INBONIS RATING | European Midcap Observatory

When Midcaps meet intangibles

The European Midcap Investment Opportunity

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Credits

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Abstract

This paper asks which constraints prevent European savings from financing the growth of European midcaps, firms with 250 to 2,999 employees, and what channelling part of those savings towards them would achieve. Euro-area holdings of US assets rose from 27% of GDP in 2000 to 77% in 2025, while the gap in the return on capital between the United States and the European Union widened from 1.7 to 4.5 percentage points; in accounting terms, the gap reflects both lower productivity and a weaker conversion of productivity into returns, with different weights across four Europes. Holdings of US assets and the GDP that scales them refer to the euro area; productivity and returns refer to the EU-27. Lower investment in intangible capital and slower technology diffusion account for 45% and 47% of the cumulative productivity shortfall, and the midcap is the size band in which, on the evidence of size distributions, firm growth appears to stall. Since 2009 the same level of productivity has yielded 2.3 percentage points less return on capital, mainly through lower profit margins, and long-term loans and bonds finance 18% of European midcaps' total assets, against 28% in the United States. Rating the roughly 5,350 midcaps with an investment-grade profile between 2027 and 2029 would retain some €34 billion a year of long-term debt in Europe by 2029, and up to €124 billion if equity grows with debt, an uncalibrated assumption, and would close 9% of their intangible gap and 6% of their productivity gap with the United States. The results rest on accounting decompositions and conditional scenarios: they identify neither causal relationships nor forecasts. The pass-through from financing to intangible investment is an assumption: the report's panel VAR does not find it, and without it the retained funds do not close the productivity gap.

Keywords: *midcaps; intangible capital; productivity gap; return on capital; technology diffusion; credit ratings; long-term financing; European savings*

JEL classification: *D24, E22, F21, G24, G32, L25, O33*

Research questions and contribution

This paper asks which constraints prevent European savings from financing the growth of midcaps, and what effect channelling Europe's surplus savings towards them would have.

The analysis answers the question with four hypotheses, one for each of the following sections:

- **H1 · Why Europe's surplus savings are invested outside Europe (Section 1).** European savings are not scarce, but a growing share is invested in the United States, a pattern consistent with capital earning more there, and the widening of that return gap since 2000 breaks down into two channels: Europe produces less per hour worked and converts that productivity into returns less effectively. The weight of each cause differs across the four Europes. Section 1 decomposes the gap in accounting terms and does not identify causal relationships. Sections 2 and 3 examine each of the two causes.
- **H2 · Where the productivity gap comes from (Section 2).** Europe's productivity gap with the United States reflects a deficit of intangible capital and of technology diffusion. Both deficits narrow with firm size, and the midcap is the size band in which the intangible gap gains weight and, on the evidence of size distributions, firm growth appears to stall. Section 2 tests it by decomposing the gap and classifying European midcaps by the origin of their productivity gap.
- **H3 · Why productivity has become less able to generate returns (Section 3).** Since 2009 the same level of productivity has generated lower returns for European firms. Falling profit margins would explain the decline in the conversion rate. Because midcaps finance intangibles largely out of their own margins, lower margins weaken their intangible investment. Intangible investment is in turn key to product differentiation and higher margins. The difficulty of financing intangibles in Europe would amplify this vicious circle. Section 3 analyses the conversion of productivity into returns before and after 2009, the financing structure of midcaps and the size ladder of bond issuance.
- **H4 · What channelling surplus savings towards midcaps to invest in intangibles would achieve (Section 4).** Making investment-grade midcaps visible through ratings would allow Europe to retain part of its savings in them as long-term debt and equity, mainly to finance intangible investment. Section 4 tests it with a simulator of the rollout of ratings and of financing directed at investment-grade midcaps, whose results are conditional scenarios, not forecasts.

The contribution of this paper is to bring together, in the midcap segment, four strands of the literature that are usually treated separately: the productivity gap, the size distribution of firms, the financing of intangible capital and the role of verified information in credit markets.

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Executive summary

The European Union has some 5,350 midcaps (firms with 250 to 2,999 employees) with an investment-grade profile that could retain €124 billion a year by 2029 of the European savings that now flow to the United States. That outflow has been persistent: over the past 25 years euro-area holdings of US assets rose from 27% to 77% of GDP. Midcaps could partly reverse the trend. By 2035 they could absorb €1.5 trillion, some €494 billion as long-term debt, about €50 billion a year, and the rest as equity, closing 43% of their intangible gap with US midcaps and raising EU productivity 1.4% above a baseline without ratings, provided the financing reaches intangible investment.

Europe's problem is not a shortage of savings, but the difficulty of channelling them towards productive midcaps. Euro-area holdings of US assets rose from 27% to 77% of GDP between 2000 and 2025, while the return-on-capital gap with the United States widened from 1.7 to 4.5 percentage points. An accounting decomposition attributes this widening in roughly equal measure to lower productivity and a weaker conversion of productivity into returns.

The productivity gap reflects lower intangible investment and slower technology diffusion, accounting for 45% and 47% of the cumulative shortfall. Productivity grew by 71% in the United States between 2000 and 2025, against 32% in the EU. European midcaps reach 86% of US midcap productivity, but firm-size distributions suggest that European midcaps are less likely to progress into larger size bands beyond around 500 employees. The challenge is both to raise productivity and to enable midcaps to scale.

Since 2009, the same productivity level has yielded 2.3 percentage points less return on capital in European non-financial corporations; around 90% of the divergence lies in profit margins. As midcaps rely on retained earnings to finance intangible investment, weaker margins may constrain investment. Long-term loans and bonds account for 18% of midcaps' total assets, against 28% in the United States. These patterns are consistent with a reinforcing mechanism between margins, intangible investment and midcaps' ability to scale, although causality remains untested.

Europe's midcaps do not face a single financing constraint: the nature of their funding needs varies with the source of their productivity and growth gaps. The estimated €1.26 trillion long-term financing gap relative to US peers comprises €273 billion for 5,430 midcaps (Group A), which already match US productivity; €623 billion for around 12,100 midcaps (Group B), whose main shortfall is intangible capital; and €360 billion for around 8,100 midcaps (Group C), whose gaps have other origins. Credit ratings could reduce information asymmetries and improve access to long-term finance. Europe must therefore mobilise not just more capital, but the right finance for the midcaps and investments best placed to turn it into productivity and growth.

Analytical framework and literature

The paper connects four strands of literature that are usually read separately: the European productivity gap, the size distribution of firms, the financing of intangible capital and the role of verified information in credit markets. Each hypothesis draws on one strand. The contribution lies in following all four through the same segment, the midcap, and the same accounting framework, in which the return on capital is the product of the profit margin and capital productivity (Diagram 1).

H1 builds on the diagnosis behind the Savings and Investments Union, but measures the return gap at its productive source. The European Commission (2025) and Lannoo, Berg and Thomadakis (2024) identify the lack of information on unlisted companies as one of the shortcomings of the European capital market. This paper does not model portfolio choice: it decomposes the gap in the return on capital between the United States and the EU into lower productivity and weaker conversion of productivity into returns. The literature on portfolio allocation, valuation effects and the international role of the dollar is not reviewed here, and the paper treats the return gap as compatible with the outflow of savings, not as its cause.

H2 rests on the literature that places the transatlantic productivity gap in intangible capital and technology diffusion, and on the literature that links aggregate productivity to firm growth. Corrado, Hulten and Sichel (2009) define intangible capital and Bontadini et al. (2023) measure it across European industries; Corrado, Haskel and Jona-Lasinio (2017) and Corrado et al. (2022) show that its returns depend on the diffusion of knowledge across firms and sectors. Van Ark, O'Mahony and Timmer (2008) and Bloom, Sadun and Van Reenen (2012) locate the US advantage in ICT-using services and in the organisational capital that accompanies them, and Andrews, Criscuolo and Gal (2016) document the slowdown in convergence towards frontier firms. On firm size, Hsieh and Klenow (2014) and Bento and Restuccia (2017) link aggregate productivity to firm growth over the life cycle, Garicano, Lelarge and Van Reenen (2016) estimate the cost of size thresholds, and Riekeles et al. (2024) show that European midcaps invest and produce more than SMEs but rarely become large firms. The paper adds a decomposition of the gap by size, Europe and final value chain, and a classification of midcaps by the origin of their gap.

H3 combines the literature on market power and margins with that on the financing of intangible investment. De Loecker, Eeckhout and Unger (2020) and Autor et al. (2020) document rising margins and concentration in the United States, and Gutiérrez and Philippon (2023) more intense competition in European markets. Gopinath et al. (2017) show how falling interest rates in Southern Europe channelled capital to less productive firms. Brown, Fazzari and Petersen (2009) and Brown, Martinsson and Petersen (2012) show that R&D is financed mainly out of cash flow and equity; Haskel and Westlake (2018) argue that intangibles make poor collateral; and Demmou, Franco and Stefanescu (2020) find that financial frictions weigh more on productivity in intangible-intensive sectors. Together they suggest a loop in which lower margins reduce the internal funds that finance intangibles. The paper measures the break in the conversion of

productivity into returns after 2009, splits it into margin and capital productivity, and documents the maturity structure of midcap debt; the loop itself is a plausible mechanism, not a tested causal relationship.

H4 draws on the literature on asymmetric information in credit markets and on the real effects of ratings. Stiglitz and Weiss (1981) explain credit rationing through asymmetric information, and Rajan and Zingales (1998) show that industries more dependent on external finance grow faster where financial markets are deeper. Becker and Ivashina (2014) find that firms with market access substitute bonds for loans when banks tighten credit; Winterberg (2025) attributes much of Europe's lower bond share to firm size and collateral; and Darmouni and Papoutsi (2025) show that new bond issuers in the euro area are small, private firms without ratings from the major agencies. Faulkender and Petersen (2006), Sufi (2009), Tang (2009) and Cahn, Girotti and Salvadè (2024) find that ratings raise borrowing and investment and open access to new lenders. The paper turns this evidence into a simulation of the rollout of ratings among European midcaps, whose results are conditional scenarios.

The framework links a macroeconomic gap to a firm-level mechanism and states where the evidence stops. The accounting identities and decompositions are robust associations; the loop between margin and intangibles and the scaling trap are hypotheses consistent with the literature; and the effect of ratings on productivity is a scenario that depends on financing reaching intangible investment, which the paper's own panel evidence does not establish (Note on the evidence).

