

## ARTICLES

CENTRAL EUROPEAN REVIEW OF ECONOMICS & FINANCE  
Vol. 43. No 2 (2023) pp. 17-36  
DOI <https://doi.org/10.24136/ceref.2023.007>

**Anna Odrobina**

### **THE INTERNATIONALISATION OF PLATFORM-BASED BUSINESSES – THE CASE OF GAFAM<sup>1</sup>**

#### **Abstract**

The platform-based business model is indicated as the 'winning' one in the days of the digitisation of businesses. Such a platform constitutes a digital infrastructure bringing together various groups of users, whereas the platform owner provides facilities for establishing multi-sided relationships and interactions through the platform both within and between such groups. The platform generates the formation of a network of interactions between users and the operator of the business model seeks methods for and ways of monetising such interactions and data by organising the processing of data and the use of interactions. It has stimulated the spectacular development of the GAFAM corporations, the global IT giants and leaders. The paper aims to examine the process of the internationalisation of corporations relying on platformisation and to determine whether platformisation influence the internationalisation of economic activities. As demonstrated by the research carried out, despite their global operations, the digital corporations in question, GAFAM, have not internationalised as the process is traditionally understood; instead, they have been able to effectively operate on a global scale without expanding their foreign assets or foreign employment. It has created entirely new drivers towards decelerating globalisation as businesses relying on platforms and digitisation continue to grow.

**JEL classification codes:** F23, M21, L20

**Keywords:** platformisation, Google, Apple, Facebook, Amazon, Microsoft, TNI, internationalisation.

---

<sup>1</sup> The publication was financed by a subsidy granted to the Krakow University of Economics - Project No. 075/EEG/2022/POT.

## Introduction

The 2010s witnessed buoyant growth of enterprises relying on digitisation, particularly on platform development. There are reasons why platformisation is believed to be the ‘winning’ business model in the nearest future. It is reflected in the spectacular global rise of the five IT giants, among the world’s largest firm in terms of market value, known as GAFAM. The acronym is formed from the initial letters of the business names of Google (Alphabet)<sup>2</sup>, Apple, Facebook (Meta)<sup>3</sup>, Amazon and Microsoft, US corporations operating as multi-sided platforms with wide and extensive ecosystems of products, applications, services, content and users.

The objective of the study is to examine the process of the internationalisation of corporations relying on platformisation and to determine whether platformisation influence the internationalisation of economic activities based on the example of GAFAM. The point is that digital technologies underlying the business model of an undertaking transform its internationalisation path (international footprint) as well. Thus, as the digitisation of enterprises continues, one may expect hindering effects on the globalisation process. The paper puts forward the following hypothesis: the platformisation of economic activities transforms how corporations internationalise (their international footprints).

The study is composed of three parts. The first part focuses on the essential elements of the platform-based business models used in the corporations in question. The second part describes the development potential and dynamics of GAFAM. Finally, the third part presents the results of research on the course of the internationalisation of the corporations under review, allowing to draw conclusions on the specific characteristics of the internationalisation of present-day enterprises relying on digitisation and platformisation and, consequently, also to conclude on the future of globalisation.

---

<sup>2</sup> In 2015, Google set up a holding company operating under the business name Alphabet Inc., to take over the Google’s subsidiaries, whereas Google itself became a subsidiary of Alphabet. However, it must be emphasised that Google is an undertaking of key importance to the activities of Alphabet. This study uses the name Google to maintain consistency with the acronym GAFAM, but the data presented still concern Alphabet.

<sup>3</sup> As regards Facebook, the company was renamed to Meta (Meta Platforms) at the end of 2021; the rebranding was combined with changing the logo and visual identity of the corporation. As in the case of Google, the previous business name is used in this paper.

**The essential elements of the platform-based business model as illustrated by the example of GAFAM**

A key element of the business model based on platformisation is a platform bringing together various groups of users. Such a platform constitutes a technical infrastructure (architecture) facilitating interaction and service provision (UNCTAD 2019, pp. 25-27; Nieborg & Poell 2017, pp. 4275-4292), intermediating the creation of multi-sided networks between multiple users (Evans & Schmalensee 2016; McIntyre & Srinivasan 2017). Therefore, it includes IT hardware (e.g. devices such as smartphones, laptops, other accessories), operating systems and software for interactions between users and machines (interfaces) (Deshayes 2019, pp. 36-44).

A platform is a sort of 'core' of an entire ecosystem with various user groups gravitating around it (Gautier & Lamesch 2021, pp. 1-15):

- consumers – use digital devices to navigate the Internet and its content via search engines, web browsers, social media, instant messengers, map services, etc.;
- businesses – use products and services offered by the platform to increase their efficiency and productivity as well as for boosting creative processes, relying on cloud services, productivity software, collaboration tools, analytics software, data analytics, sales programs, etc.;
- merchants – use the platform as an online distribution system, relying on shopping websites, price analysis tools, delivery services or online payment services;
- content editors – create digital content and use the platform to make it accessible to users, relying on development tools for applications, videos, music, games, music streaming, etc.;
- advertisers – use the platform to place online advertising in order to reach potential customers, relying on advertising networks, auctions, serving technology, targeting services.

In the platform-based model, it is essential that the relations, relationships and interactions on the platform should be managed, processed and used in such a manner as to enable the company – the platform owner – to effectively monetise those interactions and data. It is worth pointing out that all interactions will not generate revenue for the platform owner, but all of them are indispensable to the effective monetisation of the platform. As one example of such a user group, consumers do not pay for using products and services provided by the platform (e.g. the Google search engine), but they do leave information on what the consumers search for, what services they use, etc., which allows showing them customised ads paid for by advertisers as well as presenting to consumers products and services offered by firms that will also pay the platform owner for interaction

with specific consumers. Therefore, the platform becomes enormously profitable, provided that the management of platform-based data, relationships and interactions is efficient and creative.

