

  
**ECON NOTE*****PPPs and their Financing in Europe: Recent Trends and EIB Involvement***

Thursday, 20 September 2012

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**1. Executive Summary**

This note draws on a recent update of the unique EPEC-ECON database on PPP projects and markets, and reports on recent developments in EU-27 and the involvement of the EIB.<sup>1</sup> This is of particular interest as PPP markets have seen significant crisis-related and structural changes.

- The recovery of the PPP market that had started in 2010 came to an abrupt halt in 2011: While financing requirements for PPPs increased by 25% in 2010, they declined by 12% in 2011. Data for the first half of 2012 suggest a further strong contraction in both volumes and number of new deals - to the lowest level in more than a decade.
- As to the financing of PPPs, financing through loans increased considerably, from 58% in 2009 to 79% of total financing requirements in the first half of 2012. Financing through bonds remains very limited.
- At the same time, risk premia on PPP loans have almost tripled between 2007 and 2010. After a moderate decline in 2011, data available for the first half of 2012 indicate another significant increase.
- The financing through public sources, including the EIB, has decreased from 25% in 2009 to 14% in the first half of 2012. This may be due to continuously tightening fiscal constraints in many EU countries.
- EIB loans for PPPs amounted to EUR 2.4 billion in 2011, 0.9 billion less than in 2010. In 2011 the EIB has financed 13% of total financing requirements of PPPs. This is considerably lower than in 2010. In fact, EIB financing for PPPs has declined in absolute and relative terms in 2011. This may also be due to the sharp increase in EIB loans for PPPs in 2010, which has been partially offset in 2011.

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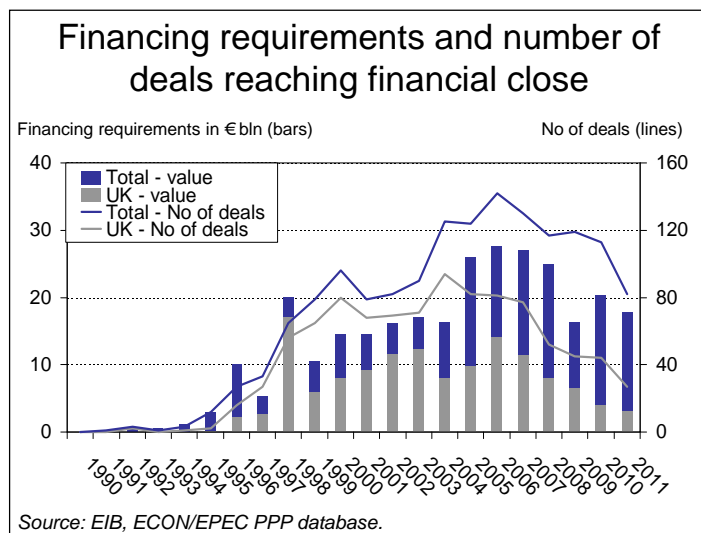
<sup>1</sup> For more details see Kappeler and Nemoz (2010) Public-Private Partnerships in Europe – before and during the recent financial crisis, EFR 2010/4, EIB. Many useful discussions with EPEC on issues related to this note are gratefully acknowledged.

**Disclaimer**

The views expressed in this document are those of the authors and do not necessarily reflect the position of the EIB.

## 2. Recent Evolution of PPPs<sup>2</sup> in Europe

The chart below shows the number and aggregate value of PPP projects inside the EU-27. The grey line and bars represent the number and value of PPPs in the UK – the by far largest PPP market inside the EU before the 2008-09 crisis.