1. European savings and the return on capital

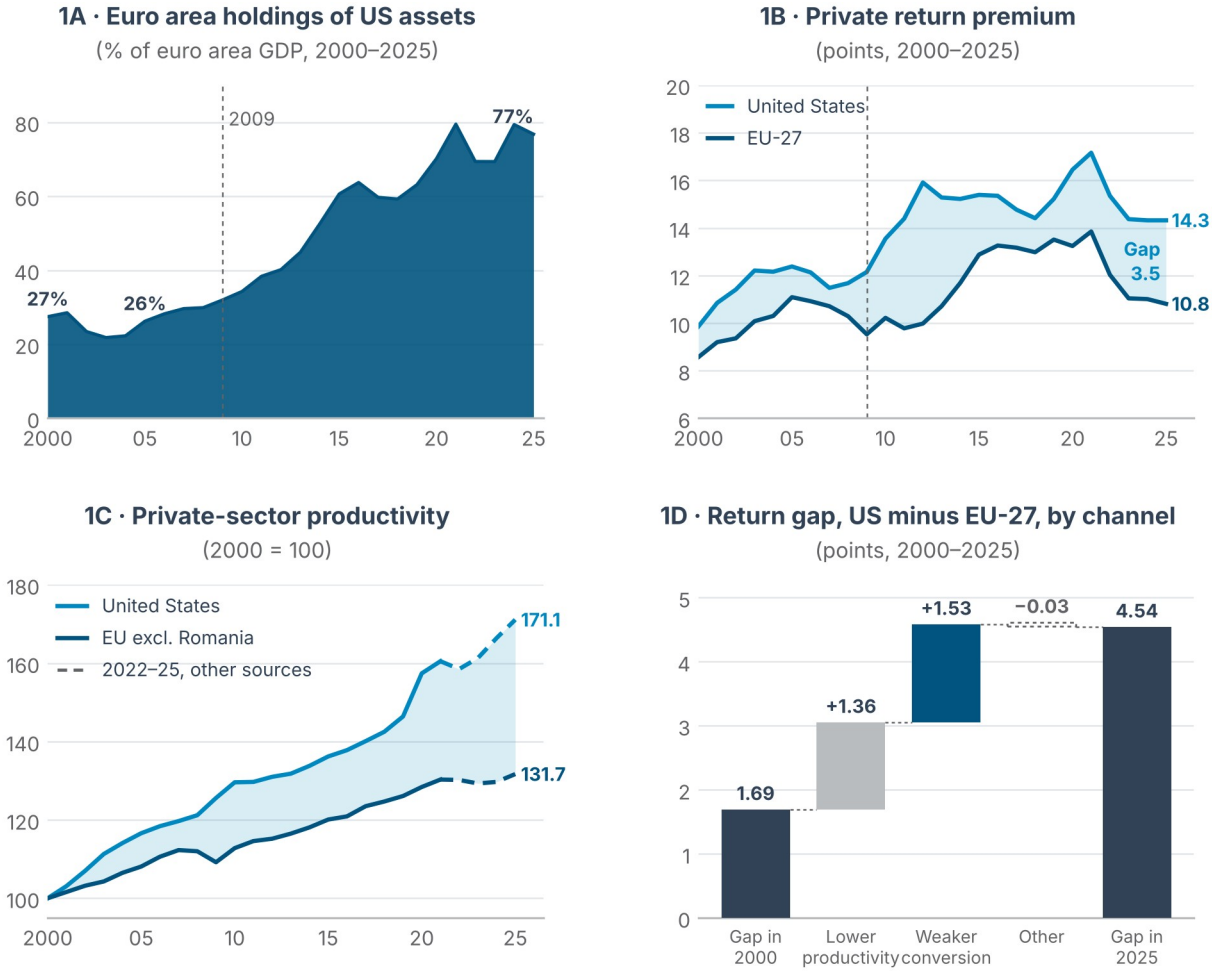
Europe holds a growing share of its financial wealth in the United States: the euro area's portfolio in the US reached 77% of the area's GDP in 2025, almost three times the 27% of 2000 (Figure 1A). Holdings of US assets and the GDP that scales them refer to the euro area; productivity and returns refer to the EU-27. Since 2009 the European Union has saved more than it invests and, since both economies invest a similar share of GDP, the difference lies in saving and in the composition of investment (AMECO; Annex AM.2). The portfolio rose from €1.9 trillion in 2000 to €12.1 trillion in 2025 and has grown by €9.9 trillion since 2005, a stock that reflects both net purchases and the revaluation of US assets, in a market where the return on capital net of the 10-year bond yield exceeded the European one by 3.5 points in 2025, against 1.3 in 2000 (Figure 1B). Net purchases in 2005–2025, €4.8 trillion, amount to some €240 billion a year, about 2% of GDP. The problem is one of retention, not scarcity: the Union generates sufficient resources, but invests a growing share of them where returns are higher. The EU private balance, net lending minus the cyclically adjusted public balance, is cointegrated with the gross return-on-capital gap: each point of gap is associated with about 0.8 points of GDP of balance (Annex AM.2).

The return gap is one explanation among several. More than half of the €9.9 trillion rise reflects the revaluation of US assets, and the depth of US capital markets, the role of the dollar as a safe asset and the structure of European pension and portfolio investment also draw savings to the United States. The return measured here, gross operating surplus over the capital stock, is not the return earned by portfolio investors, so the paper treats the gap as compatible with the outflow, not as its proven cause.

Letta (2024) puts at around €300 billion the savings of European households that leave the EU each year, mainly for the United States. The envelope in this report measures something different, but is of the same order: €229 billion at 2024 scale in the central case and €319 billion if all net purchases of US assets were retained (Annex AM.2). The difference lies in the measure: the envelope counts only euro-area net purchases of US assets, and its central value only the part associated with the intangible and size gaps.

The return gap with the United States widened from 1.7 to 4.5 points between 2000 and 2025, and the increase stems almost equally from Europe producing less per hour worked and from its converting that output into returns less effectively (Figures 1C and 1D). The return on capital measures the surplus firms obtain per euro of capital invested. The first channel is productivity: it grew by 71% in the United States and by 32% in the EU and, since in the United States each additional 10% of productivity is associated with some 0.5 points more return, Europe's slower progress explains 1.4 points of the increase. The second channel is the conversion of productivity into returns: since 2009 the same level of productivity has yielded less to European capital than before, and if the EU converted its productivity into returns as the United States does, its return would today be 1.5 points higher.

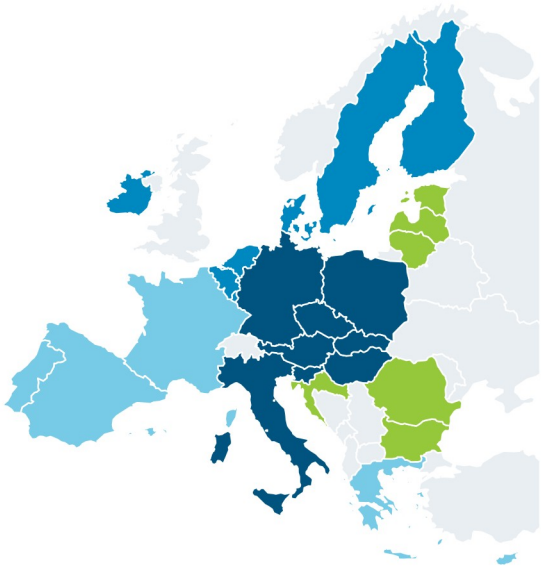
Figures 1A–1D · Savings, returns and productivity: Europe and the United States, 2000–2025



Sources: Inbonis Research, own elaboration with data from the ECB, Eurostat, AMECO, EU KLEMS & INTANProd, the US Bureau of Economic Analysis (BEA) and the Federal Reserve Bank of San Francisco.

The two deficits, lower productivity and weaker conversion of productivity into returns, do not weigh equally across the four Europes, cross-over groupings of countries that share a specialisation across their borders: productivity dominates in Central Europe and conversion in Emerging Europe, while in Mediterranean Europe the two reinforce each other and in North Atlantic Europe they are evenly split (Figure 2). Productive specialisation groups the member states into four Europes according to the final value chains in which they specialise and the position they occupy in them: an industrial core in the centre, a north that leads the knowledge-intensive chains, a services-oriented south and an east that is converging as a follower. The four Europes cut across national borders: each brings together several member states that share a specialisation, whether or not they are neighbours, so the analysis compares productive structures rather than countries. Box 1 describes the eight chains, the industries they cover and where each Europe specialises. The savings balance adds an asymmetry, because the surplus comes mainly from Central and North Atlantic Europe, which are not the Europes with the largest conversion gap. An average diagnosis for the Union describes none of the four well; the analysis by Europe links each channel to a productive structure and, in the following sections, to a different financing instrument.

Figure 2 · The four Europes: savings balance and return gaps with the United States



	Savings balance (% of GDP)	Gap from productivity (pp)	Gap from conversion (pp)
Central Europe — Austria, Czechia, Germany, Hungary, Italy, Poland, Slovakia and Slovenia	+2.4	1.4	0.9
North Atlantic Europe — Belgium, Denmark, Finland, Ireland, Luxembourg, the Netherlands and Sweden	+6.4	1.2	1.2
Mediterranean Europe — Cyprus, France, Greece, Malta, Portugal and Spain	+0.6	1.8	2.2
Emerging Europe — Bulgaria, Croatia, Estonia, Latvia, Lithuania and Romania	−3.0	−1.4	6.1
Outside the EU			

Sources: Inbonis Research, own elaboration with data from Eurostat (FIGARO), AMECO, EU KLEMS & INTANProd, the US Bureau of Economic

- **Central Europe.** The Union's manufacturing core, specialised in automotive, household appliances and the supply chains of German industry. It generates surplus savings, and its main gap is productivity, while its capacity to convert productivity into returns is the one that has deteriorated least since 2009.
- **North Atlantic Europe.** It leads knowledge-intensive chains such as pharmaceuticals, electronics and financial and communication services, and holds more intangible capital than the European average. It generates the largest savings surplus. Its two gaps, productivity and conversion, are moderate and of similar size.
- **Mediterranean Europe.** It is more specialised in tourism and personal services and generates almost no savings surplus. It is where the two gaps reinforce each other: its productivity grows more slowly than in any other region, and its capacity to convert it into returns has deteriorated more than the EU average.
- **Emerging Europe.** It is converging from low productivity levels in chains such as agri-food, in which it acts as a follower, and is the only region that imports savings. Its productivity grows faster than that of the United States, but its return on capital is falling, so conversion is its main gap.

Box 1 The eight final value chains and the four Europes

To compare the four Europes, the productive fabric is treated as the aggregation of final value chains that link different countries in a cross-over approach. A final value chain gathers all the value added that ends up in the same final destination, whichever sector or member state produces it: a car bought in Madrid may embody value added from German component makers, Italian machinery, Dutch logistics and a Spanish dealer. Eurostat's input-output tables (FIGARO) make it possible to follow that path from supplier to supplier, and the items of household consumption serve to delimit the destinations. The resulting eight chains account for 68% of EU value added and allow the four Europes to be compared within the same chain, rather than sector by sector. They are the following:

- **Agri-food.** It brings food, beverages and tobacco to the consumer and is supplied mainly by agriculture, fishing and the food and beverage industry.
- **Textiles, fashion, personal care and pharmaceuticals.** It covers clothing and footwear, medicines and personal-care products, with textiles, apparel, leather, chemicals and pharmaceuticals as the main suppliers.
- **Household goods, appliances and electronics.** It brings together furniture, household equipment and audiovisual, IT and recreational goods, produced by electronics, electrical equipment, machinery and the wood, paper, rubber, plastics and metals industries.
- **Automotive and vehicle services.** It comprises the purchase of vehicles and spare parts and their maintenance and repair, supplied by the manufacture of vehicles and other transport equipment, vehicle sales and repair, and rental and leasing.
- **Tourism, hospitality and leisure.** It covers package holidays, restaurants, hotels and recreational services, provided by accommodation and food services, travel agencies, the arts, entertainment, sport and audiovisual production.
- **Housing, energy and water.** It groups rents, dwelling maintenance and the supply of water, electricity, gas and fuels, with energy, refining, water and waste, mining, construction and real estate as suppliers.
- **Transport, communications and financial services.** It includes transport, postal and telecommunications services, insurance and financial services, provided by transport and logistics, telecommunications and IT services, finance and insurance, and professional and administrative services.
- **Health, education and care.** It covers health services, education, social protection and personal services, provided by health, education, residential and social services and other personal services.

The specialisation of the four Europes in the eight chains is moderate overall, but some cells stand out (Figure B1). Three out of four revealed comparative advantage indices lie between 0.85 and 1.15, close to the EU-27 average, and none reaches 1.4. Two cells stand out: Emerging Europe in agri-food (1.38) and Mediterranean Europe in tourism (1.33), the only ones above 1.3.

They are followed by North Atlantic Europe in textiles, fashion and pharmaceuticals and in transport, communications and financial services (1.18 in both) and by Central Europe in automotive (1.15). At the other end, household goods weigh 29% less in Mediterranean Europe than in the EU-27 (0.71). The four Europes therefore differ less in the chains they are in than in the stage of each chain they occupy: Central Europe is the manufacturing workshop, North Atlantic Europe contributes knowledge-intensive services, Mediterranean Europe is closer to the final consumer and Emerging Europe enters through the primary stage. It is this position in the chain that Section 2 links to the productivity gap, cell by cell.