In their respective business models, all the GAFAM corporations rely on a platform; however, as their functioning varies, they bring together different user groups in their ecosystems, as summarised in Table 1. All the firms have content editors in their ecosystems. Consumers constitute another popular user group (only Amazon is not active in this segment of users). In their models, three firms target advertisers (Google, Facebook and Microsoft) and businesses (Apple, Amazon and Microsoft). The structures of the ecosystems created are firm-specific as each of the GAFAM firms relies on its own model of monetisation by creating and capturing value from the data it has and processes (UNCTAD 2019, pp. 29-45).

**Table 1. Characteristics of GAFAM's ecosystems**

	Google	Apple	Facebook	Amazon	Microsoft
Platform	'Android' mobile operating system, 'Nexus/Pixel' phones, 'YouTube' software and infrastructure	'iPhone' phones, 'iPad' tablets, 'Mac' laptops and other devices (watches, keyboards, etc.), 'IOS' operating systems	software and infrastructure of social media and messengers	'Kindle' e-readers, 'Fire' TVs, 'Echo' Speakers	'Windows' operating system, 'Surface' laptops, 'Lumia' phones, 'Xbox' gaming console
<b>Users</b>					
Consumers	'Google' search engine and vertical search engines, 'Google Maps' mapping and navigation services, 'Chrome' browser	'Safari' browser, 'Facetime', 'Message' communication tools, 'Map' navigation services	'Facebook' and 'Instagram' social media, 'WhatsApp' and 'Messenger' messengers	-	'Bing' search engine

**Continued table 1.**

Businesses	-	'iWork' productivity suite	-	'AWS' Cloud offerings, 'WorkDocs' productivity suite, 'WorkMail' collaboration tools	'Azure', 'Office 365' Cloud services, 'Excel', 'Word', 'PowerPoint' productivity software, others business solutions: ERM, CRM
Merchants	-	'ApplePay' mobile payment system	Online distribution via social media	Shopping websites: amazon.com, amazon.de, etc., 'Marketplace' online resale platform, 'Fulfillment' delivery services	-
Content editors	'YouTube' video platform, 'PlayStore' platform for books, games and applications	'AppStore' for mobile applications, 'iTunes' for music, 'iBooks' for digital books	Digital content such as games through social media	Access to TV shows and films through 'Prime', digital books sold through 'Kindle Store'	Tools for content and game creators
Advertisers	'AdSense' advertising network, 'AdWords' auctions	-	'Audience Network' advertising network, 'Atlas', 'LiveRail'	-	Advertising services

Source: prepared by the author based on: Gautier & Lamesch 2021, pp. 4-5; UNCTAD 2019, pp. 25-31; Fontanel & Sushcheva 2019, pp. 5-12; Miguel de Buston & Izquierdo-Castillo 2019; Miguel de Buston 2017, pp. 43-46.

Although their activities vary in nature, one common characteristic for GAFAM is value creation by offering a platform enabling interactions between and within multiple user groups. GAFAM are also referred to as the Big Tech (the Big Five, the Tech Giants) as they are believed to control operating systems, data centres and knowledge (Ricap & Lundvall 2020, pp. 10-17). They enjoy very strong, even dominant positions in various areas of the digital sector, also in terms of economic and financial power (Smyrniotis 2016, pp. 61-83). Apple dominates the smartphone market;

Amazon has dominated the e-book market; Microsoft is a quasi-monopolist in the market in operating systems for personal computers; Google is the market leader in cloud services (ahead of Microsoft and Amazon) and search engines; Facebook dominates social media (Miguel de Buston 2017). Even in markets where GAFAM are not the strongest players the corporations in question are still able to have some control. In the computer hardware market, dominated by Samsung, Lenovo, Sony, Dell and Huawei, GAFAM have remote (mobile) access to their offers and telecommunication connections. Examples include Microsoft with its operating system and Skype instant messenger or the Google search engine. In any case, Google has remote access to other manufacturers' devices under its Mobile Virtual Network Operator (MVNO) licence, whereas Microsoft and Facebook own new transatlantic communication cables, the most powerful and efficient at present (Fontanel 2020, pp. 3-6). As pointed out by researchers, GAFAM's great success also involves threats arising from those corporations' technological advantages and monopolising the digital space (Miguel de Buston & Izquierdo-Castillo 2019), which allows them to make business use of users' private data, influence political choices, apply censorship procedures, disrespect freedom of expression or create demand (Fontanel 2020, pp. 8-12). Other controversial issues include fiscal matters related to tax optimisation or intellectual property rights (Fontanel & Sushcheva 2019).

### **GAFAM's potential analysis**

The main information on the business activities of the GAFAM corporations, including data for 2022, is summarised in the table 2. It contained in the official annual reports on Form 10-K filed by the companies and published by the United States Securities and Exchange Commission. As at the end of 2022, GAFAM's market value was approx. USD 7.9 trillion, an upsurge on the end of 2019, from USD 4.93 trillion. It was driven by the spectacular acceleration of digitisation in the period of the COVID-19 pandemic. But the market value of GAFAM exceeded Japan's GDP as early as 2019; only the USA and China had GDP higher than the total capitalisation of the Big Five. In 2020, the market value of a single corporation exceeded USD 2 trillion for the first time – in the case of Apple. In 2022, Apple was joined by Microsoft in surpassing the amount of USD 2 trillion.

