

# Investment: Taking the pulse of European competitiveness

Investment is the simplest way to gauge Europe's competitiveness—and the region's investment pulse is low.

*by Massimo Giordano, Sven Smit, Jan Mischke, Guillaume Dagorret, Fredrik Dahlqvist,  
Sylvain Johansson, Marc-Antoine de la Chevasnerie, Solveigh Hieronimus, and Pieter Ottink*



## At a glance

- **Investment is the lifeblood of competitiveness and productivity.** Investment in capital, like infrastructure and machinery, accounts for 70 to 80 percent of productivity growth across regions. Much of the rest comes from investing in R&D, human capital, and other intangible assets. Insufficient investment compromises Europe's competitiveness, way of life, and place in the world—and without competitiveness, investment will not flow.
- **Europe's investment pulse is low.** US investment in intellectual property (IP) and equipment is double that of Europe per capita. In 2022, large US corporations devoted about €700 billion more to capital expenditure and R&D than European peers. And Europe's venture capital assets under management are equivalent to one-quarter of the US total.
- **Europe needs to reemphasize removing well-known barriers to investment to raise its pulse.** Barriers include energy costs, talent shortages, business and labor market regulation, and geo- and macroeconomic uncertainty.
- **Investment is the best pulse check to guide action on reducing barriers and boosting competitiveness.** Investment is simpler than competitiveness rankings, is more forward-looking than productivity, and signals commitment. For every action, the question should be, "Does it raise or lower investment?" For example, would bridging today's four-percentage-point gap with the United States on returns on invested capital hinder or unlock more investment? Would a change in public accounting standards help raise net public investment above the current 1 percent of total public expenditure? Would industrial policy retain capital-intensive industries and help scale up capital-hungry technologies?

## Investment in capital expenditure and innovation is the lifeblood of competitiveness

Economists typically define competitiveness as productivity, which results from a wide range of factors, including infrastructure, labor, fiscal and monetary policies, finance, and, more broadly, institutions. Competitiveness is not easy to measure and does not always resonate with businesses that ultimately benefit from and drive it.

A simpler way to take the pulse of competitiveness is to measure investment. Why? First, investment matters. From 1997 to 2022, 70 to 80 percent of productivity growth was the result of capital deepening—investment in infrastructure, property, plants, machinery, equipment, and so on.<sup>1</sup> The rest came from total factor productivity that often relates to innovation, which, in turn,

links with investment in R&D, human capital, and other intangible assets. Half of the slowdown in productivity growth in Europe and the United States since the mid-2000s can be traced to a persistent decline in the growth of capital per worker.<sup>2</sup> Second, investment is more forward-looking than many other economic indicators, such as productivity and GDP, and represents a commitment to a region. Third, it is strikingly simple and can therefore help stakeholders negotiate their way through complexity and trade-offs.

A region that is not investing cannot be competitive, and a region that is not competitive will fail to attract domestic or foreign investment: a vicious circle. For Europe, defined here as the 27 member states of the European Union (EU) plus Norway, Switzerland, and the United Kingdom (also referred to as Europe

30), failing to increase investment puts Europe's prosperity, way of life, and place in the world at risk.

## Europe's investment pulse is low

Europe's net investment in the most productive assets is low both in comparison with the level before the global financial crisis and in comparison with that of the United States.

### After the global financial crisis, net investment fell precipitously, and it remains down €550 billion a year

After the global financial crisis, net investment in the United States and Europe fell significantly, but the decline was especially pronounced in Europe amid the Eurozone crisis, an environment of

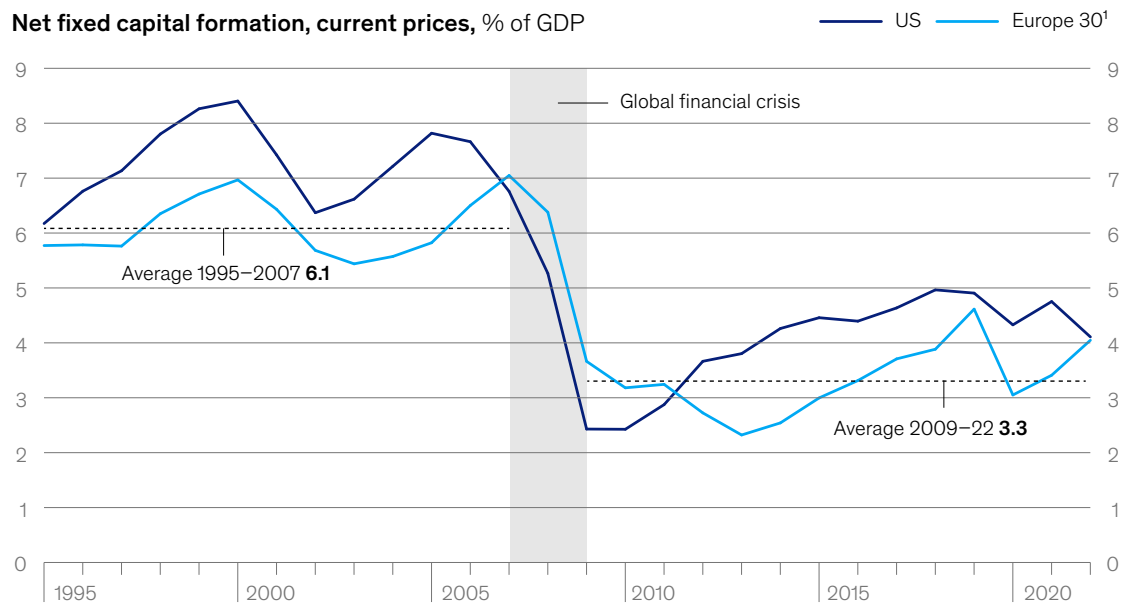
austerity, and weak demand (Exhibit 1). In the past decade, European net investment rates as a share of GDP were on average 2.8 percentage points or about €550 billion a year (nominal) lower than in the decade before the global financial crisis. Note that this research emphasizes net fixed capital formation (that is, after subtracting depreciation and impairment of existing assets) rather than the more commonly used gross numbers. This is because only net additions to the capital stock, not their replacement, drive capital deepening, productivity, and wealth.

