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Small is beautiful? – The Baltic States and Germany in the Greek Debt Crisis¹

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Abstract

Over the course of the European Sovereign Debt Crisis members of the euro area have put up significant resources to stabilize the financial situation of a few fellow member states. In Germany, this support is subject to a controversial discussion. One aspect in that is the extent of support provided. Using the financial assistance provided to Greece as an example, this paper sheds some light on the financial burden for Germany in comparison to other member states of the euro area, especially Estonia, Latvia and Lithuania. This implies not only an interesting comparison of strains between large and small economies but also between original and later euro area members.

Keywords: euro area, debt crisis, exposure, Greece, Baltic states, Germany

Zusammenfassung

Im Verlauf der Europäischen Staatsschuldenkrise haben die Mitgliedsländer der Eurozone signifikante Beiträge zur Stabilisierung der öffentlichen Haushalte in einigen anderen Mitgliedsländern geleistet. Diese Unterstützung ist nicht zuletzt wegen ihres Umfangs in Deutschland sehr umstritten. Am Beispiel der Finanzhilfen für Griechenland ordnet das vorliegende Papier den Umfang der Unterstützungsleistungen ein durch einen Vergleich der Belastungen zwischen Deutschland und den anderen Euro-Mitgliedsländern, insbesondere Estland, Lettland und Litauen. Es handelt sich damit um einen interessanten Vergleich nicht nur zwischen großen und kleinen Volkswirtschaften sondern auch zwischen einem Gründungsmitglied der Währungsunion und Mitgliedern, die erst später der Währungsunion beigetreten sind.

Stichworte: Eurozone, Schuldenkrise, Haftung, Griechenland, Baltische Staaten, Deutschland

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1. Introduction

On Tuesday, 20 October 2009, George Papaconstantinou, the finance minister in the new Greek government that had been elected a few weeks earlier, raised estimates on the country's budget deficit for the ongoing year (Barber 2009): While the former government had obviously understated the figure by forecasting a deficit of 6-8% of Gross Domestic Product (GDP), Mr. Papaconstantinou now projected a deficit of about 12.5%.

Although the older estimates had already been well above the 3% threshold set by the euro area's Stability and Growth Pact, this disclosure kicked off what later became known as the European Sovereign Debt Crisis. A sequence of bailout measures followed, targeting Greece and a few additional euro area members.

The events confirmed widespread concerns about the stability of the euro area that had repeatedly been voiced by many in Germany on the road towards the single currency. In a statement published in September 1990 the Bundesbank, for example, said that the effects of a currency union would "crucially depend on economic and fiscal policy ... in *all* member states" and observed "deep-seated divergences" with respect to the evolution of costs and prices, high budget deficits and external imbalances especially for the United Kingdom, Portugal and Greece, but also for Italy and Spain; it characterized a currency union as an "irrevocable" community of solidarity (Bundesbank 1990, pp.40-41). Analysing the potential impact of the monetary union on fiscal policy Homburg (1997, p.102) concludes that realising the monetary union simultaneously implies assuming joint liabilities among member states: This community will be asymmetrical, transfers are likely to go from larger to smaller members because – in contrast to smaller members – large members cannot rely on relief measures.

Thus, it is not surprising that there was a fierce discussion in Germany whether to provide financial aid to Greece and to other member states in the debt crisis. Opponents of such aid for the time being had to realize the ineffectiveness of Article 126 of the Treaty on the Functioning of the European Union (TFEU; European Union 2012), the infamous no-bailout clause.³ Germany, as an existing member of the monetary union, was indeed "inextricably linked" to the other member states "in the monetary field, come what may" as predicted by Bundesbank (1990, p.40).

Germany was not the only country where there was a debate whether to contribute to the financial assistance for Greece. The Slovak parliament, for example, decided against a participation in the initial programme after the government pointed out that Slovakia, despite being significantly poorer than Greece, had avoided undue debts itself through rigid reforms (Groszkowski 2010).

Interestingly, further countries entered the euro area when the debt crisis was already in full swing: Estonia in 2011, Latvia in 2014 and Lithuania in 2015. All three accepted their responsibility as euro area members, joined central rescue institutions such as the European Stability Mechanism (ESM) and contributed to bailout measures.

³ Homburg (1997, p.99-100) discusses the obvious conflict between the precursors of Article 122 TFEU and Article 126 TFEU.

This paper analyses the impact of bailout measures on Germany as opposed to the group of Baltic states, i.e. Estonia, Latvia and Lithuania. The comparison is relevant for at least two reasons. Firstly, there is the difference in the timing of membership in the euro area: In the comparison Germany represents the set of initial members of the euro area, the three Baltic states the group of later members or – to be more precise – the group of members joining after the emergence of the Greek debt crisis. Secondly, there is the difference in size of the economy, measured e.g. in terms of nominal GDP: In 2016, Germany as the largest economy has contributed 29.28% to the euro area’s GDP while Estonia (0.19%), Latvia (0.23%) and Lithuania (0.36%) have been among the smallest economies, only Cyprus (0.17%) and Malta (0.09%) being even smaller (Eurostat 2017a). Thereby, the analysis sheds some light on whether smaller members or later members are impacted less than larger or initial members.⁴

The analysis focuses on the exposure from the tax payer’s perspective and thus excludes the exposure of the private sector. As is discussed in further detail below it is restricted to the three economic adjustment programmes provided to Greece since 2010. The cut-off date for the analysis is 30 June 2017.

The remainder of the paper is structured as follows: Chapter 2 provides an overview of the financial assistance in the form of three economic adjustment programmes. The discussion remains on the aggregate level, i.e. on the level of the entire euro area and of the International Monetary Fund (IMF). Chapter 3 then breaks down the resulting exposure by members state of the euro area and provides additional analyses by relating the exposure to GDP and General Government Gross Debt. Chapter 4 concludes. An appendix provides some additional data and information.