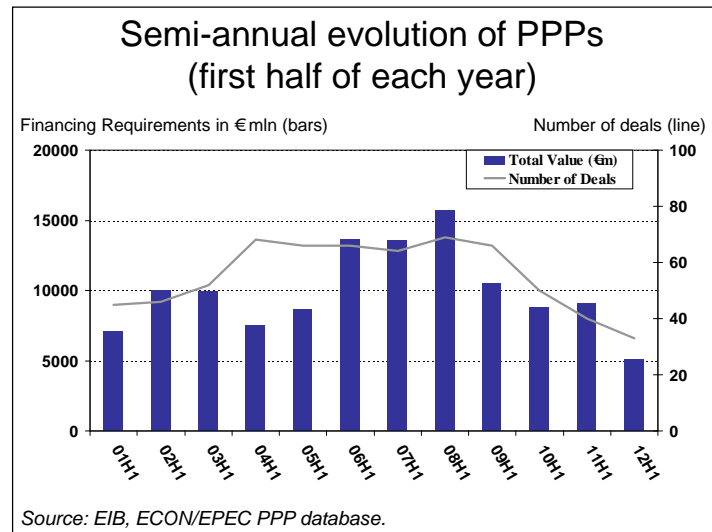
The total PPP market in Europe grew steadily over the past two decades reaching its peak in 2007. Since then, both the number and aggregate value of deals have declined considerably. In 2010 the aggregate market value returned to positive growth in nominal terms but contracted again in 2011.

The chart also shows that the importance of the PPP market of UK steadily declined over the past decade. During the recent financial crisis the share of the UK in total PPP deals declined from 59% in 2007 to 33% in 2011. The Annex includes tables with the number and (nominal) value of PPPs by country and year.

To capture the latest developments, the next chart focuses on the evolution of PPPs during the first half of each year. While this approach does not consider a large part of our data (second half of each year), it allows for a consistent comparison of past developments with the latest data available for the first half of 2012.

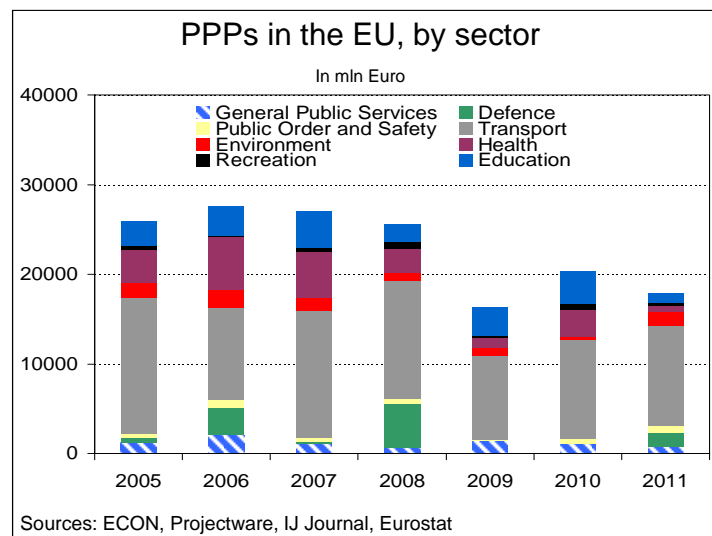
<sup>2</sup>

Data are collected from a variety of sources, in particular Dealogic ProjectWare, InfraNews, Infrastructure Journal and Inspiratia, cross-checked where appropriate against EIB's own project files. The list of PPP projects forming the dataset has been validated, where possible, by EPEC members. The data however remain incomplete. As a consequence, the findings of this publication should be treated with caution. The data do not cover projects with financing requirements of less than EUR 5 mln. Here, to be counted as a PPP, a project must be based on a long term, risk sharing contract between public and private parties. The project must include the bundling of design, construction, operation and/or asset maintenance, together with a major component of private finance. The project values referred to in this publication represent the amount of external financing requirements at the time of financial close (i.e. the date at which the main project and financing agreement are signed and debt drawdowns can be made).



The financial crisis led to a considerable decline in the number and volume of deals reaching financial close in the first half of each year. After a considerable decline in 2009H1, the PPP market showed first signs of recovery in 2011H1, at least in terms of total value. However the latest data available suggest that the number and total value of PPPs in 2012H1 fell to the lowest value recorded in the first half of a year for more than a decade.