Figure B1 · Value chains: share of value added and revealed comparative advantage by Europe, 2023

	Share, EU-27 (%)	Central	North Atlantic	Mediter-ranean	Emerging
Agri-food	20.0	0.98	0.96	1.03	**1.38**
Textiles, fashion, care and pharma	7.6	1.01	**1.18**	0.86	0.95
Household goods and electronics	9.9	**1.11**	**1.12**	0.71	0.94
Automotive and vehicle services	8.6	**1.15**	0.87	0.83	0.86
Tourism, hospitality and leisure	12.3	0.89	0.87	**1.33**	0.89
Housing, energy and water	19.1	1.02	0.94	1.03	0.84
Transport, communications and finance	13.4	0.91	**1.18**	1.04	1.04
Health, education and care	9.1	1.02	0.98	1.00	0.81

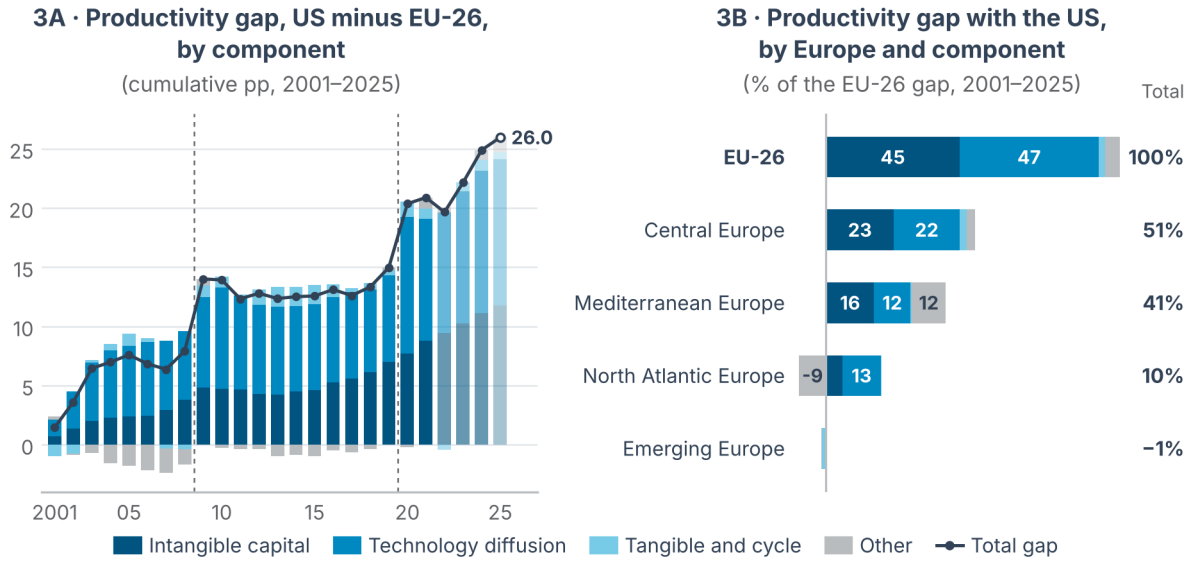
Sources: Inbonis Research, own elaboration with data from Eurostat (FIGARO, 2023).
Revealed comparative advantage: 1 = EU-27 average; blue = above 1, darker the stronger; bold = above 1.1.
The eight chains account for 68% of EU-27 value added.

2. The productivity gap, intangible capital and firm growth

Between 2000 and 2025 European productivity accumulated a growth shortfall of 26 log points relative to the United States, split almost equally between lower investment in intangible capital and the slow diffusion of frontier firms' technological advances (Figures 3A and 3B). The perimeter is the EU-26, the EU without Ireland, whose value added is distorted by multinationals (Annex AM.1). The accounting decomposition attributes 45% of the gap to intangibles and 47% to diffusion, more than 90% between them. What this report calls diffusion is the pass-through of US frontier productivity growth, which also captures differences in measurement, mark-ups and sectoral composition (Annex AM.2). That the two deficits weigh almost the same has a direct consequence: in accounting terms, financing intangibles can close somewhat less than half of the gap, and the other half depends on European firms adopting frontier technology. The decomposition identifies what is missing, but not who can invest to close it: that capacity depends on scale, which allows fixed costs to be recovered, and on access to long-term financing, which is why the analysis turns to the size distribution of firms.[2]

- **Intangible investment deficit:** US firms accumulate more R&D, software, databases and intellectual property, and also more organisational capital, that is, the management models and processes that allow firms to make the most of those assets. US firms invest some €4 more in intangibles per €100 of value added, and most of the difference lies in organisational capital, the hardest asset to finance because it does not appear on the balance sheet or serve as collateral. Box 2 explains what counts as intangible capital, how it is measured inside and outside the national accounts and in which assets the difference with the United States lies.
- **Technology adoption deficit:** Europe absorbs around a quarter of the advances of the US frontier (Annex AM.2), and the part it does not pass through accumulates year after year. That distance widens after each technological wave: 5.7 points in 2001–2004, with the diffusion of ICT, and 2.1 in 2023–2025, consistent with the diffusion of generative AI, on bridged and provisional data for 2022–2025, against an almost stable gap in 2010–2019 (Figure 3A). The timing does not prove causation, and the 2025 figure is provisional. Central Europe (13.2 of the 26 log points) and Mediterranean Europe (10.6) account for 92% of the gap, Mediterranean Europe above its economic weight; North Atlantic Europe adds 2.5 points and Emerging Europe reduces it by 0.3 because it is converging (Figure 3B).

Figures 3A and 3B · The productivity gap with the United States by component, 2001–2025



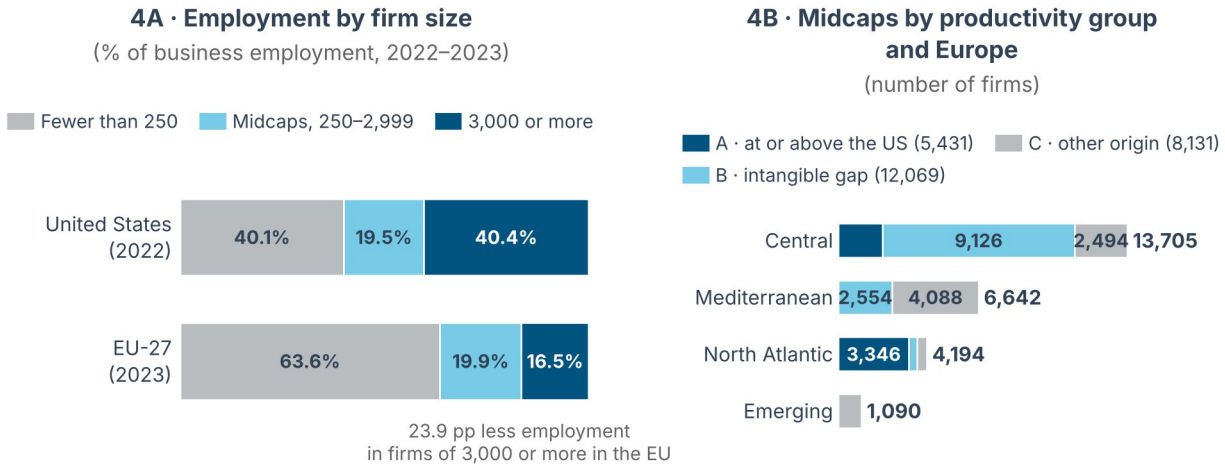
Sources: Inbonis Research, own elaboration with data from EU KLEMS & INTANProd, AMECO, Eurostat, the US Bureau of Economic Analysis (BEA) and the Federal Reserve Bank of San Francisco. 3A: lighter bars, 2022–2024 and provisional 2025.

The midcap is the size band in which, on the evidence of size distributions, firm growth appears to stall, and where it stalls depends on the Europe and the value chain (Figures 4A and 4B). European midcaps account for the same share of employment as US midcaps, but beyond 500 employees they stop growing as their US peers do and fail to become large firms. Because investing in intangibles and adopting technology involves fixed costs that only scale makes profitable, both deficits narrow with size: the European midcap generates €45.6 in purchasing power parities per hour worked, 86% of the €53.2 of its US peer, while the European SME reaches 71% of its US counterpart and the large firm 90%. Within the EU, the midcap holds 2.4 times the intangible capital per worker of the SME and has a digital intensity of 71 against 27, and the step-up in R&D per employee from the SME to the firm with 250 or more employees is similar on both sides of the Atlantic: 6.5 times in the EU and 6.2 in the United States.[3] To locate where each midcap stalls, the analysis compares each of the 32 cells of Europe and value chain with the equivalent US midcap: gaps due to an intangible deficit are concentrated in Central Europe, while in Mediterranean and Emerging Europe gaps of other origins dominate. The result is the following classification:

- **Group A, as productive as or more productive than in the United States.** These midcaps already match the productivity of US firms of the same size, so productivity is not their gap, although they still hold some €65 billion (PPP) less intangible capital than the US structure (Figure 7). They are concentrated in North Atlantic and Central Europe.
- **Group B, intangible gap.** They produce less per hour than their US peers, and at least half of that distance stems from their lower intangible capital per worker: these are the midcaps that need to build up intangibles. It is the largest group and is concentrated in Central Europe, especially in agri-food, household goods, automotive, tourism and transport, and in Mediterranean Europe, in agri-food and housing.

- **Group C, gap of other origins.** Their distance from the United States stems mainly from technology diffusion, specialisation or capital productivity, and more intangible capital alone barely reduces it. The group includes three in five Mediterranean midcaps and all those in Emerging Europe.

Figures 4A and 4B · Firm size in the EU and the United States, and midcaps by productivity group



Sources: Inbonis Research, own elaboration with data from the US Census Bureau (SUSB), Eurostat (SBS) and EU KLEMS & INTANProd.

Box 2 What counts as intangible capital and how Europe and the United States differ

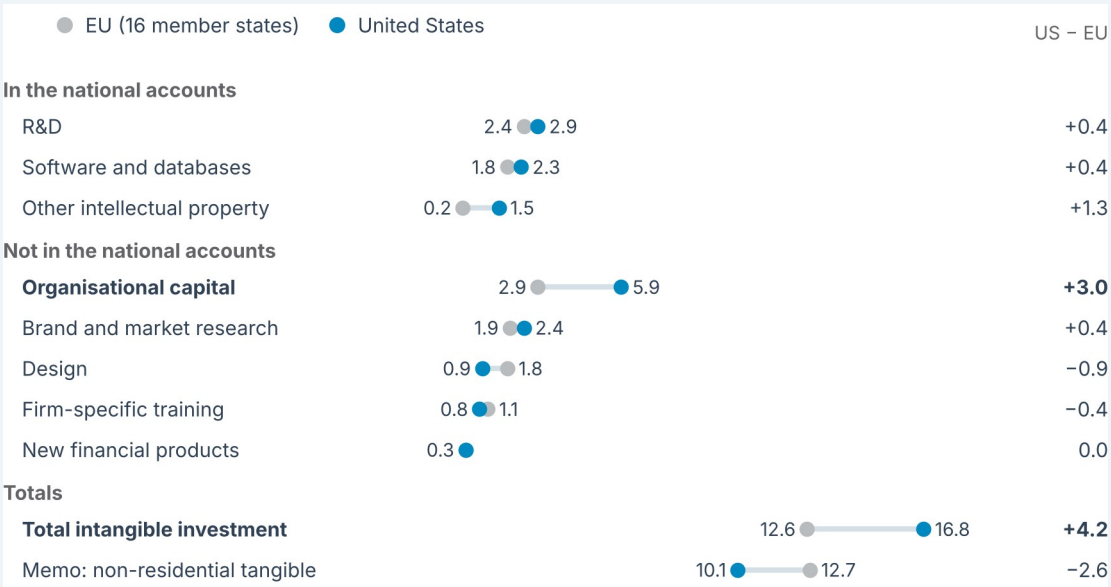
Intangible capital is the stock of non-physical assets that firms build up and that yield returns over more than one year, and only part of it is recorded as investment in the national accounts. Corrado, Hulten and Sichel (2009) group it into three broad categories:

- **Computerised information.** Software and databases, the assets with which a firm processes and exploits its information. The national accounts record it in full as investment.
- **Innovative property.** R&D, design, mineral exploration, artistic originals and new financial products: the knowledge from which new products and processes emerge. The national accounts capitalise R&D, mineral exploration and artistic originals, but not design or new financial products.
- **Economic competencies.** Brand and market research, firm-specific training and organisational capital, that is, the management models and processes that allow a firm to make the most of its other assets. None of them is recorded as investment in the national accounts.

US firms invest some €4 more in intangibles than European firms per €100 of value added, and organisational capital accounts for €3 of it (Figure B2). US firms devote twice as much of their value added to organisational capital, and the assets recorded in the national accounts add

some €2 to the difference. Europe invests more in design and training, which reduce it by some €1.3. The gap is one of composition rather than of total investment: the EU invests €2.6 more per €100 of value added in non-residential tangible assets. In 2015–2021 the difference was still €4.0, €3.0 of it in organisational capital, so it has not narrowed.

