



HM Revenue & Customs

Asymmetries in international trade in goods statistics: UK measured against EU Member States, 2016 to 2018

About this release

This release includes commentary on the asymmetries between the UK and other EU Member States. Detailed tables of the asymmetries can be found at www.uktradeinfo.com

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Summary

- Asymmetries are the differences between the published trade statistics of the reporting country and its partner countries. Each country collects data on their own international trade-in-goods for both arrivals and dispatches, simplistically the 'mirror flow' collected by the partner countries should match (i.e. one country's dispatches should mirror the partner country's arrivals). In reality, it is often the case that the figures do not match and this is referred to as an 'asymmetry'.
- The total absolute asymmetry by partner country in 2018 between the UK's arrivals from the EU and the EU's dispatches to the UK was €24.3bn. By comparison, in 2016 this was €32.6bn and in 2017 this was €32.2bn.
- The total absolute asymmetry by partner country in 2018 between the UK's dispatches to the EU and the EU's arrivals from the UK was €15.1bn. By comparison, in 2016 this was €10.7bn and in 2017 this was €14.1bn.
- The relative asymmetry in 2018 between the UK's arrivals from the EU and their dispatches to the UK was -5.6%. By comparison, in 2016 this was -8.5% and in 2017 this was -8.6%.
- The relative asymmetry in 2018 between the UK's dispatches to the EU and their arrivals from the UK was -1.1%. By comparison, in 2016 this was -3.0% and in 2017 this was -3.2%.

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1. Introduction

Asymmetries are the differences between the published trade statistics of the reporting country and its partner countries. Each country collects data on their own international trade-in-goods for both arrivals and dispatches, simplistically the 'mirror flow' collected by the partner countries should match i.e. one country's dispatch should mirror the partner countries arrival. In reality, it is often the case that the figures do not match and this is referred to as an 'asymmetry'.

For example, there may be a difference between what the United Kingdom (UK) records as arrivals from Croatia, and what Croatia records as dispatches to the UK. This difference or asymmetry can be measured. Further information on how asymmetries are measured can be found in Annex 1: Measures of asymmetry.

This paper is an asymmetry study covering trade in goods between the UK and EU Member States for the calendar years 2016, 2017 and 2018. The data used in the compilation of this report has been extracted from Eurostat's [Comext database](#). Additional tables supporting this paper can be found in the accompanying statistical dataset.

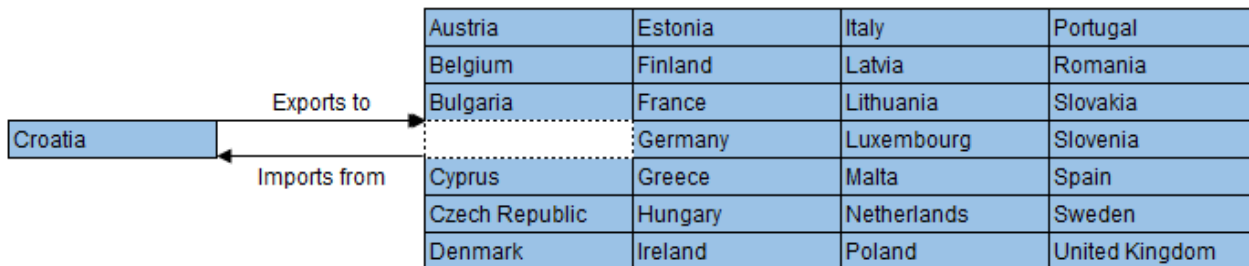
International trade in goods data detailing trade between the UK and EU Member States are collected via the Intrastat survey and controlled by EU Statistical legislation which aims to harmonise the classifications and collection.

Both ONS and HMRC are undertaking a series of investigations into asymmetries. Previously published papers in this series are:

- **Article 1** - [Asymmetries in trade data - A UK perspective:](#)
Published on 13th July 2017, by ONS
- **Article 2** - [Trade asymmetries between the UK and EU Member States, 2014 to 2016:](#)
Published on 7th November 2017, by HMRC
- **Article 3** - [Asymmetries in trade data - diving deeper into UK bilateral trade data:](#)
Published on 29th January 2018, by ONS
- **Article 4** - [Asymmetries in international trade in goods statistics: UK measured against its non-EU partners, 2014 to 2016](#)
Published on 15th May 2018, by HMRC
- **Article 5** - [Asymmetries in trade data: extending analysis of UK bilateral trade data](#)
Published on 30th August 2018, by ONS
- **Article 6** - [Trade asymmetries between the UK and EU Member States, 2015 to 2017](#)
Published on 13th November 2018, by HMRC
- **Article 7** - [Asymmetries in international trade in goods statistics: UK measured against its non-EU partners, 2015 to 2017](#)
Published on 15th May 2019, by HMRC

2. Trade in goods asymmetries between EU Member States, 2016 to 2018

This section explores the asymmetries of each EU Member States by value, comparing each Member State's trade flow against the mirror flow. For example, Croatia's arrivals from the EU against dispatches from Croatia to the EU, this is shown in diagram below.



2.1 Arrivals: EU Member States share of absolute asymmetries

Graph 2.1 shows the arrivals absolute asymmetries between each Member State and the remaining Member States, for the years 2016 to 2018, together with its average arrival value between 2016 and 2018 within the EU.

- The top five countries by average value of arrivals between 2016 and 2018 were Germany, France, United Kingdom, Italy and Belgium. These accounted for 47% of the total absolute asymmetry for arrivals in 2018.
- The bottom five countries by average value of arrivals between 2016 and 2018 were Malta, Cyprus, Latvia, Estonia and Luxembourg. These accounted for 4.9% of the total absolute asymmetry for arrivals in 2018.
- Italy had the largest increase in its share of absolute asymmetry over the three-year time series (an increase of 4 percentage points). In 2016 Italy's share of the total absolute asymmetry was 3.4%, in 2017 it remained at 3.4% and in 2018 it increased to 7.8%.
- In 2016 the UK's share of the total absolute asymmetry was 23%, in 2017 this decreased by less than 1 percentage point, in 2018 this decreased to 15%. This means that the difference between what the UK reports as arrivals from the EU, against what the EU reports as dispatches to the UK has narrowed. It is worth noting that this does not infer that one set of data is more accurate than another.

2.2 Arrivals: EU Member States relative asymmetries

Graph 2.2 shows the arrivals relative asymmetries for each EU Member State against the rest of the EU for the years 2016 to 2018.

