Latvia	83.6	119.2	173.2	7.5	6.0	28.0	25.4	46.0	63.2	0.1	0.3	1.5
Sweden	118.3	157.6	221.6	24.1	14.7	17.3	48.3	50.2	69.7	2.4	2.1	1.8
Australia	79.4	84.7	111.5	3.7	3.4	7.8	51.9	54.6	52.0	1.4	2.2	2.4
New Zealand			133.7			12.2	67.4	80.6	85.8	1.8	3.5	2.8
Bulgaria	60.1	86.1	123.4		15.4	9.0	9.9	16.9	55.2	0.9	1.7	3.0
Ukraine	47.5	50.5	89.9	17.4	10.1	13.7		-1.7	1.7	1.3	1.2	3.1
Hungary	68.9	110.6	181.6	24.2	34.8	50.5	30.9	10.0	71.2	1.1	1.7	4.0
Iceland		444.4	1002.7		21.0	43.6	102.2	193.2	530.8	2.9	7.8	19.6

Sources (as at 25 June 2010): IMF, ECB and author's calculations.

Net interest payments show a similar picture. However, net interest payments reflect the risk premium embedded in the interest rates countries pay on their debt liabilities, and the interest rate obtained on their holdings of debt assets. This explains why, for the same level of net external debt, there can be different levels of net interest payments.

Data for 2008, the most recent data available.

4. External debt indicators and debt crisis

Debt crises are multifaceted. They can be triggered by diverse factors, such as social, political, economic and financial developments. Findings by Reinhart and Rogoff (2008) indicate that a surge in gross external debt on account of a private borrowing boom, frequently accompanied by a build-up of government debt, usually precedes a banking crisis. The banking crisis precipitates public borrowing, to meet guarantees and to bail-out troubled financial institutions, which often leads to a sovereign debt crisis.

In this respect, the composition of external debt in terms of currency and remaining maturity are very important factors for the assessment of the sustainability of that external debt. Similarly, the quality of both the issuer and the debt instrument, as well as the currency denomination of the external debt assets held by investors, are key to reducing risks related to external debt.

Large and increasing gross external debt positions may become a concern for an economy in view of the liquidity risk associated with debt servicing (principal and interest). This is particularly true in periods of financial distress, when prices and interest rates are very volatile. In these circumstances, large gross external debt positions may pose a threat to the overall financial stability of an economy, for instance when low interest rate debt needs to be rolled over into higher interest debt. In extreme cases, these events may lead to a debt crisis, followed by a usually long and painful process of debt deleveraging and restructuring. This process, in turn, might have adverse effects on foreign investors' confidence, reducing the capacity of an economy to access external funding at reasonable prices.

While large and increasing *gross* external debt positions only provide an indication of accumulating imbalances in, and the potential vulnerabilities of, an economy, significant *net* external debt levels provide a clearer picture on the existence of such problems. Large imbalances in the *net* external debt and large net interest payments are a credible early warning signal of rising risks concerning the ability of the economy to successfully meet its external financial obligations, particularly in periods of economic distress or when hit by an external shock.

A closer look is taken here at external debt indicators other than solely gross external debt, in an attempt to extract an early warning "rule of thumb" for possible short- to medium-term external debt distress. The question asked was whether there is a common pattern in the recent country debt crises. Do the data contain any early warning sign for such events?

Statistical analysis of the data suggests a few very striking features that are worth commenting on:

- The gross external debt provides a first indication about the probability of future debt distress. After all, there is no external debt crisis without external debt. However, there is no single gross external debt-to-GDP threshold that really signals imminent debt problems. The likelihood of such an event occurring varies considerably across countries and depends to a critical extent on, among other things, the stage of development of the country's financial system, as well as on the currency composition and the remaining maturity spectrum of the debt.
- Large-scale external debt of the general government in terms of GDP increases the
 country's dependence on external financing, and so the risk of an external debt
 crisis. In the case of Argentina (2001) and Hungary (2008), the fact that the ratio of
 such debt to GDP was in excess of 50% clearly contributed to the occurrence of
 such events.
- The net external debt provides a more direct causal link to an external debt crisis.
 The ratio of net external debt to GDP was larger than 50% in the majority of external debt crises.

• The ratio of net interest payments to GDP points further to countries with financial difficulties related to their external debt. Countries where that ratio is higher than 3% often end up with external debt solvency issues. This was the case in Argentina (2001), Hungary (2008), Ukraine (2008), Iceland (2008) and Greece (2010).

In summary, a net external debt ratio above 50% combined with a ratio of net interest payments to GDP larger than 3% seems to be a very powerful indicator for potential external debt difficulties in the short to medium term.

5. Conclusions and challenges

In summary, the last decade was associated with an increase in gross external debt in most of the world's economic areas, including the euro area. This increase was partly driven by higher financing needs of governments in response to the crisis and by heightened global risk aversion on the part of investors. In the years immediately prior to the financial crisis, global financial innovation in debt instruments and the further deepening of global financial integration contributed strongly to the growth of external debt.

Although the euro area has a growing gross external debt, it remains, on balance, an economic union with solid fundamentals as regards its net external debt and net interest payments. However, some countries of the euro area need to make sure that the ongoing budgetary consolidation process is effective, and must take measures to curb the historical growth pattern of their net external debt. As long as interest rates remain low, which also stimulates GDP growth, the net interest payments are not an immediate concern when compared with the historical growth rates of external debt in some euro area countries.

The indicators related to external debt statistics proposed in this paper provide some guidance for anticipating possible financial distress. Policy-makers could therefore derive some benefit from incorporating this information when monitoring macroeconomic developments, in order to help identify possible future financial distress resulting from external debt.

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