Figure B2 · Intangible investment by asset, EU and United States (% of value added, 2000–2021)

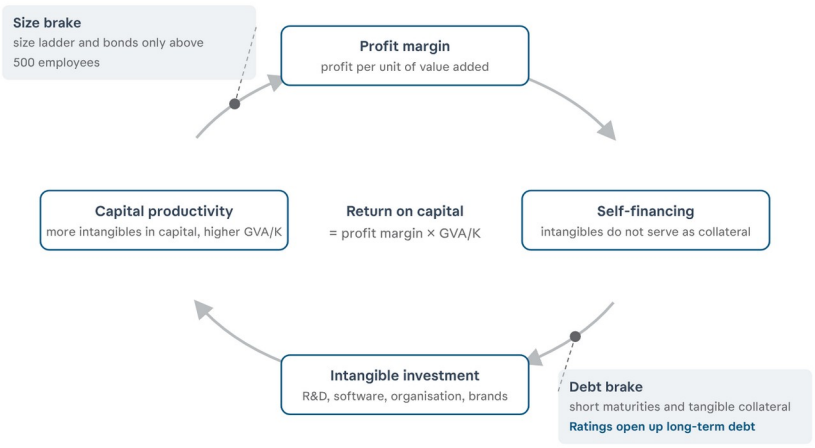


Sources: Inbonis Research, own elaboration with data from EUKLEMS & INTANProd (2023 edition).
Market sector, average 2000–2021; value added adjusted for the intangibles not recorded in the national accounts.

3. Converting productivity into returns: profit margin, debt and firm size

Since 2009 the same level of productivity has generated 2.3 points less return on capital in European non-financial corporations, while in the United States it has not changed significantly, and 90% of that distance lies in the profit margin (Figures 5A and 5B and Table 1). The return on capital is the product of the profit margin and capital productivity. Before 2009 the EU converted productivity into returns almost as well as the United States (0.63 against 0.60 points per 10%); since then it has lost half of its rate, while the US rate barely changes (0.50; the difference is not significant, p = 0.66), so the analysis uses a single US fit of 0.52 for both periods (Annex AM.2). The deterioration is concentrated in the profit margin, the share of value added that remains with the firm, which explains 1.7 of the 1.9 points by which the European step (2.3 points) exceeds the US one in non-financial corporations: since 2009 the margin has risen in the United States and stopped growing in Europe. Across the four Europes, Central Europe loses the most margin but offsets it with capital productivity, so its conversion rate barely changes; the fall in the European rate comes mainly from Mediterranean Europe, which loses both capital productivity and margin (Table 1). The literature attributes the divergence in margins, which is not tested here, to greater market power in the United States and more intense competition in Europe.[4]

Diagram 1 · Profit margin, intangible investment and capital productivity, with two brakes

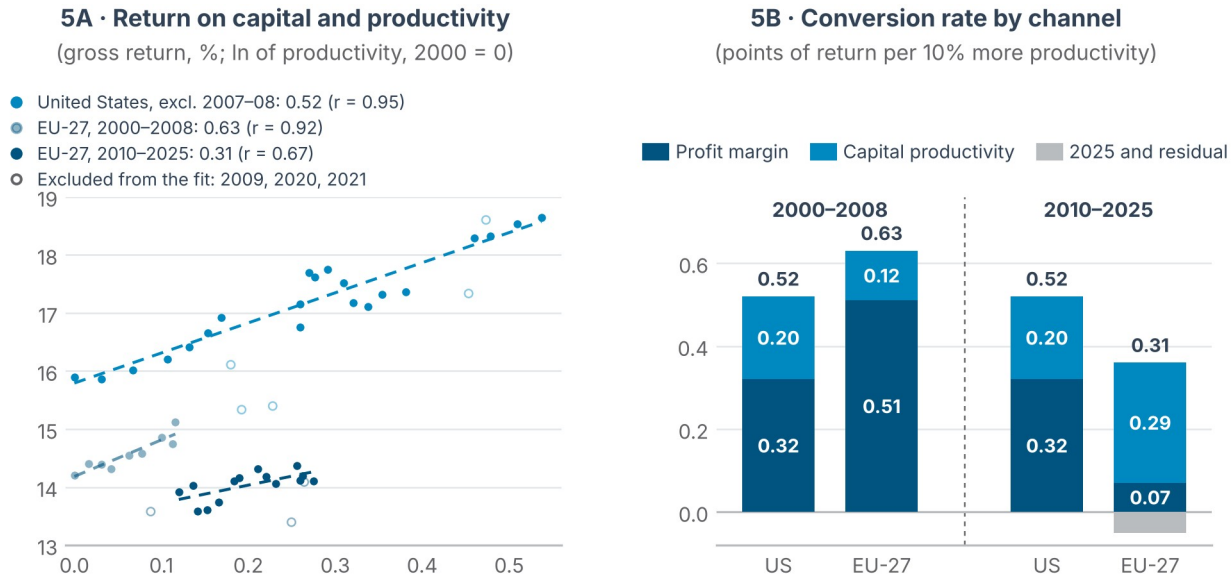


Source: Inbonis Research, own elaboration.

The European midcap depends on its own margins to finance intangible investment, but that same dependence limits its capacity to raise productivity and convert it into returns. Unlike large firms, the midcap has more limited access to capital markets; unlike SMEs, it needs to sustain larger-scale investment to develop technology, organisational capabilities and intangible assets. Because these assets are firm-specific and hardly serve as bank collateral, much of the investment is financed out of retained earnings.[5] This creates a loop that can strengthen or weaken: the margin finances intangibles, intangibles raise labour and capital productivity, and

part of that gain returns as margin. Since 2009 the mechanism has strengthened in the United States and weakened in Europe. After the financial and real estate crisis, the fall in margins in Europe has reduced the internal resources available for investment and made it harder for the midcap to close the productivity gap identified in Section 2 (Diagram 1). The loop is not self-financing: with annual depreciation of 15% and retention of half of the additional profit, retained earnings replace 44% of the financed intangible capital in ten years. Two constraints amplify this negative dynamic between margin and intangibles: the composition of midcaps' financing and the access barriers associated with size. Their interaction can create a scaling trap for the midcap: its small size limits its access to diversified financing, and that limitation can hold back the growth needed to obtain it.[6]

Figures 5A and 5B · From productivity to returns: EU-27 and United States, 2000–2025



Sources: Inbonis Research, own elaboration with data from AMECO, EU KLEMS & INTANProd, the US Bureau of Economic Analysis (BEA) and the Federal Reserve Bank of San Francisco. 5B, grey: provisional 2025 data point and residual (−0.05).

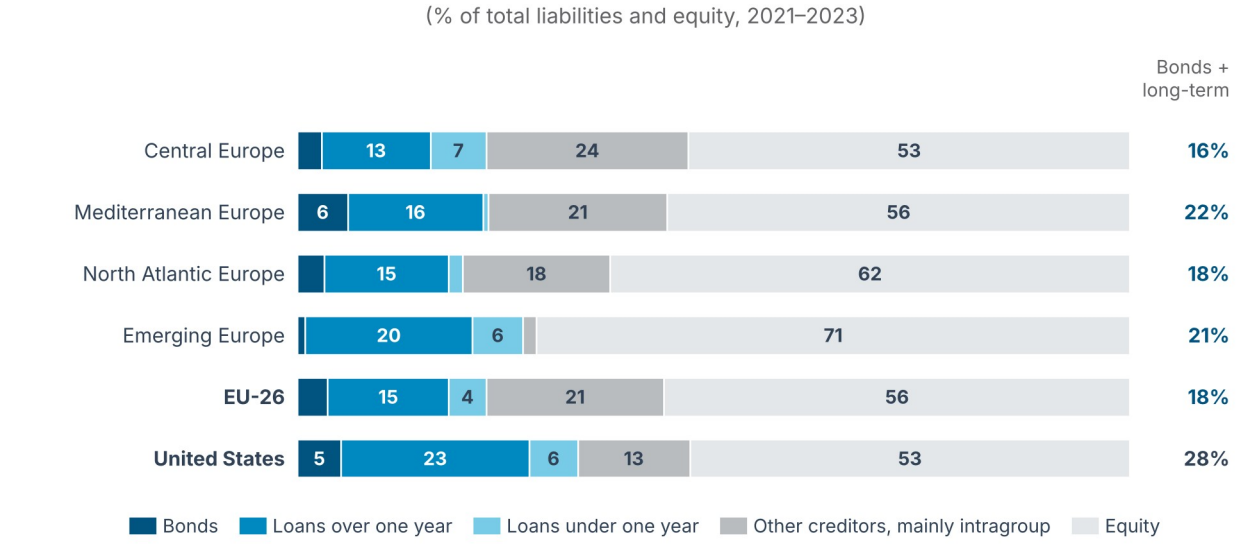
Table 1 · Conversion rate in the EU-27 and the United States, by channel, period and Europe (points of return per 10% more productivity, 2000–2008 and 2010–2025)

	2000–2008			2010–2025			Change		
Points per 10% more productivity	Margin	Capital prod.	Total	Margin	Capital prod.	Total	Margin	Capital prod.	Total
Central Europe	0.32	-0.21	**0.12**	-0.24	0.41	**0.17**	-0.56	0.62	**0.06**
North Atlantic Europe	0.07	0.02	**0.09**	0.11	0.14	**0.25**	0.03	0.12	**0.15**
Mediterranean Europe	0.09	0.27	**0.35**	-0.07	-0.09	**-0.15**	-0.15	-0.35	**-0.51**
Emerging Europe	0.00	0.06	**0.06**	-0.03	0.07	**0.05**	-0.03	0.01	**-0.02**
EU-27 (sum of the Europes)	0.49	0.14	**0.63**	-0.23	0.54	**0.31**	-0.71	0.40	**-0.31**
EU-27 (aggregate)	0.51	0.12	**0.63**	0.07	0.28	**0.31**	-0.44	0.16	**-0.31**
United States	0.32	0.20	**0.52**	0.32	0.20	**0.52**	0.00	0.00	**0.00**

Source: Inbonis Research on AMECO and EU KLEMS & INTANProd.

- **The European midcap has less long-term financing: bonds and long-term loans account for 18% of its total assets, against 28% for US midcaps (Figure 6).** This difference matters because intangible investment requires stable financing and can hardly be backed by conventional collateral. The midcap depends mainly on bank credit, but the specificity of its intangible assets and their low recovery value in default make it difficult for them to back new financing.[7] The volume of debt, by contrast, does not appear to be the main barrier: the midcaps that already match US productivity have done so with less long-term debt than their US peers. For European firms as a whole, debt is already higher and cheaper than in the United States with market-value leverage; with book leverage the result reverses (Annex AM.2). Borrowing more would only shift the fall in returns onto shareholders.
- **The midcap sits in a size band in which it does not yet have effective access to the bond market.** Only 1.5% of firms with 250 to 499 employees that used external financing to invest issued bonds, against 19% of firms with 3,000 or more employees. Bond issuance is concentrated above 5,000 employees, which leaves many European midcaps below the scale needed to access this source of financing.[8] This barrier coincides with the size band in which European firms stop growing at the pace of their US peers. The difference with US midcaps lies less in bonds (4% of total assets against 5%) than in long-term loans (15% against 23%), and Mediterranean midcaps already finance 6% of their assets with bonds (Figure 6): for midcaps, the main channel of ratings is long-term bank credit, including from banks in other member states.