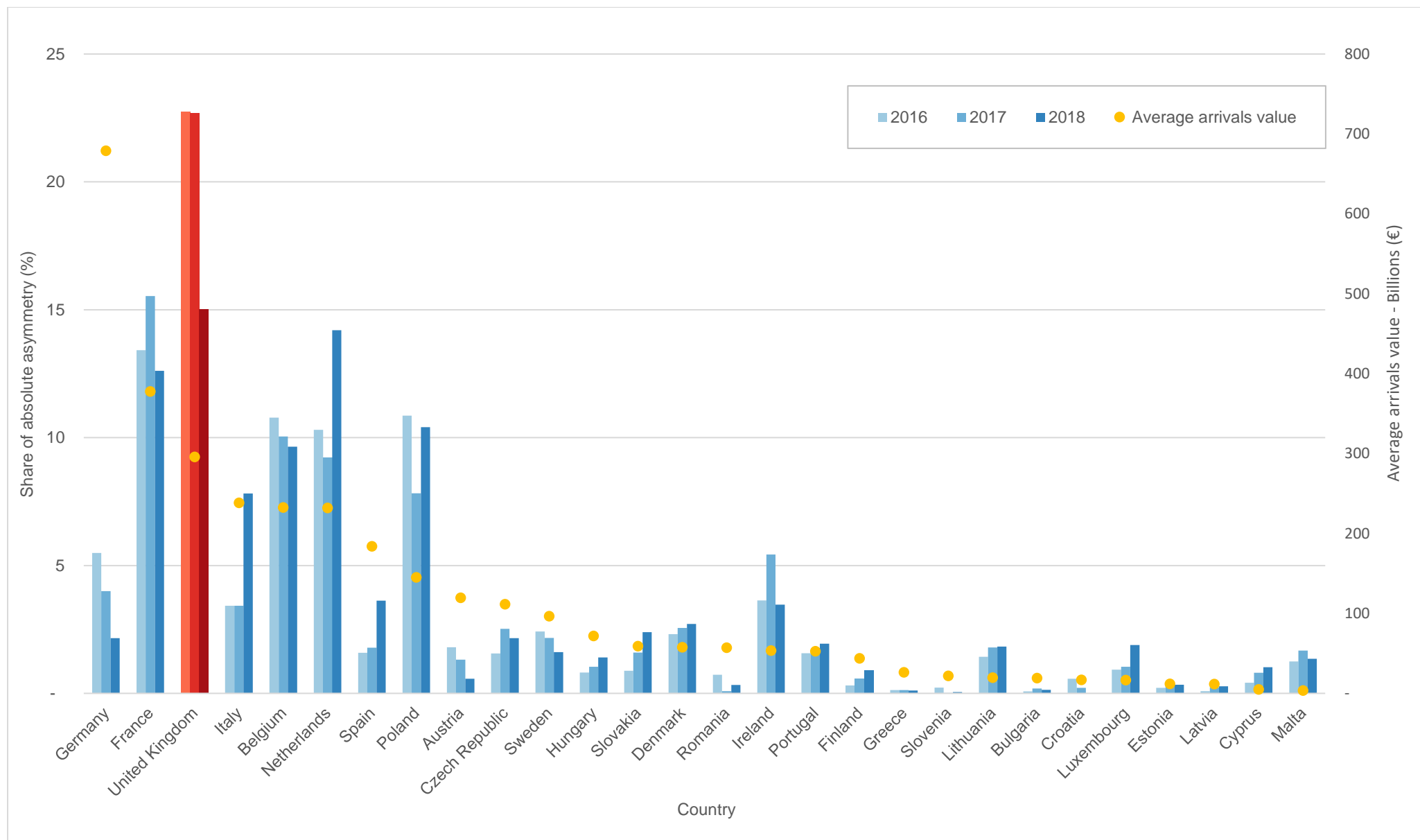
- Germany had the largest average arrivals value within the EU between 2016 and 2018, their relative asymmetry has remained consistently close to 0% (if the relative asymmetry is 0% this would mean there is no asymmetry, more details can be found in Annex 1). In 2016, Germany's relative asymmetry was -1.0%, in 2017 this narrowed to -0.7%, in 2018 this narrowed further to -0.3%.
- Latvia changed from a negative asymmetry in 2016 to a positive relative asymmetry in 2018. In 2016 it had a relative asymmetry of -1.0%, in 2017 this changed to 2.4%, in 2018 this widened to 2.6%.
- Croatia changed from a positive asymmetry in 2016 to a negative relative asymmetry in 2018. In 2016 it had a relative asymmetry of 4.4%, in 2017 this narrowed to 1.5%, in 2018 this changed to -0.1%.
- Malta had the smallest average arrivals value, however their relative asymmetry has consistently been the largest. In 2016 Malta's relative asymmetry was -36%, in 2017 this widened to -46%, in 2018 this narrowed to -34%.
- In 2016 the UK's relative asymmetry was -8.5%, in 2017 this widened slightly to -8.6%, in 2018 this narrowed to -5.6%.

2.3 Arrivals: EU Member States average total arrivals versus average relative asymmetries

Graph 2.3 shows the average total arrivals trade value together with the relative asymmetry (regardless of sign) between each EU Member State for the years 2016 to 2018.

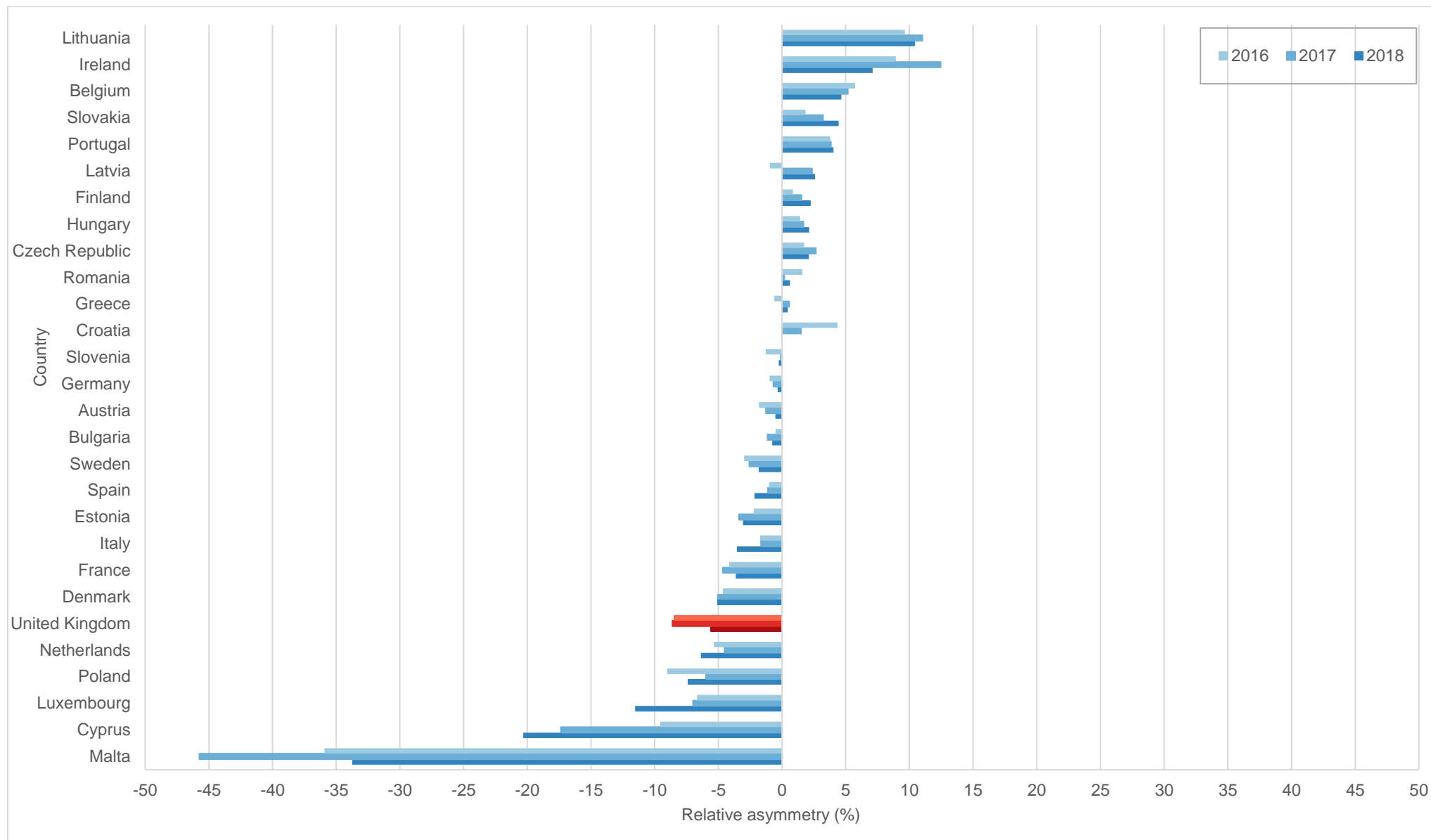
- Germany and France had the two largest average arrivals values, and both had small average relative asymmetries.
- Cyprus and Malta had the two smallest average arrivals values, and both had large average relative asymmetries.
- Greece had a low average arrivals value (€26.2bn), however their average relative asymmetry of 0.1% was the lowest within the EU.
- The UK had the third largest average arrivals value (€296bn) and an average relative asymmetry of -7.6%.

