

17 October 2016

ITALY'S TECHNOLOGY BALANCE OF PAYMENTS
YEAR 2015

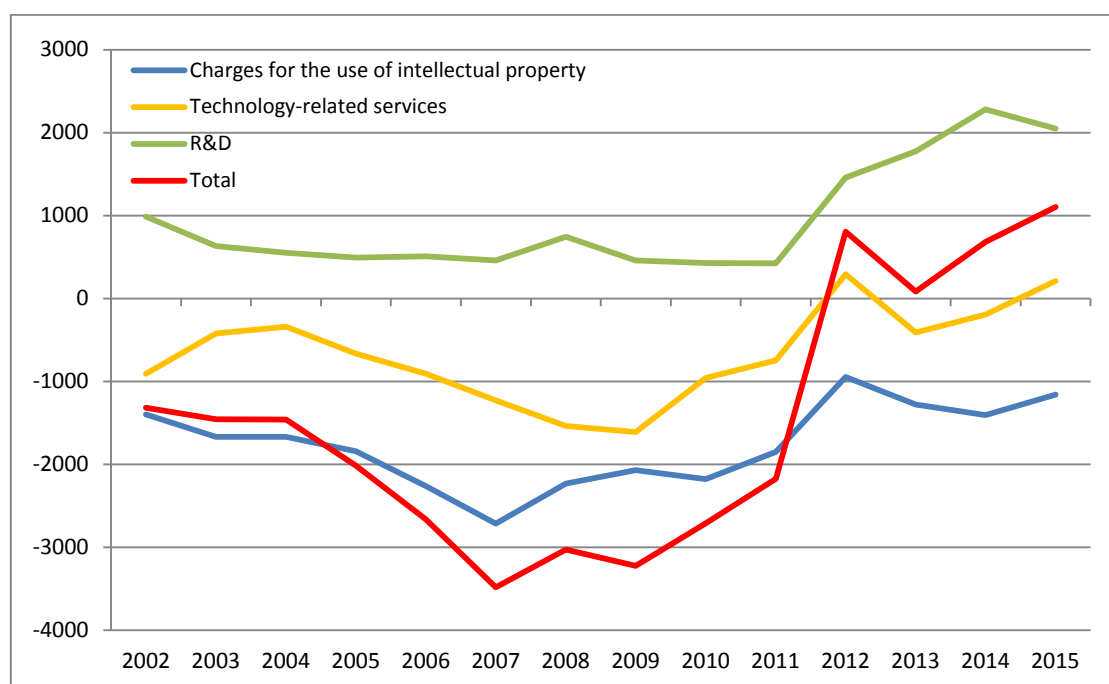
This publication was edited by Arcangela De Cata, Enrico Tosti and Simonetta Zappa.

1. Developments in Italy's technology balance of payments in 2015

The technology balance of payments is positive for the fourth year in a row

In 2015 Italy's overall technology balance of payments (BP_Tec) was positive by around €1.1 billion, increasing by €0.7 billion compared with the previous year (Figure 1 and Table 1). This marks the fourth consecutive year in which there was a trade surplus for 'disembodied' technology; the improvement with respect to the period prior to 2012 was mainly due to a surplus for R&D and a deficit for computer services, which has now been almost fully eliminated.

Figure 1 – Italy's technology balance of payments: balances by transaction type (millions of euros)



