



France's trade in R&D services and in charges for the use of intellectual property

Balances have improved since 2016

Large French corporates' international trade balance in research and development (R&D) services was negative in 2017, amounting to EUR –2.6 billion. In contrast, charges for the use of intellectual property showed a net surplus of EUR 2.7 billion. Both balances improved in 2016 and 2017, but nonetheless remain below figures for Germany.

The United States is France's main trading partner for R&D services and charges for the use of intellectual property, accounting for the largest share of its exports in these items and the second-largest share of its imports.

The majority of these trade flows relates to the "Pharmaceuticals and health care" sector. In the case of charges for the use of intellectual property in particular, the sector ranks first for both receipts and payments.

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EUR –2.6 billion

large French corporates' trade deficit in R&D services in 2017

EUR 2.7 billion

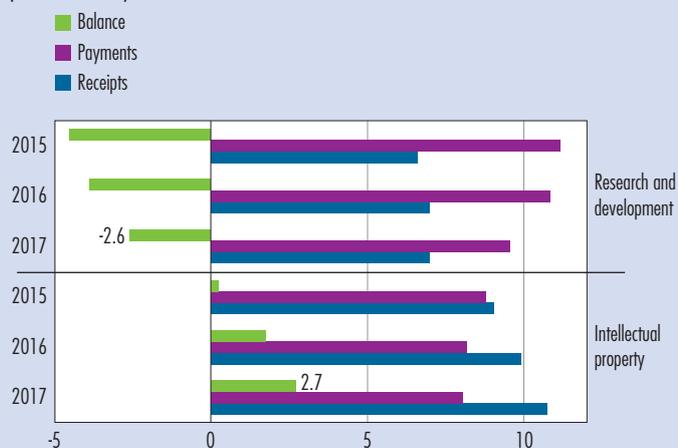
large French corporates' trade surplus in charges for the use of intellectual property in 2017

30%

share of receipts for the use of intellectual property stemming from the United States in 2017

France's trade in R&D services and in charges for the use of intellectual property

(EUR billions)



Source: Banque de France.



1 France's trade balances in R&D services and charges for the use of intellectual property remain below Germany's

France has a trade deficit in R&D services and a trade surplus in charges for the use of intellectual property. Its trade balances for both service categories (see Box 1 below for definitions) are lower than those of Germany.

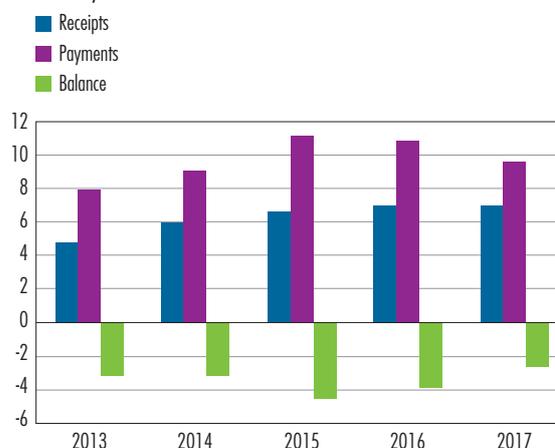
A negative balance in R&D services and behind Germany

Large French corporates' trade balance in R&D services has been negative for the past five years but has been improving since 2016 thanks to an increase in receipts and a decline in payments (see Chart 1).

According to Eurostat data, in 2017 France booked significant R&D-related receipts, but still ranked behind Germany (EUR 11.4 billion of receipts compared with EUR 22.7 billion for Germany, accounting for 4.7% and 8.3% respectively of total services receipts). Its R&D-related payments were also lower than Germany's (EUR 11.6 billion compared with EUR 20.1 billion, or 5.3% of France's total payments for services compared with 6.8% for Germany). In addition, gross domestic

C1 Large French corporates' cross-border trade flows in R&D services

(EUR billions)



Source: Banque de France.

R&D expenditure amounted to 2.2% of gross domestic product in France in 2017 compared with 3% in Germany. France's total R&D services trade balance was negative and again lower than Germany's, at EUR -0.1 billion compared with a surplus of EUR 2.6 billion (see Chart 2). In Europe, France ranks second behind Germany for R&D-related receipts and payments.

BOX 1

Definition of R&D services and charges for the use of intellectual property

Research and development (R&D) services cover all services whose purpose is the advancement of knowledge. They may or may not be provided to a specific client. They also include the sale or purchase of industrial patents, procedures, products, designs and models, to the extent that they are the outcome of R&D.