2. Overview of financial assistance for Greece

2.1. Introduction

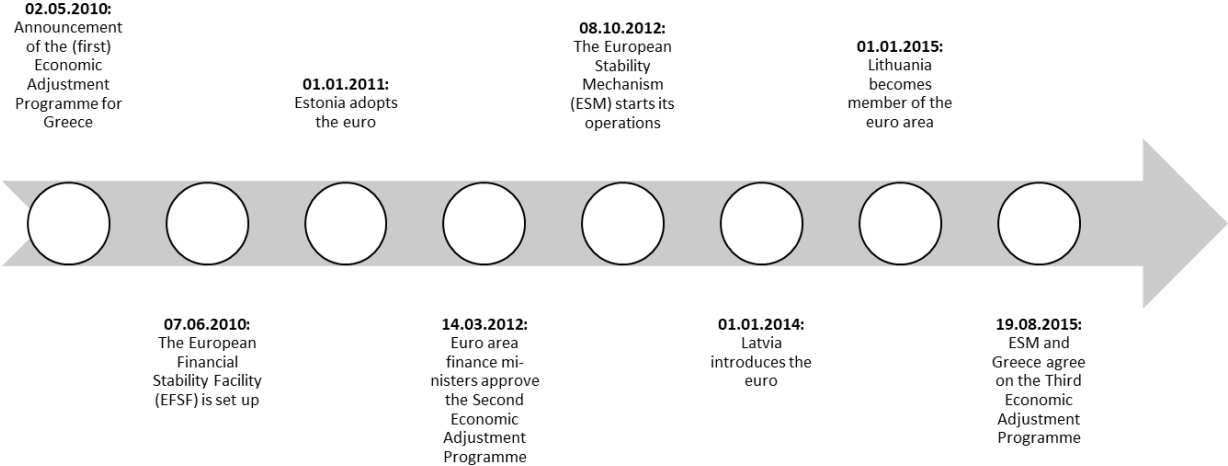
After the 2009 elections, the new Greek government was well aware of the priority of “fiscal management” and the need to “restore the confidence of the international markets” (Prime Minister of the Hellenic Republic 2009). The budget for 2010 that passed the Greek parliament on 23 December 2009 foresaw a reduced deficit of 9.1% of GDP. Nevertheless, further immediate corrective and stabilizing actions had to be announced and undertaken by Greece in the upcoming weeks and months thereafter. As outlined by the European Commission (2010, p.13-14), these actions were not sufficient to stabilize Greek government bond spreads with the ultimate consequence that Greece officially requested financial assistance from the member states of the euro area and the IMF on 23 April 2010.

What followed is a series of three programmes of financial assistance currently spanning the time period of 2010 to 2018 which will be described in further detail below. For the purpose of this paper it is interesting to note the chronology of programmes, the establishment of

⁴ There already are a few general impact analyses available such as Barclays (2015), ifo Institut (2017) or Sbaihi (2015). In contrast to these analyses the paper at hand focuses on the specific comparison while also providing a fully traceable calculation of exposures.

European rescue institutions and the adoption of the euro by the three Baltic states which is set out in figure 1.

Figure 1: Chronology of events



Sources: European Commission (2017); ESM (2017b), p.5; ESM (2017e)

2.2. The Economic Adjustment Programme (2010-2013)

Financial assistance by means of the first three-year programme, also known as “Greek Loan Facility”, was announced on 02 May 2010 (European Commission 2010, p.13). The financial assistance provided by the programme initially totalled at €110bn. Thereof, €80bn were provided as bilateral loans of the member states of the euro area and €30bn as IMF support in the form of a Stand-By Arrangement (European Commission 2010, p.31).

In August 2010 Slovakia decided to withhold its contribution to the programme, and Ireland and Portugal later requested financial assistance themselves with the result that the euro area’s contribution reduced by €2.7bn to €77.3bn (Economist 2010; European Commission 2017).

Until December 2011 a total of €73bn out of the adjusted programme total of €107.3bn had been released, €52.9 thereof had been disbursed by the euro area’s members and €20.1bn by the IMF as shown in table 1. The extent of disbursements made by the member states and by the IMF is comparable.

Table 1: Disbursed amounts under the Economic Adjustment Programme

Source	Disbursed amount (€ bn)	Committed amount (€ bn)	Share of disbursed amount
Euro area	52.9	77.3	68.43%
IMF	20.1	30.0	67.00%
Total	73.0	107.3	68.03%

Sources: European Commission (2012), p.5; own calculations

2.3. The Second Economic Adjustment Programme (2012-2015/2016)

The second programme succeeded the initial adjustment programme well before the latter's intended end. The need for a new programme arose because the sustainability of the Greek government debt became questionable. Approved on 14 March 2012 by the euro area's finance ministers it came in time to prevent a default of Greece (European Commission 2017; Traynor, Smith 2012).

Under the new programme the euro area members committed €144.7bn and the IMF €28bn including the unspent amounts of the initial programme (European Commission 2012, p.4; European Commission 2017).

In contrast to the initial programme, the euro area contribution was no longer provided in the form of bilateral loans but was financed through the European Financial Stability Facility (EFSF). A further important detail of the programme was that the euro member states agreed to defer the maturities of the bilateral loans provided under the first programme by 15 years (European Commission 2017).

The IMF contribution was arranged under the Extended Fund Facility against cancellation of the Stand-By Arrangement of the first programme which would have expired by March 2013; it foresaw a disbursement in 17 equal tranches between March 2012 and February 2016 (IMF 2012, p.1).

The euro area's part of the programme was supposed to expire at the end of 2014. By that date the IMF would have released 12 tranches bringing the IMF exposure to €19.8bn and the programme's total to €164.5bn (European Commission 2012, p.46). However, the euro area component was later extended to 30 June 2015 (European Commission 2017).

Table 2 shows that out of the commitment of €144.7bn actually €130.9bn had been paid out to Greece by end of June 2015. The IMF's last disbursement was released on 30 May 2014 which increased the total IMF disbursement to SDR 10.2bn or about €11.6bn (IMF 2014).⁵

⁵ Further disbursements have not taken place: As of 30 June 2017, this is the amount still drawn by Greece (IMF 2017a).

Table 2: Disbursed amounts under the Second Economic Adjustment Programme

Source	Disbursed amount (€ bn)	Committed amount (€ bn)	Share of disbursed amount
EFSF	130.9	144.7	90.46%
IMF	11.6	19.8	58.59%
Total	142.5	164.5	86.63%

Sources: ESM (2017d); IMF (2014); own calculations

2.4. The Third Economic Adjustment Programme (2015-2018)

After expiry of the Second Economic Adjustment Programme the Greek government on 08 July 2015 filed a request with the European Stability Mechanism (ESM), the successor to the EFSF, for further financial assistance. Greek had just missed a debt payment to the IMF and lacked sufficient liquidity to meet its debt obligations (ESM 2016, p.48).

A new agreement on a Third Economic Adjustment Programme was reached in August 2015. The ESM committed an additional €86bn of financial assistance to the Greek republic. The assistance is available from August 2015 to August 2018. Repayment of the loans shall commence in 2034 (ESM 2017d). The IMF did not participate in the programme.

As of 30 June 2017, the ESM had disbursed a total of €31.7 in seven payments (ESM 2016, p.48; ESM 2017b, p.47; ESM 2017c). In February 2017, the ESM received a repayment of €2bn (ESM 2017a). Thus, as of 30 June 2017, the outstanding loan amount equalled €29.7bn and unused, open commitments summed up to €54.3bn.