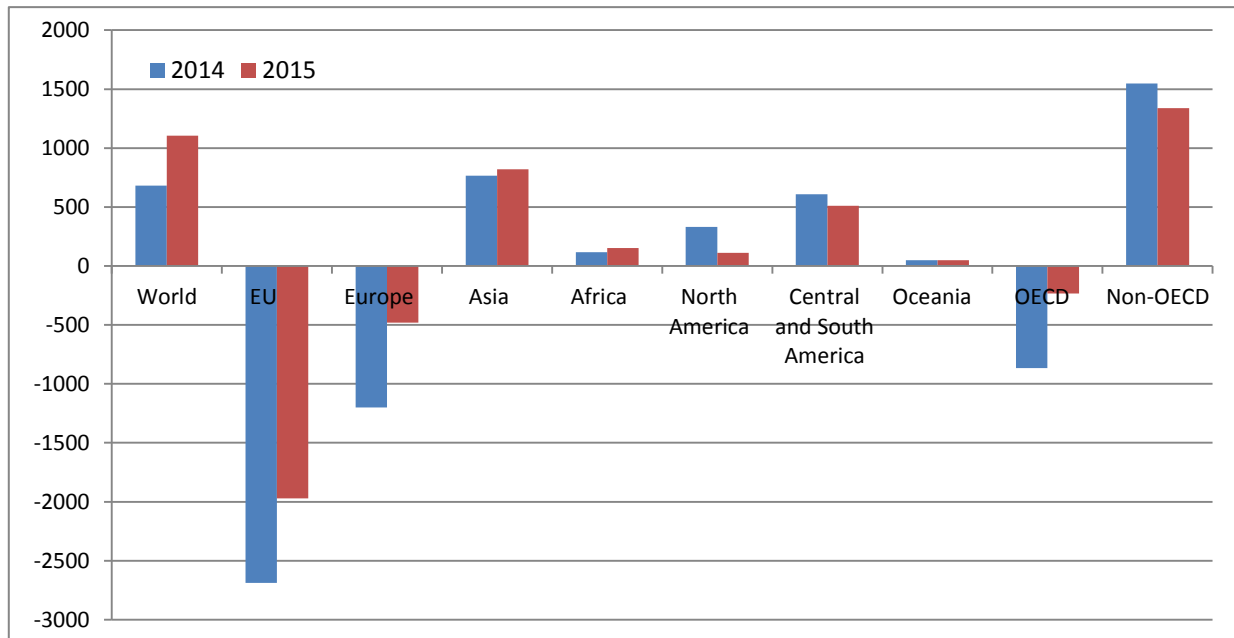
In 2015 R&D balance recorded a surplus of €2.0 billion, slightly lower than in 2014. The deficit in charges for the use of intellectual property fell from €1.4 billion to €1.2 billion, while architectural and engineering services and other technology-related services returned to surplus (€0.3 billion and €0.2 billion respectively).

In 2015 exports rise more than imports

Overall BP_Tec exports rose by 4.6 per cent compared with 2014, owing to increases in both computer services (almost 17 per cent) and charges for the use of intellectual property. By contrast, receipts for R&D services and architectural and engineering services fell. Imports rose by 1.0 per cent; the significant increases in payments for computer services (the same amount as exports) and in R&D services were almost offset by the considerable reduction in purchases of architectural and engineering services; payments for the use of intellectual property instead remained stable.

Most of the transactions registered in the BP_Tec are with the advanced countries. The deficit with respect to OECD countries continued to improve, falling to €0.2 billion, from €0.9 billion in 2014 (Figure 2 and Table 2). The balance with non-OECD countries, while still positive, instead declined slightly, from €1.5 billion to €1.3 billion.

Figure 2 – Technology balance of payments: balances by geographical area
(millions of euros)



The deficit with OECD countries is practically wiped out

In 2015 exports of disembodied technology to OECD countries rose by 8.7 per cent compared with the previous year. The largest increases in absolute terms were in sales to Belgium, Germany, Poland and Switzerland, which has become the top destination country (€1.6 billion), surpassing the United States. On the other hand, the largest declines in exports were to the United States, as well as to the United Kingdom and the minor OECD countries. Exports to countries outside of the OECD fell by 12.2 per cent, particularly to Russia, most likely due to well-known geopolitical factors, and to Brazil.

Imports from OECD countries grew by 1.6 per cent, particularly from the UK, Spain and Ireland, which continues to be the leading country of origin for Italian BP_Tec imports (€2.1 billion in 2015) due to the strong presence of foreign affiliates, especially of US and UK firms. By contrast, imports from Luxembourg, the United States and Switzerland declined.

Disembodied technology trade flows with EU countries generated a deficit of €2.0 billion (around €0.7 billion less than the previous year); exports rose by 17.5 per cent to €6.4 billion and imports by 3.0 per cent to €8.4 billion.