The next chart allows identifying the sectors that have been hit hardest by the dramatic decline in PPPs during the crisis.



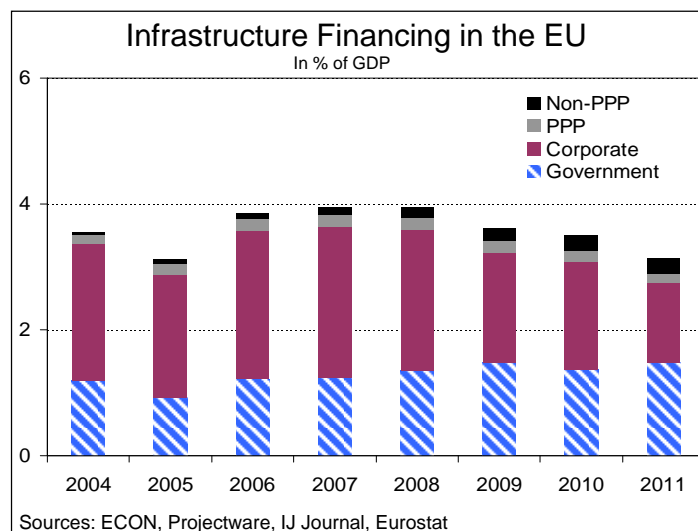
Transport accounts for the largest share of total PPP financing requirements, with moderate fluctuations over time. It seems that in recent years the decline in new PPP financing requirements was stronger in health and education than in other sectors. Having said this, total gross fixed capital formation in Education in the EU remained relatively stable in 2011. In contrast, total gross fixed capital formation in health declined by roughly 9% in 2011, due to a considerable decline of private investment in this sector. New financing requirements for PPPs in environment actually increased in 2011.

### 3. Financing of PPPs

This section discusses the financing structure of PPPs with a particular focus on the role of the public sector and the EIB.

#### 3.1. PPPs and Infrastructure Financing in Europe

To start with, the next chart compares estimated PPP investment flows with total infrastructure investment (in % of GDP) for the EU.<sup>3</sup> The chart distinguishes between PPPs, non-PPP project finance<sup>4</sup>, government and corporate financing of infrastructure.

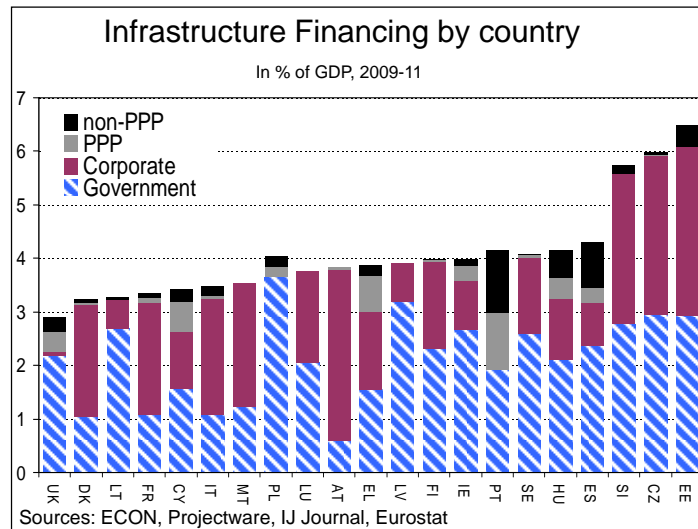


Corporate and government investment account for the largest part of total infrastructure investment. In terms of macro-economic significance, project finance is relatively small. Total infrastructure investment decreased from 4% of GDP in 2008 to 3.2% in 2011, which was mainly driven by a decline in corporate investment. Investment in infrastructure by the government actually increased. While the volume of PPPs stagnated in the past years, the share of non-PPP projects continues to rise.