Figure 6 · Midcap financing structure: four Europes, EU-26 and United States (%, 2021–2023)



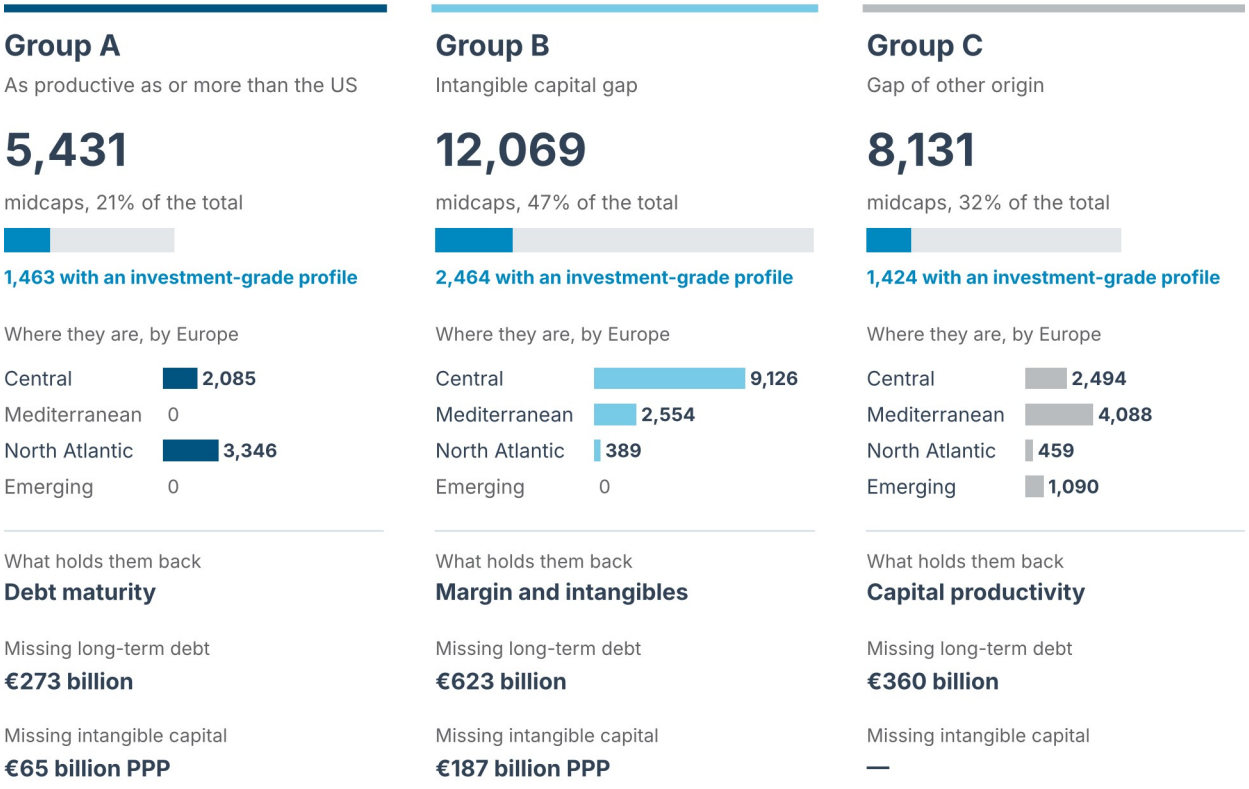
Sources: Inbonis Research, own elaboration with data from BACH, ERICA and the US Census Bureau (Quarterly Financial Report).

Europe's more than 25,600 midcaps have a long-term debt gap of €1.26 trillion relative to their US peers, but they need to close it with different instruments depending on the origin of their productivity deficit. The three groups identified in Section 2 (A, B and C), which reflect the level

and origin of their productivity gap, divide the roughly 25,600 midcaps of the European universe without overlap (Figure 7):

- **Group A: more long-term debt, through loans and bonds.** It needs an additional €273 billion. The figure is the long-term debt it lacks relative to the US structure, which can be closed with new borrowing or by lengthening the maturity of existing short-term debt. Its some 5,430 midcaps (21%) already match US productivity, but need to bring their financial structure closer to that of the United States by increasing the weight of financing with maturities above one year.
- **Group B: long-term debt to finance intangible investment, through bonds, equity and, where intellectual property allows it, credit secured on intangibles. It needs** an additional €623 billion. Its 12,069 midcaps accumulate an intangible stock gap of €187 billion in purchasing power parities, which their margins cannot self-finance and which can hardly be backed by bank collateral.
- **Group C: more long-term debt, mainly through bank credit secured on tangible assets.** It needs an additional €360 billion. Its 8,131 midcaps have productivity gaps of other origins, such as diffusion, specialisation or capital productivity, so their needs do not primarily call for financing directed at intangibles.

Figure 7 · Midcaps by group: number, investment grade, Europe and missing financing



Sources: Inbonis Research, own elaboration with data from EU KLEMS & INTANProd, Eurostat, BACH and the US Census Bureau (QFR).

Ratings would make it possible to identify some 5,350 midcaps with an investment-grade profile and make them visible to the market. This capacity to demonstrate creditworthiness to lenders with whom they have no prior relationship opens a route to widening the range of firms that can access capital markets and to strengthening cross-border bank lending.[9] The distribution of needs also varies geographically: 67% of Central European midcaps belong to group B, which concentrates half of the intangible gap; 80% of North Atlantic midcaps are in group A, where debt maturity is the main constraint; and midcaps in Mediterranean and Emerging Europe are concentrated in group C (the classification is made by cells of Europe and value chain, so an individual midcap may match US productivity even if its cell does not on average).

Each constraint calls for a different instrument: long-term loans and bonds for group A, bonds, equity and credit secured on intangibles for group B and credit secured on tangible assets for group C, with ratings as the common gateway to all three (Table 2). Guarantees and risk sharing lengthen the maturity of bank credit, at the cost of crowding out private financing if selection is weak. Bonds, equity and the vehicles of the Savings and Investments Union finance intangibles, but today reach mainly large firms.[10] The mix varies across the four Europes: more access to the bond market in Mediterranean Europe, where that market already exists (Annex AM.2).

Table 2 · Financing instruments for midcaps: constraint addressed, target group and trade-off

Instrument	Constraint addressed	Midcap group	Risk or trade-off
Rating	Information asymmetry with lenders without a prior relationship	A, B and C	Cost to the firm and concentration of the rating market
Long-term loans with risk sharing	Short maturity of bank credit	A	Crowding out of private financing and moral hazard if selection is weak
Bonds	Access to long-term market financing	A and B	Fixed issuance cost and minimum size
Equity	Intangibles that cannot serve as collateral	B	Dilution and required return
Public programmes directed at intangibles	Intangible investment that the profit margin does not self-finance	A and B	Additionality, verification of the use of funds and crowding out of private investment
Bank credit secured on tangible assets	Tangible and organisational investment	C	Finances mainly tangible investment

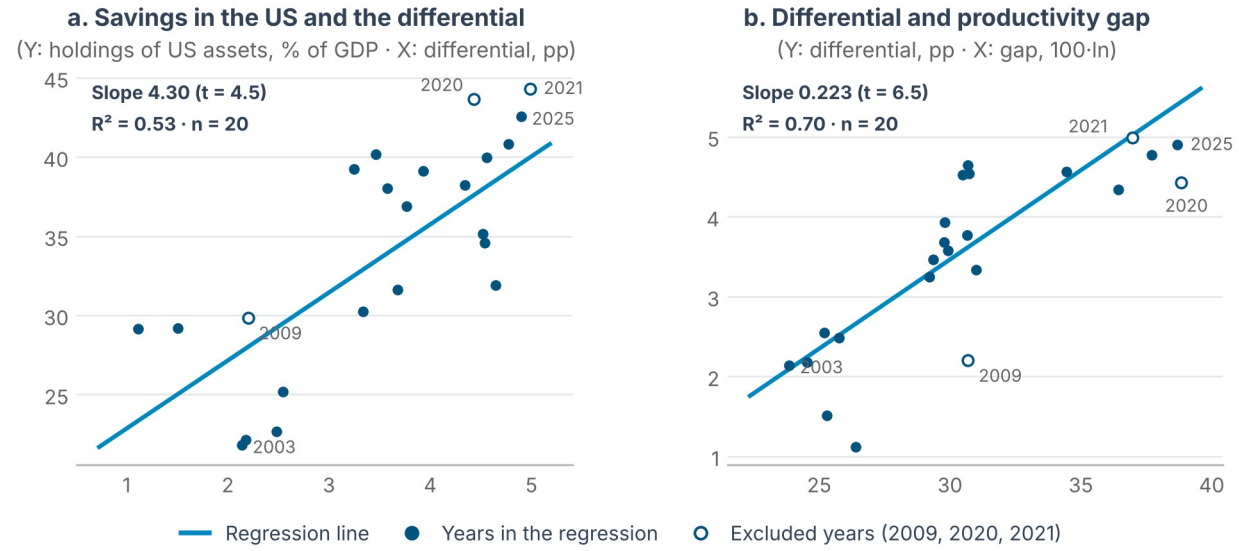
Source: Inbonis Research.

4. Rolling out ratings for midcaps: the investment opportunity

The €229 billion is the envelope of investment that European firms as a whole could retain each year, taken from Inbonis Research's "American convergence" model (Annex AM.2). Rated midcaps absorb part of it from the bottom up: 43% in 2027, 65% in 2029 and about 90% from 2031; the remainder is left to other firms, which this report does not model. It is a scenario, not an estimate: the association between holdings of US assets and the productivity gap on which it rests does not pass a cointegration test (Annex AM.2). The figure starts from the euro area's net purchases of US assets between 2005 and 2025, of which €3.4 trillion are associated with the intangible-capital and firm-size gaps with the United States. Spread over twenty years, they are equivalent to 12.4% of business investment and, applied to 2024 investment, give the €229 billion (Annex AM.2). Depending on how the association is estimated, the envelope ranges from about €160 billion to €320 billion a year. The envelope is not constant: it rises from 0.5% of GDP in 2027 to 0.9% in 2029 and 1.1% from 2030, once fully phased in. At full phase it is equivalent to €229 billion a year at 2024 scale (euro area): the ceiling the simulator imposes on retention and the space shown in the presentation.

The envelope rests on a chain of two long-run associations (Figure 10). Over the same sample as the direct regression in the Annex (2003–2025 excluding 2009, 2020 and 2021), each point of gross return-on-capital differential between the United States and the euro area is associated with 4.3 points of GDP more in holdings of US assets, and each point of productivity gap with 0.22 points more of differential. The chain accounts for three quarters of the direct relationship of 1.28 points of GDP per point of gap.

Figure 10 · Productivity gap, return differential and European savings in the US, 2003–2025

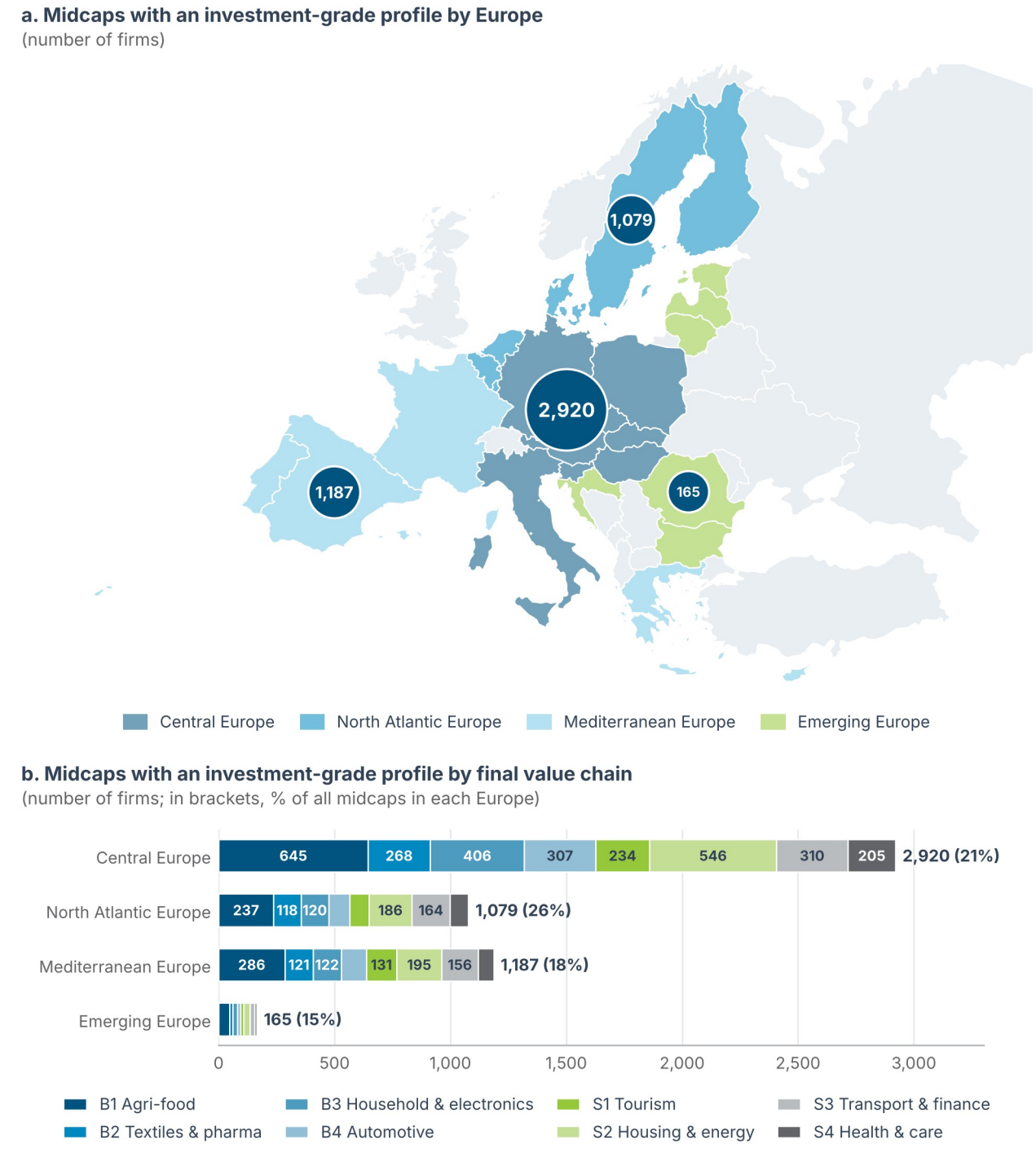


Sources: Inbonis Research based on ECB, Eurostat and AMECO data ("American convergence" model).
1/ OLS, 2003–2025 excluding 2009, 2020 and 2021 (20 years); gross return on capital (AMECO; 2025 capital estimated).
2/ Long-run associations: the chain (4.30 × 0.223 = 0.96) is 75% of the direct slope, 1.28 (Annex AM.4.1).