Graph 2.1 Arrivals: EU Member States share of absolute asymmetries, 2016 to 2018, ordered by arrivals average value



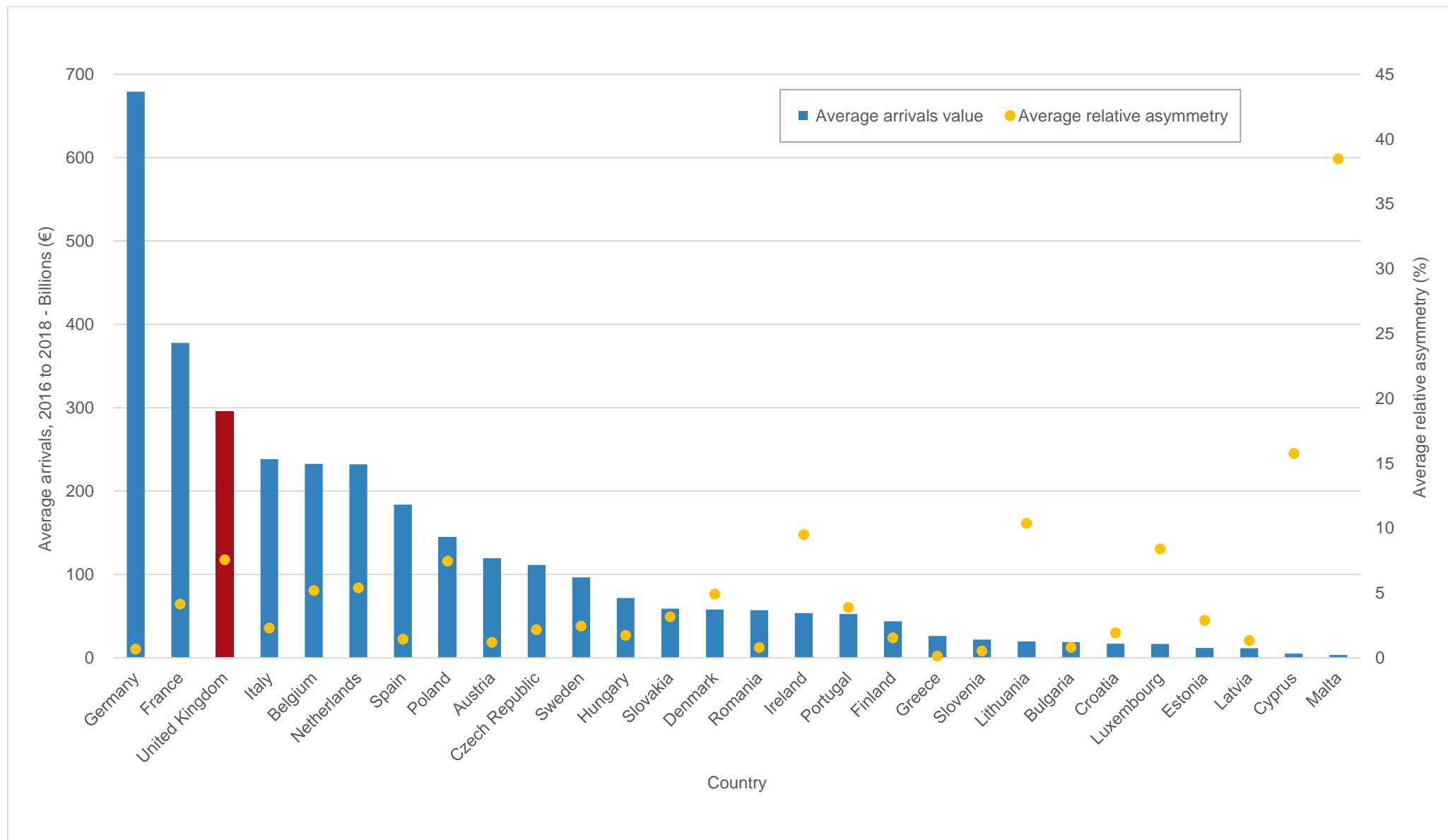
Source: Comext database, extracted September 2019

Graph 2.2 Arrivals: EU Member States relative asymmetries, 2016 to 2018, ordered by 2018 value (%)



Source: Comext database, extracted September 2019

Graph 2.3 Arrivals: EU Member States average total arrivals versus average relative asymmetries, 2016 to 2018, ordered by average total arrivals



Source: Comext database, extracted September 2019

2.4 Dispatches: EU Member States share of absolute asymmetries

Graph 2.4 shows the share of dispatches absolute asymmetry for each Member State against the rest of the EU, for the years 2016 to 2018, together with their average dispatch value within the EU.

- The top five countries by average value of dispatches between 2016 and 2018 were Germany, Netherlands, France, Belgium and Italy. These accounted for 36% of the total absolute asymmetry for dispatches in 2018.
- The bottom five countries by average value of dispatches between 2016 and 2018 were Cyprus, Malta, Latvia, Croatia and Estonia. These accounted for 2.2% of the total absolute asymmetry for dispatches in 2018.
- A notable decrease was seen by Germany over the three year time series. In 2016 Germany's share of the total absolute asymmetry was 11%, in 2017 this decreased to 6.4%, in 2018 this decreased further to 4.8%.
- The UK's share of the total absolute asymmetry in 2016 was 3.9%, in 2017 this increased to 4.1%, in 2018 this decreased to 1.7%. The UK's asymmetry was lower than countries with similar average dispatch values i.e. as Spain and Poland.

2.5 Dispatches: EU Member States relative asymmetries

Graph 2.5 shows the dispatches relative asymmetries between each Member State against the rest of the EU for the years 2016 to 2018.

