

The corporate investment rate reached its highest level in 2016, driven mainly by trend growth in expenditure on services

The investment rate of non-financial enterprises, which measures the ratio between their gross fixed capital formation and their value added, reached 21.7% in 2016, surpassing the peak of 2008. This new record has occurred in a favourable economic context but also reflects a trend increase since the start of the 1980s.

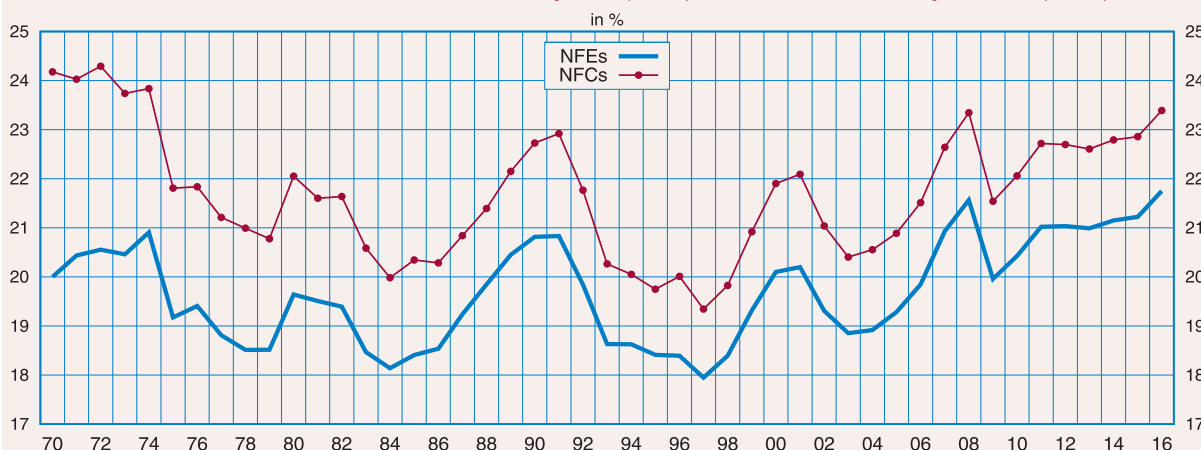
For nearly 40 years, enterprises have been stepping up their investment in research and development (R&D) and in software. Industry in particular has significantly increased its R&D efforts. So despite industry's declining economic weight, it has contributed to raising the investment rate of all enterprises. Above all, the importance of information technology services in production processes has continually increased. Enterprises are making greater use of the services of digital-sector firms and are attaching increasing importance in their production to the development of application software.

The investment rate of non-financial enterprises (NFEs), calculated as the ratio between their gross fixed capital formation (see Concept) and their value added, reached 21.7% in 2016. This is higher than its long-term average (1980-2016) and is slightly above its previous peak in 2008 (*Graph 1*).

The corporate investment rate for market services has shown trend growth since the start of the 1980s

This new peak level has come in an economic context that is favourable to investment, but it also reflects the structural rise in the corporate investment rate witnessed since 1980 (+2.1 points since then), particularly in services (*Graph 2*).