3. Impact of stabilization efforts on euro area's member states

3.1. Overview

This chapter analyses the impact of the financial assistance described in chapter 2 by outlining the resulting exposure for all member states of the euro area excluding Greece as of 30 June 2017.

The discussion first distinguishes between a direct and an indirect exposure. For the purposes of the analysis, a direct exposure is defined as an exposure that results from the financial assistance provided either bilaterally by the euro area's member states or through the stabilization institutions created by these states during the debt crisis. The indirect exposure is understood to be due to IMF assistance.

The total exposure is then analysed both in absolute and relative terms with a particular focus on the three Baltic states and Germany.

3.2. Direct exposure

In May 2010, upon agreement on the initial Economic Adjustment Programme, the euro area consisted of 16 members⁶. According to European Commission (2010, p.31) the contribution of each member to the programme depended on its share in “adjusted ECB paid capital”. As has already been noted above, Ireland and Portugal did not fully participate and Slovakia did not participate at all in the bilateral loan programme.

Table 3 provides an overview of the member states’ disbursements under the first programme. As the loans have not yet matured these amounts are identical to the direct exposure of the member states resulting from the programme.

Table 3: Direct exposure resulting from the Economic Adjustment Programme

Member state	Disbursed amount (€ bn)
Austria	1.55
Belgium	1.94
Cyprus	0.11
Estonia ^(a)	0.00
Finland	1.00
France	11.39
Germany	15.17
Ireland ^(b)	0.35
Italy	10.01
Latvia ^(a)	0.00
Lithuania ^(a)	0.00
Luxembourg	0.14
Malta	0.05
Netherlands	3.19
Portugal ^(c)	1.10
Slovakia ^(d)	0.00
Slovenia	0.24
Spain	6.65
Total	52.90

^(a) Not yet a euro area member

^(b) Last contribution in September 2010

^(c) Last contribution in March 2011

^(d) Contribution withheld

Source: European Commission (2012), p.5-6

⁶ Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia and Spain

Between the initial and the Second Economic Adjustment Programme Estonia adopted the euro on 01 January 2011. It then joined the EFSF in late September of the same year (Reuters 2011). Thus, the EFSF's commitment under the second programme in principle affects all 17 member of the euro area as of 01 January 2011. Table 4 shows the respective exposures given the disbursed amount of €130.9bn (see table 2). Again, the disbursed amount is identical to the outstanding loan amount.

Table 4: Direct exposure resulting from the Second Economic Adjustment Programme

Member state	EFSF contribution key	Revised contribution key ^(d)	Exposure (€ bn)
Austria	2.7750%	2.9869%	3.91
Belgium	3.4666%	3.7313%	4.88
Cyprus ^(a)	0.1957%	0.0000%	0.00
Estonia	0.2558%	0.2753%	0.36
Finland	1.7920%	1.9288%	2.52
France	20.3246%	21.8763%	28.64
Germany	27.0647%	29.1309%	38.13
Ireland ^(a)	1.5874%	0.0000%	0.00
Italy	17.8598%	19.2233%	25.16
Latvia ^(b)	--	--	0.00
Lithuania ^(b)	--	--	0.00
Luxembourg	0.2497%	0.2688%	0.35
Malta	0.0903%	0.0972%	0.13
Netherlands	5.6998%	6.1349%	8.03
Portugal ^(a)	2.5016%	0.0000%	0.00
Slovakia	0.9910%	1.0667%	1.40
Slovenia	0.4699%	0.5058%	0.66
Spain	11.8679%	12.7739%	16.72
Total	97.1918%^(c)	100.0000%	130.90

^(a) Stepping-Out Guarantor

^(b) Not yet a euro area member

^(c) Excluding Greece; the contribution key of Greece is 2.8082%

^(d) Excluding all Stepping-Out Guarantors

Sources: EFSF (2011), p.40; ESM (2017d); own calculations

The EFSF is a public limited company with a share capital paid in by 17 euro area members. The financial assistance provided by the EFSF is refinanced through the issue of debt securities using a mixture of different maturities. The debt securities are guaranteed by the shareholders of the EFSF according to their EFSF contribution keys. The second column of table 4 contains the original contribution keys. According to Annex 2 of the EFSF Framework Agreement (EFSF 2011) they are obtained by dividing the member's ECB capital subscription key by the share of euro area members in the capital of the ECB, i.e. they are identical to the share of the member's ECB capital subscription in the euro area's total ECB capital subscription.

However, according to Article 7 (2) of the EFSF Framework Agreement a shareholder can choose to become a Stepping-Out Guarantor if it requests financial assistance from the EFSF itself. If a shareholder has become a Stepping-Out Guarantor it will be excluded from the guarantee of all debt securities that will be issued from then on (Preamble (4), EFSF Framework Agreement). This will increase the contribution key for remaining guarantors in all new issues. The consequence of this construction is that the exposure of EFSF shareholders will rise if the number of Stepping-Out Guarantors increases and/or if there is a roll-over of debt instruments that originally had been issued under a smaller number of Stepping-Out Guarantors.

As of 30 June 2017, Cyprus, Ireland, Greece and Portugal are existing Stepping-Out Guarantors (EFSF 2017, p.62-63). Ireland, Greece and Portugal already had been Stepping-Out Guarantors when the Second Economic Adjustment Programme for Greece was launched. Cyprus became a Stepping-Out Guarantor in 2013. The third and fourth column of table 4 contain the revised contribution keys for the remaining guarantors and the resulting exposures.⁷

As has been discussed above the outstanding loan amount under the Third Economic Adjustment Programme currently amounts to €29.7bn. Open, unused commitments sum up to €54.3bn. The total ESM exposure against Greece is the sum of both positions, i.e. €84bn.

All 19 euro area members, now including both Latvia and Lithuania who joined the euro area on 01 January 2014 and 01 January 2015 respectively, have become ESM shareholders. The construction of the ESM differs from that of the EFSF as the shareholders do not provide any guarantees beyond the share capital. According to Article 8 of the Treaty establishing the European Stability Mechanism (ESM Treaty, ESM 2015) the authorised capital of the Mechanism is €704.80bn consisting of €80.55bn paid-in capital and €624.25bn callable capital. Contribution keys define the capital contribution of shareholders. The contribution keys are obtained in a way identical to the EFSF. The liability of shareholders is limited to their share in *authorised* capital.