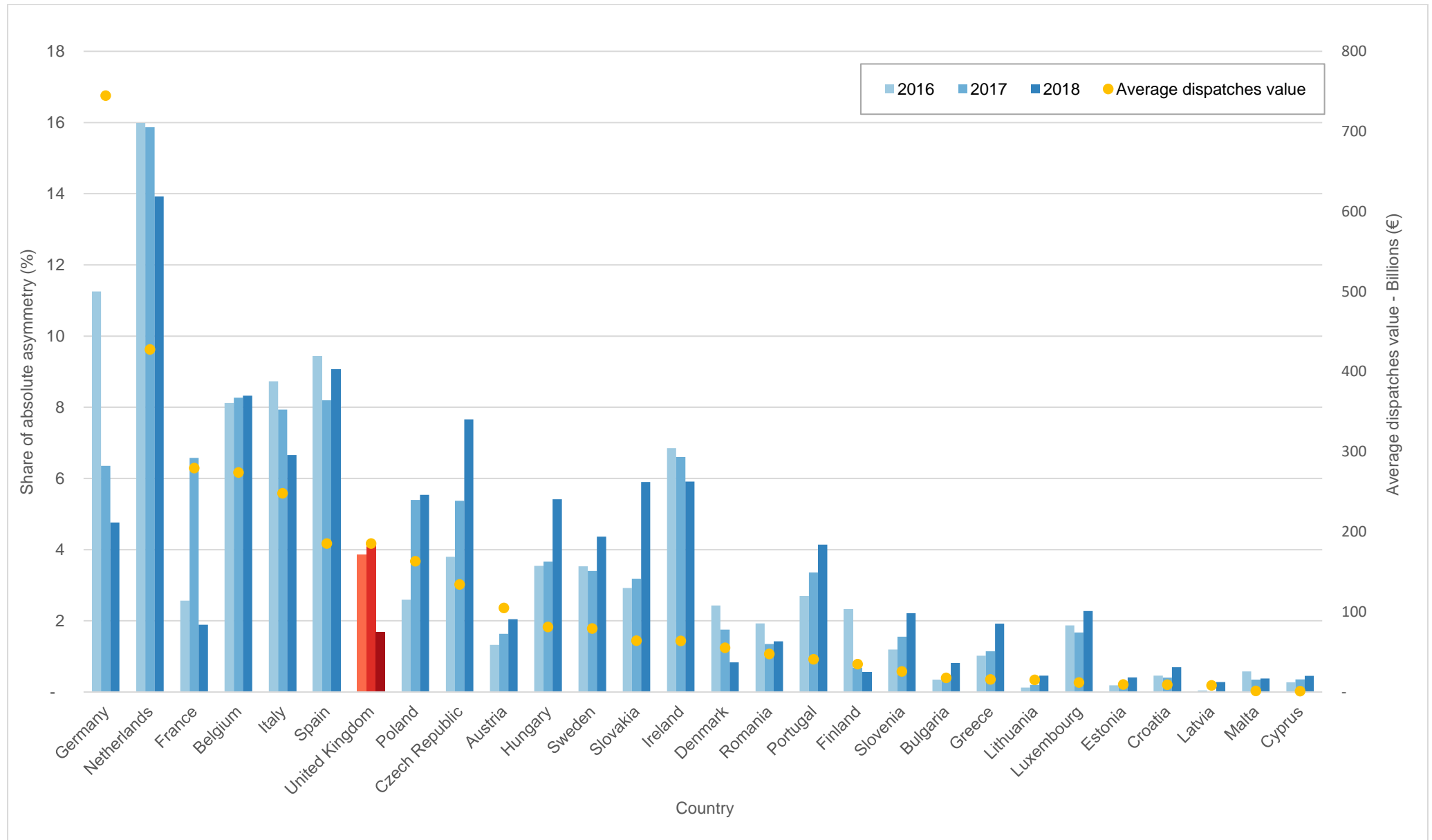
- Germany had the largest average dispatches value within the EU between 2016 and 2018, their relative asymmetry remained consistently close to 0%. In 2016 Germany's relative asymmetry was 2.2%, in 2017 this narrowed to 1.3%, in 2018 this narrowed further to 0.8%.
- Lithuania and Denmark both changed from a positive relative asymmetry in 2016 to a negative relative asymmetry in 2018. Most notably, in 2016 Denmark had a relative asymmetry of 6.5%, in 2017 this narrowed to 4.7%, in 2018 this changed to -1.9%.
- Cyprus had the smallest average dispatches value, however their relative asymmetry has consistently been one of the largest. In 2016 their relative asymmetry was -25%, in 2017 this widened to -38%, in 2018 this widened further to -39%.
- In 2016 the UK's relative asymmetry was -3.0%, in 2017 this widened to -3.2%, in 2018 this narrowed to -1.1%.

2.6 Dispatches: EU Member States average total dispatches versus average relative asymmetries

Graph 2.6 shows the average total dispatches trade value together with the relative asymmetries (regardless of sign) between each EU Member State for the years 2016 to 2018.

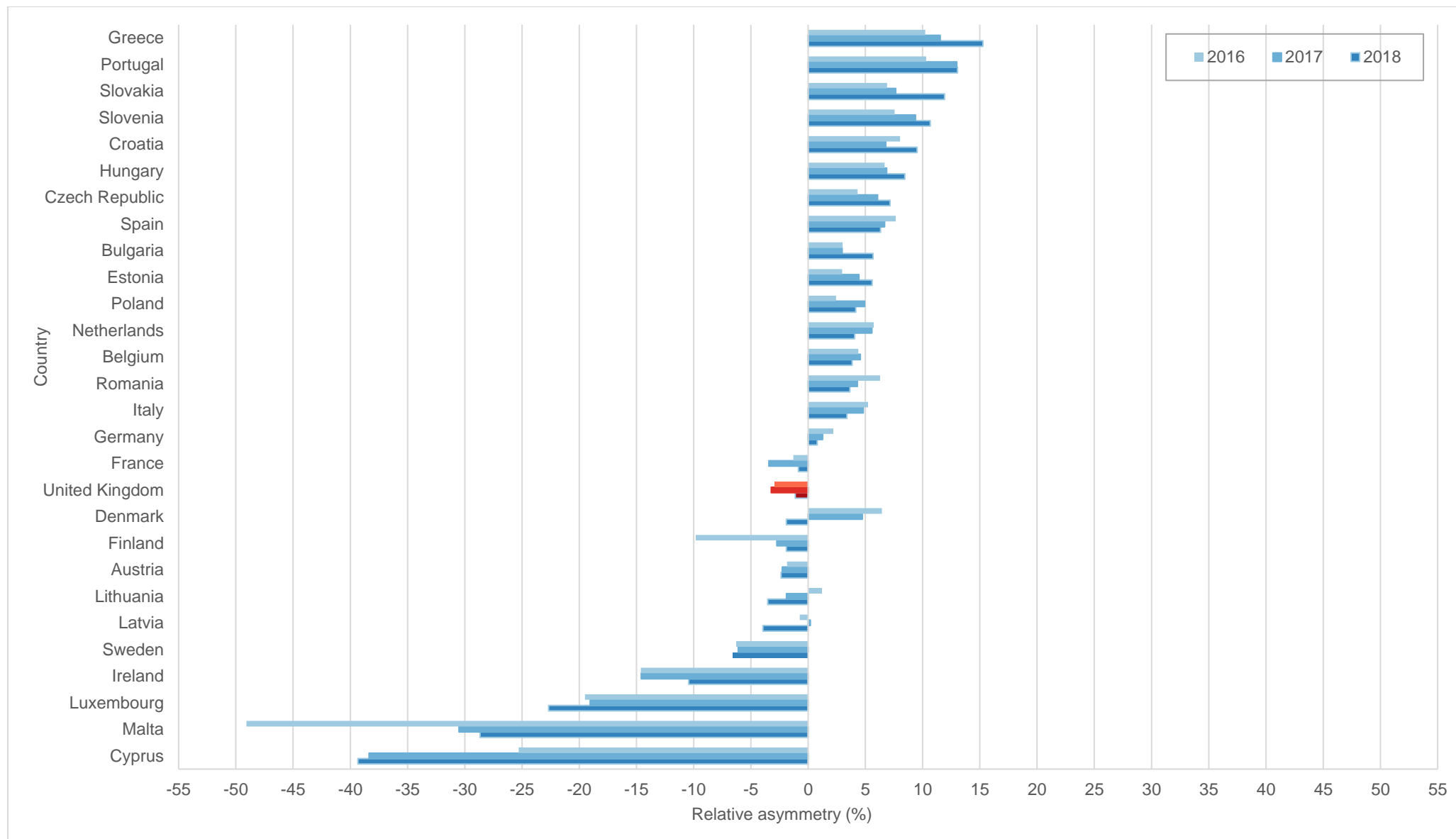
- Germany and Netherlands had the two largest average dispatches values. They had small average relative asymmetries.
- Cyprus and Malta had the two smallest average dispatches values. They had large average relative asymmetries.
- Lithuania had one of the lowest average dispatches values (€15.3bn), however their average relative asymmetry was the lowest within the EU.
- The UK had the seventh largest average dispatches value (€185bn) and a comparatively low average relative asymmetry of 2.4%.