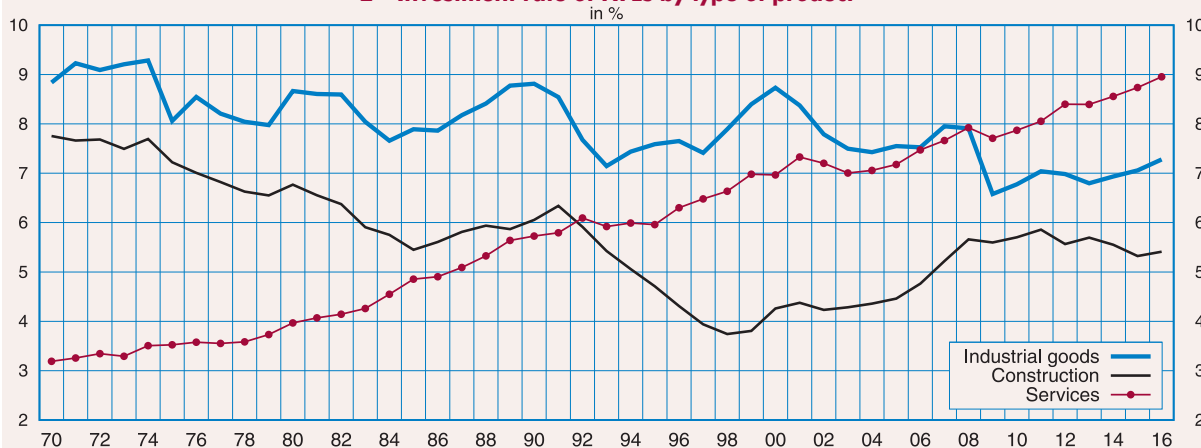
1 - Investment rate of non-financial enterprises (NFEs) and non-financial corporations (NFCs)



Note: in the national accounts, the non-financial enterprise sector encompasses non-financial corporations and unincorporated enterprises.

Source: INSEE, national accounts base 2010

2 - Investment rate of NFEs by type of product



Source: INSEE, national accounts base 2010

Investment in services by NFEs amounted to 9.0% of their value added in 2016, compared to just 4.0% in 1980 (Table 1). These enterprises have stepped up their investment in information and communication (+3.0 points), especially in software and IT services but also in services to businesses (+2.0 points), with the latter stemming on the one hand from increased spending on technical studies (engineering and architecture, etc.), and on the other hand from dynamic R&D investment in the 1980s and since 2000.

At the same time, from 1980 to 2016 the rate of corporate investment in industrial products declined, standing at 7.3% in 2016 compared to 8.7% in 1980. It dropped during the crisis of 2008-2009, shedding 1.3 points in one year and not recovering thereafter. Enterprises reduced their rate of investment in equipment and machinery (-1.0 point) in particular. In addition, the rate of investment in construction has dropped since 1980 in general. It has been rising again since the end of the 1990s but overall between 1980 and 2016, it contributed to reducing the total investment rate by 1.4 points.

Enterprises have invested strongly in IT assets

Analysing investments according to asset types in the scope of non-financial enterprises (see *Concept*) reveals the increasing importance of intangible investment and, within it, the extremely vigorous spending on application software.

Investment by non-financial corporations is divided into three main assets: construction, machinery and equipment, and intellectual property. In 2016 these three types of assets each accounted for approximately one third of the total investments of NFCs. Per asset type, the increased investment in information and communication products has resulted in a rise in the investment rate of NFCs in intellectual property rights (+3.7 points since 1980; Table 2), with much higher investment in "software and databases" (+2.8 points) than in research and development (+0.7 points). This vigour stems from the increase in the proportion of "application software" programs produced by digital technology firms or within enterprises for own final use.

Table 1 - Investment rate of non-financial enterprises by type of product

	Investment rate		Investment rate variation			
	1980	2016	1980-2016	1980-1990	1990-2000	2000-2016
All products	19.6	21.7	2.1	1.2	-0.7	1.6
Agriculture	0.2	0.1	-0.1	0.0	-0.1	0.0
Industry	8.7	7.3	-1.3	0.1	-0.1	-1.4
Equipment and machinery	3.5	2.5	-1.0	0.3	-0.1	-1.1
Transport equipment	1.9	2.3	0.4	0.2	0.2	0.1
Other industrial products	3.3	2.5	-0.8	-0.3	-0.1	-0.3
Construction	6.8	5.4	-1.4	-0.7	-1.8	1.1
Services	4.0	9.0	5.0	1.8	1.2	2.0
Information and communication	1.6	4.6	3.0	0.9	0.8	1.3
Real estate activities	0.1	0.0	0.0	0.0	0.0	0.0
Services to businesses	2.2	4.2	2.0	0.8	0.4	0.8
Other services	0.1	0.1	0.0	0.0	0.1	-0.1