There are considerable differences in the financing of infrastructure across countries, as the next chart shows.

<sup>3</sup> Infrastructure investment captures total Gross Fixed Capital Formation in four sectors: Transport, Energy, Health and Education. For more details, including on how to estimate PPP investment flows, see Wagenvoort R, C De Nicola, A Kappeler (2010). Infrastructure finance in Europe: Composition, evolution and crisis impact. EIB Papers, 15/1, EIB.

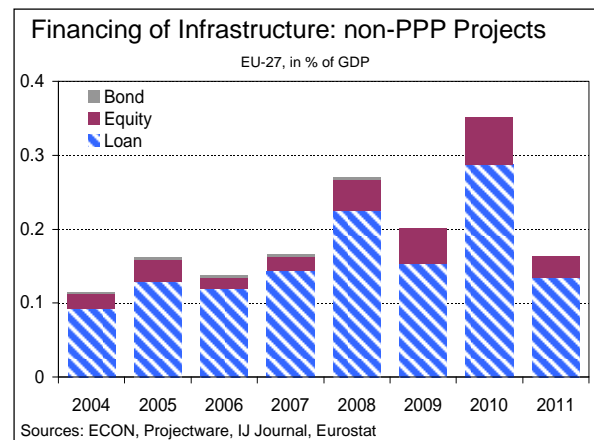
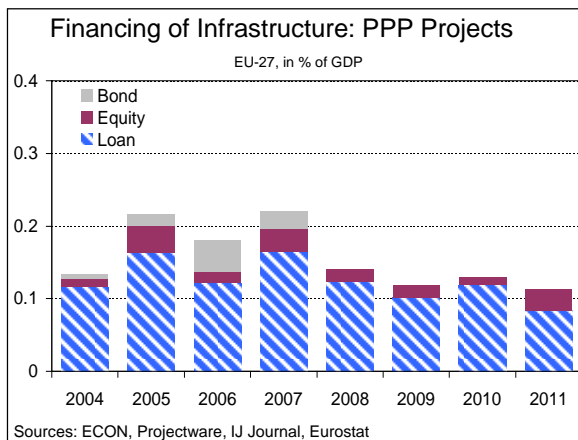
<sup>4</sup> Non-PPP project finance captures the financing requirements of private projects in Transport, Energy, Health and Education. Source: Projectware.



As expected many new member states spend a larger share of GDP on infrastructure investment. For most new member states project finance is relatively small. PPP and non-PPP projects represent a significant part of infrastructure investment in Cyprus, Greece, Portugal, Hungary and Spain.

### 3.2. Financing Structure of PPPs

The next set of charts focuses on the financing of infrastructure projects through bonds, equity and loans (in % of GDP).<sup>5</sup> For comparison we show this breakdown for PPP and non-PPP project finance.<sup>6</sup>



The volume of PPPs (in % of GDP) in EU-27 declined considerably as a result of the 2008-09 crisis and remains subdued. In contrast, the composition non-PPP project finance has been less affected by the 2008-09 crisis. While financing requirements for non-PPP projects declined considerably in 2011, they reached an all-time peak in 2010.

As to the financing structure, before the crisis, roughly 70% of the total financing requirements of PPPs were financed through loans. Bonds and equity covered about equal shares of the total financing