**Table 2. Business activity data of GAFAM in 2022**

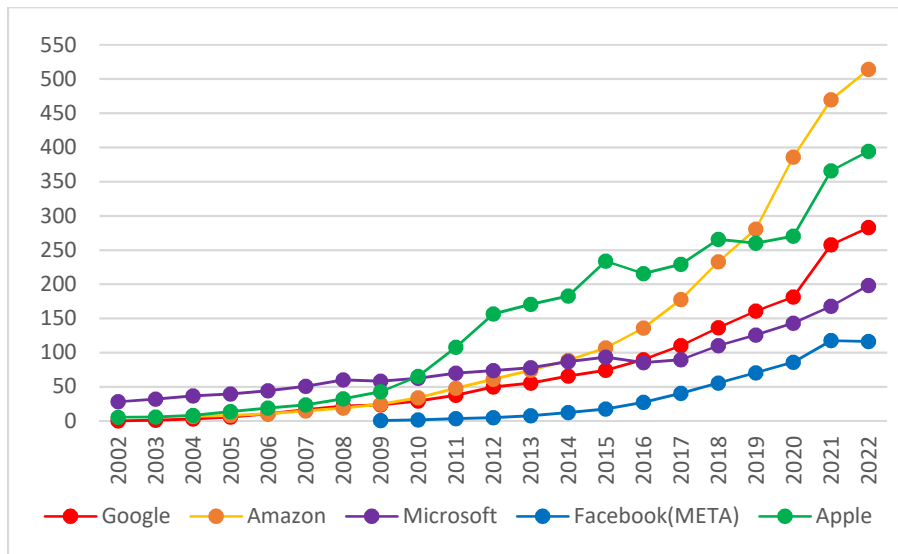
	Google	Apple	Facebook	Amazon	Microsoft
Market value (USD billion), as at 30 August 2023	1,340.53	2,746.21	599.82	1,084.06	2,309.84
Revenue (USD billion)	282.83	394.33	116.61	513.98	198.27
Revenue from outside the US (%)	52.5%	60.7%	57.8%	38.5%	49.5%
Sources of revenue	Advertising: 88.8% Other: 11.2%	Product sales: 80.4% Service sales: 19.6%	Advertising: 98.3% Other: 1.7%	Product sales: 55.9% Service sales: 44.1%	Cloud services: 42.7% Business services: 23.5% Personal computer services: 33.8%
Employment (thousand)	190.2	164.0	86.5	1541.0	221.0
R&D (USD billion)	39.5	27.7	35.3	73.2*	26.6
R&D intensity (%)	14.0	7.1	30.3	14.2*	13.1

\* applies to the technology and content category as Amazon does not otherwise specify R&D spending in its annual reports.

Source: prepared and calculated by the author based on: Alphabet Inc. Annual Report, 2023; Microsoft Inc. Annual Report, 2023; Amazon Annual Report, 2023; Apple Inc. Annual Report, 2023; Meta Inc. Annual Report, 2023; Top 100 global innovation leaders, <https://www.fdiintelligence.com/content/feature/global-innovation-leaders-2022-edition-82527> [accessed: 4 September 2023].

GAFAM generate hundreds of billions of US dollars per year. It is worth pointing out that the 2010s saw GAFAM's revenues soaring around 5.5 times; in the crisis year of 2020 alone, they went up by 19% against 2019 (*GAFAMs' market capitalization... 2021*), in connection with the pandemic-driven development of digital technologies. Altogether, the 2010s witnessed most impressive increases in revenues recorded by GAFAM, especially for Facebook (by a factor of 43.5), Amazon (by a factor of 11.3), Google (by a factor of 6.2), whereas the revenues of Microsoft rose over 4 times and those of Apple more than doubled<sup>4</sup>. It is also worth highlighting that further spectacular increases in revenues were also observed in 2020–2022, with the revenue of each of the GAFAM corporations going up by 65% to 75%. Detailed information on the dynamics of GAFAM's revenues is presented in Figure 1.

<sup>4</sup> Revenues generated in 2020 as compared to 2010.



**Figure 1. Dynamics of GAFAM's revenues (USD billion)**

Source: as in Table 2; [www.statista.com](http://www.statista.com) [accessed: 18 August 2023]

In 2022, the highest revenues of USD 514 billion were reported by Amazon, with a mere 38.5% generated outside the US (Table 2). The second best performer in terms of revenue was Apple, reporting USD 394 billion and nearly 61% from foreign markets, outperforming other GAFAM corporations in that regard. It was followed by Google, with 2022 revenues of USD 283 billion, 53% of which from outside the US. Further, Microsoft generated nearly half of its revenues of USD 198 billion from foreign markets. Lastly, with revenues of USD 117 billion, Facebook had almost 58% of foreign sales. As regards sources of revenue, for Facebook and Google advertising services generate the most sales, at around 98% and 84% of the revenues of the two firms respectively in the year in question. Apple and Amazon mainly sell products (approx. 80% and 56% respectively) and services (about 20% and 44% respectively). At the same time, revenues of Microsoft are generated by the sale of IT services, nearly evenly distributed between business services, cloud services and services provided to individual users.

In terms of employment, Amazon definitely leads the way (with approx. 1.5 million employees) as the corporation needs to develop its distribution entities, which is directly related to the specific characteristics of retail trade (e-commerce) activities. The other firms declare 86,500 (Facebook) to 221,000 (Microsoft) persons employed.

