



World Intangible Investment Highlights

Better Data for Better Policy

Geneva, 25 June 2024

Key trends and insights

Co-published annually by the World Intellectual Property Organization (WIPO) in partnership with the Luiss Business School (LBS), the *World Intangible Investment Highlights* reveal that intangible investments grew at three times the rate of tangible investments between 2008–2023, proving resilient despite economic uncertainty and tighter monetary conditions. Indeed, investment into intangible assets, such as research and development (R&D), software and data, brands and design (box 1), has consistently outpaced investment in tangible assets, such as machinery and equipment, since 2008. As a result, investment into intangible assets constitutes a growing share of gross domestic product (GDP) among the economies covered by this report.

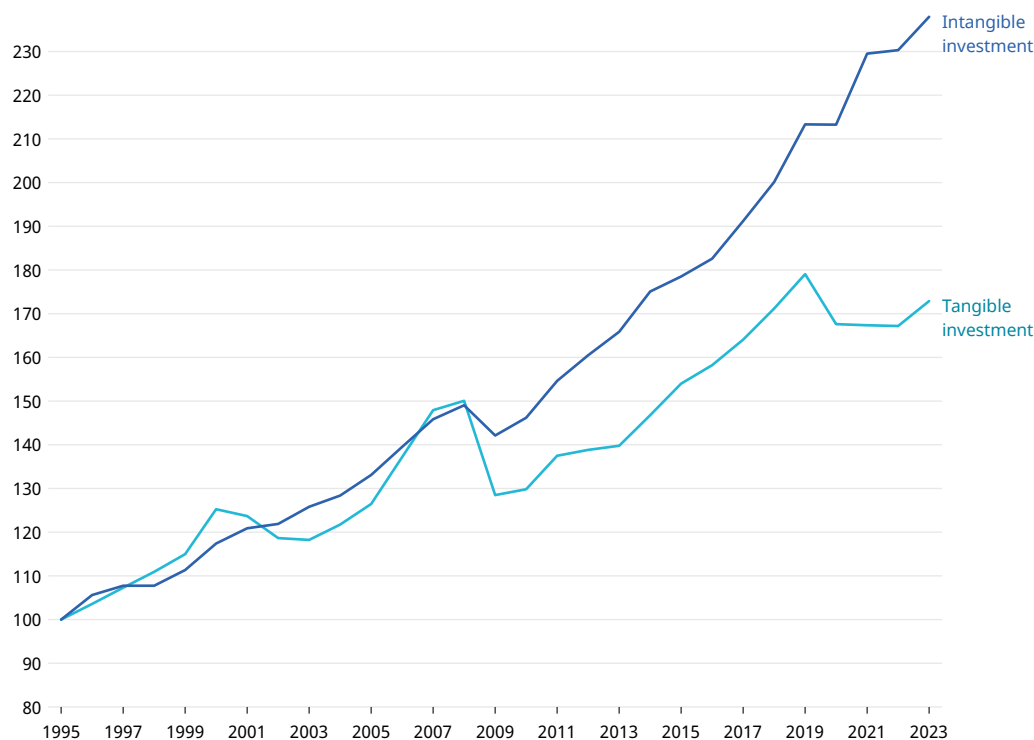
The *World Intangible Investment Highlights* and its underlying Global INTAN-Invest Database offer novel, up-to-date cross-country, quarterly and annual measures of investment into intangible assets, including those not included in official statistics. The statistics provided cover a range of high-income and emerging economies (starting with India). This represents a significant advancement for evidence-based policymaking (see boxes 1 and 2).

Below are seven stylized global trends in intangible investment across a wide range of intangible asset types.

Stylized fact 1: Despite multiple crises and interest rates increasing, intangible investment has grown three times faster than tangible investment between 2008–2023

- Among the 26 economies covered by this report, which together accounted for 52 percent of global GDP in 2023, total intangible investment has consistently outpaced total tangible investment since 2008 (figure 1)

Figure 1 Total intangible and tangible investment, 1995–2023, indexed (1995=100)



Note: Intangible and tangible investment have been aggregated over the sample countries: EU-22, India, Japan, the United Kingdom and the United States. Estimates are in terms of chain-linked volumes (reference year 2015). See note 2 for definition of EU-22.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

- Intangible investment has also shown remarkable resilience compared to tangible investment in periods of crisis, both during the 2008–2010 Financial Crisis, and the COVID-19 pandemic (see also Stylized fact 2).
- The gap between intangible and tangible investment has widened significantly since the COVID-19 pandemic, despite higher interest rates having stifled various forms of investment and a downturn in innovation finance having affected venture capital, which is an important source of financing for intangibles.

Box 1 Investments in intangible assets – an explanation

What are intangible assets?

In today's economy, the most valuable firms, spanning high-tech, pharmaceutical, automotive and financial services industries, derive their competitiveness and market value from intangible rather than physical, that is to say, "tangible" capital. Intangible assets encompass R&D, know-how, software and data, design, brands and reputation, organizational or supply-chain expertise and top-tier skills; all assets that either result from or interact with intellectual property (IP) in some form. Despite their intangible nature, such assets have the power to create immense value for companies, economies, societies and individuals alike.

Why do intangible assets matter?