The manufacturing sector surplus continues to rise and the services sector deficit falls

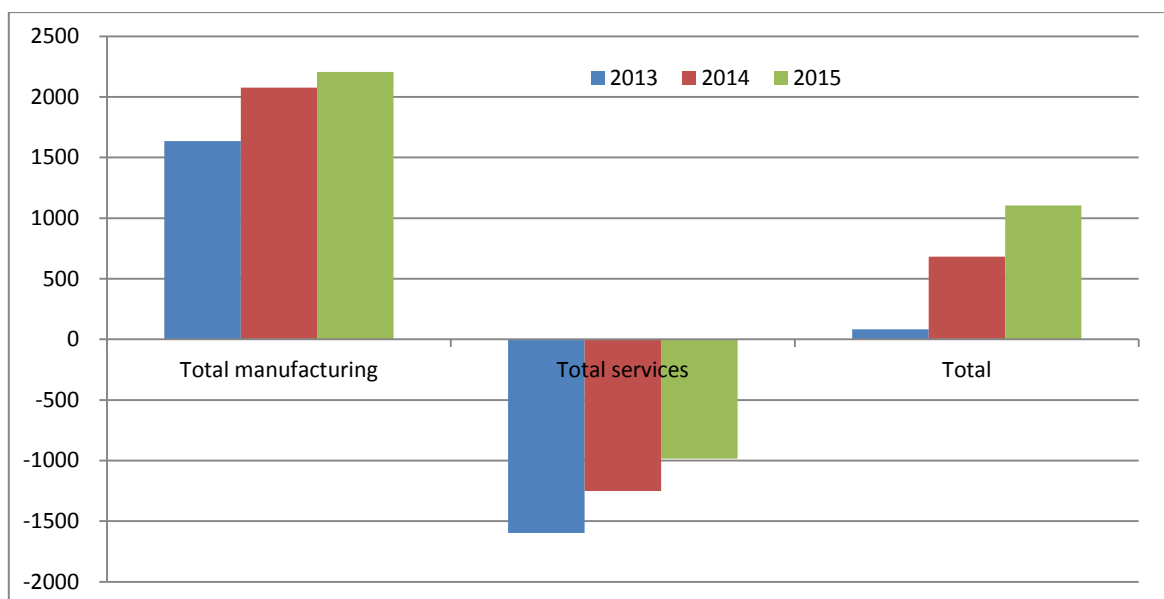
In the distribution by sector of activity (Figure 3), in 2015 **the manufacturing sector surplus continued to rise**, albeit only slightly compared with 2014 (from €2.1 billion to €2.2 billion; Table 3). **The deficit for the services sector also continued to decline**, from €1.3 billion to €1.0 billion.

Among the manufacturing sector technology exports, which account for around 58 per cent of the total, the two main segments, ‘computer, electronic and optical products’ and ‘motor vehicles, trailers and semi-trailers’, recorded a reduction in technology sales to foreign countries; the ‘textiles, wearing apparel, leather and related products’ segment instead recorded growth. Exports rose in many services

sectors, especially in ‘financial and insurance activities’, ‘information and communication’ and ‘professional, scientific and technical activities’.

Manufacturing sector technology imports, which represent around 43 per cent of the total, declined marginally, mainly reflecting the decrease in purchases in the ‘textiles, wearing apparel, leather and related products’, ‘other transport equipment’ and ‘chemicals and chemical products’ segments. In the services sector, ‘information and communication’ continued to play a predominant role, accounting for 34 per cent of the total and imports were up by 12.5 per cent compared with 2014.

Figure 3 – Italy’s technology balance of payments for the manufacturing and services sectors
(millions of euros)



2. International standing

In addition to encouraging countries to compile their own BP_Tec, the OECD gathers data from individual countries on a voluntary basis and publishes them in aggregate form on its website, reporting total receipts and payments.¹ Although there are coverage problems (many countries cannot supply data for all the years or there are gaps in the data series) and uniformity issues in the classification of the items included in the BP_Tec, these data can be used for international comparisons.