Licences for the use of proprietary rights arising from R&D are included under a separate item: charges for the use of intellectual property. The latter comprises two main categories of intellectual property rights (see appendix for details).

- Charges for the use of proprietary rights such as patents, trademarks, copyright, processes and designs. These can arise from R&D activities or from marketing by a company.
- Charges for licences to reproduce or distribute intellectual property. This category includes copyrights on books, computer software or cinematographic works.

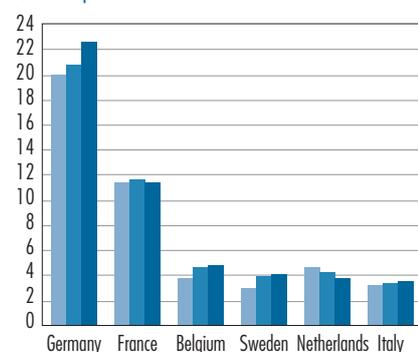


C2 R&D services trade flows for the main European trading countries

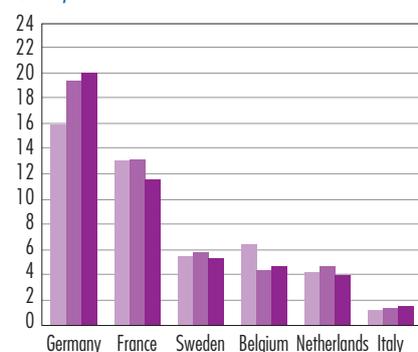
(EUR billions)

■ 2015 ■ 2016 ■ 2017

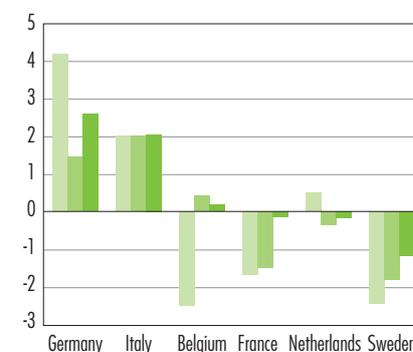
a) Receipts



b) Payments



c) Balance



Source: Eurostat.

BOX 2

Source of the data

Banque de France

Companies carrying out more than EUR 30 million of transactions with foreign countries over a calendar year are required to submit monthly reports to the Banque de France detailing all cross-border flows of services and income. These flows – either receipts or payments – and the type of service to which they relate, are then used to compile France's balance of payments.

Reporting companies notably provide statistics on flows of R&D services and charges for the use of intellectual property. The data analysed in this article have been extracted from these reports, the majority of which are submitted by large French non-financial corporations. These data account for a significant share of the total amounts reported by France to Eurostat, the European Union's statistical office, and therefore provide a fairly representative basis for analysis: in 2017 they amounted to 61% of France's total receipts and 83% of its total payments for R&D, and 74% of total receipts and 61% of total payments for intellectual property. These figures are used, among other things, to analyse trade flows by sector of activity.

Eurostat

The data used to compare France to other European countries are extracted from Eurostat statistics. They include all figures compiled at national level on R&D services and charges for the use of intellectual property, including those submitted by large corporations. The data are broken down first into trade flows with the rest of the world (part 1), and then into trade flows with the United States (part 2). Eurostat statistics are not all available at a granular level: for example, figures on charges for the use of intellectual property are rarely broken down by sub-category. Other data are confidential: the United Kingdom, for example, does not publish statistics on its trade flows with the United States. Data for Ireland have been excluded as they are atypical and not available for all items.



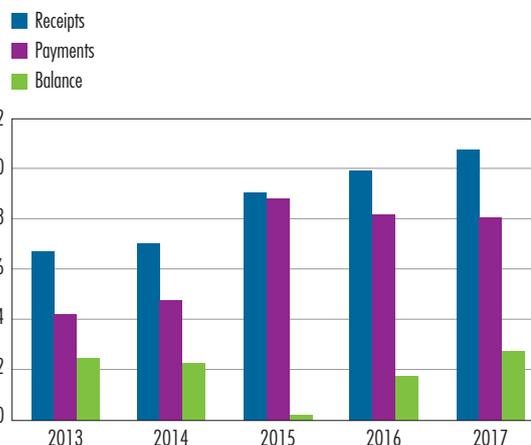
A surplus in charges for the use of intellectual property but behind Germany

In 2017, large French corporates recorded a trade surplus of EUR 2.7 billion in charges for the use of intellectual property. Receipts have been rising steadily since 2013 (see Chart 3).