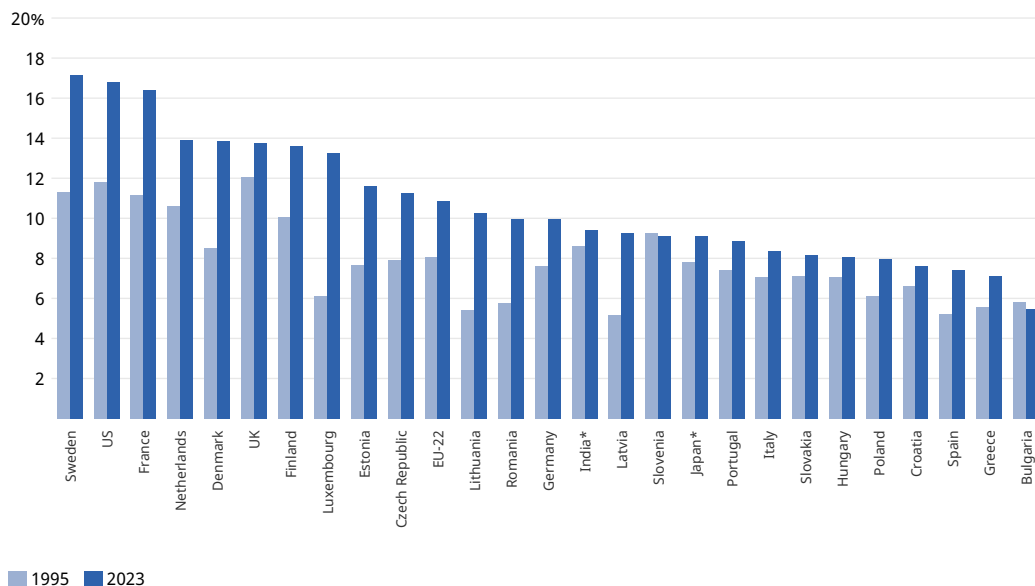
Although intangible, such assets exert significant influence over the fate and fortunes both of companies and countries in today's competitive landscape. Investment into intangible assets enables firms to enhance their competitive advantage and their IP, drive innovation and growth, attract top talent, cultivate customer loyalty and, ultimately, secure market success. Intangible assets, while not immediately apparent to the average person, profoundly impact daily life by fostering better economic prospects, generating higher-paying jobs, improving product quality and innovation, and delivering more reliable products.

Why is the accurate measurement of intangible assets crucial for policymakers and society?

Despite their pivotal role in fostering innovation and competitiveness, our understanding of the size, impact and composition of intangible assets remains limited. Yet the precise measurement of intangible asset investment is essential for comprehending the true extent and drivers of economic and productivity growth, as well as for formulating well-informed pro-growth policies. Inadequate measurement of intangible asset investment can have several adverse consequences. These include undervaluation, misallocation of resources, reduced competitiveness (including underfinancing by financial institutions and underinvestment by investors), resulting in job losses, diminished company prosperity and impaired decision-making by policymakers.

- In 2023, intangible investment accounted for over 16 percent of GDP in highly intangible-intensive economies like Sweden, the United States of America (US) and France (see figure 2). Figure 2 shows the full sample of the economies covered by this report, ranged in decreasing order according to intangible investment intensity (as a share of GDP) in 2023.

Figure 2 Intangible investment as a share of GDP (%), 1995 versus 2023



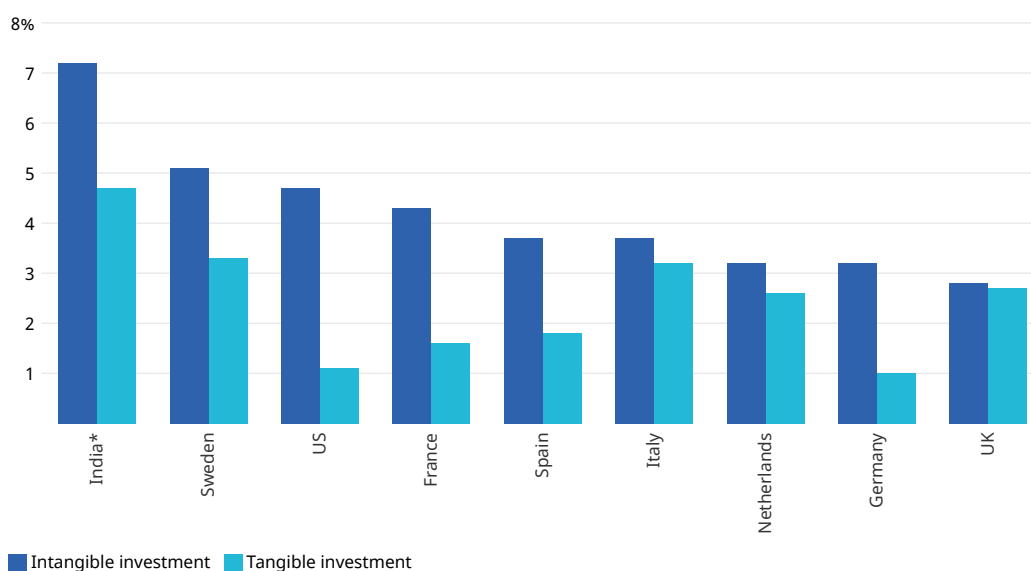
Notes: * For India, shares are for the years 2011 and 2020, respectively, owing to the unavailability of data before 2011 and beyond 2020. Data for India exclude the informal sector. For Japan, shares are for the years 1995 and 2021, respectively, owing to the unavailability of data beyond 2021. See note 2 for definition of EU-22.

Source: WIPO-LBS Global INTAN-Invest Database, June 2024.

- A trend showing intangible investment growing faster than tangible investment, especially over the last decade, is also evident at the country level (see figure 3, where countries are arranged in decreasing order according to intangible investment growth rate).