Graph 2.4 Dispatches: EU Member States share of absolute asymmetries, 2016 to 2018, ordered by dispatches average value



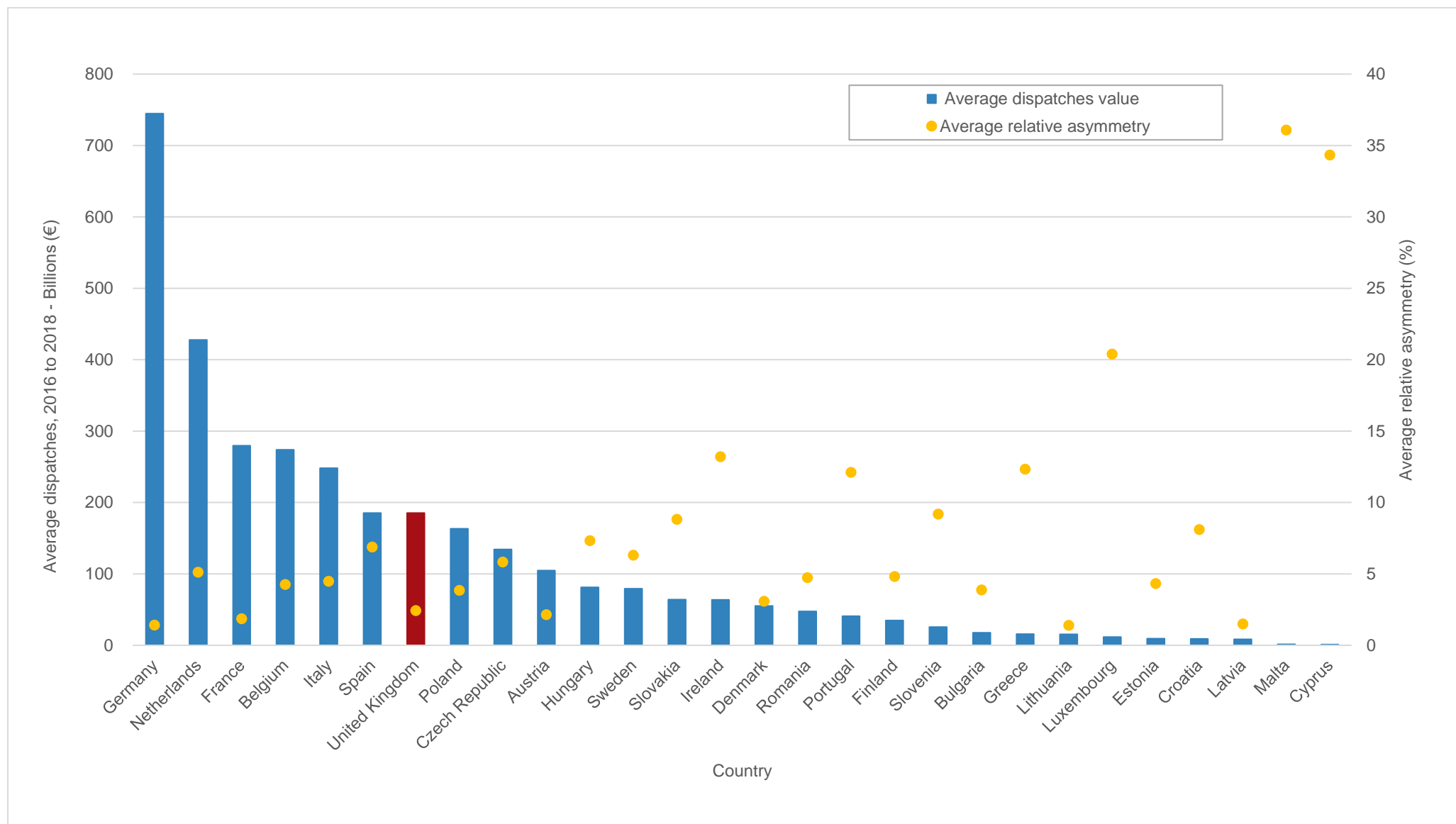
Source: Comext database, extracted September 2019

Graph 2.5 Dispatches: EU Member States relative asymmetries, 2016 to 2018, ordered by 2018 value (%)



Source: Comext database, extracted September 2019

Graph 2.6 Dispatches: EU Member States average total dispatches versus average relative asymmetries, 2016 to 2018, ordered by average total dispatches



Source: Comext database, extracted September 2019

3. Trade in goods asymmetries between the UK and each EU Member State, 2016 to 2018

This section explores the asymmetries between the UK and EU Member States by trade value. It will focus on UK trade versus each of the EU Member States at the aggregate country level and explore the top ten goods (HS 2 chapters) behind the asymmetries.

3.1 Arrivals: UK asymmetries by partner country

Table 3.1 shows the asymmetries between UK reported arrivals from each EU Member State and its reported dispatches to the UK for the years 2016 to 2018.

- In 2016 the UK's total absolute asymmetry at partner country level was €32,590m, in 2017 this decreased to €32,166m, in 2018 this decreased further to €24,287m.
- Germany had the largest absolute asymmetry with the UK (€4,497m) in 2018. This decreased from €7,521m in 2016.
- Luxembourg had the smallest absolute asymmetry with the UK (€8.1m) in 2018. This decreased from €35m in 2016.
- The absolute asymmetry between the UK and the Netherlands showed the largest decrease between 2016 and 2018. In 2016 the asymmetry was €7,420m, in 2017 this decreased to €5,550m, in 2018 this decreased further to €2,804m.
- The absolute asymmetry between the UK and Slovakia showed the largest increase between 2016 and 2018. In 2016 the asymmetry was €1,076m, in 2017 this increased to €1,620m, in 2018 this decreased to €1,515m.

Table 3.1.1 shows the countries with the largest absolute asymmetries, for 2016, 2017 and 2018 with the UK. Germany, Netherlands and Belgium remained in the top five, and subsequently in the same position (1st, 2nd and 3rd respectively) through all three years.