However, in contrast with the majority of its European neighbours, France's overall balance in this item remains nearly in balance (see Chart 4) as its receipts are lower than for other countries and its payments higher. For example, its 2017 balance in charges for the use of intellectual property was around five times smaller than Germany's (EUR 1.4 billion and EUR 6.5 billion respectively). Together, these two countries accounted for half of all patents filed by EU countries with the European Patent Office in 2017, although France filed half as many as Germany. France's total receipts from intellectual property amounted to EUR 14.6 billion in 2017 versus EUR 17.8 billion for Germany, and accounted for 6% of its total services receipts compared

C3 Large French corporates' cross-border trade flows in charges for the use of intellectual property

(EUR billions)



Source: Banque de France.

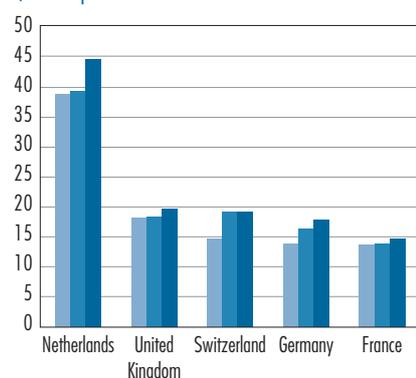
with 6.5% for Germany. Its payments amounted to EUR 13.2 billion compared with EUR 11.3 billion for Germany, and accounted for 6% of its total services payments versus 3.9% in the case of Germany.

C4 Trade flows in charges for the use of intellectual property for the main European trading countries

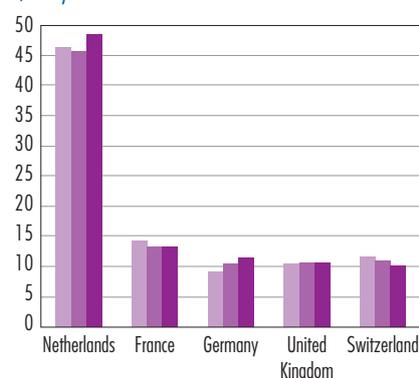
(EUR billions)

■ 2015 ■ 2016 ■ 2017

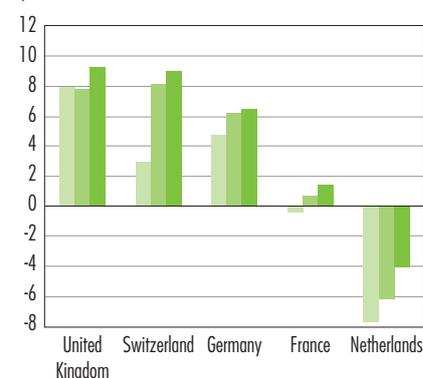
a) Receipts



b) Payments



c) Balance



Source: Eurostat.



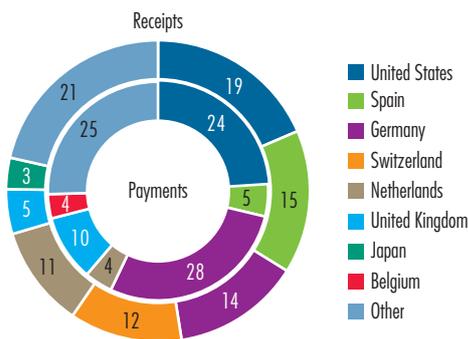
2 France's main trading partner for R&D services and charges for the use of intellectual property is the United States

R&D trade flows with the United States are high and generate a net deficit for France

The United States is large French corporates' biggest customer for R&D services (EUR 1.2 billion) and their second-biggest supplier (EUR 2.3 billion), accounting for 19% of their receipts for this item and 24% of their payments (see Chart 5).