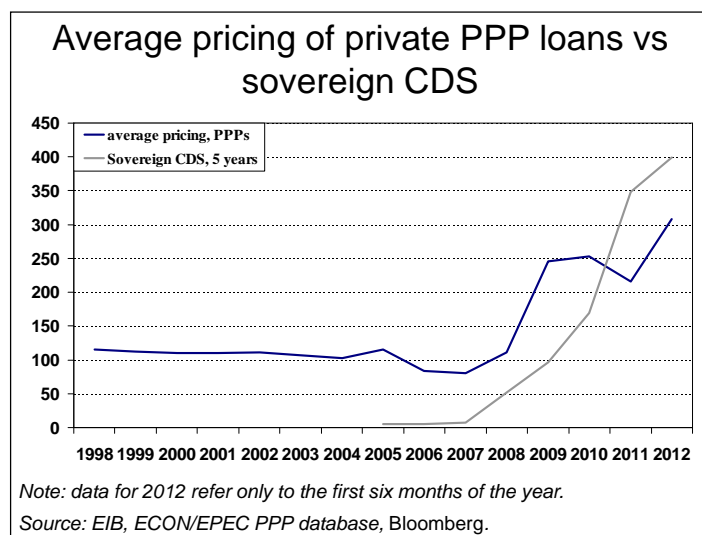
<sup>5</sup> A breakdown by source of financing is only available for roughly 75% of all PPP projects in our database. Aggregate value estimates in the chart on the left-hand side are based on total PPP values (Figure 1) and the available information of financing sources.

<sup>6</sup> Two caveats are in order when comparing PPPs with non-PPP project finance. The PPP market is structurally different from the non-PPP market as non-PPP projects often have less of a public good character. Moreover the sectoral composition differs across PPP and non-PPP markets. E.g. while projects in the transport sector are typically procured as PPPs energy projects are typically procured as private (non-PPP) projects.

requirements - with some variation across years. However, since 2008 bond financing is very limited. Equity continues to be characterized by considerable fluctuations from one year to another.

The financing structure of non-PPP projects did not change dramatically due to the crisis. While bond financing also came to a halt for non-PPP projects, it was already of limited importance before the crisis. If anything it seems that the importance of equity has increased in recent years.

The next chart provides some insights into the pricing of private loans, the most important financing source of PPPs. It shows the average spread over Euribor/Libor of the principal loan. For comparison, the chart also shows the weighted average of sovereign CDS as a broad measure of market conditions.<sup>7</sup>



Spreads over Libor/Euribor declined in the run-up to the financial crisis, from 110 basis points (bps) in 2000 to 80 basis points in 2007. The financial crisis dramatically reversed this tendency: between 2007 and 2010 spreads tripled to more than 250 bps. After a moderate decline in 2011, data available for the first half of 2012 indicate another significant increase - by more than 50 bps.

### 3.3. Public Financing of PPPs and the EIB

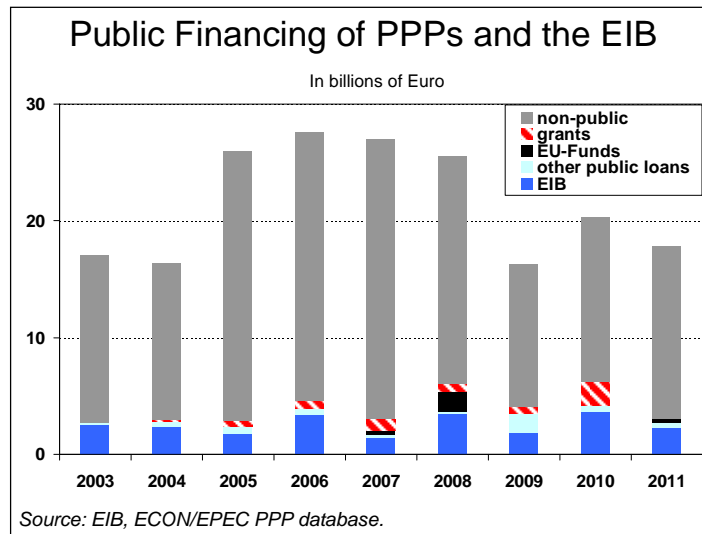
This sub-section zooms in on the role of the public sector in directly financing PPPs in the EU, with a particular focus on the role of EIB loans.<sup>8</sup> When considering the figures below one should bear in mind that PPP projects and the EIB's involvement in them are lumpy, which complicates the interpretation of observed changes from one year to the next. Also, note that the public sector may considerably influence the financing of PPPs in an indirect way, e.g. by providing guarantees. In fact such indirect sources of public involvement may have become increasingly important in light of continuously tightening fiscal constraints in many countries. Unfortunately data on the use of such indirect policy instruments are very limited and thus we are not able to explore this issue in more detail.