The central scenario starts with the most creditworthy midcaps: over three years, from 2027 to 2029, it rates the roughly 5,350 with an investment-grade profile. Ratings make visible firms that are too large for local relationship lending and too opaque for institutional investors, and open up bonds, long-term loans and credit from banks in other member states. The profile requires ratios compatible with a rating (financial debt of up to 3.5 times EBITDA and positive operating profit) and productivity close to the US level, so it is more frequent in North Atlantic Europe (26%) than in Emerging Europe (15%) (Figure 8b). More than half, 2,920 (55%), are in Central Europe. The rest of the some 16,200 eligible midcaps (those with financial debt of up to 3.5 times EBITDA and positive operating profit; the remaining 9,400 or so midcaps do not meet these ratios) are rated afterwards, up to 2035. That second phase is inertial, because it keeps today's classification, whereas many of those firms could reach investment grade within the first three years if long-term financing improves their productivity and ratios. The simulator does not model rating migration in either direction: no rated firm is upgraded, downgraded or defaults.

Ratings are not the only source of information on midcaps. Banks use internal ratings, the Eurosystem assesses the credit of firms whose loans it accepts as collateral, AnaCredit records loans individually, and some midcaps already raise long-term funding through Schuldschein loans or private placements. What an external rating adds is information that non-bank investors without a prior relationship with the firm can use. The simulator does not net out midcaps already financed through these channels, so its retention is an upper bound for the rating channel.

Figure 8 · Midcaps with an investment-grade profile, by Europe and final value chain (number of firms)



Sources: Inbonis Research, own elaboration with data from Eurostat (SBS), BACH and EU KLEMS & INTANProd.

By 2029, rating the midcaps with an investment-grade profile would retain some €34 billion a year of long-term debt. If rated midcaps also raise equity, as the simulator assumes, total retention reaches €124 billion that year and €260 billion cumulatively (Figure 9, panels 1 and 2); that equity raising is an uncalibrated assumption (Annex AM.3). Across 500 simulations, the P10–P90 interval of total retention is €78 billion to €184 billion a year. Retention grows almost linearly while investment-grade firms are being rated, because it is limited by what they can absorb rather than by the supply of funds: long-term debt cannot exceed 28% of total assets, the US level,

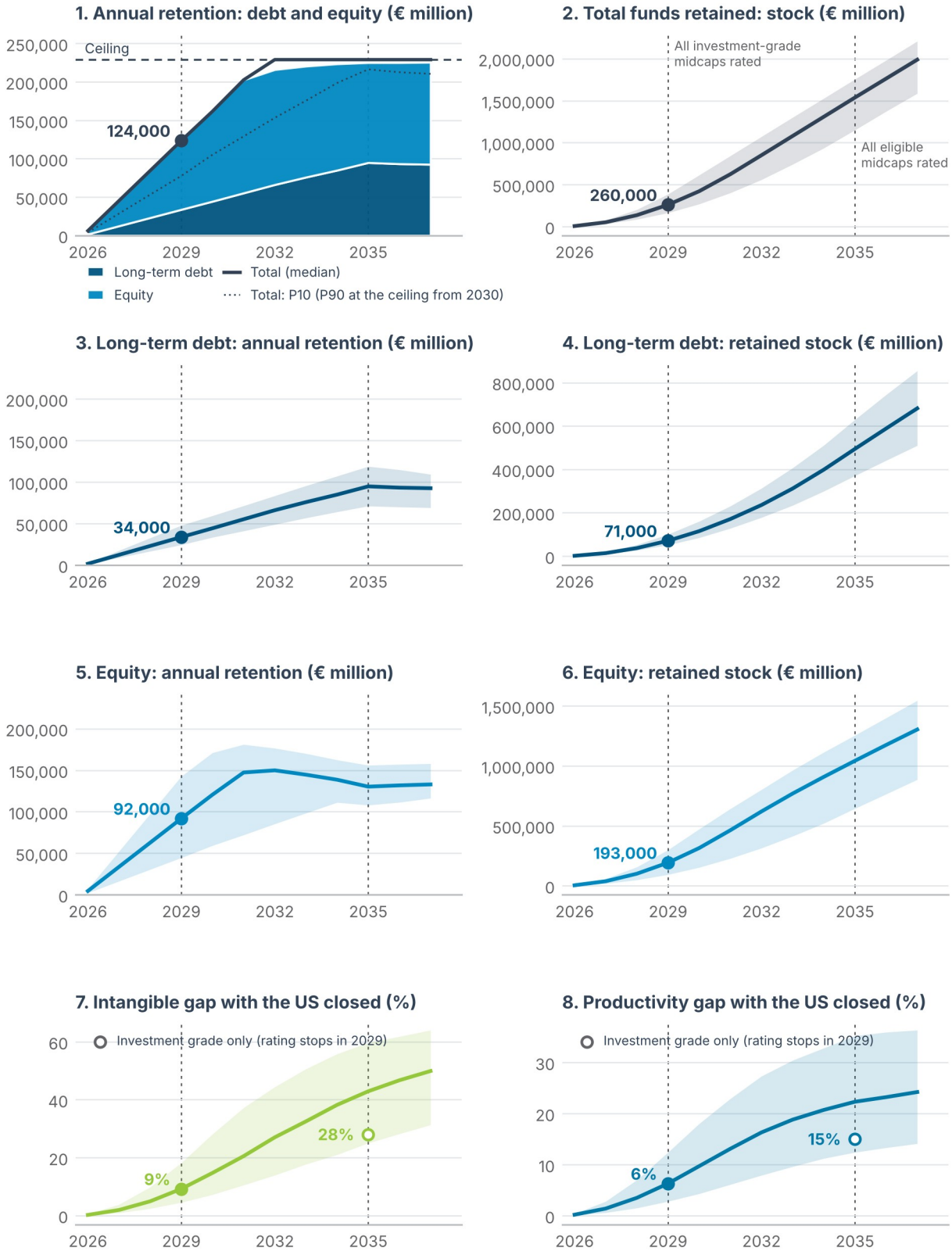
and equity cannot grow faster than size allows. Once ratings extend to the rest of the eligible firms, retention reaches the €229 billion cap in 2032. These are scenarios conditional on the simulator's assumptions, not forecasts.

Long-term debt is the most direct channel of ratings: €34 billion in 2029 and €71 billion cumulatively, against €92 billion and €193 billion of equity (panels 3 to 6). Debt goes first to the most creditworthy and productive midcaps, many of them in group A, whose constraint is maturity, and is then allocated by risk to groups B and C. The headroom is large, since group A lacks some €273 billion of long-term debt relative to the US structure, but it is exhausted quickly as rated firms approach 28% of long-term debt over total assets, which is why panel 3 flattens towards 2035. Equity is the counterpart: the simulation moves rated midcaps towards the capital structure of their US peers, so equity grows with debt by up to 5% of initial equity a year (2.5–10%). Because that rate follows from the target structure rather than from observed equity raising, the bands in panels 5 and 6 are the widest.

By 2029 midcaps would have closed 9% of their intangible gap with the United States, and 28% by 2035 even if ratings stopped there (panel 7). The gap is the intangible capital they lack relative to US midcaps, and part of each euro retained becomes software, R&D, organisational capital and brands. With the extension to all eligible firms, closure reaches 43% in 2035 (25–60) and the retained stock €1.54 trillion. Destination matters more than volume: in the simulator's directed-financing scenario, each €100 billion directed at group B's intangibles adds 0.14 points of EU productivity, against 0.01 for general debt, and the effect lasts only if depreciation is replaced.

The effect on productivity comes more slowly: 6% of the midcap productivity gap is closed in 2029, and 15% in 2035 if the rollout stopped there (panel 8). With the extension, closure reaches 22% in 2035 (12–35) and EU productivity would be 1.4% higher than without the measure (0.8–2.1), after 0.7% in 2031 (0.4–1.0); by 2037, with €1.99 trillion retained, it would be 1.6% higher. At constant employment, the 2035 gain is equivalent to some €260 billion of EU GDP at 2025 scale; it is a level effect, not a growth forecast. The curve flattens earlier than that of intangibles, which explain only part of the productivity gap and have diminishing returns. The transmission is an association calibrated on the EU KLEMS panel, not an identified causal effect; ignoring retained tangible investment understates the effect, and treating pass-throughs to intangibles as stock associations may overstate it.

Figure 9 · Retained funds, annual retention and gaps with the United States closed in the central rating scenario (€ million and %, 2026–2037)



Sources: Inbonis Research, own elaboration with data from Eurostat (SBS), BACH and EU KLEMS & INTANProd; simulator v1.5 (median and P10–P90 band of 500 simulations).

5. Conclusions

The evidence is consistent with European savings failing to finance midcap growth because midcaps convert productivity into returns less effectively than their US peers and lack the long-term, unsecured financing that intangible investment requires; savings themselves are not scarce. Europe saves more than it invests, and its portfolio in the United States rose from 27% to 77% of euro-area GDP between 2000 and 2025. Over the same period the return gap with the United States widened from 1.7 to 4.5 points, half because European productivity grew less and the other half because, since 2009, the same level of productivity has yielded less to European capital. This result is consistent with the first hypothesis.

The evidence is consistent with the second hypothesis: the productivity gap stems almost equally from intangible capital and technology diffusion, and the midcap is where the intangible gap gains weight. They explain 45% and 47% of the cumulative gap respectively, and organisational capital accounts for most of the €4 per €100 of value added that US firms invest in excess in intangibles (Box 2). European midcaps employ as large a share of workers as US midcaps, but above 500 employees they stop growing into large firms. The classification by Europe and value chain separates three situations: 21% of midcaps already match US productivity, 47% are held back mainly by an intangible capital deficit and 32% have gaps of other origins.

The third hypothesis holds as an accounting result and a plausible mechanism, not as an identified causal effect. Since 2009 the same level of productivity has yielded 2.3 points less in European non-financial corporations, and 90% of the distance from the United States lies in the profit margin, not in leverage. Bonds and long-term loans account for 18% of midcaps' total assets, against 28% in the United States, the volume of debt does not appear to be the binding constraint, and bond issuance begins well above the midcap size band. The loop between margin, intangibles and productivity, and the scaling trap formed jointly by size and financing, are consistent with these facts but remain to be tested with firm-level data.

The fourth hypothesis is a conditional result of the simulator: ratings retain financing in midcaps, and its destination determines the effect on productivity. Rating the some 5,350 midcaps with an investment-grade profile by 2029 and the rest of the eligible firms by 2035 would retain €34 billion a year of long-term debt in 2029 (€124 billion if equity grows with debt) and reach the €229 billion cap, the level of the all-firm envelope once fully phased in, from 2032. In 2035 the retained stock of €1.54 trillion (€494 billion of long-term debt and €1.04 trillion of equity; €624 billion in 2031) would close 43% of midcaps' intangible gap and 22% of their productivity gap with the United States. Each €100 billion directed at group B's intangibles adds 0.14 points of productivity in the EU, against 0.01 for general debt, and the effect fades if the replacement of intangibles is not financed as well. These results depend on equity growing with debt towards the US capital structure, a calibration rather than an estimate, and on a calibrated, not identified, link between intangibles and productivity.