- Among all the large economies depicted in figure 3, intangible investment grew faster than tangible investment between 2013–2023.
- India was the country that experienced the fastest growth in intangible investment from 2011 to 2020 (the latest year available). India was followed by Sweden and the US, the two most intensive economies in terms of intangible investment as a share of GDP (see figures 2 and 3).
- Among those economies recording the fastest intangible investment growth between 2013–2023, there are economies with both a relatively lower intensity of intangible investment (as a share of GDP), such as Lithuania (growing at 9 percent) and Croatia (6.5 percent), and those with a relatively higher intensity of intangible investment, such as Luxembourg (growing at 7.8 percent) and Estonia (7.2 percent) (omitted in figure 3 for brevity).
- The United Kingdom (UK) stands out in figure 3 for having a relatively slower rate of intangible investment growth between 2013–2023, compared to other major economies within the European Union (EU) and also to the US. The UK saw a similar growth rate for intangible (2.8 percent) and tangible (2.7 percent) investment during this period.

Figure 3 Compound annual growth rate (%) for the largest European economies, India, the UK and the US, 2013–2023



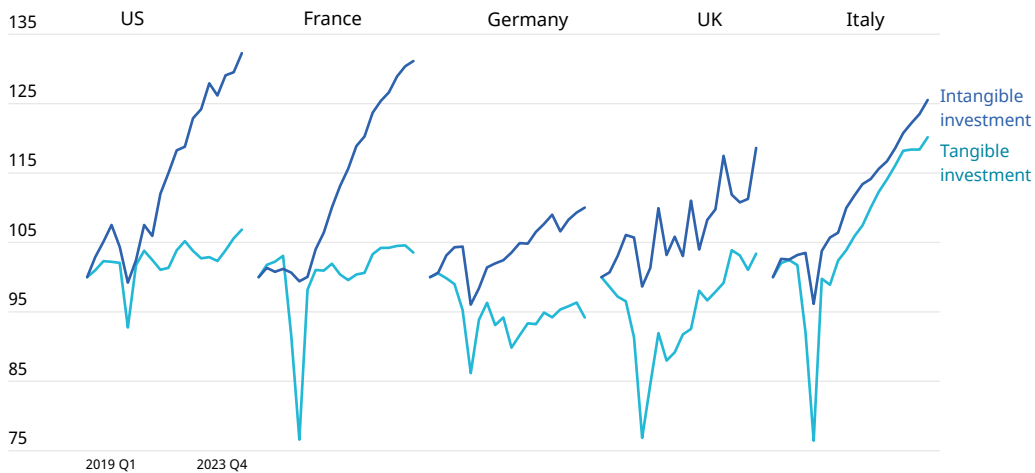
Notes: * For India, the growth rate is for the period 2011–2020. Japan and Poland are excluded from this chart owing to missing data for inflation-adjusted levels of tangible investment. Data for Austria, Belgium and the Republic of Ireland do not cover all sets of intangible assets and are therefore excluded from this chart.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

Stylized fact 2: Intangible investment levels have been found to be more resilient than those of tangible investment during economic crises

- In response to the COVID-19 shock, tangible investment fell more sharply compared to intangible investment. This was evident in all the sample major economies (figure 4).
- The nature of intangible investment makes it potentially more resilient and less sensitive to economic shocks that disrupt physical supply and demand than is tangible investment.
- The resilience of intangible investment (relative to tangible investment) is also remarkable in light of the recent period of increasing interest rates and a downturn in innovation finance that has affected venture capital, which is an important source of financing for intangibles.

Figure 4 Quarterly investment, selected economies, 2019–2023, indexed (2019 Q1=100)

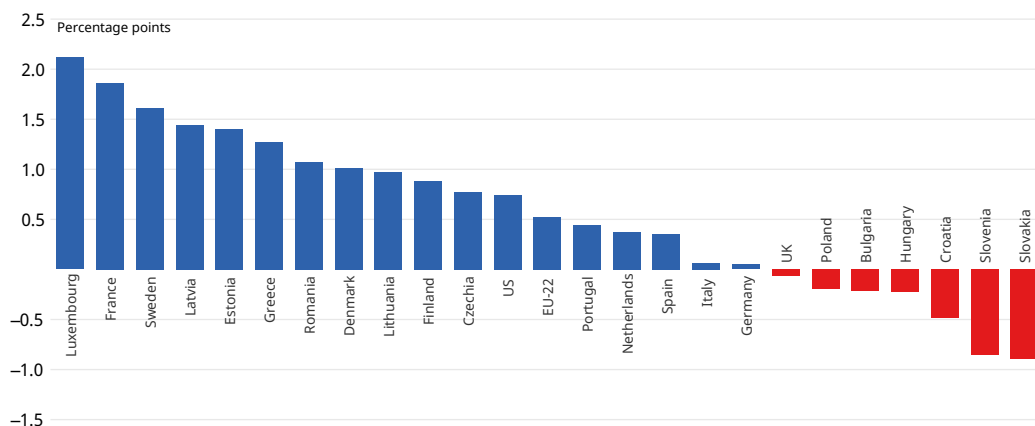


Note: Estimates are in terms of chain-linked volumes (reference year 2015).

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

The relative resilience of intangible investment is suggested by the change in GDP shares of intangible investment before and after the COVID-19 crisis (see figure 5, where countries are arranged in decreasing order of the difference in GDP share between the 2018–2019 and 2022–2023 periods). Luxembourg, France and Sweden were the countries that saw the largest increase in intangible investment as a share of GDP between the two periods. On the other hand, Croatia, Slovenia and Slovakia saw the largest decrease in intangible investment as a share of GDP between the same periods.