To better understand the amounts involved, the chart below decomposes the total financing needs of PPPs into five parts: (1) The value of PPPs funded by the EIB, (2) funded through other public loans, (3) funded

<sup>7</sup> Data on pricing refer to the principal loan of each project as made available by Projectware and/or the Infrastructure Journal. As this information is only available for a sub-sample and is inconsistent in some cases, these results should be taken with a pinch of salt.

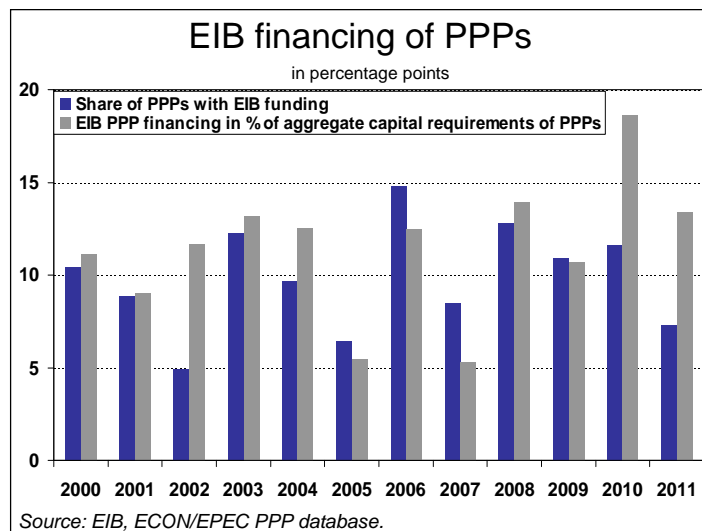
<sup>8</sup> Data on EIB financing are from EPEC (2011) "PPPs financed by the European Investment Bank between 2000 and 2010" and the Infrastructure Journal. Only projects that fall under our definition of PPPs are included (see Kappeler and Nemoz (2010) for more details).

through EU funds, (4) funded through grants and (5) non-public sources including bonds, equity and private loans.<sup>9</sup>



While the share of aggregated public financing increased considerably during the crisis, it declined in 2011. Public sources covered 14% (or EUR 3.2. bln) of total PPP financing needs (17.8 billion) in 2011 - compared to 20% (or EUR 6.1bln) in 2010. The volume of other public loans accounts for the largest part of total public financing. Public loans included EUR 2.4 billion of EIB loans in 2011, 0.9 billion less than in 2010. The financing through grants has reached an all-time peak in 2010 but stopped abruptly in 2011. EU Structural Funds play only a marginal role in providing financing for PPPs except in 2008.

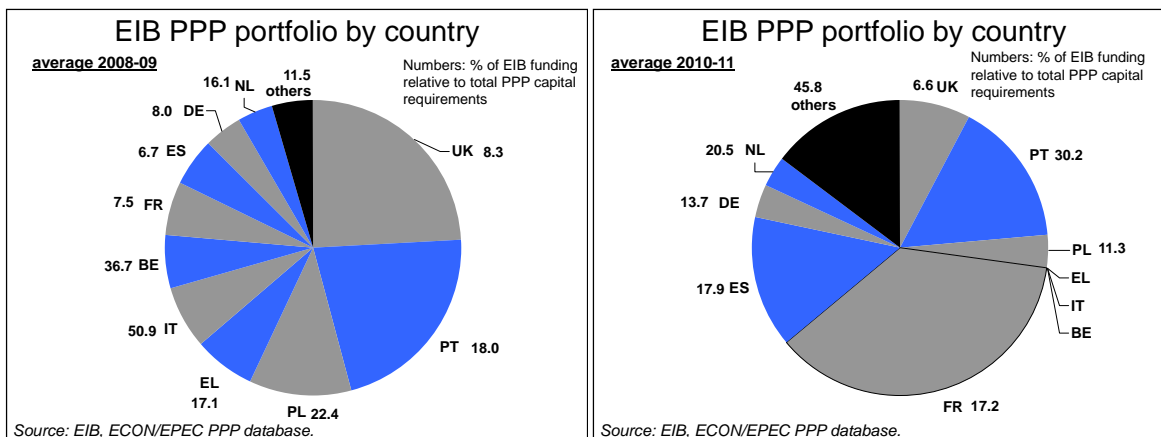
The next chart zooms in on the relative involvement of the EIB in the PPP market in Europe by showing the share of PPPs with EIB loans as well as the share of EIB loans in total PPP financing.