Table 3.1.1 Top 5 countries by largest absolute asymmetries for UK arrivals, 2016 to 2018

	2016	2017	2018
Rank	Country	Country	Country
1	Germany	Germany	Germany
2	Netherlands	Netherlands	Netherlands
3	Belgium	Belgium	Belgium
4	France	Italy	France
5	Spain	Denmark	Spain

Table 3.1.2 shows the countries with the largest relative asymmetries, for 2016, 2017 and 2018. Malta, Croatia and Slovakia remained in the top five largest relative asymmetries by size through all three years. Malta had the largest relative asymmetry for all three years.

Table 3.1.2 Top 5 countries by largest relative asymmetries for UK arrivals, 2016 to 2018

	2016		2017		2018	
Rank	Country		Country		Country	
1	Malta		Malta		Malta	
2	Cyprus		Croatia		Slovakia	
3	Croatia		Slovakia		Croatia	
4	Latvia		Denmark		Estonia	
5	Slovakia		Bulgaria		Slovenia	

3.2 Arrivals: Top 10 chapters by share of total absolute asymmetry, 2016 to 2018

Table 3.2 shows the top ten arrivals products in order of their share of total absolute asymmetry for the years 2016 to 2018.

- Chapters that appear in the top ten through all three years were 84 (Mechanical appliances), 85 (Electronic equipment), 87 (Motor vehicles), 88 (Aircraft), 90 (Measuring devices and gauges) and 99 (Other products). It is worth noting that Chapter 99 will often appear within both the absolute and relative asymmetry tables. Chapter 99 is used to capture 'other products', each Member State will use this for different purposes.
- In 2016 the top ten chapters accounted for 51% of the total absolute asymmetry for all chapters, in 2017 this increased to 56%, in 2018 this decreased to 52%.

3.3 Arrivals: Top 10 chapters by relative asymmetry, 2016 to 2018

Table 3.3 shows the top ten arrivals chapters by relative asymmetry for the years 2016 to 2018.

- Chapters consistently in the top ten through all three years were 14 (Other vegetable products), 66 (Umbrellas), 89 (Ships, boats and floating structures), 93 (Arms and ammunition), and 99 (Other products).
- Chapter 99 (Other products) had the largest relative asymmetry for 2017 and 2018. Chapter 89 (Ships, boats and floating structures) had the largest relative asymmetry in 2016.

Table 3.1 Asymmetries between UK arrivals from the EU and EU dispatches to the UK, 2016 to 2018, ranked by 2018 absolute asymmetry

Country	2016			2017			2018		
	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Relative asymmetry (%)	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Relative asymmetry (%)	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Relative asymmetry (%)
Germany	7,521	23.1	-9.2	7,097	22.1	-8.7	4,497	18.5	-5.6
Netherlands	7,420	22.8	-16.1	5,550	17.3	-11.5	2,804	11.5	-5.8
Belgium	3,631	11.1	-12.0	3,713	11.5	-12.3	1,993	8.2	-6.5
France	1,733	5.3	-5.6	1,031	3.2	-3.3	1,865	7.7	-5.8
Spain	1,522	4.7	-7.7	1,619	5.0	-8.7	1,811	7.5	-9.7
Italy	1,466	4.5	-6.8	1,866	5.8	-8.4	1,534	6.3	-6.8
Slovakia	1,076	3.3	-29.8	1,620	5.0	-44.2	1,515	6.2	-44.2
Poland	1,004	3.1	-8.5	1,311	4.1	-10.3	1,436	5.9	-11.1
Czech Republic	1,137	3.5	-15.9	1,566	4.9	-21.7	1,280	5.3	-17.5
Denmark	785	2.4	-15.1	1,719	5.3	-26.3	1,163	4.8	16.7
Hungary	378	1.2	-10.9	355	1.1	-10.7	694	2.9	-19.7
Ireland	1,098	3.4	7.1	532	1.7	3.3	373	1.5	-2.4
Greece	105	0.3	-10.2	138	0.4	-13.0	183	0.8	-16.3
Portugal	287	0.9	-8.5	212	0.7	-6.0	154	0.6	-4.3
Latvia	238	0.7	34.0	94	0.3	14.6	152	0.6	19.1
Romania	378	1.2	-16.4	286	0.9	-11.8	141	0.6	-5.0
Slovenia	85	0.3	-16.2	99	0.3	-18.9	123	0.5	-22.7
Bulgaria	90	0.3	-16.5	139	0.4	-23.9	122	0.5	-19.2
Lithuania	9	0.0	-1.0	91	0.3	-10.3	118	0.5	-11.6
Sweden	39	0.1	0.5	495	1.5	-6.1	81	0.3	1.0
Estonia	5	0.0	1.8	24	0.1	-8.7	76	0.3	-26.9
Malta	140	0.4	80.8	79	0.2	67.2	65	0.3	69.2
Croatia	52	0.2	-35.4	76	0.2	-44.4	58	0.2	-30.4
Finland	165	0.5	6.4	129	0.4	4.7	50	0.2	-1.8
Austria	326	1.0	-8.0	258	0.8	-6.6	26	0.1	0.6
Cyprus	112	0.3	-42.2	2	0.0	1.1	20	0.1	11.3
Luxembourg	35	0.1	-6.8	98	0.3	-19.6	8	0.0	1.7
Unallocated	1,752	5.4	200.0	1,965	6.1	200.0	1,944	8.0	200.0
Total	32,590	100.0	-8.5	32,166	100.0	-8.6	24,287	100.0	-6.2

Source: Comext database, extracted September 2019

Table 3.2 Top 10 arrivals chapters by share of total absolute asymmetry, 2016 to 2018

2016			2017			2018		
Chapter	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Chapter	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Chapter	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)
87	4,665	13.5	85	4,491	13.2	84	3,924	13.4
85	3,405	9.8	84	4,038	11.9	85	3,046	10.4
88	2,102	6.1	87	3,398	10.0	73	1,892	6.4
84	1,797	5.2	27	1,648	4.8	88	1,173	4.0
89	1,227	3.6	88	1,313	3.9	87	1,153	3.9
99	1,185	3.4	99	1,117	3.3	90	918	3.1
30	1,042	3.0	90	1,103	3.2	99	894	3.0
94	861	2.5	94	668	2.0	71	827	2.8
90	821	2.4	86	650	1.9	39	732	2.5
27	675	2.0	61	645	1.9	76	703	2.4
Sum of top 10	17,780	51.4	Sum of top 10	19,070	56.1	Sum of top 10	15,262	51.9
Unallocated	4,696	13.6	Unallocated	2,804	8.2	Unallocated	3,085	10.5
Sum of others	12,093	35.0	Sum of others	12,145	35.7	Sum of others	11,047	37.6
Total	34,569	100.0	Total	34,019	100.0	Total	29,393	100.0