Source: INSEE, national accounts base 2010

Table 2 - Investment rate of non-financial corporations by type of assets (1980-2016)

	Investment rates		Investment rate variation			
	1980	2016	1980-2016	1980-1990	1990-2000	2000-2016
Fixed assets	22.1	23.3	1.3	0.7	-0.8	1.4
Construction	8.4	7.5	-0.9	-0.7	-1.8	1.6
Dwellings	1.8	1.8	0.0	-0.5	-0.2	0.8
Other buildings and structures	6.6	5.7	-0.9	-0.1	-1.6	0.8
Non-residential buildings	4.0	4.0	0.0	0.0	-0.7	0.7
Other structures	2.6	1.7	-0.9	-0.1	-0.9	0.1
Machinery and equipment	9.4	7.9	-1.6	-0.1	0.3	-1.7
Transport equipment	2.5	2.7	0.2	0.1	0.2	0.0
ICT equipment	0.5	0.6	0.1	0.2	0.2	-0.2
Other machinery and equipment	6.5	4.6	-1.9	-0.3	-0.1	-1.4
Cultivated biological resources	0.1	0.1	0.0	0.0	0.0	0.0
Intellectual property products	4.1	7.9	3.7	1.5	0.7	1.5
Research and development	2.2	2.9	0.7	0.6	-0.1	0.3
Computer software and databases	1.9	4.7	2.8	0.8	0.8	1.2
Entertainment literary or artistic originals	0.1	0.3	0.2	0.1	0.0	0.1

Source: INSEE, national accounts base 2010

French developments

However, with regard to investment in machinery and equipment, and even with the inclusion of related services (studies and installation, etc.), it remains clear that the level of relative spending has not returned to its pre-crisis level. Finally, the drop in construction since 1980 is mainly the result of lower relative investment in civil engineering.

The rise in the rate of investment in R&D originates mainly from the greater research efforts in industry, whereas research in software reflects the generalisation of information technology in the economy

The rise in the share of corporate investment in the overall value added of enterprises may either be due to an increase in the investment rate of certain branches, or to branches of activity with an already high investment rate making a greater contribution to value added.

The investment rate of NFEs (excluding real estate activities) increased by 2.1 points between 1980 and 2015. The significant rise in the investment rates of certain branches of activity has made a much greater contribution to this rise than any structural effect (Table 3).

There has been a particularly strong rise in the investment rate in the manufacture of machinery and equipment (+18 points between 1980 and 2015), of transport equipment (+13 points) and of "other

industries" (+6 points; Table 3). Given the size of this last category, it makes the greatest contribution of all industrial branches to the overall increase (+0.7 points). In these three goods-manufacturing branches, the increase in the investment rate originates primarily from a significant rise in the R&D investment effort. Despite the reduction in the relative contribution of these branches to value added, the vigour of their spending on research and development accounts for most of the overall increase.

In services, the investment rate has also risen significantly in information and communication (+17 points since 1980), contributing +1.3 points to the overall increase. In this branch, the relative investment effort has risen strongly in publishing, audio-visual and broadcasting activities, as well as in telecommunications, information technology and information service activities. Investment by these branches has been very dynamic since 2000, especially investment in software, which alone has contributed to most of the rise in the investment rate of these branches.