Figure 5 Change in intangible investment (as a share of GDP): Pre-COVID-19 (2018-19) versus Post-COVID-19 (2022-23)



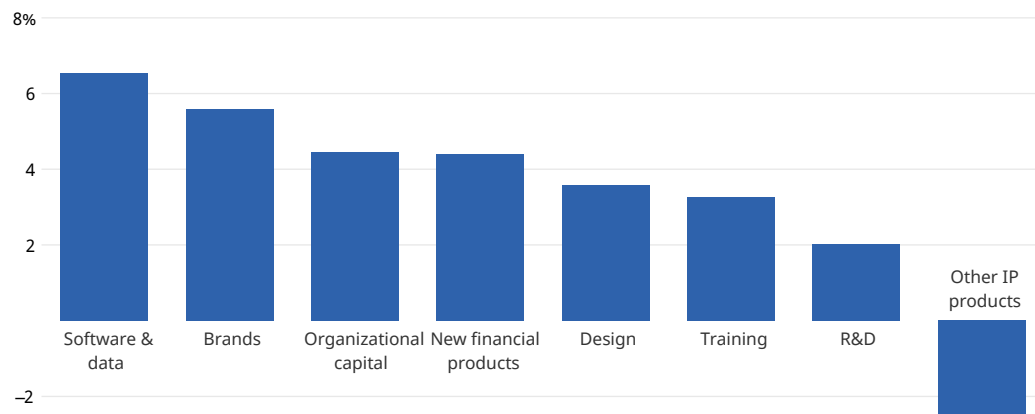
Notes: India and Japan are excluded from this chart owing to missing data beyond 2019 and 2020, respectively. See note 2 for definition of EU-22.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

Stylized fact 3: Software and data and brands are the two fastest growing types of intangible asset, both growing three times faster than R&D between 2011–2021

- The fastest growing types of intangible asset over the last decade have been software and data, followed by brands, organizational capital, and new financial products (figure 6).
- Software and data and brands grew three times faster than R&D between the period 2011–2021.¹
- Investment in other IP products (mineral exploration and artistic, entertainment and literary originals) declined between 2011–2021.

Figure 6 Compound annual growth rate (%), 2011–2021



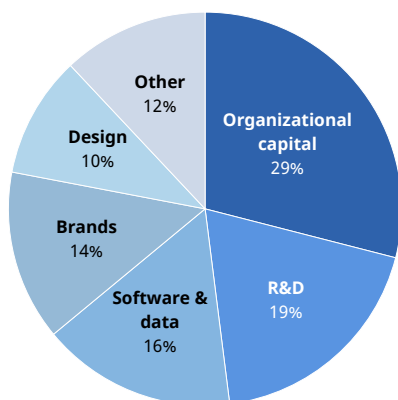
Notes: Intangible investment by asset type has been aggregated over the sample countries for 2021: EU-22, Japan, the UK and the US. See note 2 for definition of EU-22. 2021 is the most recent year for which data is available across all intangible asset types.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

Stylized fact 4: Among intangible assets, organizational capital dominates, making up nearly twice the share of total intangible investment claimed by software and data

- Organizational capital leads among various intangible asset types, making up close to 30 percent of total intangible investment, followed by R&D (19 percent), software and data (16 percent), then brands (14 percent) and design (10 percent) (figure 7).

Figure 7 Composition of total intangible investment, 2021



Notes: Intangible investment by asset type has been aggregated over the sample countries for 2021: EU-22, Japan, the UK and the US. See note 2 for definition of EU-22. 2021 is the most recent year for which data is available across all intangible asset types. The “other” category denotes other IP products (including mineral exploration and artistic, entertainment and literary originals), new financial products and employer-provided training.

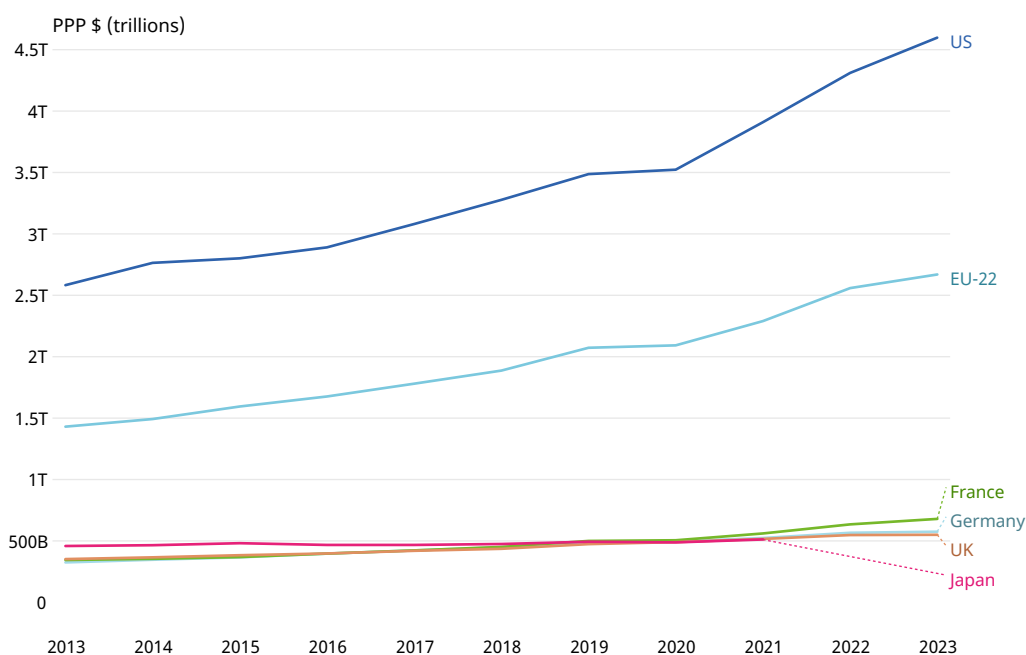
Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

¹ In the Global INTAN-Invest Database, estimates by asset type are available only up to 2021, in order to be consistent with official statistical releases of investment by asset type.