In principle, the unpaid capital is callable at any time upon request by the ESM's Board of Governors (ESM Treaty, Article 9 (1)). A call is foreseen by Article 9 (2) of the ESM Treaty if – due to losses – the paid-in capital falls below €80.55bn. The call should restore the paid-in capital to that minimum level. If a member misses its capital call the remaining members have to provide the difference which, however, does not release the defaulting member from its capital obligations (Article 25 (2), ESM Treaty).

The equivalence of an EFSF Stepping-Out Guarantor is not foreseen in the ESM Treaty. To the contrary, Article 8 (5) of the ESM Treaty specifies that the obligation to contribute the authorised capital is not affected by eligibility for, or provision of, financial assistance.

Losses will be covered by ESM reserves first, then by paid-in capital and finally by capital calls (Article 25 (1), ESM Treaty).

⁷ The exposures assume that the entire disbursed amount is guaranteed by the 13 remaining member states only. Insofar they currently represent an upper loss limit because Cyprus is still guaranteeing older debt securities and will only gradually step-out if these securities need a roll-over. However, the actual losses of individual member states might even be higher because the member states typically over-guarantee individual debt securities to an extent of up to 165% (Article 2 (3), EFSF Framework Agreement).

Table 5: Direct exposure resulting from the Third Economic Adjustment Programme

Member state	ESM contribution key	Paid-in capital (€ bn)	Revised contribution key ^(a)	Exposure (€ bn)
Austria	2.7644%	2.23	2.8440%	2.39
Belgium	3.4534%	2.78	3.5528%	2.98
Cyprus	0.1949%	0.16	0.2005%	0.17
Estonia	0.1847%	0.15	0.1900%	0.16
Finland	1.7852%	1.44	1.8366%	1.54
France	20.2471%	16.31	20.8298%	17.50
Germany	26.9616%	21.72	27.7376%	23.30
Ireland	1.5814%	1.27	1.6269%	1.37
Italy	17.7917%	14.33	18.3037%	15.38
Latvia	0.2746%	0.22	0.2825%	0.24
Lithuania	0.4063%	0.33	0.4180%	0.35
Luxembourg	0.2487%	0.20	0.2559%	0.21
Malta	0.0726%	0.06	0.0747%	0.06
Netherlands	5.6781%	4.57	5.8415%	4.91
Portugal	2.4921%	2.01	2.5638%	2.15
Slovakia	0.8184%	0.66	0.8420%	0.71
Slovenia	0.4247%	0.34	0.4369%	0.37
Spain	11.8227%	9.52	12.1630%	10.22
Total	97.2025%^(a)	80.55	100.0000%	84.00

^(a) Excluding Greece; the contribution key of Greece is 2.7975%

Sources: ESM (2015); own calculations

If Greece defaulted on its ESM obligations the ESM would lose a maximum of €84bn. Under the assumption of reserves of zero this would consume the current paid-in capital of €80.55bn. Greece would lose €2.25bn, the remaining 18 shareholders a total of €78.3bn.

The ESM would have to issue a call for capital for €84bn, €80.55bn for restoring the paid-in capital and €3.45bn to cover the losses exceeding the paid-in capital. In that situation Greece would not be able to contribute to the call. The capital call would have to be borne by the 18 remaining shareholders according to “revised” contribution keys.

What does that mean for today’s exposure of the shareholders other than Greece (G)? The exposure of member $i \neq G$ consists of three components:⁸

1. The paid-in capital of member i , $C_i = C c_i$,
2. the call for additional capital without participation of Greece, $(L - C) \frac{c_i}{1 - c_G}$ and

⁸ The extent to which the second component is higher than the theoretical contribution including the participation of Greece as well as the entire third component define a new obligation for Greece and, thus, an asset for the remaining shareholders. This does not represent an immediate loss but defines a new exposure against Greece. Thus, it should be included in the exposure calculation.

3. the additional contribution for restoring the paid-in capital of Greece,

$$C_G \frac{c_i}{1-c_G} = C c_G \frac{c_i}{1-c_G},$$

where C is ESM's paid-in capital, c_i (c_G) the contribution key of member i (Greece) and L the total loss from ESM's assistance to Greece ($L > C$). The revised contribution key for member i is equal to $c_i/(1 - c_G)$. Thus, the exposure is equal to

$$C c_i + (L - C) \frac{c_i}{1 - c_G} + C c_G \frac{c_i}{1 - c_G} = C c_i + [L - C(1 - c_G)] \frac{c_i}{1 - c_G} = L \frac{c_i}{1 - c_G}$$

or – verbally – the total loss from ESM's assistance to Greece multiplied with the revised contribution key for member i . Table 5 shows the resulting exposure by ESM shareholder.

3.3. Indirect exposure

In addition to the exposure resulting from the direct financial assistance provided by the euro area and its stabilization institutions the member states have a further, indirect exposure vis-à-vis Greece that could result from a number of facts.

First, the IMF has participated in the first two economic adjustment programmes. As of 30 June 2017, the outstanding debt reported by IMF (2017a) for Greece equals 9.99bn Special Drawing Rights (SDR) which are the result of the Extended Fund Facility (second adjustment programme). Valued at an exchange rate of €1.219230 per SDR⁹ the outstanding loan amount is equal to €12.18bn. IMF members have a technical, shared exposure according to their IMF Quota.

Second, between May 2010 and September 2012 the European Central Bank (ECB) used secondary markets to purchase bonds from issuers in selected member states of the Euro area (Securities Markets Programme – SMP). While the programme was not restricted to government bonds, Bundesbank (2017) mentions that “especially” government bonds had been purchased under this programme. As of 30 June 2017, the ECB still held €98.67bn worth of bonds (ECB 2017c). As of 31 December 2016, about 12.02% of holdings were in Greek bonds (ECB 2017a).¹⁰

In principle, the member states of the euro area have an exposure resulting from the SMP should losses occur. Losses would be transmitted to the member states in the form of a reduced profit distribution by the ECB to National Central Banks (NCBs) in the respective fiscal year(s). Should the ECB book a loss in a given fiscal year, the key issue is if eventually the ECB would need to be recapitalized which is not mandatory (see e.g. Hirdina 2014).

Third, the ECB and the NCBs exchange payments through the TARGET2 system. At a given point in time the NCBs have either net claims or net liabilities vis-à-vis the ECB. As of 30 June

⁹ Exchange rate as of 30 June 2017; see: http://www.imf.org/external/np/fin/data/rms_mth.aspx?SelectDate=2017-06-30&reportType=CVSDR (22 August 2017).

¹⁰ The structure of SMP holdings by country of issuer is only disclosed at year end.

2017, ECB (2017d) reports a net claim of €860.8bn for the Bundesbank and a net liability of €76bn for the Greek central bank. While Sinn (2012), for example, strongly advocates to interpret net claims as a measure of outstanding public loans provided to countries with a net liability which would be at risk if the euro area falls apart, ECB (2017b, p.22-23) provides a more technical explanation of financial market structures in the context of the ongoing ECB bond purchases.