Characteristically, GAFAM spend enormous amounts on R&D activities, with a very dynamic upward trend in the 2010s. In 2020, the world's top three



R&D spenders were Amazon, Google and Facebook, whereas Microsoft and Apple were ranked sixth and seventh respectively (Strategy& 2023). It is related to the characteristics of the business model those firms rely on in their operations, based on digitisation and platformisation. Digitisation poses a major challenge of continuous investment in technology development as well as – in the case of GAFAM – setting trends and directions of technological advancement in the IT sector and pursuing knowledge monopolisation (Ricap & Lundvall 2020). Therefore, the industry requires high R&D intensity, typically around a dozen per cent of GAFAM's revenues, but the share ranges from 7% for Apple to 30% for Facebook (Table 2). The speeding up of the digitisation process requires digital companies to continuously increase R&D investment. A comparison of GAFAM's R&D expenditure between 2012 and 2022 shows sky-rocketing investments. The most impressive growth concerned Facebook, having increased its R&D spending as many as 88 times in the period in question (from USD 0.4 billion in 2012). Amazon's expenditure on research and development rose nearly 25 times (from USD 2.9 billion in 2012). R&D spending went up nearly 12 times at Apple (from USD 2.4 billion in 2012). In the period under analysis, Google increased its R&D spending more than eight times (from USD 5.2 billion in 2012). At the same time, R&D expenditure by Microsoft nearly doubled, but it must be emphasised that in 2012 the firm was one of the top R&D spenders as well, the world's second best performer (Strategy &, 2023).

It is worth stressing that the buoyant growth of GAFAM has also resulted from the significant scale of their activities or, rather, simply from their corporate strategies based on acquisitions of other entities, usually technological start-ups. From 1987 to 2020, GAFAM made a total of 825 acquisitions, of which Google accounted for 249 acquisitions (from 2001), Microsoft – for 239 acquisitions, Apple – for 128 acquisitions (from 1988), Amazon – for 107 such deals from 1998 and Facebook – for 102 acquisitions from 2005 (Parker, Petropoulos & van Alstyn 2021). In 2015–2017 alone, 175 companies were acquired by GAFAM, mostly by Microsoft (52) and Google (40) (Gautier & Lamesch 2021, pp. 7-8). Such deals usually concern US or European enterprises, mainly from the user groups of businesses and content editors. Acquisitions play various roles for GAFAM, from offering opportunities for corporate development in the area acquired and effective competition (e.g. the acquisition of YouTube by Google) to increasing the attractiveness of the acquirer's products and enhancing its services offered to users, as reflected in acquisition deals made by Facebook, Apple and Google. Further, as demonstrated by recent studies, a major share (approx. 60%) of GAFAM's acquisitions result in the discontinuation of products previously supplied by the acquirees (Gautier & Lamesch 2021, p. 10). It frequently involves upgrading such products and integrating them into the corporation's own

products under the acquirer's brand name. Sometimes, such a product is sold under a different brand, to boost growth potential. Other drivers of such acquisitions include adding technology and high-quality employees to the acquiring company. Certainly, some of GAFAM's acquisitions are motivated by strategies to monopolise the market, thus to eliminate competition (Miguel de Buston J.C. & Izquierdo-Castillo J., 2019), which is subject to examination by the competent competition or anti-trust authorities of the countries concerned (Argentesi et al., 2019).

### **GAFAM's international footprint analysis**

In 2017, the internationalisation of digital corporations was assessed by UNCTAD in its annual *World Investment Report* containing a new top 100, ranking digital MNEs (UNCTAD 2017). One problem is that – despite their global operations – those corporations carry out international activities in ways specific to digitalisation. Whereas the share of foreign sales in total sales shows the actual scale of internationalisation, their foreign assets seem to be relatively modest, with no information on foreign employment. Therefore, the widely accepted Transnationality Index (TNI) becomes an unreliable tool in most cases. UNCTAD created a ranking based on total sales and the share of foreign sales and on total assets and the share of foreign assets, additionally showing the ratio of the share of foreign sales to the share of foreign assets<sup>5</sup>. Clearly, although digital corporations have no significant foreign assets, they are still able to generate global sales as they can reach customers through their digital infrastructures, without the need to make heavy foreign direct investments to grow globally. Another issue is the fact that digital corporations tend to have strong links with their home markets, generating the vast majority of their sales, particularly that those are mostly very large outlets (the USA, China).

The information shown in Table 3 concerns GAFAM's performance in 2015 with the use of the relevant metrics and categories from the UNCTAD ranking. The highest sales as well as assets were then noted by Apple, selling most of its products and services outside its home country (65%). As compared to the other enterprises in question, the company also had the second highest (behind Microsoft) share of foreign assets, at 39%. The second largest seller, Amazon (USD 107 billion), only reported 36% of sales outside the USA, with roughly the same share of foreign assets (32%). Slightly more than half of Microsoft's sales were generated in foreign markets, but the share of foreign assets was markedly lower (43%). But the most significant differences in foreign sales and assets were observed for Google and Facebook; both firms sold more than half of their products and services abroad, whereas their foreign assets only accounted for slightly

---

<sup>5</sup> One such ranking had appeared before, presenting data for digital corporations for 2015.

above 20% of total assets. In the case of the two corporations, their respective shares of foreign sales were more than double those of foreign assets (the ratio was 2.25 for Google and 2.51 for Facebook).