Stylized fact 5: The United States leads in terms of absolute levels of investment in 2023, with a figure six times higher than second-ranked France

- Aggregate intangible investment levels went up from USD 2.9 trillion in 1995 to USD 6.9 trillion in 2023, more than doubling in real terms. In contrast, tangible investment rose from USD 2.7 trillion in 1995 to USD 4.66 trillion in 2023, marking a 73 percent increase.
- The US vastly outperforms other countries in terms of levels of intangible investment, followed by the EU-22 aggregate, which reaches about 60 percent of the US level.²
- In 2023, the level of intangible investment for the US was more than six times that of France, which ranked second among the sample economies.
- Germany, the UK and Japan complete the top 5 economies in terms of absolute levels of intangible investment in 2023 (figure 8).
- Among EU-22 economies, France and Germany followed similar trajectories until 2020, after which time France's level of intangible investment surged ahead of Germany's (figure 9). In a similar vein, Germany started outperforming the UK from 2018 onwards. Other top performing EU-22 economies include Italy, the Kingdom of the Netherlands, Spain, Poland and Sweden.
- India's performance is also comparable with that of certain advanced economies, its intangible investment level in 2020 (the latest year available) being close to that of Sweden. Data for other emerging economies (Brazil, China, Indonesia, South Africa and Viet Nam), and high-income economies like Republic of Korea are not yet available, but will be considered in future editions of the Global INTAN-Invest Database.

Figure 8 Intangible investment for the top 5 economies, 2013–2023, in trillion USD PPP

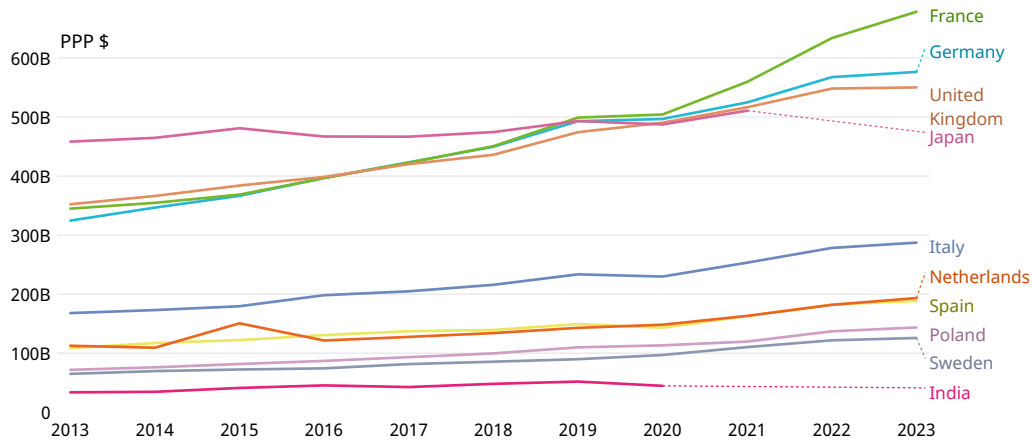


Note: Data for Japan are available for the period 1995–2021. See note 2 for definition of EU-22.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

2 The EU-22 economies are Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, the Kingdom of the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

Figure 9 Intangible investment, selected economies, 2013–2023, in billion USD PPP



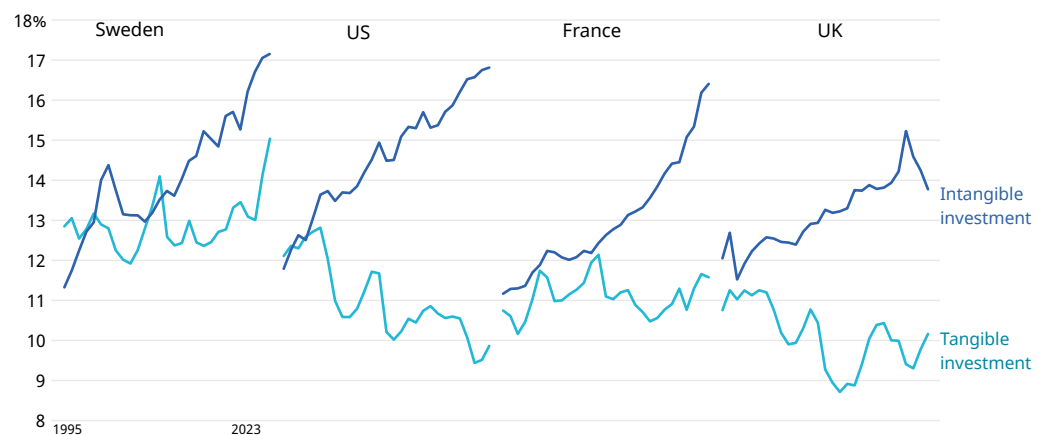
Notes: Data for India are available for the period 2011–2020. Note that India data sources refer to the fiscal year from July to June; therefore, 2011 stands for July 2011 to June 2012, and so on.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

Stylized fact 6: Intangible investment constitutes a growing share of GDP, relative to tangible investment

- Among economies with a high intensity of intangible investment, the gap between intangible and tangible investment (as a share of GDP) has been widening (figure 10).
- In contrast, among economies with a lower intensity of intangible investment, the gap has been narrowing, with intangible investment catching up with tangible investment (figure 11).
- The widest gap between intangible and tangible investment as a share of GDP is seen in the case of the US, where intangible investment’s share of GDP was nearly twice that of tangible investment in 2023. Sweden ranked first in terms of intangible investment as a share of GDP, then the US, followed by France. Among EU-22 countries, France, the Kingdom of the Netherlands, Denmark, the UK, Finland (ranked in decreasing order of intangible investment as a share of GDP) outperformed Germany, Italy and Spain.