<sup>9</sup> Aggregate value estimates based on total PPP values (Figure 1) and roughly 75% of projects for which detailed data on financing available.

The provision of EIB loans for PPPs has declined in absolute and relative terms in 2011 accounting for 13.4% of the total financing requirements of PPPs. This is considerably less than in 2010. The value of EIB loans provided declined by 34% in 2011. This may also be due to the sharp increase in EIB financing for PPPs in 2010, which has been partially offset in 2011. At the same time, the share of PPP projects benefitting from EIB loans has declined from 11.6% in 2010 to 7.3% in 2011.

To give a rough picture about differences of the EIB's involvement in PPPs across countries, the next chart shows the EIB portfolio of PPPs by country as average over 2008-09 and 2010-11, respectively. Numbers refer to the share of EIB loans relative to total PPP financing requirements in this country.



The largest share of EIB loans for PPPs was allocated to the UK in 2008-09, followed by Portugal and Poland. As the PPP market in the UK is relatively large, EIB loans accounted for only 8.3% of total PPP financing needs in the UK. In contrast, the by far largest share of EIB loans for PPPs was allocated to France in 2010-11. Italy and Belgium in 2008-09 and Portugal and "others" in 2010-11 received a large share of EIB loans relative to their PPP market size. Note that averaging over 2010-11 clouds the fact that no PPP deals have been realised in Portugal in 2011, as discussed in section 2.



## Annex

**Table 1: Aggregate financing needs of PPPs reaching financial close by country and year.**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
<b>AT</b>	0	0	0	0	0	0	0	144	0	260	0	1027	0	0	0	0	0	1431
<b>BE</b>	285	0	0	227	0	440	0	379	0	0	206	282	644	618	235	1713	695	5983
<b>BG</b>	0	0	0	0	0	0	0	0	0	0	0	0	231	0	0	8	0	239
<b>CY</b>	0	21	0	0	0	53	0	0	0	0	0	658	0	0	0	0	0	732
<b>CZ</b>	699	0	0	0	0	0	79	0	0	0	0	0	21	0	0	131	0	929
<b>DE</b>	41	0	819	930	852	151	250	1177	0	1565	336	409	894	1172	1638	385	1142	11761
<b>DK</b>	0	0	0	0	0	0	0	0	0	0	0	0	95	0	0	161	72	328
<b>EL</b>	0	3319	0	758	1599	0	0	0	0	0	0	1431	5177	1319	782	0	0	14385
<b>ES</b>	90	490	559	121	339	773	987	938	2626	2858	8125	6274	1028	3306	742	4430	470	34712
<b>FI</b>	0	0	97	0	0	0	0	0	0	0	378	0	0	0	0	0	332	806
<b>FR</b>	0	1962	46	0	80	1571	0	974	75	421	2458	1645	1793	3166	880	1786	11016	28826
<b>HU</b>	372	1465	107	0	0	0	0	0	0	487	301	0	1159	537	0	0	0	4426
<b>IE</b>	0	0	0	0	0	0	91	0	274	276	69	594	2008	50	290	100	0	3752
<b>IT</b>	0	47	0	0	0	0	623	0	956	1067	3249	267	2218	538	155	373	860	10352
<b>LV</b>	0	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	70
<b>LT</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
<b>LU</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
<b>NL</b>	618	0	0	0	95	0	1333	74	682	0	0	120	0	1126	83	1014	29	5627
<b>PL</b>	0	0	0	56	0	873	0	0	0	0	679	191	0	974	1593	2000	0	6366
<b>PT</b>	555	0	888	750	1456	2560	1910	798	0	1319	379	550	263	4017	2243	3125	0	20811
<b>RO</b>	0	0	0	20	0	0	0	0	0	0	0	20	0	0	0	0	0	40
<b>SE</b>	0	533	0	0	0	0	0	0	0	0	0	0	0	0	0	1104	0	1637
<b>SI</b>	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	35
<b>SK</b>	94	0	0	0	0	0	0	0	0	0	0	0	0	0	1193	0	0	1287
<b>UK</b>	100	2306	2779	17027	5953	8100	9272	11710	12476	8080	9794	14121	11494	8718	6450	3949	3197	135588
<b>Total</b>	<b>2853</b>	<b>10143</b>	<b>5295</b>	<b>19889</b>	<b>10480</b>	<b>14521</b>	<b>14543</b>	<b>16194</b>	<b>17089</b>	<b>16333</b>	<b>25973</b>	<b>27587</b>	<b>27025</b>	<b>25539</b>	<b>16284</b>	<b>20289</b>	<b>17844</b>	<b>290166</b>