It is clear, therefore, that a company relying on digitisation and platformisation may expand internationally without necessarily increasing its foreign assets. Such a digital company is able to reach its customers through Internet infrastructure wherever such online infrastructure exists and to remain physically based in its home country at the same time. Obviously, it is also of relevance that GAFAM have excellent development conditions in their country of incorporation due to the size of the economy, the market and the technological leadership of the USA. Therefore, the US market generates a significant share of sales for the five MNEs.

**Table 3. Internationalisation of GAFAM in 2015**

	classification	Total sales (USD billion)	Share of foreign sales (%)	Total assets (USD billion)	Share of foreign assets (%)	Ratio of the share of foreign sales to the share of foreign assets ( <i>FDI lightness indicator</i> )
Google	Internet platforms/ Search engines	75.0	54	147.5	24	2.25
Amazon	e-commerce/Internet retailers	107.0	36	65.4	32	1.13
Facebook	Internet platforms/ social networks	17.9	53	49.4	21	2.51
Apple	IT devices and components	215.6	65	321.7	39	1.65
Microsoft	IT software and services	85.3	52	193.7	43	1.22

Source: prepared by the author based on: UNCTAD 2017, pp. 8-11.

Therefore, the ongoing digitisation and platformisation of businesses seems to require revising existing views on corporate internationalisation, based on expanding foreign sales accompanied by rising foreign assets and foreign employment. The rankings of the largest MNEs prepared by UNCTAD as annexes to its *World Investment Report* treat foreign assets as an essential criterion. That is why Google (Alphabet), Apple and Microsoft were first included in the ranking in 2013, Amazon – as late as 2016, whereas Facebook (Meta) has never been ranked yet. The highest ranks among the world's largest 100 MNEs were occupied by Apple (from 10<sup>th</sup> place in 2015 to 37<sup>th</sup> in 2022). Microsoft's positions ranged from the top 20 to the top 50 (20<sup>th</sup> in 2022, 49<sup>th</sup> in 2013). Google climbed to 34<sup>th</sup> place in 2022, but

it was ranked very low before. Amazon occupied positions in the top 50, 60 and 90; it only reached 26<sup>th</sup> position in 2018.

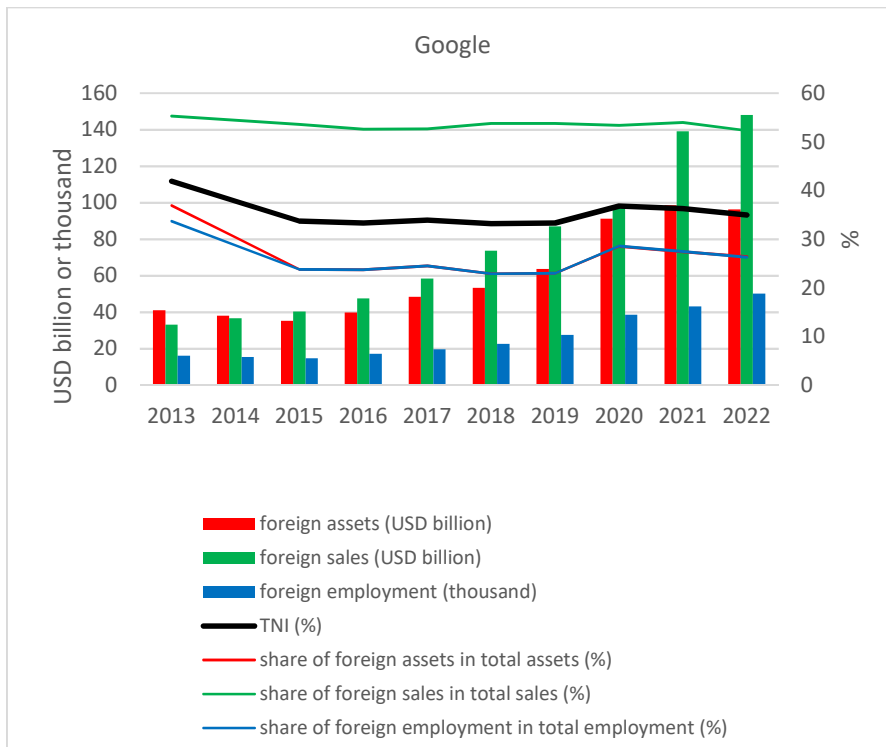
Figures 2, 3, 4 and 5 characterise the internationalisation (international footprints) of Google, Apple, Microsoft and Amazon based on the aforementioned rankings prepared by UNCTAD, based on the TNI and its components in relative and absolute terms. For all the four MNEs in question, the TNI showed a downward trend, apparently contrary to the buoyant growth of GAFAM's activities described above. However, as indicated before, it is characteristic of digital corporations to internationalise by expanding their operations in the international market without relatively increasing their foreign assets.

The most distinct downward trend of the TNI was observed for Apple, from 59.6% in 2013 to 43.2% in 2019 to 38.2% in 2022. Such a situation was primarily caused by the company's declining foreign assets, in both nominal and relative terms. At the same time, while nominal foreign sales were on the rise, they remained stagnant in relative terms, slightly above 60%.

As regards Google, a marked fall in the TNI was recorded in 2013-2015 (from 42% to 34% respectively); afterwards, the index remained stagnant, slightly exceeding 33%, then it ranged from 35% to 37% in 2020-2022. Whereas in nominal terms foreign assets, sales and employment showed an upward trend from 2015, they remained relatively stagnant after 2015; in prior years, foreign assets and sales had fallen distinctly, with a stagnant share of foreign sales in total sales throughout in period in question.