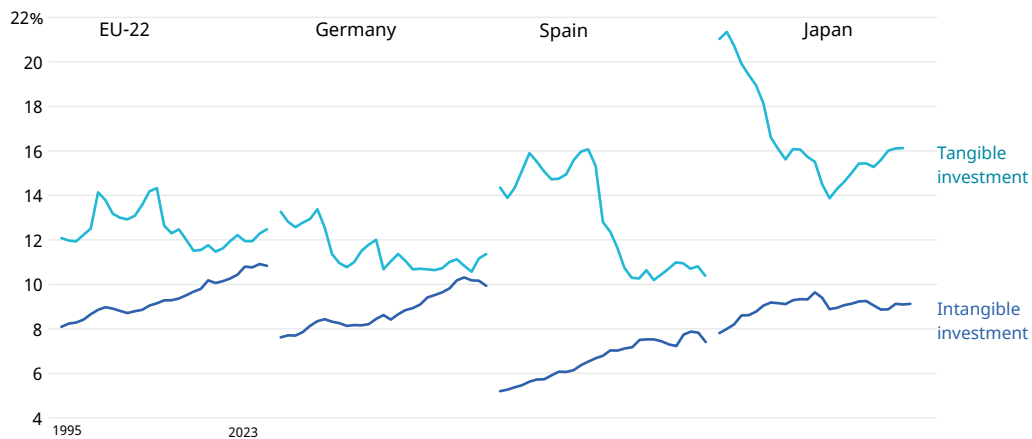
Figure 10 Investment as a share of GDP (%), 1995–2023



Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

- Conversely, among those sample countries where tangible investment as a share of GDP was higher than that of intangible investment, the gap between the two has been narrowing over time.
- India has experienced a similar trend, with tangible investment falling and intangible investment as a share of GDP rising slightly (see Stylized fact 7).
- The exception to date is Japan. Its intangible investment (as a share of GDP) has remained somewhat flat over recent years, whereas tangible investment declined steadily until 2010, but has since trended upward (see figure 11).

Figure 11 Investment as a share of GDP (%), 1995-2023



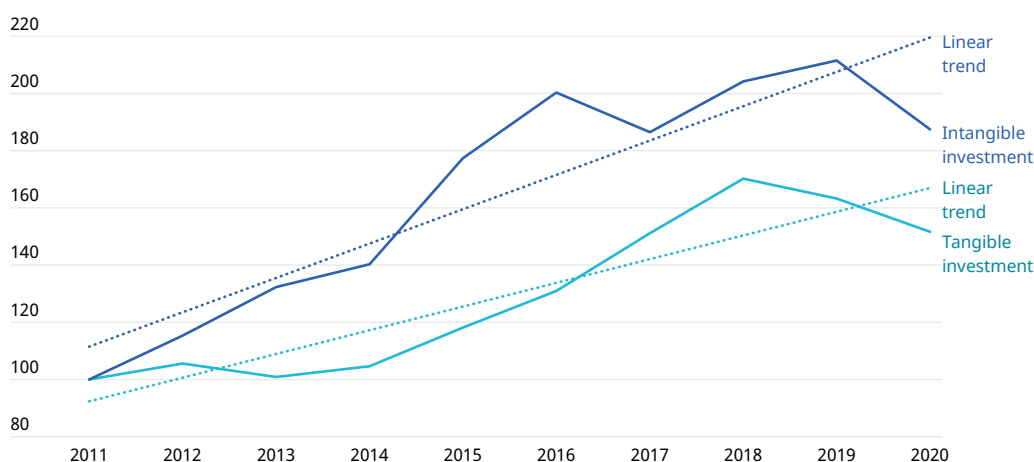
Note: Data for Japan are available for the period 1995-2021. See note 2 for definition of EU-22.

Source: WIPO-LBS Global INTAN-Invest Database, June 2024.

Stylized fact 7: Intangible investment growth is outpacing tangible investment in India, too

- Intangible investment in India has been growing faster than tangible investment. The difference is even more stark when the informal sector is excluded (figure 12).
- In line with Stylized fact 6, the gap between intangible and tangible investment as a share of India's GDP has been narrowing over time (figure 13a).
- Excluding the informal sector, intangible investment in 2019 made up over 10 percent of India's GDP, which is comparable to the EU-22 average (about 10 percent) and higher than in Japan (about 9 percent). In figure 13b, data from 2019 was used to avoid the potential COVID-19-related confounding effects present in 2020. Notably, the GDP share of intangible investment in India in 2019 (10.4 percent) was comparable to that in 2020 (9.4 percent), indicating a continuing trend despite the pandemic-related disruptions.