The contribution of the paper is to bring together, in the midcap, four strands of the literature that are usually treated separately, to locate there the problem of retaining European savings and to show that the form and destination of financing matter more than its volume. Three things remain to be demonstrated: that intangible capital causes productivity, that market financing causes intangible investment and that the retainable investment would materialise. A panel of midcaps with their financial statements, ratings and bond issues, together with the changes in disclosure and prudential rules expected over the coming years, would allow these links to be tested directly; building that evidence is the agenda of the European Midcap Observatory. The policy implications of these results will be developed in a policy brief to be published in the coming months.

Declaration of interests

The author is Chief Economist of Inbonis Rating, a credit rating agency registered with ESMA, and this paper assesses ratings as one instrument for making midcaps visible to investors. In the simulator, the effect of ratings on productivity does not come from the rating itself but from the funds it allows Europe to retain, and more than half of what is retained is equity that accompanies debt as rated midcaps converge towards the capital structure of their US peers. The views expressed are the author's and do not necessarily reflect those of Inbonis Rating, CEPS or ECMI. This document does not constitute an investment recommendation or a solicitation of a rating.

Note on the evidence

This paper does not identify causal effects: its results are robust associations across countries, sectors and firm sizes, or simulator estimates conditional on scenario assumptions. The simulator's figures are illustrative scenarios, not forecasts, and their uncertainty is summarised by the 10th and 90th percentiles of 500 draws of the parameters. The methodological annex summarises sources, methods and limitations. The pass-through of financing to intangibles is an assumption of the simulator: in a panel VAR of 15 euro area countries, more financing of non-financial corporations does not raise intangible investment, and only bond financing points to higher productivity, with a band that includes zero. The Report does not yet demonstrate that intangibles cause productivity, that market financing causes intangible investment or that the retainable investment materialises. See Annex AM.2.

Strength of evidence	Results
Robust association, no causality identified	Split of the gap between intangibles and diffusion; 2009 step in the return on capital; lower long-term debt of the European midcap; relationship between size and bond issuance
Mechanism consistent with the evidence	Loop between profit margin and intangibles
Hypothesis	Scaling trap
Conditional scenario	Simulator results: central financing scenario and rating rollout scenarios

Glossary of terms

The paper uses the following terms in the sense given here; the measure column says how each is quantified and where it comes from.

Term	Definition in this paper	Measure and source
Brand and market research	Advertising and market research that build a firm's reputation and its knowledge of customers	Economic competencies, not recorded in the national accounts (EUKLEMS & INTANProd)
Capital productivity	Value added per unit of capital	Gross value added over the capital stock
Conversion rate	How much return on capital a given gain in productivity yields	Points of return on capital per 10% more productivity (Section 3)
Design	Architectural, engineering and product design that is not research and development	Innovative property, not recorded in the national accounts (EUKLEMS & INTANProd)
Entertainment, literary and artistic originals	Original films, music, books and other works that generate income over several years	Innovative property, recorded in the national accounts (EUKLEMS & INTANProd)
Final value chain	The value added that ends up in the same part of household consumption, whichever sector or country produces it	Built with Eurostat's FIGARO input-output tables; the eight chains of the paper cover 68% of EU value added (Box 1)
Firm-specific training	Training paid for by the firm that raises skills of particular value to that firm	Economic competencies, not recorded in the national accounts (EUKLEMS & INTANProd)
Four Europes	Groups of member states by their specialisation and position in final value chains	Central (AT, CZ, DE, HU, IT, PL, SI, SK), North Atlantic (BE, DK, FI, LU, NL, SE), Mediterranean (CY, EL, ES, FR, MT, PT) and Emerging (BG, EE, HR, LT, LV, RO). Ireland is excluded from the grid (Annex AM.1).
Groups A, B and C	Midcaps classified by the origin of their productivity gap with the United States	A matches US productivity; in B at least half of the gap stems from lower intangible capital per worker; C has a gap of other origins (Section 2)
Intangible capital (intangible assets)	Non-physical assets that firms build up and that yield returns over more than one year	Classification of Corrado, Hulten and Sichel (2009), measured in EUKLEMS & INTANProd (Bontadini et al., 2023): software and databases, R&D and other intellectual property recorded in the national accounts, plus design, brand and market research, firm-specific training, organisational capital and new financial products, which the national accounts do not record; each type is defined in this glossary. Balance-sheet intangibles are a different, narrower measure: they leave out most internally generated assets and include goodwill (Box 2)
Investment-grade profile	Midcaps whose financial ratios and productivity are compatible with a rating of BBB- or above	Financial debt no greater than 3.5 times EBITDA and positive operating profit, scaled to the share of rated midcaps and adjusted by productivity relative to the United States: some 5,350 midcaps. A model profile, not a rating

Term	Definition in this paper	Measure and source
Midcap	A firm with 250 to 2,999 employees, between the SME and the large firm	Size bands of Riekeles et al. (2024). The Commission's small mid-cap category is narrower: fewer than 750 employees (Commission Recommendation (EU) 2025/1099). Some 25,600 midcaps in the EU-27, within a range of 17,000 to 34,000 (Annex AM.1)
Mineral exploration	Spending on the search for and evaluation of mineral and energy deposits	Innovative property, recorded in the national accounts (EUKLEMS & INTANProd)
New financial products	The development of new financial products by the financial industry	Innovative property, not recorded in the national accounts (EUKLEMS & INTANProd)
Organisational capital	The management models, business processes and organisational structures that allow a firm to make the most of its other assets	Purchased management consulting plus the own-account time of managers, valued at cost (EUKLEMS & INTANProd). It is not on the balance sheet and cannot serve as collateral
Productivity	Output per hour worked	Gross value added per hour worked, in purchasing power parities, with intangible capital capitalised (EUKLEMS & INTANProd)
Profit margin	The share of value added that remains with the firm after paying for labour	Gross operating surplus over gross value added
Research and development (R&D)	Systematic creative work to increase knowledge and devise new applications of it	Innovative property, recorded in the national accounts (EUKLEMS & INTANProd)
Return on capital	The surplus that firms obtain per euro of capital invested	Gross operating surplus over the capital stock: AMECO for the total economy, Eurostat sector accounts for non-financial corporations. It equals the profit margin times capital productivity
Scaling trap	Hypothesis that small size limits access to diversified financing, and that this limitation holds back the growth needed to obtain it	Not tested causally (Section 3)
Software and databases	Purchased and own-account computer programs and organised data files	Computerised information, recorded in the national accounts (EUKLEMS & INTANProd)
Technology diffusion	The extent to which European firms incorporate the productivity advances of the frontier, the US firms of the same sector	Share of US frontier productivity growth that each European sector passes through, net of the catch-up of lagging sectors; Europe absorbs around a quarter. What this report calls diffusion is the pass-through of US frontier productivity growth, which also captures differences in measurement, mark-ups and sectoral composition (Annex AM.2)

Notes

[1] Section 4 and Annex AM.2 quantify that destination as an envelope of investment retainable by firms as a whole of up to €229 billion a year. The envelope is an order-of-magnitude reference for the investment that could be retained if savings found eligible issuers; it is neither a flow of savings that can be redirected year by year nor available financing.

[2] See the analytical framework (H2).

[3] In midcaps, 32% of the productivity gap lies in cells where intangibles are its main source, against 5% in SMEs, although most of the aggregate gap corresponds to SMEs and stems from diffusion and organisation (Annex AM.2). Eurostat counts enterprises and the Census Bureau firms (groups), which shifts the European distribution towards smaller sizes (Annex AM.2).

[4] In BACH balance-sheet data, the profit margin of firms with turnover above €50 million falls by 6.1 points since 2010 at the same level of productivity, like that of smaller firms, and North Atlantic Europe, a leader in its chains, is the Europe that loses most margin (BACH measures the margin of firms with turnover above €50 million at the same level of productivity, whereas Table 1 measures each Europe's contribution to the aggregate conversion rate, so North Atlantic Europe loses margin in one and gains it in the other), so that neither size nor position in value chains suffices to explain the fall (Annex AM.2).

[5] See the analytical framework (H3).

[6] The scaling trap is a plausible hypothesis, not a demonstrated causal relationship, because size and financing are jointly determined.

[7] See the analytical framework (H4).

[8] See the analytical framework (H4). Winterberg (2025) attributes around two thirds of Europe's lower bond share to firm size and collateral.

[9] See the analytical framework (H4).

[10] European Commission (2025) and Lannoo, Berg and Thomadakis (2024) identify the lack of information on unlisted companies as one of the shortcomings of the European capital market.

Figure 1A. Euro area international investment position vis-à-vis the United States as a share of the area's nominal GDP. The years 2000–2002 are estimated using the 2003 share in US external liabilities. The position includes the revaluation of assets; of net purchases from 2005 to 2025, excluding revaluation, the Report associates €3.44 trillion, 72%, with the intangible and size gaps (Annex AM.2). Method: Annex AM.2.

Figure 1B. Private return premium = gross operating surplus over the net capital stock at replacement cost, total economy, minus the 10-year government bond yield (AMECO); the return is the same as in Figures 1D and 5A. EU-27 bond yield: AMECO aggregate from 2002 and, for 2000 and 2001, the GDP-weighted average of the member states with data (98% and 99% of EU GDP), which reproduces the aggregate to within 0.01 points from 2002 onwards. The premium differential equals the gross return gap of Figure 1D minus the difference between US and EU-27 bond yields: 1.7 - 0.4 = 1.3 points in 2000 and 4.5 - 1.0 = 3.5 in 2025. Its long-run trend (Hodrick-Prescott, $\lambda = 100$) moves with the EU-27 structural national balance, the sum of the structural private balance and the cyclically adjusted public balance (correlation of 0.85 in 2000–2025), while their annual changes are barely correlated (0.10). Shaded: 2020–2021. Method: Annex AM.2.

Figure 1C. Gross value added per hour worked in the private sector (14 NACE sections), with intangible capital capitalised, index 2000 = 100. EU-26 excl. RO: all member states except Romania, weighted by GDP. 2022–2025: productivity per hour by section for 25 member states (24 in 2025, without Bulgaria) and for the US private sector (BEA); 2025 is provisional. Method: Annex AM.2.

Figure 1D. Gross return on capital, United States minus EU-27, total economy: United States, 15.9% in 2000 and 18.6% in 2025; EU-27, 14.2% and 14.1%. Lower productivity: the US slope between return and productivity multiplied by the difference in productivity growth. Weaker conversion: the EU return in 2025 compared with the return it would have with US conversion from its 2000 level. Method: Annex AM.2.

Figure 2. EU-27 member states grouped by specialisation and position in final value chains. Savings balance: net lending (+) or net borrowing (-), % of GDP. Gaps: points of gross return on capital relative to the United States in 2000–2025, calculated as in Figure 1D (EU: 1.4 and 1.5); excluding Ireland from the gaps and, in Emerging Europe, Romania from conversion. Ireland is shown on the map and in North Atlantic Europe for illustration, but it is outside the grid and the calculations (Annex AM.1). Map: Eurostat GISCO (Nuts2json, 2021, 1:20 million), Lambert conformal conic projection (EPSG:3034), rotated 15.36° clockwise. Method: Annexes AM.1 and AM.2.

Figure B1. Source: Inbonis Research on Eurostat FIGARO (2023), household final consumption grouped with HICP item weights (2024). Revealed comparative advantage = the chain's share in the value added of the eight chains in each Europe divided by its share in the EU-27, computed from shares rounded to one decimal. Method: Annex AM.1.

Box 1, final value chains. Source: Inbonis Research on Eurostat FIGARO (2023) and the HICP classification of household consumption (ECOICOP). Each household purchase is assigned to a chain by its HICP category, and the value added of its direct and indirect suppliers is traced to the country and industry that generate it. Trade margins go to the goods chains, residential construction to housing and the rest of investment in proportion to each chain's output; general government and non-profit output, imputed rents and indirectly measured financial services stay outside the chains. Chain weights correlate at 0.87 with those of the HICP basket.

Figure 3A. Cumulative productivity gap since 2000 in the private sector, log points (cumulative difference in annual log growth); 2025 is a provisional estimate. The 26 log points are equivalent to the 71% and 32% growth in Section 1 (ln 1.71 - ln 1.32 = 0.26). Method: Annex AM.2.