### Other regions are outpacing Europe in attracting investment

Over the past 25 years, capital per worker has grown by 10 percent in real terms in Western

Exhibit 1

## Europe's net investment fell by approximately three percentage points of GDP after the global financial crisis.

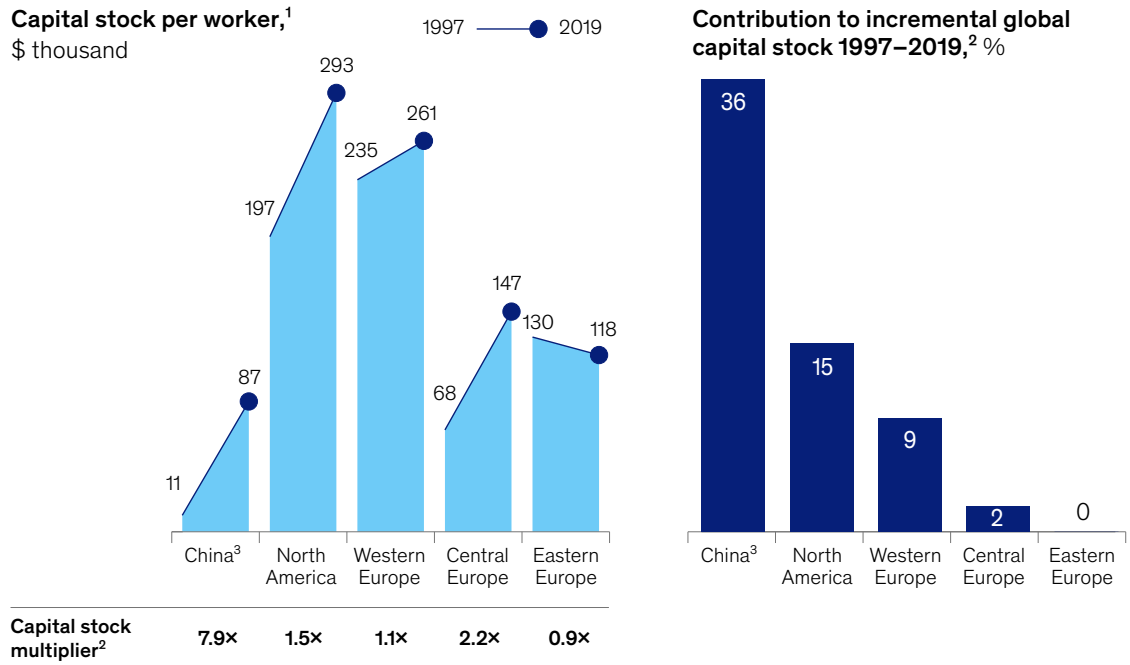


<sup>1</sup>Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom; excludes Romania.  
Source: AMECO; McKinsey Global Institute analysis

McKinsey & Company

## Exhibit 2

### Western Europe's capital per worker rose by a real 10 percent in 1997–2022 versus North America's 50 percent and China's 700 percent.



<sup>1</sup>Public and private capital stock from the International Monetary Fund in constant 2017 dollars. Calculated by dividing total capital stock by total employment.

<sup>2</sup>Calculated by dividing region's 1997–2019 delta in total capital stock by global 1997–2019 delta in total capital stock.

<sup>3</sup>Includes China and Hong Kong SAR.

Source: Conference Board Total Economy Database, 2023; International Monetary Fund Investment and capital stock data set, 2021; McKinsey Global Institute analysis

McKinsey & Company

Europe, by 50 percent in North America, and by 700 percent in China (Exhibit 2).<sup>3</sup> Western Europe is the only region whose total factor productivity has fallen over the past quarter century.

#### The United States invests more than twice as much per capita in the most productive assets

While Europe's investment share of GDP appears to be healthy on the surface, Europe is not investing on the same order of magnitude as the United States in what are typically the most productive types of investments, namely machinery and equipment, IP, and intangibles. Intangibles, including R&D and software in particular, play an increasingly important role in today's economies. They generate economic returns of about 25 percent—that is, an increase in annual GDP of 25 cents on each dollar invested—more than other assets.<sup>4</sup>

The United States is investing two percentage points of GDP more than Europe in IP and machinery. Leaving aside differences in per capita GDP, this is twice as much (€4,900 per year) in per capita terms (Exhibit 3). It is notable that Europe's share of gross domestic expenditure on R&D relative to the United States and China fell from 39 percent in 2010 to 29 percent in 2021. Moreover, Europe's spending has tended to be directed toward midtech sectors much more than high-tech ones.