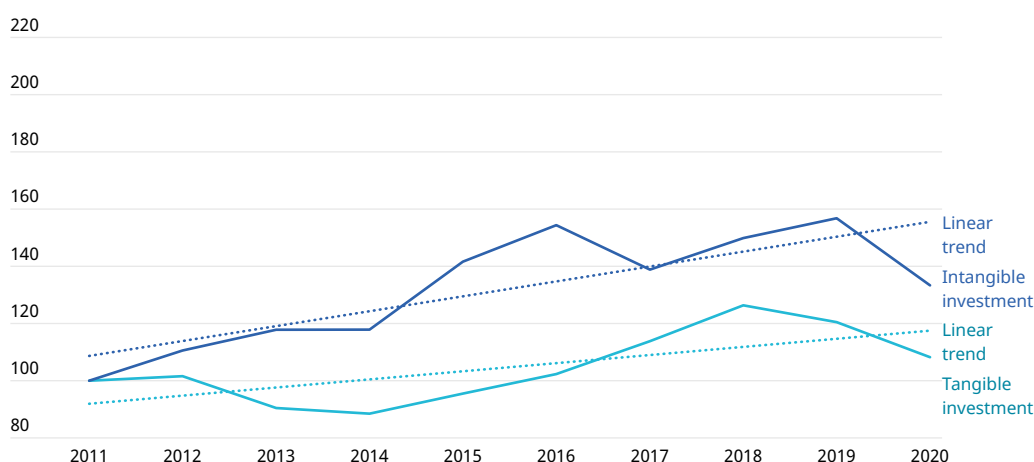
Figure 12a Investment in India, 2011–2020, indexed (2011=100), excluding informal economy



Notes: Data for India are available for the period 2011–2020. Estimates are in terms of chain-linked volumes (reference year 2015). Note that India data sources refer to the fiscal year from July to June; therefore, 2011 stands for July 2011 to June 2012, and so on.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

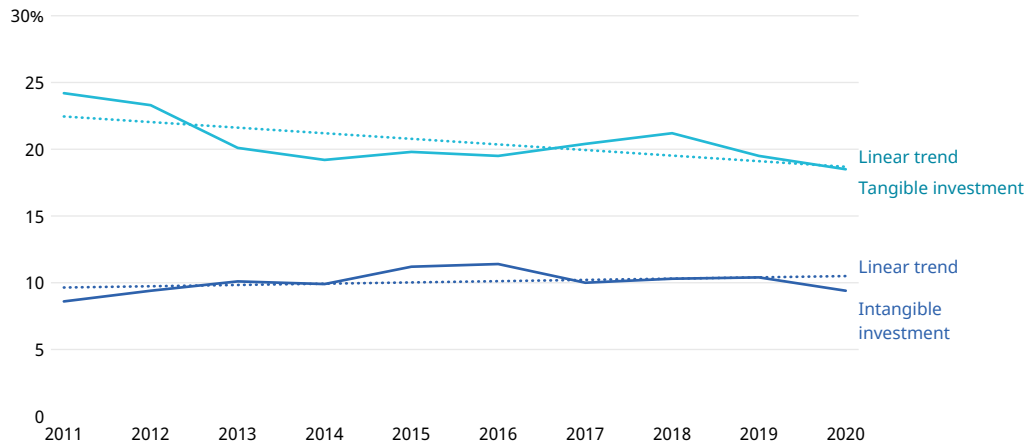
Figure 12b Investment in India, 2011–2020, indexed (2011=100), formal and informal economy



Notes: Data for India are available for the period 2011–2020. Estimates are in terms of chain-linked volumes (reference year 2015). Note that India data sources refer to the fiscal year from July to June; therefore, 2011 stands for July 2011 to June 2012, and so on.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

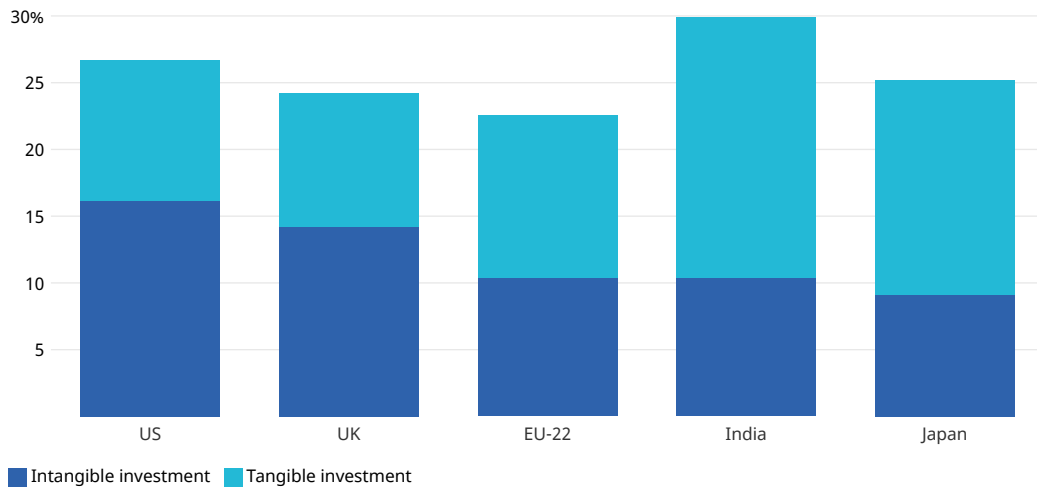
Figure 13a Investment as a share of GDP (%), India, 2011–2020



Notes: Figures for India exclude the informal sector. Note that India data sources refer to the fiscal year from July to June; therefore, 2011 stands for July 2011 to June 2012, and so on. See note 2 for definition of EU-22.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

