UNIVERSITY OF CAMBRIDGE

Cambridge Industrial Innovation Policy

# Why have the G7 countries had slow growth rates since 1990?

## Global competition, structural change and the productivity slowdown

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## About this policy brief

This policy brief examines possible factors contributing to the slowdown in economic growth across the G7 economies since 1990, drawing on international evidence on productivity, trade, and structural change.

The brief does not seek to provide a definitive explanation for the economic growth slowdown in advanced economies. Rather, it explores one perspective that has received comparatively little attention in recent policy debates: the possibility that changes in the global economy – particularly the rise of China and other emerging economies, and the associated intensification of international competition – have altered the structure of advanced economies in ways that have weighed on long-run growth.

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# Contents

# Introduction

In the UK, concerns about stagnant productivity and weak growth have intensified in recent years. Similar debates are taking place across Europe, North America and Japan.[1] While economists disagree about many aspects of growth theory, there is one fact on which there can be little disagreement: all G7 economies experienced a marked slowdown in productivity growth during the decades following 1990. The question is why.

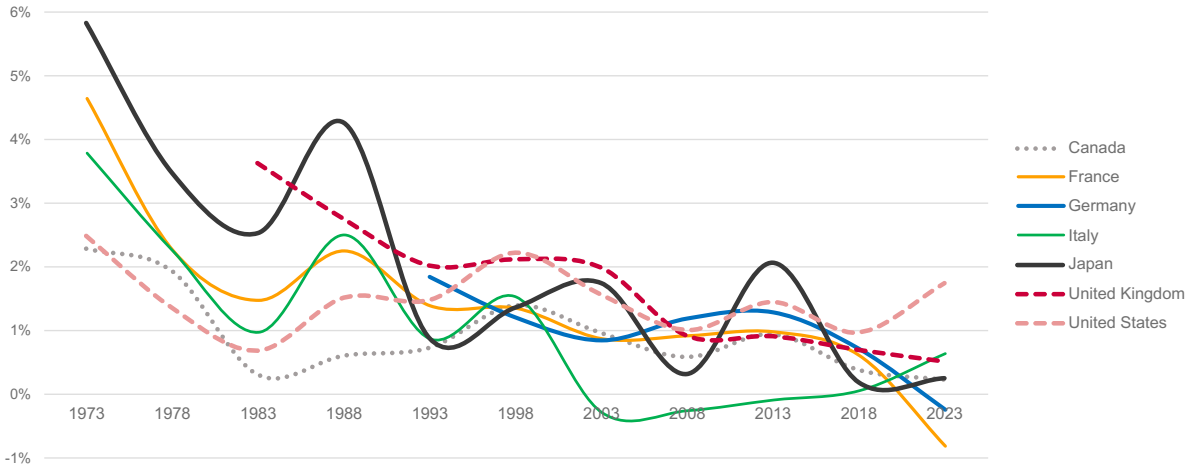
Despite the considerable attention devoted to the productivity slowdown, there remains little consensus about its causes. Indeed, there is disagreement not only about the factors underlying the slowdown, but also about its magnitude. Recent work by the Bank of England[2] highlights how successive revisions to official statistics have altered interpretations of the UK productivity puzzle over time, while limitations in economic measurement continue to complicate analysis.

This policy brief does not seek to provide a definitive explanation for the slowdown in productivity and economic growth across the G7 economies. Rather, it explores a perspective that has received comparatively little attention in recent policy debates: the possibility that changes in the global economy – particularly the rise of China and other emerging economies, and the associated intensification of international competition – have altered the structure of advanced economies in ways that have weighed on long-run growth.

# A common slowdown

**Chart 1** shows labour productivity growth across the G7 countries between 1973 and 2023. Although growth rates differ between countries, a striking pattern emerges. From around 1990 onwards, productivity growth slows across all G7 economies.

**Chart 1. Labour productivity growth in G7 countries, 1973-2023.**
**Total economy, % change, four-year moving average.**




**Note:** Measure: GDP per person employed, annual growth rate, constant prices
**Source:** OECD. Productivity growth rates (accessed in September 2025)

[1] CIIP (2022). Understanding sectoral sources of aggregate productivity growth: a cross-country analysis.
[2] Martin, J. (2026). The UK Productivity Slowdown: A Review of Timing, Magnitude, and Drivers.