Source: Comext database, extracted September 2019

Chapter description

27 - Mineral fuels

30 - Pharmaceutical products

39 - Plastics and plastic products

61 - Knitwear

71 - Precious metals

73 - Articles of iron or steel

76 - Aluminium and articles thereof

84 - Mechanical appliances

85 - Electronic equipment

86 - Trains and track fixtures

87 - Motor vehicles

88 - Aircraft

89 - Ships, boats and floating structures

90 - Measuring devices and gauges

94 - Furniture and light fittings

99 - Other products

Table 3.3 Top 10 arrivals chapters by relative asymmetry, 2016 to 2018

2016			2017			2018		
Chapter	Asymmetry (€m)	Relative asymmetry (%)	Chapter	Asymmetry (€m)	Relative asymmetry (%)	Chapter	Asymmetry (€m)	Relative asymmetry (%)
89	-1,227	-152.8	99	-1,117	-149.7	99	-894	-137.6
99	-1,185	-139.8	14	-7	-102.2	66	-12	-71.3
93	347	116.4	89	-638	-78.4	89	-658	-70.0
97	207	79.6	93	263	71.5	97	203	64.5
26	343	78.0	66	-10	-63.6	14	-5	-60.3
66	-9	-56.7	63	-245	-50.3	93	146	41.0
14	-4	-49.9	46	-4	-50.2	63	-199	-40.3
46	-5	-48.8	26	234	49.2	03	-356	-37.3
24	-171	-43.8	86	-650	-48.2	67	-10	-37.0
03	-415	-41.9	47	142	40.8	10	249	34.8
Sum of top 10	-2,120	-52.2	Sum of top 10	-2,032	-44.0	Sum of top 10	-1,535	-34.3
Unallocated	-4,696	-200.0	Unallocated	-2,804	-200.0	Unallocated	-3,085	-200.0
Sum of others	-18,900	-6.4	Sum of others	-21,727	-7.2	Sum of others	-12,750	-4.2
Total	-25,717	-8.5	Total	-26,563	-8.6	Total	-17,370	-5.6

Source: Comext database, extracted September 2019

Chapter description

03 - Fish and shellfish

10 - Cereals

14 - Other vegetable products

24 - Tobacco

26 - Ores

46 - Wickerwork and basketwork

47 - Waste paper and wood pulp

63 - Other textile goods

66 - Umbrellas

67 - Feather and hair articles

86 - Trains and track fixtures

89 - Ships, boats and floating structures

93 - Arms and ammunition

97 - Art and antiques

99 - Other products

3.4 Dispatches: UK asymmetries by partner country

Table 3.4 shows the asymmetries between UK reported dispatches to each EU Member State and its reported arrivals for the years 2016 to 2018.

- In 2016 the UK's total absolute asymmetry was €10,693m, in 2017 this increased to €14,096m, in 2018 this increased further to €15,064m.
- The asymmetry between UK and France had the largest increase between 2016 and 2018. In 2016 the asymmetry was €800m, in 2017 this increased to €2,712m, in 2018 this increased further to €3,894m (the largest asymmetry with the UK).
- Bulgaria had the smallest asymmetry with the UK in 2018 with €7.4m, this increased from €1.5m in 2016.
- The asymmetry between UK and Belgium had the largest decrease between 2016 and 2018. In 2016 the asymmetry was €2,105m, in 2017 this decreased to €1,700m, in 2018 this decreased further to €1,663m.

Table 3.4.1 shows the countries with the largest absolute asymmetries for 2016, 2017 and 2018. Belgium, Czech Republic and France were among the top five countries for all three years.

Table 3.4.1 Top 5 countries by largest absolute asymmetries for UK dispatches, 2016 to 2018

	2016	2017	2018
Rank	Country	Country	Country
1	Belgium	France	France
2	Czech Republic	Belgium	Belgium
3	Netherlands	Czech Republic	Czech Republic
4	Sweden	Netherlands	Slovakia
5	France	Slovakia	Sweden

Table 3.4.2 shows the countries with the largest relative asymmetries for 2016, 2017 and 2018. Slovakia, Lithuania, Malta and Czech Republic were among the top five countries for all three years.

Table 3.4.2 Top 5 countries by largest relative asymmetries for UK dispatches, 2016 to 2018

	2016	2017	2018
Rank	Country	Country	Country
1	Slovakia	Slovakia	Slovakia
2	Lithuania	Czech Republic	Lithuania
3	Czech Republic	Lithuania	Malta
4	Malta	Malta	Estonia
5	Slovenia	Estonia	Czech Republic

3.5 Dispatches: Top 10 chapters by share of total absolute asymmetry, 2016 to 2018

Table 3.5 shows the top ten dispatches chapters by share of total absolute asymmetry between the years 2016 and 2018.

- Chapters consistently in the top ten through all three years were 27 (Mineral fuels), 38 (Miscellaneous chemical products), 62 (Clothes, not knitted), 85 (Electronic equipment), 88 (Aircraft) and 99 (Other products).
- In 2016 the top ten chapters accounted for 61% of the total absolute asymmetry, in 2017 this increased to 62%, in 2018 this increased further to 64%.

3.6 Dispatches: Top 10 chapters by relative asymmetry, 2016 to 2018

Table 3.6 shows the top ten dispatches chapters by relative asymmetry between the years 2016 and 2018.

- Chapters consistently in the top ten through all three years were 08 (Fruit and nuts), 26 (Ores), 53 (Other vegetable textile fibres), 80 (Tin and articles thereof), 93 (Arms and ammunition) and 99 (Other products).
- Chapter 93 (Arms and ammunition) had the largest relative asymmetry throughout all 3 years.

Table 3.4 Asymmetries between UK dispatches to the EU and EU arrivals from the UK, 2016 to 2018, ordered by 2018 absolute asymmetry

Country	2016			2017			2018		
	Absolute asymmetry (€)	Share of total absolute asymmetry (%)	Relative asymmetry (%)	Absolute asymmetry (€)	Share of total absolute asymmetry (%)	Relative asymmetry (%)	Absolute asymmetry (€)	Share of total absolute asymmetry (%)	Relative asymmetry (%)
France	800	7.5	3.4	2,712	19.2	10.7	3,894	25.8	15.5
Belgium	2,105	19.7	-13.8	1,700	12.1	-10.3	1,663	11.0	-9.8
Czech Republic	1,047	9.8	-33.3	1,614	11.5	-49.8	1,015	6.7	-33.6
Slovakia	704	6.6	-70.6	1,235	8.8	-94.9	1,005	6.7	-84.3
Sweden	968	9.0	-15.9	1,021	7.2	-15.7	948	6.3	-14.2
Italy	597	5.6	5.2	138	1.0	1.2	713	4.7	6.2
Austria	445	4.2	-18.3	371	2.6	-16.0	707	4.7	-26.9
Germany	296	2.8	0.8	274	1.9	-0.7	624	4.1	-1.5
Netherlands	1,005	9.4	-4.3	1,588	11.3	-6.3	574	3.8	-1.9
Spain	560	5.2	-4.6	597	4.2	-4.9	571	3.8	-4.7
Lithuania	278	2.6	-51.8	308	2.2	-39.3	322	2.1	-46.4
Romania	266	2.5	-19.0	278	2.0	-17.9	264	1.8	-16.3
Malta	131	1.2	31.7	178	1.3	35.9	232	1.5	38.4
Hungary	14	0.1	-0.8	207	1.5	-11.7	229	1.5	-12.9
Ireland	41	0.4	0.2	169	1.2	-0.8	211	1.4	0.9
Poland	21	0.2	-0.4	3	0.0	-0.1	186	1.2	3.2
Cyprus	6	0.1	1.5	71	0.5	-15.2	157	1.0	-29.9
Estonia	51	0.5	-16.4	86	0.6	-26.1	129	0.9	-35.4
Finland	91	0.8	-5.4	214	1.5	-12.9	128	0.9	-7.7
Portugal	48	0.4	-2.7	67	0.5	-3.6	108	0.7	-5.8
Slovenia	69	0.6	-20.7	72	0.5	-20.6	72	0.5	-17.7
Greece	118	1.1	-10.1	57	0.4	-4.9	43	0.3	-3.2
Denmark	154	1.4	-5.0	113	0.8	-3.6	39	0.3	-1.3
Luxembourg	25	0.2	10.4	21	0.1	7.0	30	0.2	11.9
Croatia	10	0.1	-4.9	48	0.3	-19.8	19	0.1	-6.5
Latvia	26	0.2	-8.7	11	0.1	-2.6	17	0.1	-3.8
Bulgaria	2	0.0	-0.3	43	0.3	8.7	7	0.0	1.5
Unallocated	816	7.6	200.0	901	6.4	200.0	1,157	7.7	200.0
Total	10,693	100.0	-3.0	14,096	100.0	-3.7	15,064	100.0	-1.7