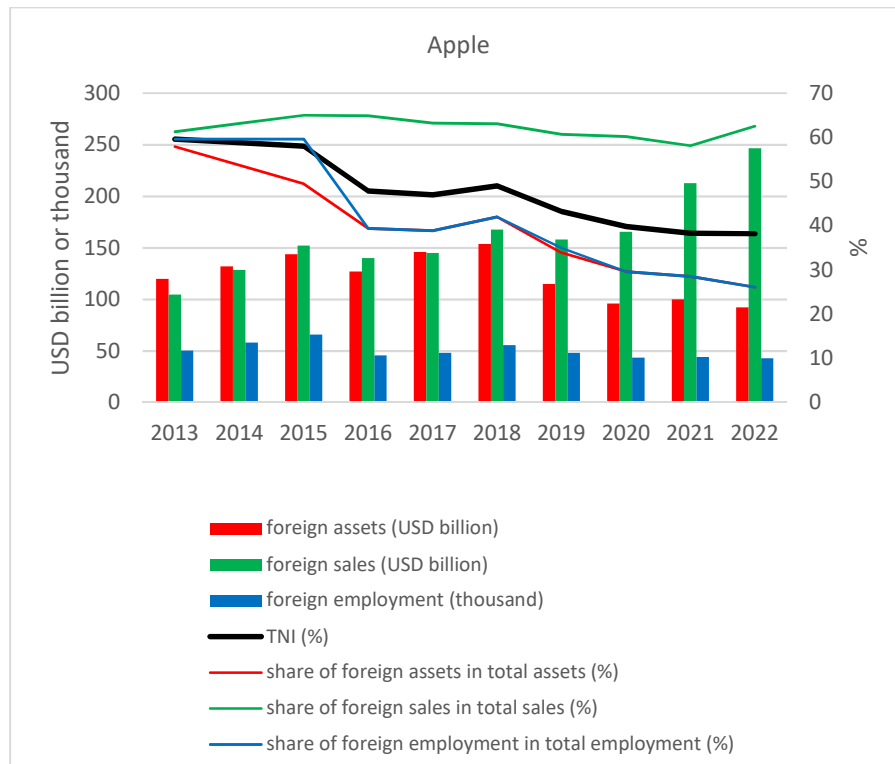
At the same time, Microsoft was characterised by the most stable situation in terms of internationalisation; its TNI ranged from 42.8% in 2013 to 43.6% in 2019, with a peak (49.9%) in 2015. Afterwards, Microsoft's TNI showed a downward trend to 2022. Whereas foreign assets increased nominally, they were stagnant in relative terms. Foreign sales and employment remained roughly similar, in both nominal and relative terms, throughout the period covered.

The most significant fluctuations were observed for Amazon, characterised by rapid annual changes in the TNI (62.7% in 2016, 33.1% in 2017, followed by 60.4% and 30%), due to major changes in its foreign assets and employment with differences of several per cent in relative foreign sales.



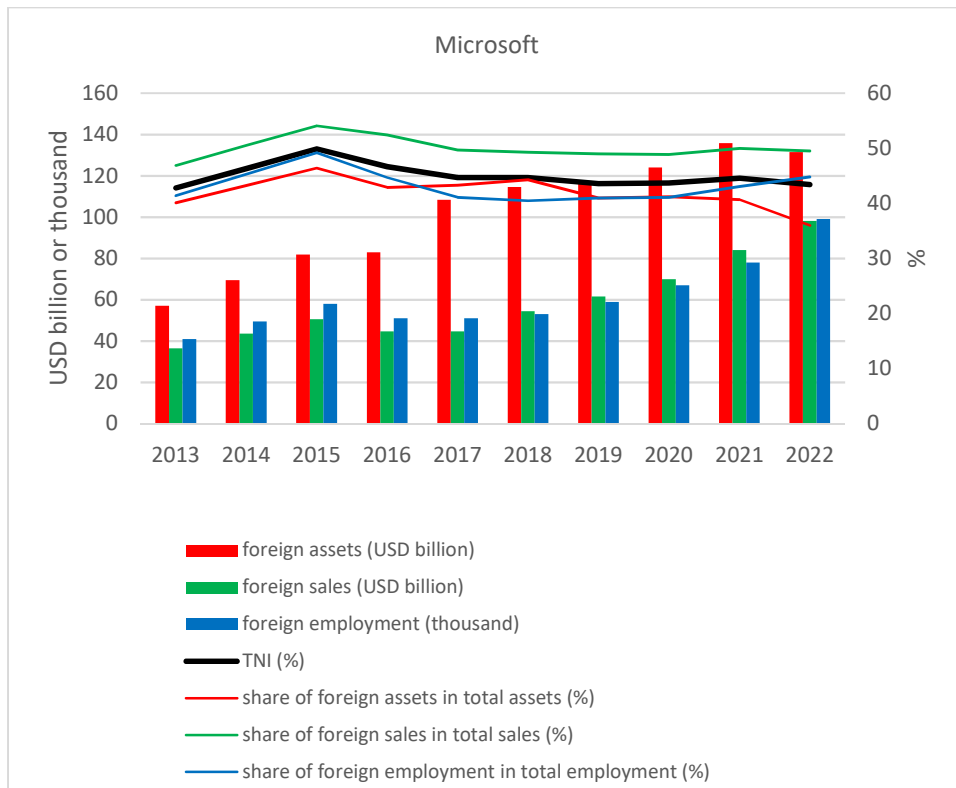
**Figure 2. Google in UNCTAD’s ranking of the top 100 multinationals, World Investment Report**