C5 Breakdown of large French corporates' R&D services trade flows by partner country in 2017

(%)

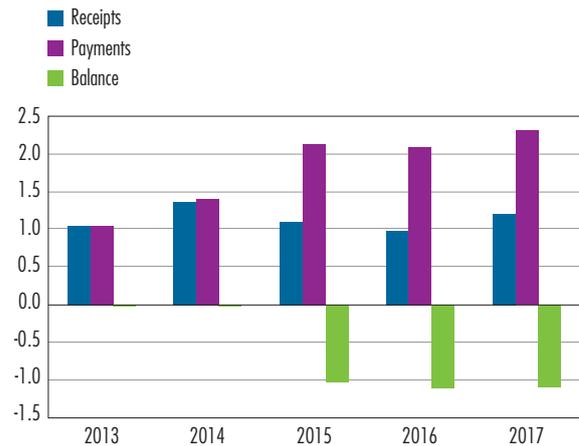


Note: The data in the outer and inner rings show receipts and payments respectively.
Source: Banque de France.

Their trade balance with the United States in R&D services remained in deficit between 2013 and 2017, and amounted to EUR -1.1 billion in 2017 (see Chart 6).

C6 Large French corporates' R&D services trade flows with the United States

(EUR billions)



Source: Banque de France.

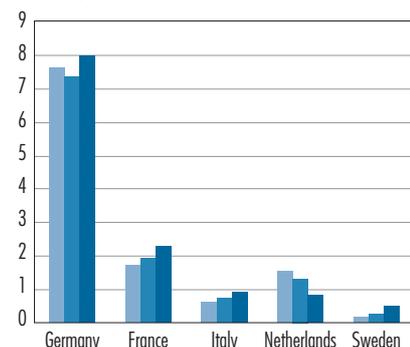
Based on total figures reported to Eurostat, in 2017 France generated lower receipts on the sale of R&D services to the United States than Germany (EUR 2.3 billion versus EUR 8 billion). Its R&D-related payments to the United States were also lower than Germany's at EUR 2.5 billion compared with EUR 5.6 billion. Moreover, France is in deficit with the United States in R&D services, whereas Germany has a surplus of more than EUR 2 billion (see Chart 7).

C7 R&D services trade flows with the United States for the main European trading countries

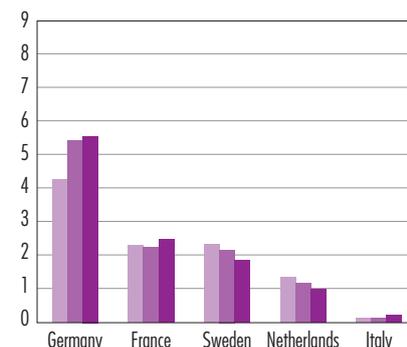
(EUR billions)

■ 2015 ■ 2016 ■ 2017

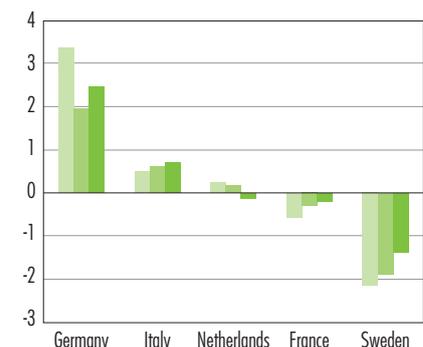
a) Receipts



b) Payments



c) Balance



Source: Eurostat.

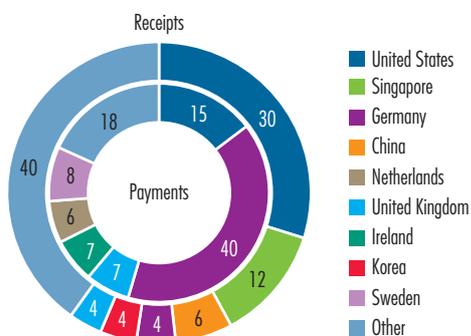


France has increased its surplus with the United States in charges for the use of intellectual property

In 2017 the United States accounted for 30% of large French corporates' receipts for the use of intellectual property (EUR 3.2 billion, the largest customer) and 15% of their payments (EUR 1.2 billion, second-largest supplier after Germany; see Chart 8).

C8 Breakdown by trading partner of large French corporates' 2017 trade flows in charges for the use of intellectual property

(%)



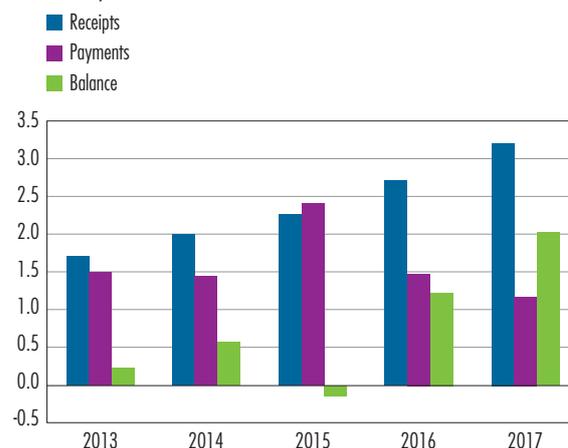
Source: Banque de France.