Source: EIB, Irish PPP Unit, EPEC, HMT, Projectware, Infrastructure Journal.

**Table 2: Number of PPP deals reaching financial close by country and year.**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
<b>AT</b>	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	3
<b>BE</b>	1	0	0	1	0	1	0	1	0	0	1	1	2	1	2	5	6	23
<b>BG</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
<b>CY</b>	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	3
<b>CZ</b>	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	4	0	7
<b>DE</b>	1	0	1	2	3	1	1	3	0	8	4	3	6	6	26	14	16	95
<b>DK</b>	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3	6
<b>EL</b>	0	2	0	1	1	0	0	0	0	0	0	2	4	1	2	0	0	13
<b>ES</b>	1	4	1	2	4	6	4	4	7	11	16	33	11	20	11	13	7	156
<b>FI</b>	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
<b>FR</b>	0	1	1	0	1	2	0	2	1	1	5	11	9	19	17	19	17	108
<b>HU</b>	1	1	1	0	0	0	0	0	0	1	2	0	1	1	0	0	0	8
<b>IE</b>	0	0	0	0	0	0	1	0	2	2	1	2	6	1	3	1	0	19
<b>IT</b>	0	1	0	0	0	0	1	0	6	3	8	2	8	3	2	2	3	39
<b>LV</b>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>LT</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
<b>LU</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
<b>NL</b>	3	0	0	0	1	0	1	1	3	0	0	1	0	4	1	3	1	20
<b>PL</b>	0	0	0	1	0	1	0	0	0	0	1	1	0	1	1	1	0	7
<b>PT</b>	1	0	1	1	2	4	2	1	0	4	3	2	2	8	8	3	0	42
<b>RO</b>	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
<b>SE</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
<b>SI</b>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>SK</b>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
<b>UK</b>	2	16	27	56	65	80	68	69	71	94	82	81	77	52	45	44	27	959
<b>Total</b>	<b>12</b>	<b>27</b>	<b>33</b>	<b>65</b>	<b>79</b>	<b>96</b>	<b>79</b>	<b>82</b>	<b>90</b>	<b>125</b>	<b>124</b>	<b>142</b>	<b>130</b>	<b>117</b>	<b>119</b>	<b>113</b>	<b>82</b>	<b>1523</b>

Source: EIB, Irish PPP Unit, EPEC, HMT, Projectware, Infrastructure Journal.