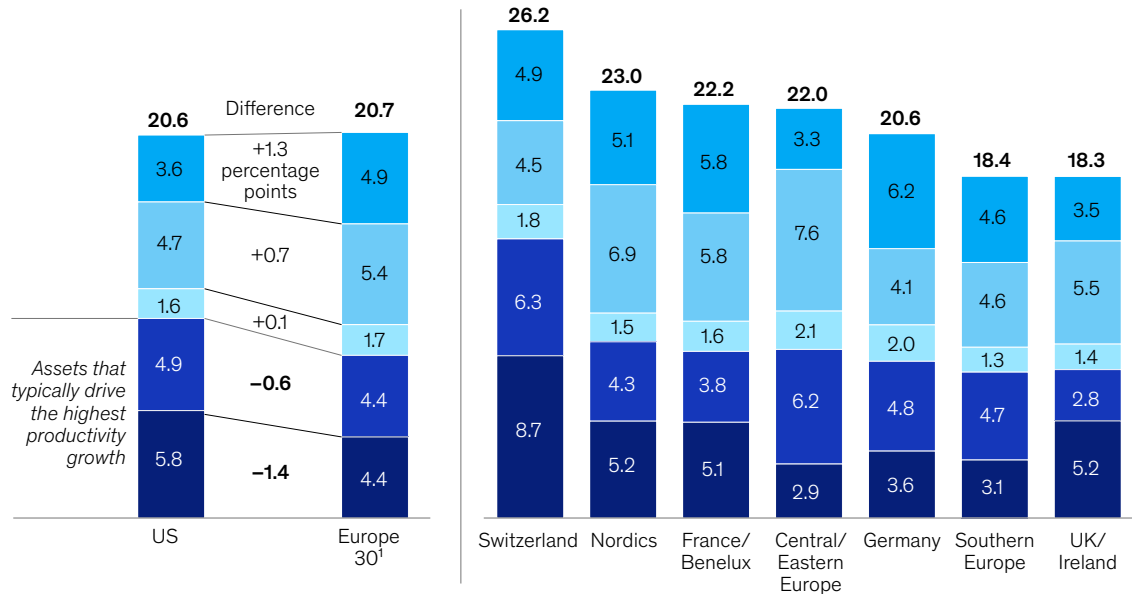
Europe surpasses both the United States and China in the production of scientific and journal articles.<sup>5</sup> But its commercial innovation falls short. Europe accounts for only about 5 percent of global patent filings, compared with 15 percent for the United States and 80 percent for China.<sup>6</sup> Competitive

### Exhibit 3

## European gross investment lags behind the US by two percentage points of GDP in asset types with the highest productivity.

Gross fixed capital formation by asset type, average 2010–22, % of GDP

■ Intellectual property products<sup>2</sup> ■ Machinery and equipment ■ Transport equipment ■ Nonresidential construction ■ Dwellings



Note: Figures may not sum due to rounding.

<sup>1</sup> Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom; excludes Romania.

<sup>2</sup> Also includes "cultivated biological resources," but this is marginal in comparison with intellectual property products at <0.1 percent.

Source: AMECO; McKinsey Global Institute analysis

McKinsey & Company

funding and institutional autonomy could increase the output of patents by European universities.<sup>7</sup>

These important investment gaps risk going unnoticed because Europe has a slightly higher aggregate gross fixed capital formation share of GDP than the United States, but most of that stems from dwellings and other construction. It is vital to look at metrics that point to the most productive investment.

Apart from Switzerland, all regions in Europe have lower investment than the United States in these two most productive types of assets. But there are differences among those regions. Holding up best are Switzerland and, to a lesser extent, Benelux, France and the Nordic economies.

Southern Europe has the most pronounced gap at 2.9 percentage points, which reflects both a decline in such investment after the global financial crisis and the fact that these economies lag behind on R&D and innovative sectors. The next-largest gap, at 2.7 percentage points lower than the United States, is the United Kingdom and Ireland. This reflects long-run investment weakness in the United Kingdom. Germany has the third-largest gap as well as a significant deficit in infrastructure investment. Central and Eastern Europe's investment in these two types of assets is higher than the European average, reflecting rapid catch-up, but the region's investment share of GDP is still lower than might be expected at its growth rates and has fallen in recent years.

### Large European firms invest €700 billion or about €3,000 per capita less than their US counterparts

Through a corporate rather than geographic lens, large US corporations (defined as having more than \$1 billion in revenue) devoted about €700 billion or €3,000 per capita more to capital expenditure and R&D than their European counterparts in 2022.

US corporations increased their share of total investment by large European and US firms (capital expenditure and R&D) from 54 percent in 2010 to 64 percent in 2022 (Exhibit 4).

The gap is evident in every sector except the materials and automotive sectors but is particularly

pronounced in technology, energy, and industrials, including semiconductors (Exhibit 5). Even in industrials, which is typically a European stronghold, US firms have higher capital expenditure.

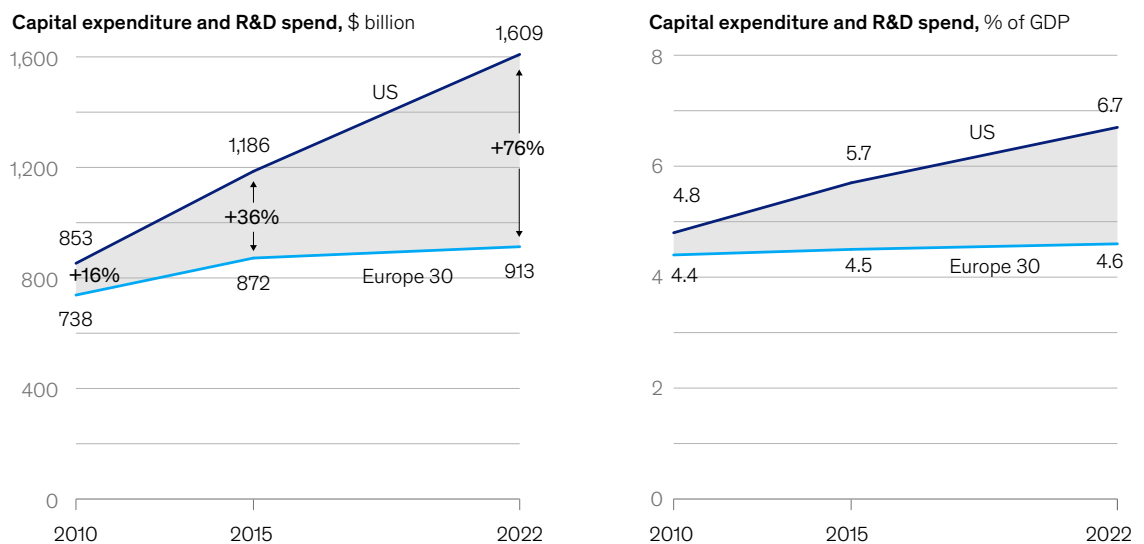
Construction spending for manufacturing in the United States has doubled since the Inflation Reduction Act and CHIPS Act became law in 2022.<sup>8</sup>