The United States accounted for their largest surplus in this item (EUR 2 billion), followed by Singapore (EUR 1.3 billion) and China (EUR 0.6 billion). With Germany, on the other hand, they are significantly in deficit, in the amount of EUR -2.8 billion.

The surplus with the United States has been increasing since 2016 (see Chart 9).

C9 Large French corporates' trade flows with the United States in charges for the use of intellectual property

(EUR billions)



Source: Banque de France.

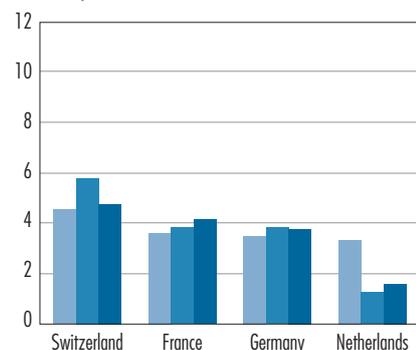
In 2017, France's receipts from the United States for the use of intellectual property were slightly higher than Germany's (EUR 4.2 billion compared with EUR 3.8 billion). Conversely, its payments to the United States were lower than Germany's, at EUR 1.8 billion compared with EUR 3.9 billion. France has an overall surplus with the United States in charges for the use of intellectual property, whereas Germany is in deficit (see Chart 10).

C10 Main European trading countries' trade flows with the United States in charges for the use of intellectual property

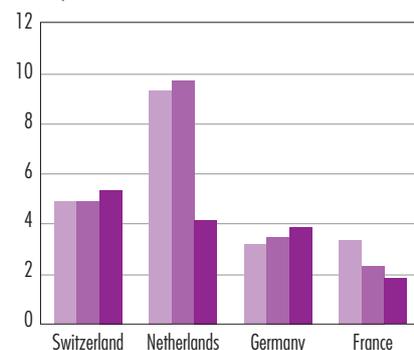
(EUR billions)

■ 2015 ■ 2016 ■ 2017

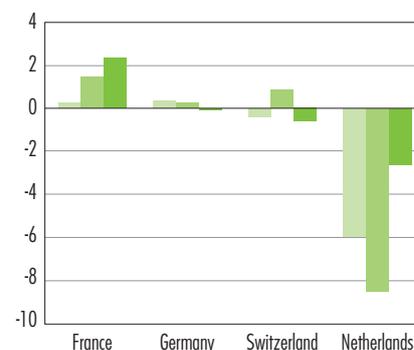
a) Receipts



b) Payments



c) Balance



Source: Eurostat.



3 The “Pharmaceuticals and health care” sector accounts for the majority of cross-border trade flows

The “Pharmaceuticals and health care” sector accounts for the major share of R&D services trade flows with the United States.

R&D services receipts stem from a range of different sectors, but the majority relate to the “Automobiles”, “Transport and tourism”, and “Pharmaceuticals and health care” sectors. “Pharmaceuticals and health care” in particular accounts for close to 50% of receipts from the United States, well ahead of the “Automobiles” sector (see Chart 11a).

“Aerospace and defence” accounts for the largest share of R&D services payments, ahead of “Pharmaceuticals and

health care”. However, in terms of trade flows with the United States, “Pharmaceuticals and health care” ranks ahead of “Aerospace and defence” (see Chart 11b).

Large French corporates’ deficit with the rest of the world in R&D services (EUR –2.6 billion) is primarily due to the “Aerospace and defence” sector (EUR –3.8 billion) followed by “Pharmaceuticals and health care”. For trade with the United States, these rankings are reversed.

The “Automobiles”, “Transport and tourism” and “Intellectual services (consultancy, auditing and engineering services)” sectors all have a surplus of over EUR 1 billion with the rest of the world.