Source: prepared and calculated by the author based on: UNCTAD 2014-2023



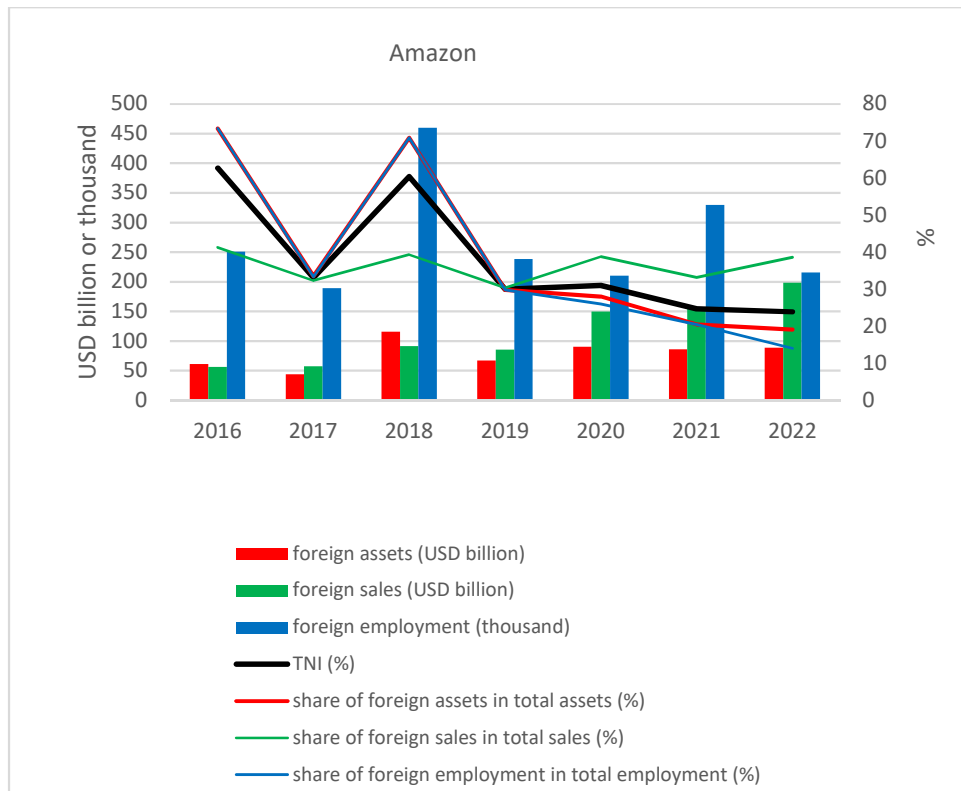
**Figure 3. Apple in UNCTAD's ranking of the top 100 multinationals, World Investment Report**

Source: prepared and calculated by the author based on:  
UNCTAD 2014-2023



**Figure 4. Microsoft in UNCTAD’s ranking of the top 100 multinationals, World Investment Report**

Source: prepared and calculated by the author based on: UNCTAD 2014-2023



**Figure 5. Amazon in UNCTAD's ranking of the top 100 multinationals, World Investment Report**

Source: prepared and calculated by the author based on:  
UNCTAD 2014-2023

It clearly follows from analysing GAFAM's case that digitisation and platformisation affect how corporations increase their international footprints; while expanding global sales, they do not proportionally internationalise their assets or employment. As exemplified by GAFAM, under the new conditions of digitisation and platformisation companies may grow internationally even with decreasing transnationality indices, which is somewhat paradoxical, considering the dynamic growth of those enterprises, including in the international market. But the observation can be explained by the rapid development of platform-based ecosystems, with the GAFAM corporations leading the way. The point is that the more a company relies on a digital ecosystem and a platform in its activities, the lesser relative foreign involvement (foreign assets and employment) is necessary. As shown by the example of GAFAM, impressive corporate growth, also pursued internationally, may be accompanied by stagnant or even falling transnationality indices.



It means that an enterprise can effectively expand abroad under conditions of a rising share of operations in its home market, while selling its products or services in foreign markets as well. Certainly, the internationalisation of sales by digital corporations will also require having foreign assets, even if for more efficient adaptation of their products and services to their markets of operation; thus, they may confine themselves to opening foreign offices or branches, mostly responsible for communicating with users in their respective languages. Simultaneously, the company's key business processes will be supported in its home market. For example, at its official website Facebook declares having more than 80 offices worldwide and 17 global data centres (Meta 2023).

### **Conclusion**

To recapitulate the above, it must be highlighted that digital firms relying on platform-based business models follow different international expansion paths from those of traditional corporations. Despite their buoyant growth, also on a global scale, GAFAM are characterised by stagnant or even declining internationalisation indices (TNI). It primarily concerns foreign assets but also foreign employment. While supporting a major share of their business processes in their home country, the GAFAM corporations have been impressively successful in increasing their foreign sales. Hence the paradox of falling TNIs accompanied by rising foreign sales. The key driver of such international expansion is a specific business model, based on IT infrastructure in the form of platforms enabling global operations with low shares of foreign assets and foreign employment.

The example of GAFAM, the world's technological leaders (Tech Giants), allows to assume that the trends set by the five largest digital corporations will soon be followed by many other multinational enterprises. As the digitisation and platformisation pathway seems to be particularly appealing, it may attract further companies modelling their operations on those of GAFAM. In any case, those trends seem to be the present-day challenge as well as necessity to businesses. Therefore, one likely scenario is a shift in corporate internationalisation on a larger scale. It may also call into question the relevance of the currently used internationalisation indicators and require developing new approaches.