Large US technology firms play a standout role in this difference in investment levels. Just ten US companies account for 19 percent of total investment by larger firms across the United States and Europe (Exhibit 6). The technology giants sometimes dubbed the “magnificent seven”—Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia,

Exhibit 4

### Large European companies spend less than US counterparts, and the gap has grown from about 35 percent to about 80 percent in just seven years.

Capital expenditure and R&D spending of large<sup>1</sup> European<sup>2</sup> and US corporates,<sup>3</sup> 2010–22<sup>4</sup> (2022 prices)



<sup>1</sup>Large defined as having revenue of >\$1 billion.

<sup>2</sup>Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom.

<sup>3</sup>Considers only public companies; excludes intangible assets.

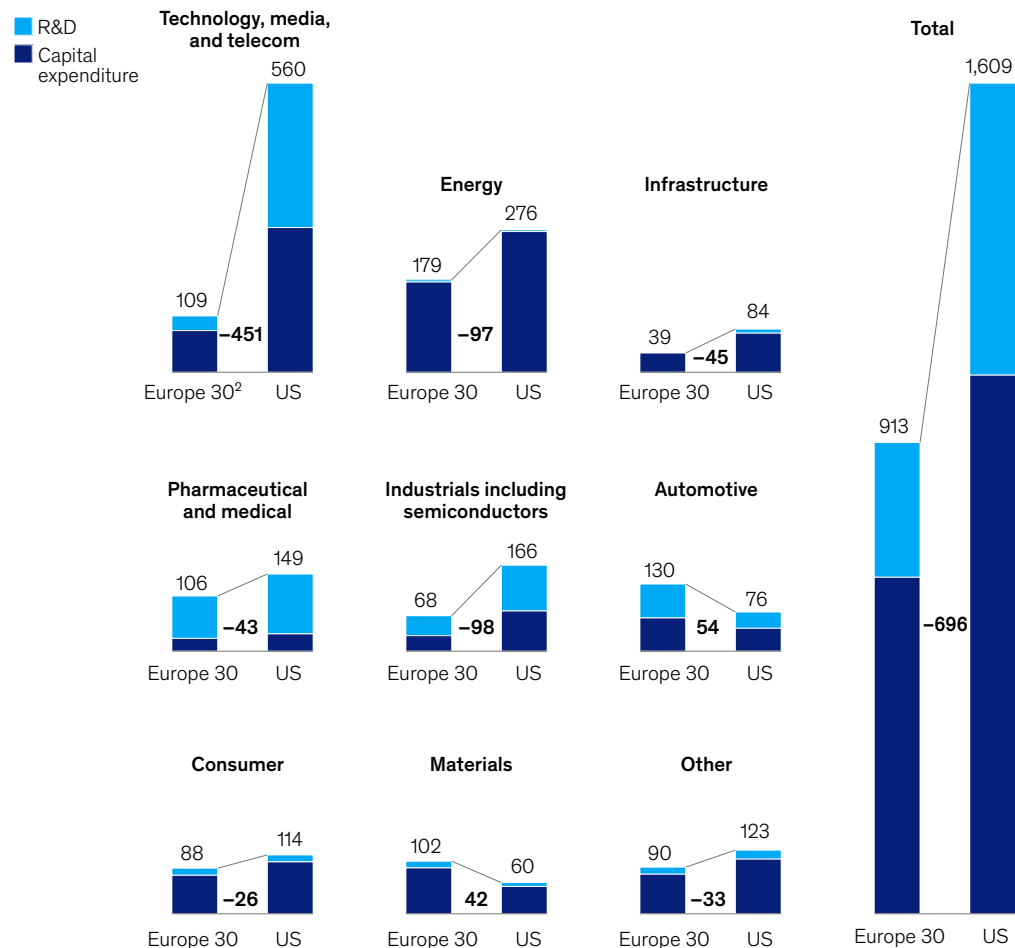
<sup>4</sup>Historical spending for both Europe 30 and the United States is adjusted for inflation; for the United States, spend is converted from euros to dollars using the foreign exchange rate for each individual year, deflating with US inflation rates, and converting the deflated US spending figures back to euros based on the 2022 foreign exchange rate.

Source: McKinsey Value Intelligence Platform; S&P Global Market Intelligence; World Bank; AMECO; McKinsey Global Institute analysis

## Exhibit 5

### The Europe–US investment gap is present in almost every sector but is particularly large in technology and energy.

Capital expenditure and R&D spending of large<sup>1</sup> European<sup>2</sup> and US corporates, 2022,<sup>3</sup> \$ billion



Note: Figures may not sum due to rounding.

<sup>1</sup>Large defined as having revenue of >\$1 billion.

<sup>2</sup>Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom.

<sup>3</sup>Considers only public companies.

Source: McKinsey Value Intelligence Platform; S&P Global Market Intelligence; World Bank; AMECO; McKinsey Global Institute analysis

McKinsey & Company

and Tesla—devoted about €360 billion to capital expenditure and R&D in 2023.<sup>9</sup> Of course, Europe also receives some of that investment—and European firms also invest abroad.