Figure 3B. Share of the cumulative productivity gap of the EU-26 (excl. Ireland) relative to the United States in 2001–2025 (26 points = 100%). In log points: Central Europe 13.2 (intangibles 6.0; diffusion 5.8), Mediterranean 10.6 (intangibles 4.2; diffusion 3.2; other 3.1), North Atlantic 2.5 (diffusion 3.4) and Emerging -0.3. Method: Annex AM.2.

Box 2, measures of intangible capital. The paper uses two measures. The broad measure of EUKLEMS & INTANProd (2023 release), which covers all the assets of the Corrado, Hulten and Sichel (2009) classification, including those the national accounts do not record, measures the productivity gap, its decomposition (Figures 3A and 3B) and the comparison of investment with the United States (Figure B2). The intangible assets on BACH balance sheets, a narrower measure because they leave out most internally generated assets and include goodwill, are used to relate firms' financing to their intangibles (Section 3) and for the simulator's pass-throughs (Section 4).

Figure B2. Source: Inbonis Research on EUKLEMS & INTANProd (2023 release), market sector. Investment as a share of gross value added adjusted to include the intangibles not recorded in the national accounts, average 2000–2021. EU: the 16 member states with data (AT, BE, CZ, DE, DK, ES, FI, FR, IT, LT, LU, LV, NL, SE, SI and SK), weighted by GDP. Other intellectual property: mineral exploration and artistic originals. Differences computed before rounding. Method: Annex AM.2.

Figure 4A. Share of employment in the business economy: United States, 2022; EU-27, 2023. In the EU-27, employment in firms with 250 or more employees, which Eurostat does not break down, is split between midcaps and large firms using the midcap universe model. Method: Annex AM.1.

Figure 4B. Midcaps with 250 to 2,999 employees, classified by cells of Europe and final value chain; counts rescaled to the universe of 25,631 midcaps. Method: Annex AM.2.

Diagram 1. The return on capital is the product of the profit margin and capital productivity (GVA/K); the return to shareholders adds leverage. The role of intangibles in capital productivity and the scaling trap are hypotheses supported by the literature and the Report's data, not demonstrated causal effects.

Figure 5A. Gross return on capital in the total economy against the logarithm of productivity per hour (2000 = 0; 0.1 is equivalent to 10.5% above 2000). Least-squares lines by period: the slope divided by 10 is the conversion rate, in points of return per 10% more productivity, and r is the correlation coefficient. The fits exclude 2009, 2020 and 2021 (and, for the United States, 2007 and 2008). Table 1 decomposes those rates by channel and by Europe. In non-financial corporations, this break is equivalent to the 2.3-point step in Section 3. Method: Annex AM.2.

Figure 5B. The conversion rates of Figure 5A split into the profit-margin and capital-productivity channels; EU-27 (aggregate) and United States rows of Table 1, total economy. In 2010–2025 the EU-27 total includes -0.04 from the provisional 2025 data point and the residual, which is not allocated to any channel (grey). United States: a single 2000–2025 fit, the same in both periods: the sub-period slopes (0.60 and 0.50) are not significantly different (Table 1). Method: Annex AM.2.

Table 1. Rows for the four Europes: each one's contribution to the EU-27 conversion rate, by channel; total economy. Each period splits the EU-27 rate among the four Europes; Change: 2010–2025 minus 2000–2008. Figures may not add up due to rounding. The contribution is the slope of each Europe's surplus over aggregate capital; the Netherlands and Luxembourg are included in North Atlantic Europe. The aggregation term (Romania, without an exchange rate, and the adjustment to the official series) is allocated pro rata among positive contributions. EU-27 (aggregate) and United States rows: decomposition of the aggregate rate by channel, exact in logarithms; in 2010–2025 the EU-27 total includes -0.04 from the provisional 2025 data point and the residual, which is not allocated to any channel. United States: a single 2000–2025 fit (excluding 2007, 2008, 2009, 2020 and 2021), the same in both periods: the sub-period slopes (0.60 in 2000–2008 and 0.50 in 2010–2025) are not significantly different (interaction p = 0.66; 0.38 with HAC

standard errors). The sum of the four Europes' margins does not replicate the aggregate margin in 2010–2025 (-0.23 against 0.07): every Europe except North Atlantic Europe loses margin and weight shifts towards the high-margin Europes. Method: Annex AM.2.

Figure 6. Share of total equity and financial debt in each row, 2021–2023. Europes: BACH and ERICA by Europe and size; North Atlantic and Emerging Europe are completed with synthetic data (83% and 89%). EU-26 (four Europes): average of the four Europes weighted by their midcaps' hours worked. United States: Quarterly Financial Report, midcaps with $250 million to $1 billion in assets. Method: Annex AM.2.

Figure 7. Midcaps with 250 to 2,999 employees (25,631), classified by the origin of their gap with the United States; 5,351 have an investment-grade profile, adjusted by productivity relative to the United States (27% in group A, 20% in group B and 18% in group C). Missing debt and intangibles are measured against the structure of US midcaps. Group C would lack some €174 billion (PPP) of intangible capital, the remainder of the simulator's €425 billion starting gap, but intangibles are not its main constraint, since less than half of its gap stems from them. The classification is made by cells of Europe and value chain: that no Mediterranean midcap appears in group A means that no Mediterranean cell matches US productivity on average, not that there are no Mediterranean midcaps that match it. Method: Annex AM.2.

Figure 8. Midcaps with 250 to 2,999 employees with an investment-grade profile (a share of eligible firms adjusted by productivity relative to the United States): 5,351, as in Figure 7 (some 5,350 in the text); on rating-agency criteria (BBB- or above), between 4,100 and 7,000. The totals by Europe come from the simulator, which uses the Report's universe: 2,920 in Central, 1,187 in Mediterranean, 1,079 in North Atlantic and 165 in Emerging Europe. The split by final value chain within each Europe comes from the simulator panel. Panel a: one bubble per Europe, with area proportional to the number of firms. Panel b (Figure 8b): the same firms by final value chain; in brackets, their share of all midcaps in each Europe. Method: Annexes AM.1 and AM.2.

Figure 8b. Midcaps with an investment-grade profile as a share of all midcaps in each Europe: 1,079 of 4,194 in North Atlantic Europe, 2,920 of 13,705 in Central Europe, 1,187 of 6,642 in Mediterranean Europe and 165 of 1,090 in Emerging Europe (Figures 4B and 8).

Figure 9. Median (line) and P10–P90 (shaded) of 500 simulations of the simulator, central sequential scenario; labelled values are those for 2029, at the end of the investment-grade phase, except the hollow markers in panels 7 and 8, which show 2035 if the rollout stops in 2029. Left column: annual flows; right column: cumulative stocks. Vertical lines: 2029 (all investment-grade midcaps rated) and 2035 (all eligible firms rated). The €229 billion line is the level of the all-firm envelope once fully phased in, which the simulator uses as the midcap cap; the median reaches it in 2032 and the P90 in 2030. Long-term debt allocated by risk (groups A, B and C) up to 28% of total assets, the level of US midcaps in the simulator data (27.6%, against 18.4% for European midcaps); equity, first to group B, up to 5% (2.5–10%) of initial equity a year, growing with debt towards the US capital structure. Panel 1 stacks the debt and equity medians, and panels 2 to 6 show each median separately: because each median is computed on its own, the debt and equity medians do not add up exactly to that of the total (for example, €71 billion and €193 billion of stock against €260 billion in 2029). Gaps measured against the structure of US midcaps; the productivity gap starts at 16%. € million at 2024 prices. Method: Annexes AM.2 and AM.3.

Table 2. Source: Inbonis Research, own elaboration based on the Report, Stiglitz and Weiss, and Haskel and Westlake.

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Methodological annex

This annex summarises the data, methods and standard of evidence behind the figures in the Report. The technical documentation of the models is available to referees on request.

AM.1 · Data and perimeters

- **Sources.** The Report uses official and harmonised sources: AMECO and Eurostat (national and sector accounts, structural business statistics and the FIGARO input-output tables); the ECB's international investment position and balance of payments of the euro area vis-à-vis the United States; EUKLEMS & INTANProd (2023 release); and the BACH and ERICA balance sheets of the European Committee of Central Balance Sheet Data Offices. For the United States it uses BEA, Fernald (Federal Reserve Bank of San Francisco) and the Census Bureau (SUSB, Quarterly Financial Report and BDS). Default rates, loss given default and spreads come from S&P Global Ratings, the Basel Committee and the ECB, and access to bonds from the EIB's EIBIS survey.
- **Perimeters.** The EU-27 is the reference perimeter, and the EU-26 the EU excluding Ireland, whose value added is distorted by multinationals. Holdings of US assets, the GDP that scales them and the investment behind the envelope refer to the euro area: the €229 billion is a euro-area figure, equivalent to some €261.6 billion for the EU-27 excluding Ireland.
- **Sizes, prices and years.** SME, 0 to 249 employees; midcap, 250 to 2,999; large firm, 3,000 or more. Level comparisons use GDP purchasing power parities, and the return on capital uses capital at replacement cost. Time-series regressions exclude 2009, 2020 and 2021; data for 2025 are provisional.
- **Four Europes and value chains.** Member states are grouped by productive specialisation into four Europes, a classification validated out of sample. The eight final value chains trace households' final demand back to the value added of direct and indirect suppliers with the 2023 FIGARO tables.
- **Midcaps.** There is no European register of midcaps. The Report estimates their number from Eurostat structural business statistics, calibrated on BACH: some 25,600 firms with 250 to 2,999 employees and €50 million to €1.5 billion of turnover, within a range of 17,000 to 34,000. Midcap balance sheets for North Atlantic and Emerging Europe are completed with synthetic data.

AM.2 · Methods

- **Savings and returns (Section 1).** The return on capital is the product of the profit margin and capital productivity, and the return gap is decomposed accordingly. The EU-27 private balance is cointegrated with the gross return gap with the United States (Engle-Granger, $p = 0.04$): each point of gap is associated with 0.79 points of GDP of balance in 2001–2025 ($t = 4.8$; HAC errors), and with 0.70 without crisis and pandemic years.

- **Productivity gap (Section 2).** The growth gap in productivity per hour between the United States and each EU-26 member state, by NACE section, is regressed on the gap in intangible capital, US frontier productivity growth, the initial distance to the frontier, tangible capital and the cycle (EU KLEMS & INTANProd, 2001–2021, with bridged and provisional estimates to 2025). The decomposition is stable across five specifications.
- **Conversion and financing (Section 3).** The return on capital is regressed on productivity per hour with a step from 2010, excluding 2009, 2020 and 2021; the same regression on the margin and on capital productivity splits the step by channel. Midcaps are classified by cells of Europe and value chain against US midcaps of the same size: group A matches US productivity, in group B at least half of the gap stems from intangibles and group C has gaps of other origins.
- **Envelope and simulation (Section 4).** The envelope comes from Inbonis Research's "American convergence" model: the euro area's net purchases of US assets in 2005–2025 associated with the intangible and size gaps (€3.4 trillion, 72%), spread over twenty years as a share of business investment and applied to 2024 investment. Inbonis Research simulates the rollout of ratings: it rates midcaps with an investment-grade profile in 2027–2029 and the rest of the eligible firms up to 2035, allocates retained financing first to long-term debt and then to equity within the envelope, and passes part of it through to intangibles and productivity. Figures are medians and P10–P90 intervals of 500 draws of the parameters.

AM.3 · Limitations and standard of evidence

- **Associations, not causal effects.** The accounting decompositions are exact given their inputs; the associations with the external balance and the productivity panel are robust but identify no causality.
- **The envelope is a scenario.** The association between holdings of US assets and the productivity gap does not pass a cointegration test (Engle-Granger, p = 0.62), so the share of purchases retained is a scenario parameter: with other attribution criteria the envelope ranges from about €160 billion to €320 billion a year.
- **The pass-through to intangibles is not identified.** A panel VAR of 15 euro-area countries (2001–2024) does not find that more financing of non-financial corporations raises intangible investment; only bond financing points to higher productivity, with a band that includes zero. Without that pass-through, the retained financing does not close the productivity gap.
- **Equity raising is assumed.** It explains €92 billion of the €124 billion retained in 2029; the long-term debt supported by the ratings literature is €34 billion.
- **What the simulation leaves out.** It does not model rating migration, does not net out midcaps already financed through other channels and uses synthetic balance sheets in two Europes, so its retention is an upper bound for the rating channel.