For Italy the ratio of BP_Tec flows to GDP is still lower than the OECD average

Table 4 sets out, for the last five years available (2010-2014), the data published by the OECD for the main reporting countries; to take account of each country’s size in making the comparisons, exports, imports and total BP_Tec balances are all considered as a ratio of national GDP (IMF data). The comparisons clearly show that the averages for Italy are lower than those of the other OECD countries, considering both the median and average weighted using national GDPs.

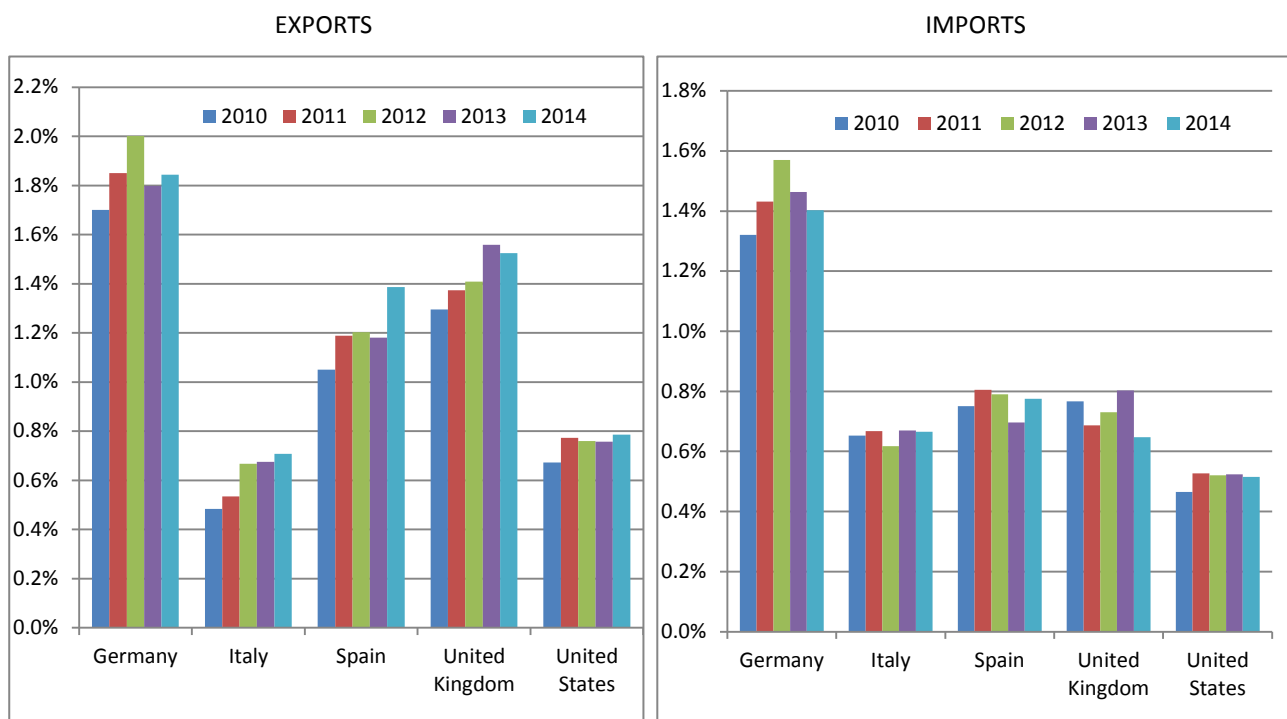
In the case of Ireland, the very high volume of trade in disembodied technology (above 23 per cent) is associated, as noted earlier, with the presence in that country of numerous affiliates of foreign companies active in high-technology sectors that are taking advantage of Ireland’s tax system. Many countries exceed 2 per cent while Italy’s average is around 0.6-0.7 per cent for both exports

¹ The data can be downloaded at: https://stats.oecd.org/Index.aspx?DataSetCode=MSTI_PUB; they are published in *Main Science and Technology Indicators*.

and imports. Also with respect to balances, Italy remains below the average for the main OECD countries, which is systematically positive at around 0.3 per cent; the figure for 2015, however, brings Italy closer to this average.