Europe has a higher share of small and medium-size enterprises (SMEs) that are not part of this

analysis of large firms, and SMEs tend to have lower productivity and invest less in R&D.<sup>10</sup>

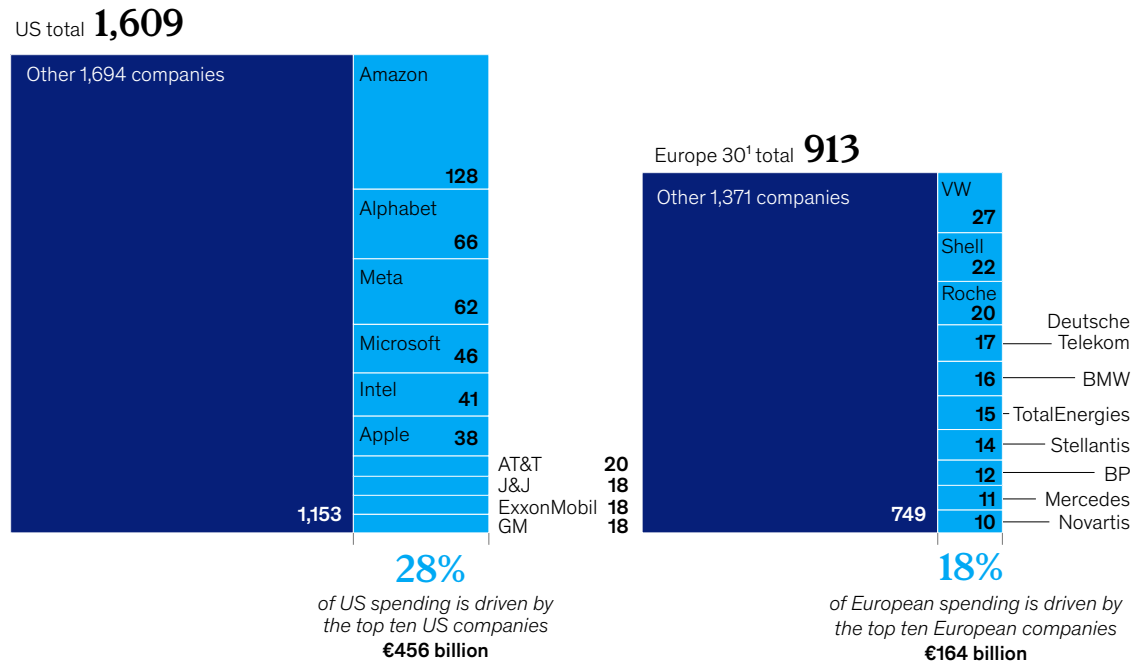
#### On the funding side, Europe has scope to radically increase the supply of risk capital

Risk capital, such as venture capital (VC) and private equity (PE), can be a particularly strong signal of

## Exhibit 6

### The top ten US companies invest three times as much as Europe's top ten.

Capital expenditure and R&D spending of large<sup>1</sup> European<sup>2</sup> and US corporates, 2022,<sup>3</sup> € billion



Note: Figures may not sum due to rounding.

<sup>1</sup>Large defined as having revenue of >\$1 billion.

<sup>2</sup>Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom.

<sup>3</sup>Considers only public companies; excludes intangible assets.

McKinsey & Company

investment trends, especially in the technology arena. This is where Europe lags behind the most.<sup>11</sup> In Europe, VC assets under management as a percentage of GDP are only about one-quarter of those in the United States. PE assets under management are half the level in the United States (Exhibit 7).

Within Europe, there is large variation. Private capital raised in Sweden and the United Kingdom is 20 times higher as a share of GDP than in Germany, for instance.<sup>12</sup> This can matter. One study found that private-capital-backed portfolio companies in Sweden on average achieved a 22 percent increase in productivity during a seven-year holding period.<sup>13</sup> Also, 60 percent of companies in the Swedish

top 200 by revenue in the past two decades were backed by private capital.<sup>14</sup>

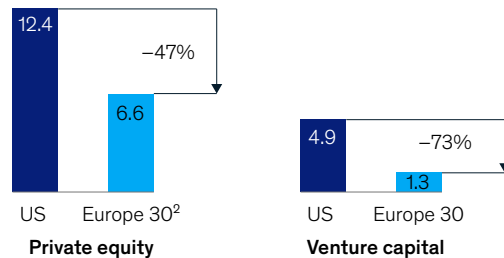
There is an opportunity for Europe to unlock the full potential of VC and PE. Europe could also encourage higher PE and VC allocations by pension funds and insurers. This would require consolidation of these funds and changes in regulations so that they can shift fund allocations and build the required capabilities.<sup>15</sup> Europe can take specific actions, such as creating a stable regulatory and tax environment for private investment, actively stimulating investment through government-backed programs, and supporting industry consolidation.<sup>16</sup> As has been widely discussed, a capital markets union in the EU could further improve financial conditions.<sup>17</sup>



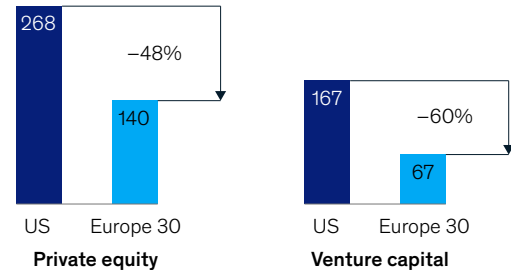
## Exhibit 7

### Europe's private equity and venture capital assets under management are substantially lower than in the United States.

Assets under management in US and Europe, 2022,<sup>1</sup> % of GDP



Deal volume in US and Europe, 2022,<sup>1</sup> \$ billion



<sup>1</sup>Assets under management, domestic players.

<sup>2</sup>Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom.