Since the focus of this paper is on the impact of the economic adjustment programmes and since the exposure implications of the other activities is less clear, only the exposure resulting from the IMF contributions in these programmes are considered as indirect exposures. Table 6 has the results using “adjusted” IMF Quotas. The impact of the indirect exposure is relatively low because of (a) the IMF’s comparably small outstanding loan amount and (b) the reduced relevance of euro area members within the IMF as opposed to their relevance within the euro area: 21.63% of the IMF exposure or €2.65bn have to be attributed to the 18 euro area members excluding Greece.

Table 6: Indirect exposure resulting from IMF commitments

Member state	IMF Quota	Adjusted IMF Quota ^(a)	Exposure (€ bn)
Austria	0.83%	0.8343%	0.10
Belgium	1.35%	1.3569%	0.17
Cyprus	0.06%	0.0603%	0.01
Estonia	0.05%	0.0503%	0.01
Finland	0.51%	0.5126%	0.06
France	4.24%	4.2617%	0.52
Germany	5.60%	5.6287%	0.69
Ireland	0.73%	0.7337%	0.09
Italy	3.17%	3.1862%	0.39
Latvia	0.07%	0.0704%	0.01
Lithuania	0.09%	0.0905%	0.01
Luxembourg	0.28%	0.2814%	0.03
Malta	0.04%	0.0402%	0.00
Netherlands	1.84%	1.8494%	0.23
Portugal	0.43%	0.4322%	0.05
Slovakia	0.21%	0.2111%	0.03
Slovenia	0.12%	0.1206%	0.01
Spain	2.01%	2.0203%	0.25
Total	21.63%	21.7409%	2.65

^(a) Excluding Greece; the IMF Quota of Greece is 0.51%

Sources: IMF (2017b); own calculations

3.4. Total exposure

In sum, the member states of the euro area have directly provided a total of €267.8bn of financial assistance to Greece. The initial program accounts for 19.75% of this total, the second programme for 48.88% and the third programme for the remaining 31.37%. As of 30 June 2017, out of this total exposure €54.3bn have not been disbursed yet.

Through the IMF a further €2.65bn have been indirectly committed. Thus, the total financial assistance of the euro area for Greece amounts to €270.45bn. The disbursed amount of €213.53bn is equal to 67.81% of Greek's gross debt of €314.90bn at the end of 2016.¹¹

Table 7 contains the total exposure by member state and the corresponding ranking by exposure. With an exposure of €77.28bn Germany has the largest absolute exposure. It is well ahead of the next largest economies in the euro area, France and Italy. The Baltic states are on rank 14 (Estonia), 15 (Lithuania) and 17 (Latvia).

Table 7: Total exposure resulting from the economic adjustment programmes

Member state	Direct exposure			Indirect exposure (€ bn)	Total exposure (€ bn)	Rank ^(a)
	Initial prog. (€ bn)	Second prog. (€ bn)	Third prog. (€ bn)			
Austria	1.55	3.91	2.39	0.10	7.96	7
Belgium	1.94	4.88	2.98	0.17	9.98	6
Cyprus	0.11	0.00	0.17	0.01	0.29	16
Estonia	0.00	0.36	0.16	0.01	0.53	14
Finland	1.00	2.52	1.54	0.06	5.13	8
France	11.39	28.64	17.50	0.52	58.04	2
Germany	15.17	38.13	23.30	0.69	77.28	1
Ireland	0.35	0.00	1.37	0.09	1.80	11
Italy	10.01	25.16	15.38	0.39	50.93	3
Latvia	0.00	0.00	0.24	0.01	0.25	17
Lithuania	0.00	0.00	0.35	0.01	0.36	15
Luxembourg	0.14	0.35	0.21	0.03	0.74	13
Malta	0.05	0.13	0.06	0.00	0.25	18
Netherlands	3.19	8.03	4.91	0.23	16.36	5
Portugal	1.10	0.00	2.15	0.05	3.31	9
Slovakia	0.00	1.40	0.71	0.03	2.13	10
Slovenia	0.24	0.66	0.37	0.01	1.29	12
Spain	6.65	16.72	10.22	0.25	33.83	4
Total	52.90	130.90	84.00	2.65	270.45	--

^(a) 1 represents the largest, 18 the smallest exposure

Source: own calculations

¹¹ Source: Eurostat (2017b)

Estonia's direct burden from the Second Economic Adjustment Programme (€0.36bn) is larger than the entire direct exposure of both Latvia (€0.24bn) and Lithuania (€0.35bn). The early adoption of the euro in Estonia is a disadvantage from this perspective because it caused Estonia's participation in the second programme, which is the largest among the three.

Cyprus (rank 16) and Malta (rank 18) are also among the smallest contributors where Cyprus benefits from its role as Stepping-Out Guarantor under the Second Economic Adjustment Programme.

To provide a different perspective on the impact of being a Stepping-Out Guarantor or a late adopter of the euro, for example, table 8 shows the relative importance of each exposure component for a country's total exposure. For member states who fully participated in all three economic adjustment programmes the relative importance of the direct exposure components is identical (not shown in the table). The differences shown in table 8 e.g. for Austria, Belgium, Germany and Luxembourg are only due to the differences in indirect exposures. It should also be noted that the relative importance of the indirect component is typically larger for smaller countries than for larger countries (e.g. Austria, Finland or Luxembourg vs. France, Germany or Italy). This effect is, of course, even more pronounced if a small country is a Stepping-Out Guarantor (Cyprus) or a late adopter of the euro (especially Latvia and Lithuania).