Figure 4 compares Italy’s BP_Tec export and import data as a percentage of GDP with those of four principal OECD countries: Germany, Spain, United Kingdom and the United States (the data for France are unavailable). With exports, especially, it can be seen how Italy’s ratio is lower, even though the growth recorded in recent years could signal that it is making up lost ground with respect to the main advanced countries.

**Figure 4 – Technology balance of payments:
exports and imports as a percentage of the GDP of selected OECD countries**



Sources: Based on OECD and IMF data

Tables

Table 1 – Technology balance of payments by category
(millions of euros)

	Charges for the use of intellectual property (SH)	Computer services (SI2)	Architectural, engineering and other technical services (SJ31)	Technology-related services (SI2+SJ31)	R&D (SI1)	Total BP_TEC
RECEIPTS						
2002	2,040			2,282	1,746	6,068
2003	2,163			2,244	1,523	5,930
2004	2,321			2,648	1,691	6,659
2005	2,610			3,048	1,549	7,207
2006	2,934			3,425	1,741	8,100
2007	3,101			3,621	1,841	8,563
2008	2,720	1,498	1,624	3,122	1,789	7,632
2009	2,316	1,360	972	2,332	1,721	6,369
2010	2,752	1,563	1,768	3,331	1,677	7,760
2011	2,901	1,695	2,323	4,018	1,841	8,760
2012	3,190	1,980	2,884	4,863	2,719	10,773
2013	2,775	2,229	2,611	4,841	3,217	10,833
2014	2,491	3,103	2,372	5,475	3,449	11,414
2015	2,751	3,628	2,288	5,916	3,271	11,938
PAYMENTS						
2002	3,438			3,189	759	7,386
2003	3,832			2,666	890	7,388
2004	3,990			2,989	1,139	8,118
2005	4,452			3,713	1,058	9,223
2006	5,196			4,334	1,234	10,765
2007	5,815			4,850	1,381	12,046
2008	4,951	2,978	1,682	4,660	1,046	10,658
2009	4,388	2,429	1,515	3,944	1,262	9,594
2010	4,931	3,145	1,144	4,289	1,249	10,469
2011	4,753	3,078	1,687	4,765	1,417	10,935
2012	4,136	3,344	1,226	4,571	1,261	9,968
2013	4,056	3,118	2,134	5,252	1,444	10,751
2014	3,896	3,227	2,441	5,668	1,168	10,732
2015	3,909	3,747	1,957	5,704	1,222	10,834
BALANCE						
2002	-1,398			-907	987	-1,318
2003	-1,669			-422	634	-1,458
2004	-1,669			-341	551	-1,459
2005	-1,842			-666	492	-2,015
2006	-2,263			-909	507	-2,665
2007	-2,714			-1,229	459	-3,484
2008	-2,231	-1,480	-58	-1,538	743	-3,026
2009	-2,072	-1,069	-543	-1,612	459	-3,225
2010	-2,179	-1,582	624	-958	428	-2,709
2011	-1,852	-1,383	636	-747	424	-2,175
2012	-946	-1,364	1,658	293	1,458	805
2013	-1,281	-889	478	-411	1,774	82
2014	-1,405	-124	-69	-193	2,281	682
2015	-1,158	-119	332	212	2,050	1,104

Table 2 – Technology balance of payments by country or geographical area
(millions of euros)