Source: World Bank; Preqin; Pitchbook; McKinsey Global Institute analysis

McKinsey & Company

### Europe needs to reemphasize removing well-known barriers to raise its investment pulse

Europe continues to face a range of barriers to investment that are well known and much discussed, but progress in bringing them down has faltered.

In one survey, European executives highlighted five main barriers to investment: high energy costs, a scarcity of people with the right skills, uncertainty about the future, regulation of businesses, and regulation of labor markets.<sup>18</sup> The most important barriers cited in comparison with the United States were energy costs and uncertainty, which executives say are higher obstacles in Europe than in the United States.

- **Higher energy costs.** Europe remains highly dependent on energy imports. In 2022, Europe imported 63 percent of the energy it needed. By contrast, the United States has been a net exporter of energy since 2019.<sup>19</sup> Moreover, Europe obtains its energy from a limited number of suppliers; one-quarter of its imports came from fewer than three countries

in 2021.<sup>20</sup> This combination of dependency on imports and the concentration of those imports proved challenging to the region's energy-intensive industries when gas supplies were compromised in the wake of Russia's invasion of Ukraine. For years, those supplies had helped ensure access to affordable energy for those industries. Industrial power and gas prices doubled between the first half of 2020 and the second half of 2022.<sup>21</sup> The gap in the price of industrial electricity between Europe and the United States has been narrowing in 2024, but European prices are still significantly higher. This is a particular challenge for investment by energy-intensive firms operating, for instance, in the chemicals sector.

- **Talent.** Organizations in Europe are facing a severe shortage of key talent. In a McKinsey survey, 90 percent of respondents said their companies would face a meaningful skills gap in the coming years.<sup>22</sup> At the same time, digitization and the automation of work are leading to further skill shifts, with about 40 percent of Americans and 34 percent of Western Europeans potentially needing

to switch occupational groups by 2030.<sup>23</sup> Moreover, 46 percent of workers globally are considering leaving their jobs in 2024, and this attrition is making it harder to retain skills within organizations.<sup>24</sup> While talent is not necessarily less available in Europe than in the United States, Europe will face a stronger drag from aging. Its old-age dependency ratio is expected to increase from about 35 percent in 2020 to some 50 percent in 2030.<sup>25</sup>

- ***Uncertainty about the future.*** Uncertainty has increased, not least since Russia's invasion of Ukraine exposed Europe's energy dependency and geopolitical fault lines. According to European Investment Bank simulations, if uncertainty in 2022 had remained at 2021 levels, corporate investments in 2022 would have been 10 percent higher (all else being equal).<sup>26</sup> There is also a history of Europe taking less bold action to counter macroeconomic shocks, for instance when economies fell away from the recovery following the global financial crisis into the Eurozone crisis.<sup>27</sup>
- ***Business regulation.*** Business regulation was cited as a major obstacle by 25 percent of respondents in the latest European Investment Bank investment report. Moving closer to a true European single market with at least common, if not business-friendlier, rules appears to be a priority for executives. In a 2021 survey, members of the European Round Table for Industry judged that the single market was only about 75 percent complete.<sup>28</sup> Trade frictions within the EU have been estimated to reduce EU GDP by 5 to 10 percent.<sup>29</sup>
- ***Labor-market regulation.*** Europe generally has less flexible labor markets than the United States. For instance, in Europe, average redundancy costs equal 15 weeks of salary, compared with zero weeks in the United States.<sup>30</sup> It is also easier to transition between jobs in the United States, where 4 percent of the working-age population switches jobs in a quarter, compared with 3 percent in Europe.<sup>31</sup> While labor-market flexibility is no panacea and can also entail lower investment in employee

skills, it does continue to come up high as an investment barrier in executive surveys.

Ways to tackle such issues have been identified, including completing the single market and ensuring that regulation is predictable.<sup>32</sup> Such actions have been discussed in previous MGI research and by numerous other organizations and are not detailed in this article. Our argument here—in light of limited progress toward addressing these hurdles—is that investment should be front and center and that so long as there is a gap, bolder action is needed.

### **Prioritizing investment as a simple pulse check for important decisions could unlock action**

Maintaining Europe's prosperity and the welfare of citizens depends on productivity and competitiveness, which, in turn, hinge on investment, not least in innovation. It is striking that if the five largest European countries had kept pace with US productivity growth from 1997 to 2022, their per capita GDP today would be \$13,000 higher in purchasing power parity (PPP) terms.<sup>33</sup>

Recognizing that investment is the lifeblood of competitiveness can help Europe reprioritize, identify simpler answers to complex topics, and not only survive but thrive. Taking the pulse of investment is a simple way to measure the problem and, on that basis, act boldly and deliver. With this lens, what questions might Europe's leaders answer differently?

- ***Can investment flow while returns on invested capital are comparatively low?*** Treating investment as a priority also means welcoming significant returns on that investment. Yet returns on invested capital (ROIC) in corporate Europe were four percentage points lower than those in the United States between 2015 and 2022. Over that period, large public companies in Europe had an ROIC of about 14 percent, compared with about 18 percent in the United States.<sup>34</sup> Europe's lower returns undermine investment at a time when capital is becoming scarcer. The disparity is largest in the technology hardware, software services, and pharmaceutical sectors.

- *Can Europe afford to lose its capital-intensive industries while not scaling a capital-hungry technology sector?* Technology is growing and needs investment, and a high-labor-cost region with mounting energy costs must compete on both technology and capital. Europe is in danger of coming third in frontier technologies behind the United States and China; of ten technologies that matter for the future, Europe is leading in only two.<sup>35</sup> Forging a more solid position in technology is becoming increasingly important as Europe's model of industrial excellence comes under pressure from high energy costs, tight labor markets, a shift in value creation to high-technology arenas, and mounting competition, particularly from China. Without more sustained and larger-scale investment in technology, Europe could fall further behind.