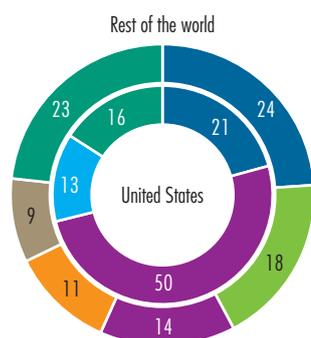
With the United States, “Intellectual services (consultancy, auditing and engineering services)” and “Automobiles” each have a surplus in excess of EUR 1 billion.

C11 Breakdown by sector of 2017 R&D services receipts from/payments to the rest of the world and the United States

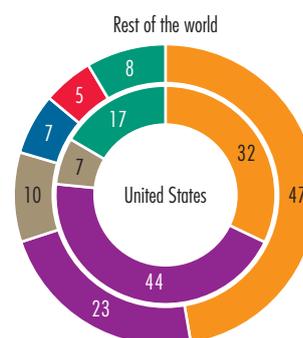
(%)



a) Receipts



b) Payments



Source: Banque de France.

Note: Data in the outer and inner rings show the breakdown of trade with the rest of the world and with the United States respectively.



“Pharmaceuticals and health care” accounts for the largest share of receipts and payments for intellectual property

“Pharmaceuticals and health care” accounts for more than 40% of receipts for intellectual property from the United States and more than 25% of those from the rest of the world (see Chart 12 below). Three other sectors each contribute more than 10% of receipts: “Intellectual services (consultancy, auditing and engineering services)”, “Fashion, cosmetics and luxury goods” and “Audio-visual, advertising and leisure” (see Chart 12a).

“Pharmaceuticals and health care” accounts for 43% of payments to the United States for intellectual property, and 57% of those to the rest of the world (see Chart 12b).

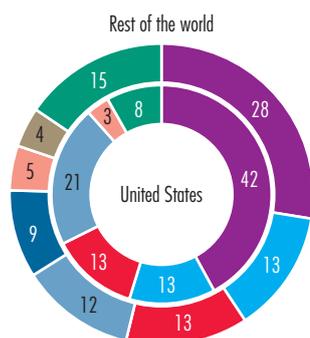
Overall, nearly all French sectors are in surplus with the rest of the world in charges for the use of intellectual property, especially “Fashion, cosmetics and luxury goods” (EUR 1.1 billion) and “Automobiles” (EUR 1 billion). Only “Pharmaceuticals and health care” is in deficit, in the amount of EUR –1.6 billion.

With regard to trade with the United States, all sectors are either in surplus or are nearly in balance. The largest contributors are “Pharmaceuticals and health care” (EUR 0.8 billion), “Audio-visual, advertising and leisure” and “Fashion, cosmetics and luxury goods” (EUR 0.4 billion each).

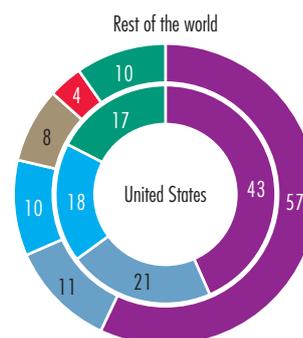
C12 Breakdown by sector of 2017 intellectual property-related receipts from/payments to the rest of the world and the United States (%)



a) Receipts



b) Payments



Source: Banque de France.



Appendix Methodology

Activities included under research and development and intellectual property in the balance of payments

Research and development services and charges for the use of intellectual property are described in detail in Chapter 10 of the 6th *Balance of Payments Manual* published by the IMF (BPM6).¹

Research and development services (R&D – code SJ1) are broken down into three categories.

- “Provision of customised and non-customised R&D services”.
- “Outright sales of the results of R&D”, which includes patents, copyrights arising from R&D, industrial processes and designs (including trade secrets) and other sales.
- “Other R&D services”, which comprises trials and other product and process development activities not included elsewhere.

Charges for the use of intellectual property (code SH) are broken down into four categories.

- “Franchises and trademarks licensing fees” (code SH1), which covers all receipts and payments for the use of proprietary rights (patents, trademarks, copyrights, industrial processes, etc.).
- “Licences for the use of outcomes of research and development” (SH2), which covers receipts and payments for the use of proprietary rights arising from R&D.
- “Licences to reproduce and/or distribute software” (SH3).
- “Licences to reproduce and/or distribute audio-visual and related products” (SH4), which covers all receipts and payments for the use of intellectual property embodied in original works, such as copyrights on cinematographic works and sound recordings, and related rights, such as for live performances and for television, cable or satellite broadcast.

¹ Available at <https://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm>

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