Figure 13b Investment as a share of GDP (%), India, 2019

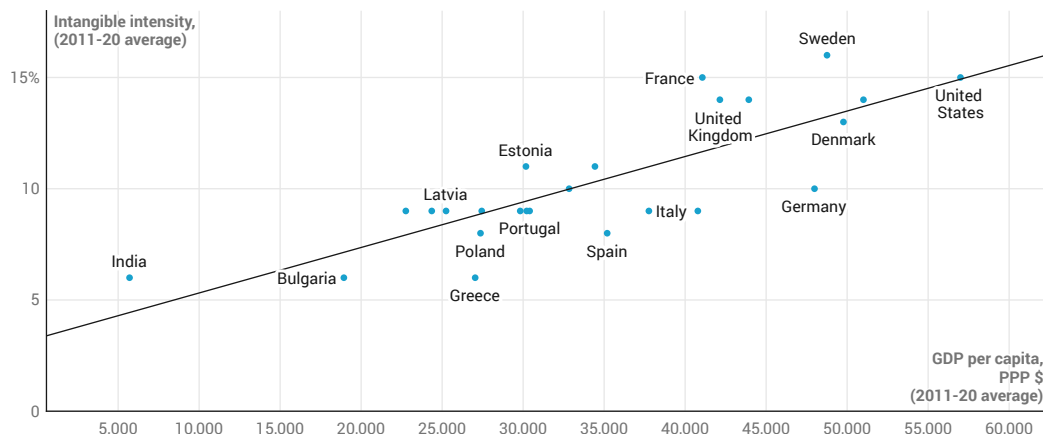


Notes: Figures for India exclude the informal sector. Note that India data sources refer to the fiscal year from July to June; therefore, 2011 stands for July 2011 to June 2012, and so on. See note 2 for definition of EU-22.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

- Intangible investment intensity and the level of PPP-adjusted GDP per capita are found to be positively correlated (figure 14). India lies above the correlation line, reflecting a higher intangible investment intensity (relative to its level of GDP per capita) than what is predicted by the correlation line (dotted line in figure 14).

Figure 14 Intangible investment intensity and GDP per capita, 2011–2020



Notes: GDP and investment figures for India exclude the informal sector. Intangible intensity refers to intangible investment as a share of adjusted value-added (%). GDP per capita is measured in PPP \$ (in constant 2015 prices).

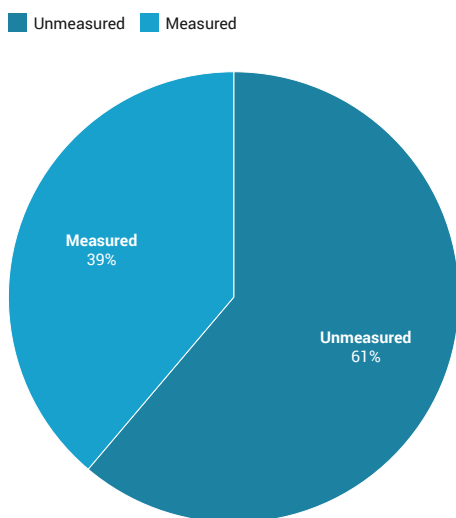
Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

Box 2 About the project and its measurement approach

The WIPO–LBS Partnership on Intangible Assets in the Global Economy aims to generate up-to-date global estimates of investment in intangible assets. Co-published by the [World Intellectual Property Organization](#) and the [Luiss Business School](#), the [World Intangible Investment Highlights](#) serves as the key reference publication for the latest statistics on global investment in intangible assets available in the [Global INTAN-Invest Database](#).

Measurement gaps: Despite the importance of intangible investment in driving innovation, productivity and economic growth, our understanding of its size, composition and impact remains limited owing to measurement challenges. The “non-physical” nature of intangible assets makes them intrinsically hard to measure and report. Many intangible asset types, such as brands or design, are not recognized as an investment under national accounting frameworks, with the result that about 60 percent of investment in intangible assets goes unmeasured (box figure 2.1).

Box figure 2.1 Share of measured and unmeasured intangible investment (%), 2023



Note: Intangible investment has been aggregated over EU-22, the UK and the US for 2023. See note 2 for definition of EU-22.

Source: WIPO–LBS Global INTAN-Invest Database, June 2024.

- Existing estimates of intangible investment (especially of those asset types that are not included in national accounting frameworks) suffer from gaps in coverage and time lags.
- Such estimates are typically available with a delay of two to three years and then only annually and for a limited set of advanced economies (e.g., the EU, Japan, the UK and the US).
- This project aims to produce both yearly and quarterly estimates of intangible investment in a timely manner, with 2023 data being available in June 2024. Additionally, this project expands coverage beyond advanced economies to include emerging economies, starting with India.
- Ultimately, the goal is to empower as many countries as possible to generate data independently, through technical capacity-building efforts worldwide.

Coverage: The latest June 2024 release of this dataset offers annual and quarterly estimates of intangible investment, spanning from 1995 to 2023, for a total of 31 economies, including 27 EU economies (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Kingdom of the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden) plus India, Japan, the UK and the US.

The measurement framework: Global INTAN-Invest follows the National Accounts framework proposed by [Corrado, Hulten and Sichel \(2009\)](#), see box figure 2.2, covering both unmeasured and measured intangible assets (refer to box figure 2.1)

Box figure 2.2 Intangible assets under the Corrado, Hulten and Sichel framework



Source: Adapted from Corrado, Hulten and Sichel (2005, 2009).

This partnership is blessed with the participation of the African Union Development Agency (AUDA-NEPAD), the European Investment Bank (EIB), the Inter-American Development Bank (IDB), the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), the US Bureau of Economic Analysis and the World Bank, as a part of the project's Steering Committee.

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