Europe does not need to mimic technology hyper-scalers in the United States but rather needs to build on its own strengths. Examples could range from investing in more basic research to enhancing university-industry collaboration to developing and deploying artificial intelligence in healthcare and cleantech. Public precommercial innovation procurement in key areas such as healthcare, defense, and energy—at sufficient scale—could unlock innovation and help create new firms.

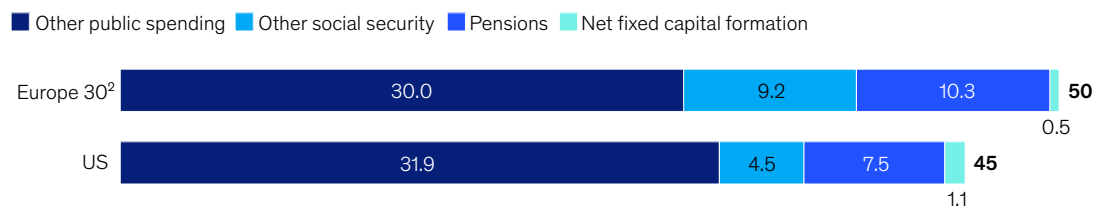
The seven leading US tech giants spent about \$200 billion on R&D in 2023. This could be a useful yardstick to gauge the scale needed. Enabling companies to scale is vital. Ways to do so could include a “28th regime” of common business rules, cross-border consolidation, and completing the single market.

- *Is an allocation of 1 percent of public expenditure to net new investment the right prioritization?* Europe's net public investment (after depreciation of existing infrastructure) has been near zero for decades. It should be noted that net public investment in Europe is only one-100th of total public expenditure (Exhibit 8). Reallocation or efficiency of just, say, 5 percent in other public spending could raise it fivefold. Between 1995 and 2022, public-sector net fixed capital formation averaged about 0.6 percent of GDP.<sup>36</sup> That is only about half what the United States—whose inadequate infrastructure is intensely discussed—spent over this period (1.3 percent).<sup>37</sup> At times of fiscal constraint, public investment is all too often the discretionary item that is cut, despite the fact that, if deployed effectively, it can boost demand, confidence, productivity, and therefore further investment.<sup>38</sup> One way to safeguard public investment would be a change in public accounting standards and fiscal rules. Like

Exhibit 8

## Net public investment in Europe is only one-100th of total public expenditure.

Public-sector expenditure, 2021,<sup>1</sup> % of GDP



Note: Figures may not sum due to rounding.

<sup>1</sup>Except for pension spending, data are from 2019 or more recent if available (as % of GDP).

<sup>2</sup>Europe 30 = EU-27 plus Norway, Switzerland, and the United Kingdom. Excludes Bulgaria, Croatia, Cyprus, Malta, and Romania due to data availability. Source: AMECO; OECD; McKinsey Global Institute analysis

corporations, governments could activate investments (with proper impairment tests to avoid white elephants) on a balance sheet so that the expenses hit budgets only as the asset depreciates over its lifetime.<sup>39</sup>

- *Is Europe's macroeconomic and fiscal environment conducive to investment?* From a corporate perspective, the clearest signals to invest are strong demand and a tight labor market. Yet a weak macroeconomy has deterred investment in Europe. When macroeconomic conditions are stable, productivity in Europe and the United States tend to move in tandem. But after every crisis in recent decades, from the bursting of the dot-com bubble to the global financial crisis to the COVID-19 pandemic,

productivity failed to recover as well in Europe as it did in the United States. In the two years after each of those crises, Europe's productivity fell relative to that of the United States by between 2 and 6 percent.<sup>40</sup> This record argues strongly for bolder action to ensure a more stable macroeconomy.

---

As Europe's decision makers tackle pressure on Europe's competitiveness, investment needs to be center stage and one simple question asked: "Does the current environment or proposed action unlock significant investment?" Time is running out to revive Europe's investment pulse.

**Massimo Giordano** is a McKinsey senior partner and managing partner for Europe in Milan. **Sven Smit** is a McKinsey senior partner and chairman of the McKinsey Global Institute based in Amsterdam. **Jan Mischke** is an MGI partner in Zurich. **Guillaume Dagherret** is an MGI senior fellow based in Paris. **Fredrik Dahlqvist** is a senior partner in Stockholm who co-leads the McKinsey Private Equity & Principal Investors Practice. **Sylvain Johansson** is a McKinsey senior partner and a director of the McKinsey Global Institute in Geneva. **Marc-Antoine de la Chevassnerie** is a McKinsey partner based in Paris. **Solveigh Hieronimus** is a McKinsey senior partner based in Germany. **Pieter Ottink** is a McKinsey consultant based in Amsterdam.

This article was edited by MGI executive editor Janet Bush with data visualizations by Richard Johnson.

## Endnotes

<sup>1</sup> *Investing in productivity growth*, McKinsey Global Institute, March 2024.

<sup>2</sup> Ibid.

<sup>3</sup> Includes mainland China and Hong Kong SAR; Macau SAR, and Taiwan China are excluded.

<sup>4</sup> *Intangible investment in the United States and EU before and since the Great Recession and its contribution to productivity growth*, European Investment Bank, 2017; and Carol Corrado et al., "Innovation and intangible investment in Europe, Japan, and the United States," *Oxford Review of Economic Policy*,

volume 29, number 2, summer 2013; *The impact of R&D investment on economic performance: A review of the econometric evidence*, OECD, April 2015. Other research suggests that the production of ideas—the creation of intangible assets through R&D—has diminishing returns over time across industries. See Nicholas Bloom et al., "Are ideas getting harder to find?" *American Economic Review*, volume 110, number 4, April 2020.