Given that the GAFAM group encompasses enterprises with the highest market values worldwide, thus global giants, it is surprising to find the relatively insignificant shares of foreign operations in their business activities. Therefore, one may venture to reflect that, as those are the leading representatives of the new era of global digital corporations, drivers towards decelerating globalisation, thus hindering the internationalisation of economic activities, have at least two sources here:

- digital corporations, likely to increase in number and to operate globally by obtaining revenues from the global market, will show a low degree of internationalisation of their operations in terms of foreign assets, thus slowing down globalisation, particularly with regard to foreign direct investment flows;
- corporations operating in other sectors will implement digital solutions in efforts to modernise their business models and to benefit from digitisation, which will also enable them to function internationally and to disinvest, at least in part, in foreign operations, which will hamper or even reverse globalisation with regard to flows of goods, services and direct investment.

It is worth noting that, as the trend of digitisation, platformisation and automation is indicated as an emerging process, although with a great impetus gained due to the pandemic crisis, it is possible to conclude on ever-stronger and permanent drivers towards globalisation slowdown, arising from the digitalisation and platformisation of corporations. It is not particularly relevant here that the pandemic has ended as the digitisation of business activities will continue to speed up.

### References

- 1) *Alphabet Inc. Annual Report, 2023*, FORM 10-K, United States Securities and Exchange Commission, Washington 2023.
- 2) *Amazon Inc. Annual Report, 2023*, FORM 10-K, United States Securities and Exchange Commission, Washington 2023.
- 3) *Apple Inc. Annual Report, 2023*, FORM 10-K, United States Securities and Exchange Commission, Washington 2023.
- 4) Argentesi E., Bucciorossi P., Calvano P., Duso T., Marrazzo A., Nava S., 2019, *Merger policy in digital market: an ex-post assessment*, Working Paper DIW Berlin.
- 5) Deshayes Ch., 2019, Four corporate strategies for coping with triumphant digital platforms, 'Gérer & Comprendre', No. 5, pp. 36-44.
- 6) Evans D.S., Schmalensee R., 2016, *Matchmakers: The New Economics of Multisided Platforms*, Harvard Business Review, Cambridge.
- 7) Fontanel J. & Sushcheva N., 2019, La puissance des GAFAM: réalité, apports et dangers, *Annuaire français de relations internationales*, La Documentation française, Paris, XX, hal-021196915.
- 8) Fontanel J., 2020, *Success, threats and potential dangers of GAFAM*, ILERI, Paris.

- 9) *GAFAMs' market capitalization*, 'Atlas Magazine' April 2021, <https://www.atlas-mag.net/en/article/gafams-market-capitalization> [accessed: 15 April 2021].
- 10) Gautier A., Lamesch J., 2021, Mergers in the digital economy, 'Information Economics and Policy', no. 54, pp. 1-15.
- 11) McIntyre D.P., Srinivasan A., 2017, Networks, platforms, and strategy: emerging views and next steps, 'Strategic Management Journal', no. 38(1), pp. 141-160.
- 12) *Meta Inc. Annual Report, 2023*, FORM 10-K, United States Securities and Exchange Commission, Washington 2023.
- 13) Meta, 2023, <https://about.fb.com/company-info/> [accessed: 28 April 2023].
- 14) *Microsoft Corporation Annual Report, 2023*, FORM 10-K, United States Securities and Exchange Commission, Washington 2023.
- 15) Miguel de Buston J.C. & Izquierdo-Castillo J., 2019, Who will control the media? The impact of GAFAM on the media industries in the digital economy, 'Revista Latina de Comunicación Social', no. 74, pp. 803-821.
- 16) Miguel de Buston J.C., 2017, *GAFAM, Media and Entertainment Groups and Big Data*, 'Les Enjeux de l'information et de la communication', No. 18/3A, pp. 39–51.
- 17) Nieborg D.B., Poell T., 2018, The platformization of cultural production: Theorizing the contingent cultural commodity, 'new media & society', vol. 20(11), pp. 4275–4292.
- 18) Parker G., Petropoulos G., van Alstyn M., 2021, *Platform Mergers and Antitrust*, January 10, Boston University Questrom School of Business Research Paper No. 376351.
- 19) Ricap C., Lundvall B.A., 2020, *Big tech, knowledge predation and the implications for development*, 'Innovation and Development' Routledge, Published online 7 December, DOI: 10.1080/2157930X.2020.1855825.
- 20) Smyrnaiois N., 2016, *L'effet GAFAM: stratégies et logiques de l'oligopole de l'Internet*, NecPlus 'Communication & langages', 2016/2, No. 188, pp. 61-83.
- 21) Top 100 global innovation leaders, <https://www.fdiintelligence.com/content/feature/global-innovation-leaders-2022-edition-82527> [accessed: 4 September 2023].
- 22) UNCTAD, 2014-2023, *The world's top 100 non-financial TNCs ranked by foreign assets, 2013-2022*, *World Investment Report*, UNCTAD, New York and Geneva.
- 23) UNCTAD, 2017, *Technical Annex: The Top 100 Digital MNEs*, *World Investment Report 2017*, UNCTAD, New York and Geneva.

- 24) UNCTAD, 2019, *Digital Economy Report 2019. Value Creation and Capture: Implication for Developing Countries*, UNCTAD, Geneva 2019.

Database:

Strategy&, *The Global Innovation 1000 study*, [www.strategyand.pwc.com/innovation1000](http://www.strategyand.pwc.com/innovation1000), rankings for 2012-2022 [accessed: 18 April 2023].  
[www.statista.com](http://www.statista.com) [accessed: 18 August 2023].