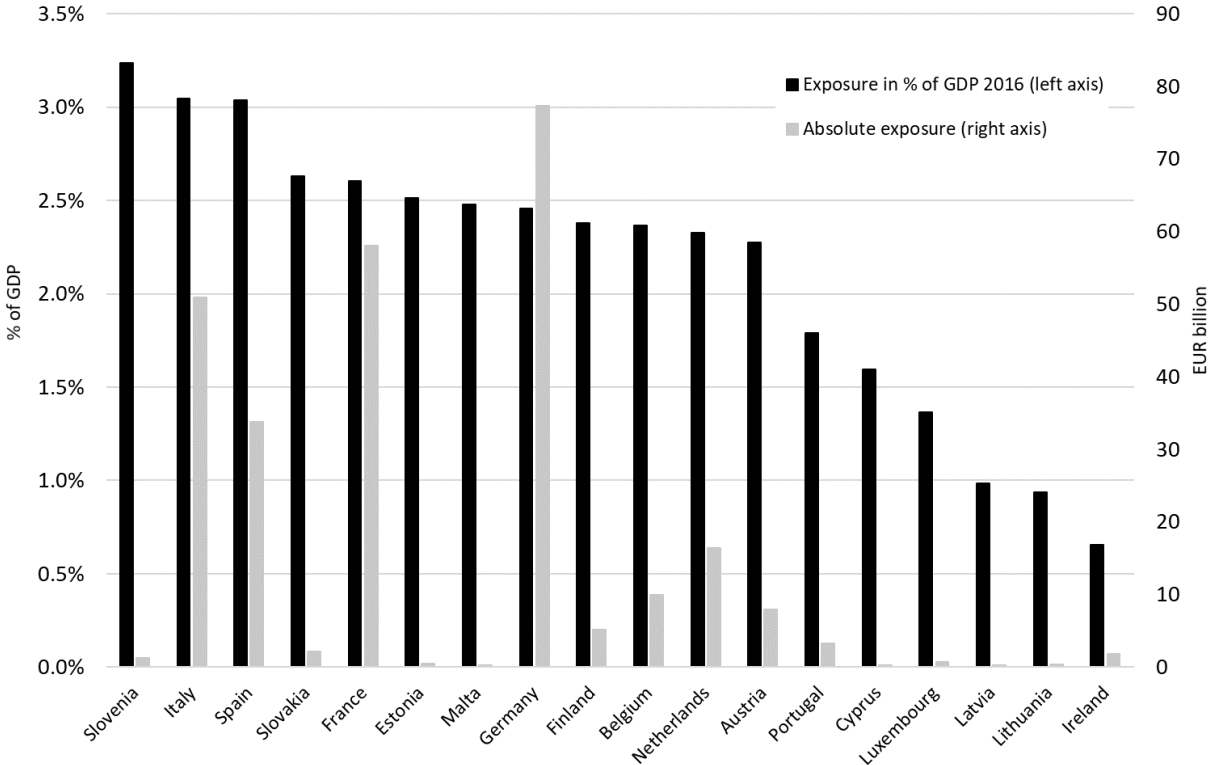
Table 8: Relative importance of exposure components for a member state's total exposure

Member state	Direct exposure			Indirect exposure	Total exposure
	Initial prog.	Second prog.	Third prog.		
Austria	19.55%	49.15%	30.03%	1.28%	100.00%
Belgium	19.47%	48.96%	29.91%	1.66%	100.00%
Cyprus	38.41%	0.00%	59.02%	2.57%	100.00%
Estonia	0.00%	68.50%	30.34%	1.16%	100.00%
Finland	19.56%	49.18%	30.05%	1.22%	100.00%
France	19.62%	49.34%	30.15%	0.89%	100.00%
Germany	19.62%	49.34%	30.15%	0.89%	100.00%
Ireland	19.26%	0.00%	75.78%	4.96%	100.00%
Italy	19.65%	49.40%	30.19%	0.76%	100.00%
Latvia	0.00%	0.00%	96.51%	3.49%	100.00%
Lithuania	0.00%	0.00%	96.96%	3.04%	100.00%
Luxembourg	18.88%	47.48%	29.01%	4.63%	100.00%
Malta	20.61%	51.83%	25.56%	2.00%	100.00%
Netherlands	19.53%	49.10%	30.00%	1.38%	100.00%
Portugal	33.32%	0.00%	65.09%	1.59%	100.00%
Slovakia	0.00%	65.58%	33.22%	1.21%	100.00%
Slovenia	18.92%	51.43%	28.51%	1.14%	100.00%
Spain	19.65%	49.42%	30.20%	0.73%	100.00%
Total	19.56%	48.40%	31.06%	0.98%	100.00%

Source: own calculations

Beyond the discussion of absolute exposures, it is necessary to analyse how exposures relate to a country’s economic capabilities, i.e. its ability to compensate for the exposures in the case of a Greek default. Taking the Gross Domestic Product (GDP) as a proxy for the economic capabilities and then relating a country’s exposure to its GDP in 2016 (see figure 2), it becomes obvious that many smaller countries have a higher relative burden than countries with a large absolute exposure.¹² For the Baltic states, this is true for Estonia which ranks sixth. Latvia and Lithuania again benefit from their late adoption of the euro and occupy ranks 16 and 17, respectively.

Figure 2: Exposure in % of GDP 2016



Sources: Eurostat (2017a); own calculations

Germany, the country with the highest exposure is among middle-ranking countries only. The ranking of France, Germany and Italy is – at first sight – surprising because the indirect exposure is not able to explain the change in ranking (see table 8) and because the direct exposure is a result of ECB capital keys which are related to the GDP. However, the ECB capital keys do not only consider the GDP of a member state but also its population as defined in Article 29 of the ECB Statutes (Protocol (No 4) to the TFEU (European Union 2012)). Within the euro area, France’s and – especially – Italy’s share in the population is higher than the share in GDP.¹³

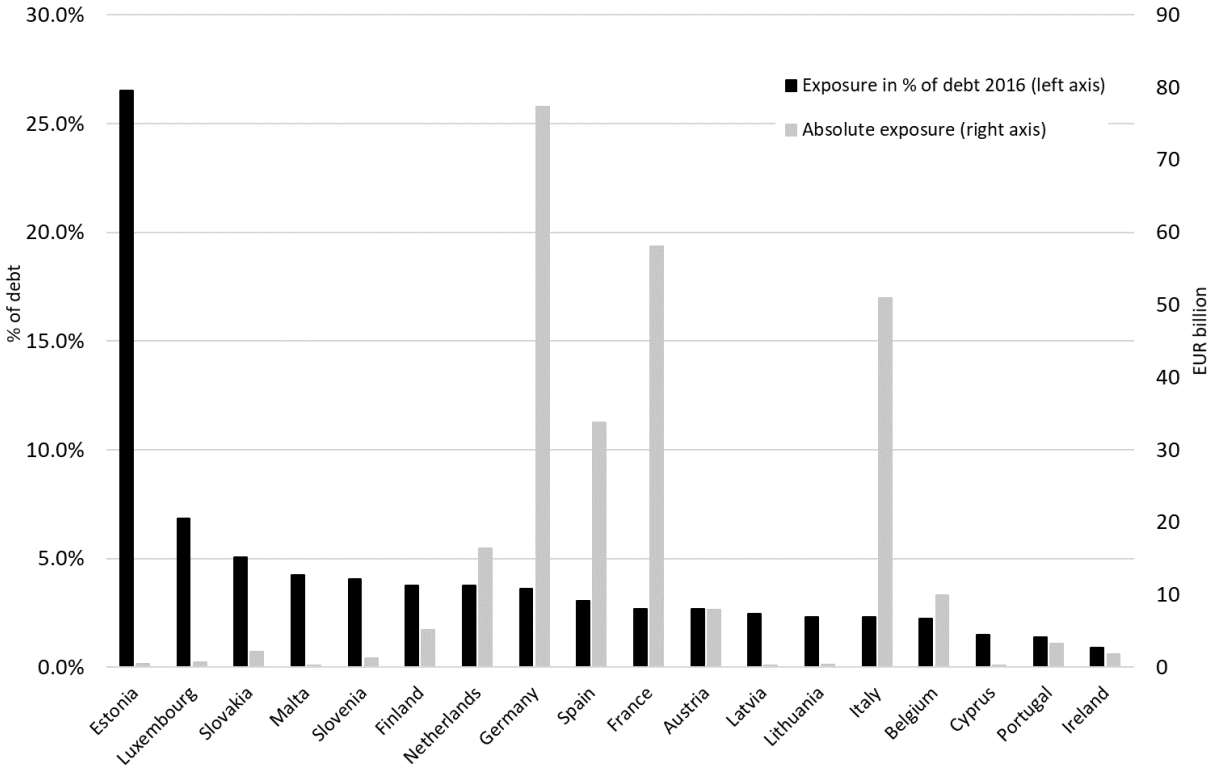
¹² Table A.1 in the appendix contains the numerical values.