<sup>5</sup> *Securing Europe's competitiveness*, McKinsey Global Institute, September 2022.

<sup>6</sup> World Bank.

<sup>7</sup> Philippe Aghion et al., "The governance and performance of universities: Evidence from Europe and the US," *Economic Policy*, volume 25, issue 61, 2010. Business enterprise expenditure on R&D (BERD) in Europe is primarily invested in midtech sectors, such as the automotive industry. Midtech industry investments account for approximately 50 percent of overall BERD. In contrast, the United States directs most of its BERD funds toward high-tech sectors. Notably, 85 percent of its BERD targets cutting-edge industries like software, computer services, pharmaceuticals, and biotechnology. See *EU innovation policy*, European Policy Analysis Group, April 2024.

- 8 US Census Bureau.
- 9 McKinsey Value Intelligence Platform and S&P Global Market Intelligence.
- 10 *A microscope on small businesses: Spotting opportunities to boost productivity*, McKinsey Global Institute, May 2024.
- 11 Diego Valiante, *Europe's untapped capital market*, Centre for European Policy Studies, 2016.
- 12 Swedish Private Equity & Venture Capital Association; Invest Europe.
- 13 *The economic footprint of Swedish venture capital and private equity*, Swedish Private Equity & Venture Capital Association, November 2022.
- 14 Retriever; Capital IQ.
- 15 J. Scott Marcus and Maria Alessandra Rossi, *Strengthening EU digital competitiveness: Stoking the engine*, Bruegel, May 2024.
- 16 *German private equity: A catalyst for job creation and economic growth*, McKinsey's Private Equity & Principal Investors Practice, May 2024.
- 17 Luca Di Vito et al., *Understanding the profitability gap between euro area and US global systemically important banks*, Occasional papers series, number 327, European Central Bank, 2023; Ashok Vir Bhatia et al., *A capital market union for Europe*, International Monetary Fund, September 2019; and Nicholas Véron, *European capital markets union: Make it or break it*, Bruegel, March 2024.
- 18 David Pinkus et al., *Coordination for EU competitiveness*, European Parliament Economic Governance and EMU Scrutiny Unit (EGOV), March 2024.
- 19 *Shedding light on energy in Europe – 2024 edition*, Eurostat, March 2024; and *U.S. energy facts explained*, US Energy Information Administration, August 2023.
- 20 McKinsey Global Trade Explorer; *Global flows: The complication of concentration in global trade*, McKinsey Global Institute, January 2023.
- 21 "Electricity price statistics," Eurostat, accessed December 26, 2023; and "Natural gas price statistics," Eurostat, accessed December 26, 2023.
- 22 Matthew Smith and Elizabeth Young McNally, "Building a learning culture that drives business forward," McKinsey podcast, April 16, 2021.
- 23 *Skill shift: Automation and the future of the workforce*, McKinsey Global Institute, May 2018.
- 24 2024 Work Trend Index, Microsoft and LinkedIn, May 2024.
- 25 Eurostat.
- 26 *EIB investment report 2022/2023: Resilience and renewal in Europe*, European Investment Bank, February 2023.
- 27 *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.
- 28 *Economic confidence among Europe's industrial leaders cools as supply chain issues, inflation cloud the horizon*, European Round Table for Industry, November 2021.
- 29 José V. Rodríguez Mora and David Comerford, *The gains from economic integration: The EU has still a long way to go*, Centre for Economic Policy Research, January 2019; and Chikako Baba et al., *Geoeconomic fragmentation: What's at stake for the EU*, International Monetary Fund working paper number 23/245, November 2023.
- 30 World Bank.
- 31 US Census Bureau and Eurostat.
- 32 See, for instance, *Accelerating Europe: Competitiveness for a new era*, McKinsey Global Institute, January 2024; *EIB investment report 2022/2023: Resilience and renewal in Europe*, European Investment Bank, February 2023; and Enrico Letta, *Much more than a market—speed, security, solidarity*, report presented to the European Council, April 18, 2024.
- 33 Productivity data from the Conference Board. Also see Charles I. Jones and Peter J. Klenow, *Beyond GDP? Welfare across countries and time*, National Bureau of Economic Research working paper number 16352, September 2010.
- 34 The ROIC of public companies with 2022 revenue of more than \$1 billion; 2015–22 weighted average net operating profit less adjusted taxes (NOPLAT)/invested capital. Excludes financial services and real estate companies. Inflation adjusted (2014 as base year) based on Europe 30 and US inflation. US data in dollars; Europe data in euros. Excludes companies without complete revenue, NOPLAT, capital expenditure, or invested capital time series in 2014–22.
- 35 *Securing Europe's competitiveness: Addressing its technology gap*, McKinsey Global Institute, September 2022.
- 36 AMECO; current prices for the Europe 30 (excluding Romania due to a lack of available data across sectors and asset classes).
- 37 *U.S. infrastructure: 1929-2019*, Cowles Foundation Discussion Papers, Yale University, September 2021; and *A comprehensive assessment of America's infrastructure*, American Society of Civil Engineers, 2021.
- 38 Fabio Panetta, *Investing in Europe's future: The case for a rethink*, speech at Istituto per gli Studi di Politica Internazionale, Milan, Italy, November 11, 2022.
- 39 Dag Detter and Stefan Fölster, "Unlocking public wealth," *Finance & Development*, International Monetary Fund, March 2018.
- 40 See *Investing in productivity growth*, McKinsey Global Institute, March 2024; analysis based on The Conference Board Total Economy Database. Eurozone productivity per employee is indexed to the United States; 2022 international dollars are converted using PPP. The period analyzed is 1995 to 2023, which included the 2001 dot-com bubble bursting, the 2007–08 global financial crisis, and the economic crisis in 2020 triggered by the COVID-19 pandemic.