All in all since 1980, the rise in the corporate investment rate has originated mainly from the intensification of corporate R&D efforts and from the growing computerisation of production technologies, in the IT branch itself and in all market branches as a whole. This computerisation process remains dynamic, indicating that production technologies are in a state of transition. ■

Table 3 - Investment rate of NFEs by branch (1980-2015)

	Investment rate			Contributions of the branches to the investment rate variation					
	1980	2015	1980-2015	1980-2015			1980-1990	1990-2000	2000-2015
				Contribution	Rate variation effect	Structural effect	Contribution		
Total	16.4	18.5	2.1	2.1	2.1	0.0	1.2	0.2	0.7
Agriculture	30.6	36.4	5.8	-0.3	0.2	-0.5	-0.3	0.1	0.0
Industry	21.8	28.3	6.5	1.0	1.6	-0.6	0.9	0.0	0.2
Energy, water, waste	45.5	42.9	-2.7	-0.2	-0.1	0.0	-0.1	-0.2	0.2
Agri-food industry	15.0	12.2	-2.8	-0.1	-0.1	0.1	0.0	-0.1	0.0
Coking and petroleum refining	15.9	52.7	36.7	0.1	0.1	-0.1	0.0	0.0	0.0
Capital goods industries	26.2	43.6	17.5	0.2	0.7	-0.4	0.4	0.2	-0.4
Transport equipment	33.9	47.0	13.1	0.3	0.3	0.0	0.3	0.1	-0.1
Other industrial branches	14.9	20.5	5.6	0.7	0.7	0.0	0.3	0.0	0.4
Construction	9.1	7.1	-1.9	0.0	-0.2	0.2	0.2	0.1	-0.3
Trade services except real estate and financial activities	12.8	15.9	3.2	1.3	1.6	-0.3	0.5	0.0	0.8
Trade	7.2	9.0	1.8	0.4	0.3	0.1	0.1	0.0	0.3
Transport	22.0	24.3	2.3	0.2	0.2	0.1	0.1	0.1	0.1
Accommodation and food	14.4	10.4	-4.0	-0.2	-0.1	-0.1	-0.1	-0.1	0.0
Information-communication	15.6	32.4	16.8	1.3	1.1	0.2	0.3	0.3	0.7
Services to businesses	14.4	16.8	2.3	0.2	0.4	-0.1	0.3	0.0	0.0
Administrative services	11.6	6.9	-4.7	-0.6	-0.2	-0.3	-0.1	-0.1	-0.3
Services to households	11.1	13.4	2.2	0.0	0.0	0.0	0.0	-0.1	0.1

Scope: non-financial enterprises, branches except real estate activities

Note: each branch's contribution to the change in the investment rate of NFEs breaks down into a variation effect for the branch's rate, and a structural effect associated with the change in the branch's relative importance in value added. These contributions are calculated herein according to the method proposed by J.-P. Berthier (2002).

Source: INSEE, national accounts base 2010

Bibliography

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Concept

The measurement of investment has been gradually extended to new types of expenditure

Investment, or gross fixed capital formation, refers to acquisitions minus the transfers of fixed, tangible or intangible assets derived from production processes and used repeatedly or continuously in other production processes for at least one year.

Originally, the national accounts restricted gross fixed capital formation to tangible investments and it excluded services. Expenditure on software was added to investment as of the System of National Accounts in 1993 (1993 SNA), followed by expenditure on research and development and on database acquisition as of the 2008 SNA. Expenditure on software, which has been very dynamic since the start of the 1980s, is divided into "data processing and Internet portals", "standard software" and "application software". Application software is also included in investment when it is developed in-house. In this case, it corresponds to production for own final use, and currently accounts for approximately one third of investment in software (Lavergne and Méot, 2015).

The National Accounts measure investments according to the type of product and type of asset. The "product" relates to the business sector that produces the product purchased for the investment. The "asset" refers to the type of resource enhanced by the investment. For example, when an enterprise hires an architect for the construction of new premises, it is investing in a product - an "architectural service", as well as in an asset - a "non-residential building". The proportion of investments according to types of assets is not calculated for non-financial enterprises because this scope includes sole proprietors whose property is hard to dissociate from their property owned as households. However, this proportion is available exclusively in the scope of Non Financial Corporations (NFCs), in which the overall change in the investment rate is similar to that in the scope of NFEs (+1.3 points between 1980 and 2016). ■