¹³ A further reason is that ECB capital keys are not continuously updated to changes in GDP and population.

Do countries with a small GDP tend to have a higher relative exposure? As has already been outlined, figure 2 conveys a somewhat mixed picture. This is confirmed by a rank correlation of 0.29. If countries with a small GDP (large rank in GDP) would indeed tend to have a higher relative exposure (small rank in relative exposure) the correlation should be negative and should tend towards -1.¹⁴

Finally, it may be interesting to see how the exposures relate to the existing public debt of a country. The existing public debt is an indicator for the own financial austerity in the past. There may be economic as well as non-economic arguments to judge a given exposure differently, depending on whether the country in question has accumulated a significant level of own debt or not. Figure 3 shows the share of absolute exposures in General Government Gross Debt in 2016.¹⁵

Figure 3: Exposure in % of government gross debt 2016



Sources: Eurostat (2017b); own calculations

By that indicator Estonia is most severely affected by the financial assistance to Greece: The total exposure from the financial assistance is equal to 26.51% of existing government debt. Runner-up, albeit with a significant gap, is another small economy, Luxembourg where the share is 6.83%. Latvia and Lithuania rank 12th (2.45%) and 13th (2.33%). Germany (3.61%) again is among the middle ranks, this time close to Spain and France. The overall picture is that

¹⁴ Figure A.1 in the appendix provides a graphical analysis of this question. Excluding Stepping-Out Guarantors from the analysis does not significantly change the correlation coefficient.

¹⁵ Table A.2 in the appendix has detailed numerical information.

smaller countries tend to be affected more while late adopters and Stepping-Out Guarantors tend to be found at higher ranks.

Countries with a very large government debt may occupy a large rank in figure 3 despite a large absolute exposure. A good example would be Italy. The correlation between the rank by government debt (large rank = small debt) and the rank by relative exposure (large rank = small relative exposure) is -0.39.¹⁶ Thus, if any, there is a loose tendency that countries with a large (small) debt have a small (large) relative exposure. Estonia would be the most prominent example for this.

4. Conclusion

Against fundamental construction principles of the single currency Greece has received and is still receiving significant financial assistance from fellow members in the euro area. Not surprisingly this financial assistance was not granted without significant debates within and between member states. A very clear statement was made by the Slovak parliament, for example, when rejecting the Greek Loan Facility.

Despite the controversial discussion about the financial assistance for Greece, the Baltic states of Estonia, Latvia and Lithuania not only decided to adopt the euro while the crisis was in full swing but also met their obligations by becoming members of EFSF and ESM although – similar to Slovakia – all three would have had good reasons to withhold any financial assistance for Greece.

As a consequence of timing, Estonia already provided guarantees under the Second Economic Adjustment Programme while Latvia and Lithuania only had to participate in the Third Economic Adjustment Programme. For Estonia, this resulted in an exposure which is significant in size, especially when compared to current levels of Estonian government debt. The impact for Latvia and Lithuania was less dramatic, also because the third programme is significantly smaller in size.

The exposure in relation to government debt and – in some cases – also in relation to GDP in general is higher for many smaller countries than for large economies such as Germany and France that exhibit the highest absolute exposures. Being small was not necessarily “beautiful”, i.e. it did not guarantee a small relative exposure. Being late, however, was.

The provision of financial assistance has implemented the community of solidarity predicted by Bundesbank (1990). The ESM’s current financial endowment supports the view of Homburg (1997) on the asymmetry of this community to the disadvantage of larger member states who cannot expect financial support in a debt crisis. This paper added a further, more technical dimension of asymmetry: the relative burden resulting from financial assistance can be larger for smaller member states.

This should not be misinterpreted as a call for a revision of member states’ contributions to the ESM. The criteria potentially relevant for a fair sharing of burdens are simply too manifold,

¹⁶ See figure A.2 in the appendix for a visualisation.

and fairness is a normative target. In the controversies within and between member states it should be kept in mind, however, that an asymmetry can have multiple dimensions.

Moreover, the key issue now is to enable Greece to repay its obligations in the long run. This is in the interest of all members states of the euro area, whether large or small, early or late. The exposures shown in this analysis are potential losses only – as long as Greece does not default.