Source: Comext database, extracted September 2019

Table 3.5 Top 10 dispatches chapters by share of total absolute asymmetry, 2016 to 2018

2016			2017			2018		
Chapter	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Chapter	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)	Chapter	Absolute asymmetry (€m)	Share of total absolute asymmetry (%)
88	4,413	19.2	88	4,552	17.4	85	3,762	16.7
85	3,304	14.4	85	3,837	14.7	88	3,498	15.6
99	1,478	6.4	99	1,552	5.9	71	1,955	8.7
27	984	4.3	27	1,337	5.1	99	1,213	5.4
84	799	3.5	71	1,162	4.4	87	939	4.2
62	642	2.8	84	1,130	4.3	27	721	3.2
38	641	2.8	38	819	3.1	62	702	3.1
30	625	2.7	62	690	2.6	38	696	3.1
87	582	2.5	30	636	2.4	61	538	2.4
61	450	2.0	94	500	1.9	94	464	2.1
Sum of top 10	13,918	60.7	Sum of top 10	16,213	62.1	Sum of top 10	14,488	64.5
Unallocated	2,857	12.5	Unallocated	3,014	11.5	Unallocated	2,026	9.0
Sum of others	6,171	26.9	Sum of others	6,898	26.4	Sum of others	5,952	26.5
Total	22,946	100.0	Total	26,126	100.0	Total	22,465	100.0

Source: Comext database, extracted September 2019

Chapter description

27 - Mineral fuels

30 - Pharmaceutical products

38 - Miscellaneous chemical products

61 - Knitwear

62 - Clothes, not knitted

71 - Precious metals

84 - Mechanical appliances

85 - Electronic equipment

87 - Motor vehicles

88 - Aircraft

94 - Furniture and light fittings

99 - Other products

Table 3.6 Top 10 dispatches chapters by relative asymmetry, 2016 to 2018

2016			2017			2018		
Chapter	Asymmetry (€m)	Relative asymmetry (%)	Chapter	Asymmetry (€m)	Relative asymmetry (%)	Chapter	Asymmetry (€m)	Relative asymmetry (%)
93	159	151.7	93	187	135.6	93	160	147.0
99	-1,478	-130.7	99	-1,552	-130.6	80	-48	-137.7
80	-43	-117.1	80	-46	-124.6	24	-118	-133.2
26	-124	-117.1	26	-127	-111.7	37	-248	-109.0
88	4,413	64.7	24	-89	-91.1	99	-1,213	-104.9
57	95	62.8	14	-4	-82.5	26	-108	-74.0
47	-94	-58.6	88	4,552	61.9	47	-139	-73.0
53	10	58.1	08	-209	-55.1	53	12	60.1
37	191	56.7	67	15	54.3	50	8	55.4
08	-197	-56.5	53	9	53.1	08	-208	-53.7
Sum of top 10	2,931	31.8	Sum of top 10	2,737	29.3	Sum of top 10	2,260	-80.2
Unallocated	-2,857	-200.0	Unallocated	-3,014	-200.0	Unallocated	-2,026	-200.0
Sum of others	-5,341	-3.2	Sum of others	-5,832	-3.3	Sum of others	-2,438	0.9
Total	-5,267	-3.0	Total	-6,110	-3.2	Total	-2,204	-1.1

Source: Comext database, extracted September 2019

Chapter description

08 - Fruit and nuts

14 - Other vegetable products

24 - Tobacco

26 - Ores

37 - Photographic products

47 - Waste paper and wood pulp

50 - Silk

53 - Other vegetable textile fibres

57 - Carpets

67 - Feather and hair articles

80 - Tin and articles thereof

88 - Aircraft

93 - Arms and ammunition

99 - Other products

Annex 1: Measures of asymmetry

There are two types of asymmetries for trade in goods that are referred to in this report: the **arrivals asymmetry** and the **dispatches asymmetry**.

The **arrivals asymmetry** is the difference between the declarant country's arrivals from the partner country and the partner country's dispatches to the declarant country. If this asymmetry is positive it means that the declarant country's arrivals from the partner country are greater than the partner country's dispatches to the declarant country.

The **dispatches asymmetry** is the difference between the declarant country's dispatches to the partner country and the partner country's arrivals from the declarant country. If this asymmetry is positive it means that the declarant country's dispatches to the partner country are greater than the partner country's arrivals from the declarant country.

As an example, the UK's arrivals asymmetry with Germany is the difference between what the UK records as arrivals from Germany and what Germany records as dispatches to the UK. If the value of UK arrivals minus Germany dispatches is negative, it suggests that the UK is recording less goods as received from Germany, than Germany is recording as dispatched to the UK.

If we use D to represent the declarant country and P to represent the partner country, we can set out the main indicators used to calculate the asymmetry. Note that for the purposes of this report the UK will always be the declarant.

Indicators of Asymmetry

(1) Absolute Asymmetry:

$$= | \text{Value (D)} - \text{Value (P)} |$$

This is the absolute difference between the value of recorded by the declarant and their partner country (mirror value).

(2) Relative Asymmetry (%):

$$= \frac{\text{Value (D)} - \text{Value (P)}}{0.5 (\text{Value (D)} + \text{Value (P)})} \times 100$$

The relative asymmetry looks at the difference between the value reported by the declarant country and the value reported by the partner country with respect to the mean of those two flows. This method makes no assumption about which value (D or P) is the correct value and instead looks at the asymmetry with respect to the average of the two values shown in percent.

(3) Share of Total Absolute Asymmetry (%):

$$= \frac{| \text{Value (D)} - \text{Value (P)} |}{\sum | \text{Value (D)} - \text{Value (P)} |} \times 100$$

This percentage dictates the contribution a country or HS¹ Chapter is having on the absolute total of the asymmetries within a certain flow, e.g. Chapter 45 may be responsible for 10 per cent of the total UK arrivals asymmetry.

Note: The values used within the tables in this report are quoted in Euros. UK declarations are made in pounds sterling and converted to Euros by Eurostat. The data that Eurostat receives from each country is compiled in the local currency and is then converted to Euros using a monthly exchange rate.

Unallocated trade: Whilst the vast majority of trade declared between countries provides detail at value, product and country levels, there is provision for countries to apply suppressions.

For trade reported by the declarant (UK arrivals and dispatches), there is some trade 'not allocated' to a country. For example 'countries & territories not specified in the framework of Intra-Community trade' and 'countries & territories not specified for commercial or military reasons in the framework of Intra-Community trade' are identified as 'unallocated'.

For trade reported by our partners (arrivals and dispatches), the chapter total does not add up to the country total and is therefore referred to as unallocated.

¹ HS Chapter as defined in the Eurostats Comext database