	RECEIPTS		PAYMENTS		BALANCE	
	2014	2015	2014	2015	2014	2015
World	11,414	11,938	10,732	10,834	682	1,104
EU	5,479	6,439	8,168	8,409	-2,689	-1,971
Europe	7,649	8,559	8,849	9,040	-1,200	-481
Asia	1,133	1,224	367	405	766	819
Africa	191	211	74	60	118	151
North America	1,596	1,287	1,266	1,176	330	111
Central and South America	656	543	48	31	608	512
Oceania	66	71	17	23	49	48
OECD	9,182	9,978	10,047	10,212	-866	-234
Austria	127	213	100	141	27	71
Belgium	280	723	125	176	156	546
France	753	872	1,167	1,095	-414	-223
Germany	1,171	1,437	1,627	1,677	-456	-240
Ireland	584	601	1,894	2,072	-1,310	-1,471
Luxembourg	233	308	542	249	-309	59
Netherlands	171	140	751	757	-580	-617
Poland	250	402	58	62	193	341
Spain	168	226	201	304	-33	-78
Sweden	316	291	109	102	207	189
United Kingdom	790	743	1,096	1,333	-306	-591
Switzerland	1,508	1,618	588	539	920	1,079
Turkey	287	268	20	19	267	250
United States	1,554	1,266	1,246	1,163	307	103
Canada	42	21	19	13	22	8
Japan	165	168	99	137	67	31
Other OECD countries	781	680	406	373	376	307
NON-OECD	2,233	1,960	685	622	1,548	1,338
Russia	268	126	32	30	236	96
Brazil	405	259	26	15	379	244
China	286	280	68	46	218	234
India	93	76	56	62	37	13
Other non- OECD countries	1,180	1,219	503	469	677	750

Table 3 – Technology balance of payments by sector of the Italian reporting entity
(millions of euros)

	RECEIPTS		PAYMENTS		BALANCE	
	2014	2015	2014	2015	2014	2015
Agriculture, Forestry and Fishing	0	0	0	0	0	0
Mining and Quarrying	64	30	247	191	-183	-161
Total Manufacturing	6,828	6,902	4,753	4,695	2,075	2,207
Food, beverages, tobacco	288	346	326	269	-38	77
Textiles, wearing apparel, leather and related products	325	504	347	181	-22	323
Wood and paper products, except furniture	32	33	38	50	-7	-17
Coke and refined petroleum products	11	21	86	106	-75	-85
Chemicals and chemical products	283	218	430	323	-147	-105
Pharmaceuticals	701	608	470	471	231	137
Rubber and plastics products	350	331	232	151	118	180
Other non-metallic mineral products	31	37	42	47	-11	-10
Basic metals	13	13	56	39	-43	-25
Fabricated metal products (excl. machinery and equipment)	234	213	205	189	29	25
Computer, electronic and optical products	1,915	1,896	169	375	1,747	1,522
Electrical equipment	344	324	492	626	-148	-302
Machinery and equipment n.e.c.	630	669	487	592	144	76
Motor vehicles, trailers and semi-trailers	1,543	1,387	859	831	684	557
Other transport equipment	62	106	378	262	-317	-156
Other manufacturing; repair and installation of machinery and equipment	65	196	136	184	-71	11
Electricity, gas, water and waste services	90	107	121	144	-32	-37
Construction	277	156	204	78	73	78
Total services	4,156	4,743	5,407	5,726	-1,251	-983
Wholesale and retail trade	329	450	951	847	-622	-397
Transportation and storage	4	3	126	124	-122	-121
Information and communication	1,545	1,769	3,306	3,719	-1,761	-1,950
Financial and insurance activities	196	436	290	299	-94	137
Professional, scientific and technical activities	1,700	1,883	423	419	1,277	1,464
Other services	381	202	311	318	70	-116
Total	11,414	11,938	10,732	10,834	682	1,104

Table 4 – Technology balance of payments (main OECD countries): export, import and balances as a percentage of national GDP