Appendix

Table A.1: Exposure in % of GDP 2016

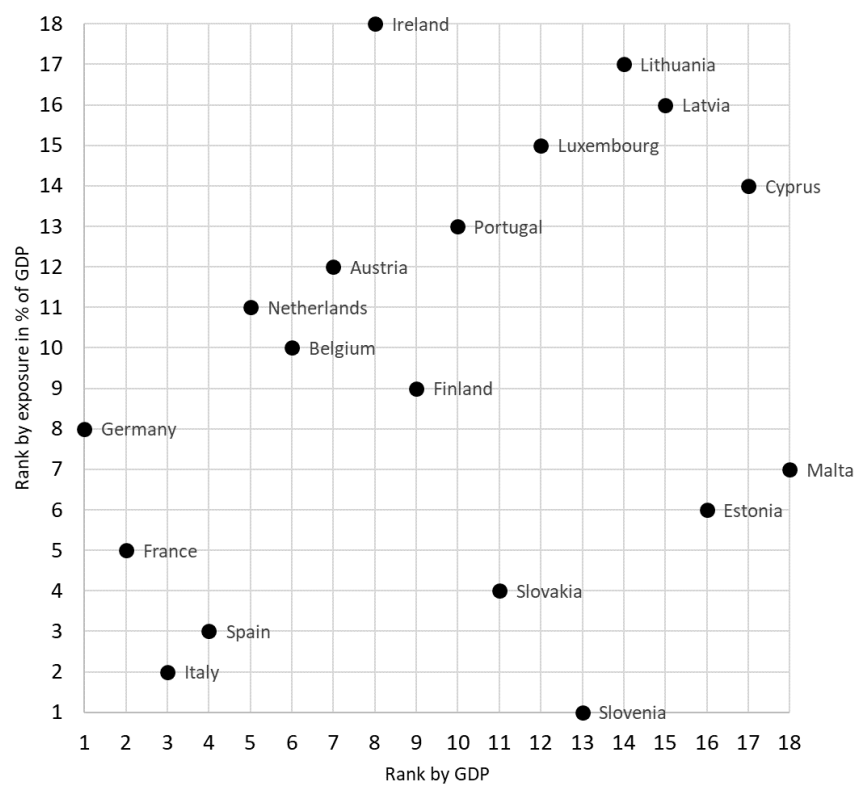
Member state	Total exposure (€ bn)	GDP 2016 (€ bn)	Rank by GDP 2016 ^(a)	Exposure in % of GDP	Rank by exposure in % of GDP ^(b)
Austria	7.96	349.34	7	2.28%	12
Belgium	9.98	421.61	6	2.37%	10
Cyprus	0.29	17.90	17	1.59%	14
Estonia	0.53	20.92	16	2.52%	6
Finland	5.13	215.62	9	2.38%	9
France	58.04	2,228.86	2	2.60%	5
Germany	77.28	3,144.05	1	2.46%	8
Ireland	1.80	275.57	8	0.65%	18
Italy	50.93	1,672.44	3	3.05%	2
Latvia	0.25	25.02	15	0.98%	16
Lithuania	0.36	38.64	14	0.94%	17
Luxembourg	0.74	54.19	12	1.37%	15
Malta	0.25	9.90	18	2.48%	7
Netherlands	16.36	702.64	5	2.33%	11
Portugal	3.31	184.93	10	1.79%	13
Slovakia	2.13	80.96	11	2.63%	4
Slovenia	1.29	39.77	13	3.24%	1
Spain	33.83	1,113.85	4	3.04%	3
Total	270.45	10,596.20	--	2.55%	--

^(a) 1 represents the largest, 18 the smallest GDP

^(b) 1 represents the highest, 18 the lowest relative exposure

Sources: Eurostat (2017a); own calculations

Figure A.1: GDP 2016 vs. exposure in % of GDP 2016



Sources: Eurostat (2017a); own calculations

Table A.2: Exposure in % of government gross debt 2016

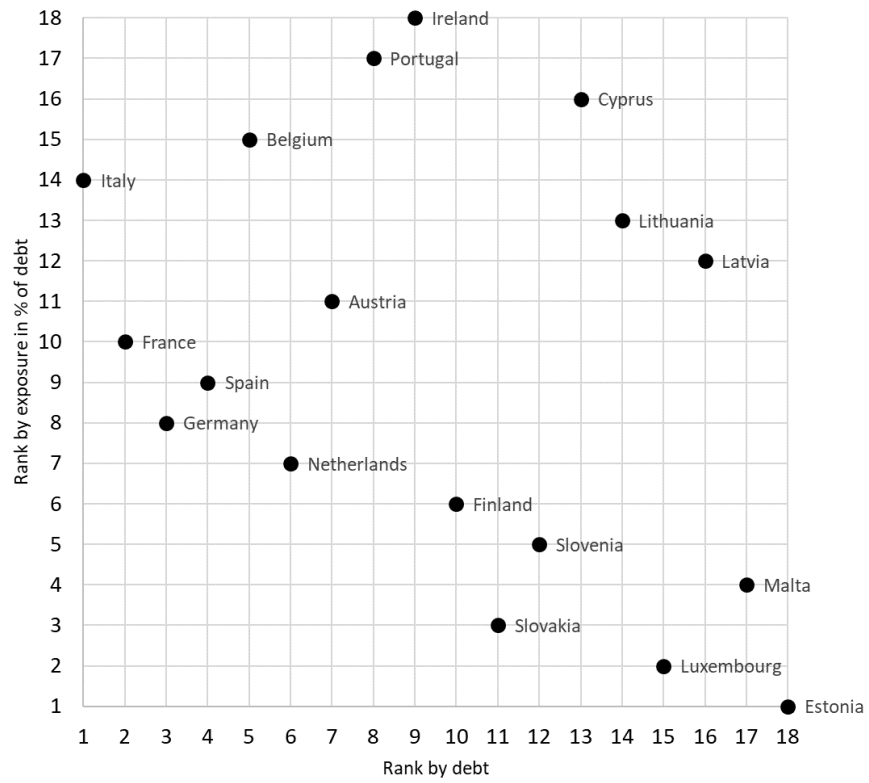
Member state	Total exposure (€ bn)	Debt 2016 (€ bn)	Rank by debt 2016 ^(a)	Exposure in % of debt	Rank by exposure in % of debt ^(b)
Austria	7.96	295.72	7	2.69%	11
Belgium	9.98	446.82	5	2.23%	15
Cyprus	0.29	19.30	13	1.48%	16
Estonia	0.53	1.98	18	26.51%	1
Finland	5.13	136.05	10	3.77%	6
France	58.04	2,147.42	2	2.70%	10
Germany	77.28	2,140.37	3	3.61%	8
Ireland	1.80	200.57	9	0.90%	18
Italy	50.93	2,217.91	1	2.30%	14
Latvia	0.25	10.04	16	2.45%	12
Lithuania	0.36	15.54	14	2.33%	13
Luxembourg	0.74	10.85	15	6.83%	2
Malta	0.25	5.77	17	4.26%	4
Netherlands	16.36	434.09	6	3.77%	7
Portugal	3.31	241.06	8	1.37%	17
Slovakia	2.13	42.05	11	5.06%	3
Slovenia	1.29	31.68	12	4.06%	5
Spain	33.83	1,106.95	4	3.06%	9
Total	270.45	9,504.17	--	2.85%	--

^(a) 1 represents the largest, 18 the smallest debt

^(b) 1 represents the highest, 18 the lowest relative exposure

Sources: Eurostat (2017b); own calculations

Figure A.2: Government gross debt vs. exposure in % of gross government debt



Sources: Eurostat (2017b); own calculations

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