	RECEIPTS						PAYMENTS						BALANCE					
	2010	2011	2012	2013	2014	AVERAGE	2010	2011	2012	2013	2014	AVERAGE	2010	2011	2012	2013	2014	AVERAGE
Australia	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Austria	2.1%	2.5%	2.7%	2.8%	3.0%	2.6%	1.2%	1.4%	1.7%	1.8%	1.8%	1.6%	0.9%	1.1%	1.0%	1.0%	1.2%	1.0%
Belgium	2.4%	2.5%	3.0%	3.3%	3.6%	2.9%	2.1%	2.1%	2.5%	2.8%	3.4%	2.6%	0.4%	0.3%	0.4%	0.5%	0.2%	0.4%
Canada	0.2%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.1%	0.1%	0.0%	0.1%
Czech Republic	1.0%	1.3%	1.5%	1.8%	2.0%	1.5%	1.2%	1.4%	1.6%	1.5%	1.6%	1.4%	-0.2%	-0.1%	-0.1%	0.3%	0.4%	0.1%
Finland	3.8%	3.9%	3.9%	4.2%	4.2%	4.0%	3.1%	3.0%	3.4%	2.8%	2.4%	3.0%	0.7%	1.0%	0.5%	1.3%	1.8%	1.1%
Germany	1.7%	1.9%	2.0%	1.8%	1.8%	1.8%	1.3%	1.4%	1.6%	1.5%	1.4%	1.4%	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%
Greece	0.2%	0.3%	0.3%	0.3%	0.4%	0.3%	0.5%	0.4%	0.3%	0.4%	0.5%	0.4%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Hungary	3.2%	3.3%	3.5%	3.6%	3.6%	3.4%	2.9%	3.1%	3.2%	3.8%	3.5%	3.3%	0.3%	0.1%	0.3%	-0.2%	0.1%	0.1%
Ireland	18.6%	20.5%	23.5%	26.7%	28.9%	23.6%	20.3%	20.2%	23.7%	23.9%	29.5%	23.5%	-1.7%	0.3%	-0.2%	2.8%	-0.6%	0.1%
Israel	4.3%	4.7%	5.6%	5.1%	5.0%	4.9%	1.1%	1.0%	1.0%	0.8%	0.9%	1.0%	3.3%	3.6%	4.5%	4.4%	4.1%	4.0%
Italy	0.5%	0.5%	0.7%	0.7%	0.7%	0.6%	0.7%	0.7%	0.6%	0.7%	0.7%	0.7%	-0.2%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Japan	0.5%	0.5%	0.6%	0.7%	0.8%	0.6%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.4%	0.4%	0.5%	0.6%	0.6%	0.5%
South Korea	0.3%	0.3%	0.4%	0.5%	0.0%	0.3%	0.9%	0.8%	0.9%	0.9%	0.0%	0.7%	-0.6%	-0.5%	-0.5%	-0.4%	0.0%	-0.4%
Poland	0.7%	0.7%	0.8%	0.9%	1.1%	0.9%	1.1%	0.7%	0.8%	1.0%	1.0%	0.9%	-0.4%	0.0%	0.0%	-0.1%	0.1%	-0.1%
Portugal	0.5%	0.6%	0.7%	0.8%	0.9%	0.7%	0.6%	0.7%	0.6%	0.6%	0.8%	0.7%	-0.1%	0.0%	0.1%	0.2%	0.0%	0.0%
Spain	1.1%	1.2%	1.2%	1.2%	1.4%	1.2%	0.8%	0.8%	0.8%	0.7%	0.8%	0.8%	0.3%	0.4%	0.4%	0.5%	0.6%	0.4%
Sweden	3.6%	4.1%	4.3%	4.5%	4.8%	4.3%	2.0%	2.1%	2.4%	2.3%	2.9%	2.3%	1.6%	2.1%	1.9%	2.2%	1.9%	1.9%
Switzerland	3.6%	3.6%	4.3%	4.4%	4.5%	4.1%	3.6%	3.8%	4.3%	4.4%	4.9%	4.2%	-0.1%	-0.2%	-0.1%	0.0%	-0.5%	-0.2%
United Kingdom	1.3%	1.4%	1.4%	1.6%	1.5%	1.4%	0.8%	0.7%	0.7%	0.8%	0.6%	0.7%	0.5%	0.7%	0.7%	0.8%	0.9%	0.7%
United States	0.7%	0.8%	0.8%	0.8%	0.8%	0.7%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.2%	0.2%	0.2%	0.2%	0.3%	0.2%
GDP-weighted average	1.0%	1.1%	1.1%	1.2%	1.3%	1.1%	0.7%	0.8%	0.8%	0.9%	0.9%	0.8%	0.2%	0.3%	0.3%	0.3%	0.4%	0.3%
median	1.1%	1.3%	1.4%	1.6%	1.8%	1.4%	1.1%	0.8%	0.9%	0.9%	1.0%	1.0%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%

Source: Based on OECD and IMF data