This observation is important because it suggests that the slowdown cannot be explained solely by country-specific policies or institutions. If the causes were primarily domestic, we would expect countries to exhibit very different trajectories. Instead, what we observe is a common pattern across economies with very different political systems, labour market institutions and industrial structures.

The evidence therefore points towards a common external factor affecting all advanced economies in the early 1990s. The challenge is to identify what changed in the global economy around this period.

## The emergence of new global competitors

Three developments beginning in the late twentieth century transformed the global economy over the following three decades.

The first was the acceleration of market-oriented reforms in China. Following Deng Xiaoping's reforms, China began a process of industrialisation and integration into global markets on a scale unprecedented in modern economic history.

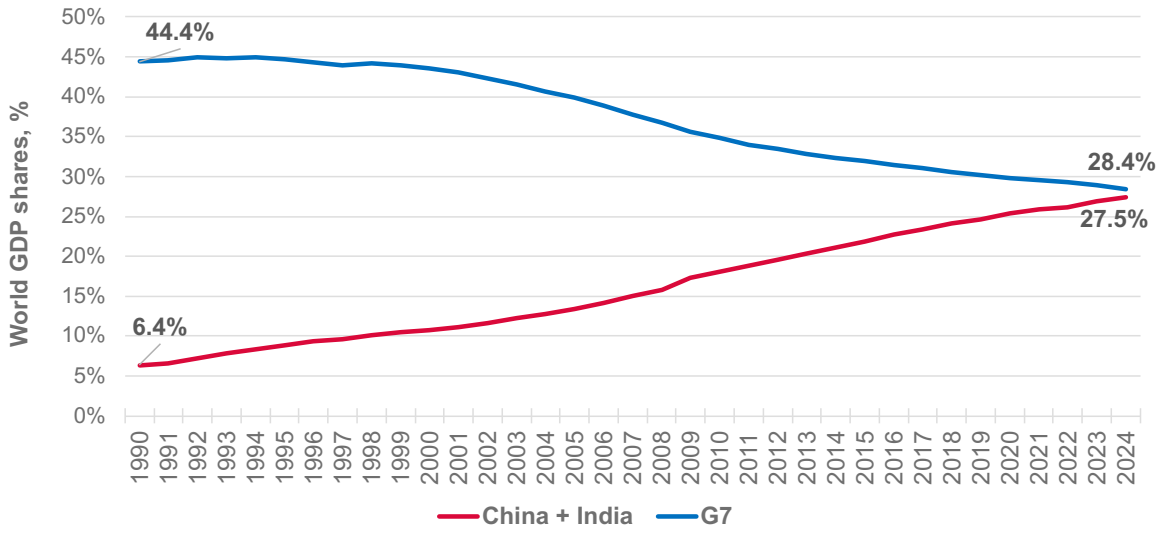
The second was the liberalisation of the Indian economy under Manmohan Singh, which opened large parts of the economy to international competition and investment.

The third was the collapse of the Soviet Union and the transition of Central and Eastern European economies towards market-oriented systems. Countries such as Poland, Hungary, the Czech Republic and others subsequently became increasingly integrated into European and global markets.

Together, these developments dramatically increased the effective size of the global labour force available to internationally traded industries. For advanced economies, this represented a profound change in the competitive environment.

**Chart 2** illustrates the scale of the transformation. In 1990, the G7 economies accounted for 44.4% of world GDP measured on a purchasing power parity basis. China and India together accounted for only 6.4%. By 2024, the picture had changed dramatically. The G7 share had fallen to 28.4%, while the combined share of China and India had risen to 27.5%. In little more than three decades, the centre of gravity of the world economy shifted significantly away from the advanced industrial economies and towards Asia.

**Chart 2. World GDP shares: G7, China and India, 1990 – 2024. Constant 2021 international dollars (PPP)**




**Source:** World Bank (2025). World Development Indicator database

This shift was not simply a matter of GDP rankings. It reflected the emergence of new productive capabilities, new industrial centres, and new competitors across a wide range of sectors. Importantly, the rise of China and other emerging economies did not simply increase the number of firms competing in global markets; it also expanded the number of countries capable of competing in increasingly sophisticated products and technologies. As capabilities accumulated, competition extended beyond labour-intensive industries into sectors that had traditionally been dominated by advanced economies.

## The globalisation of production

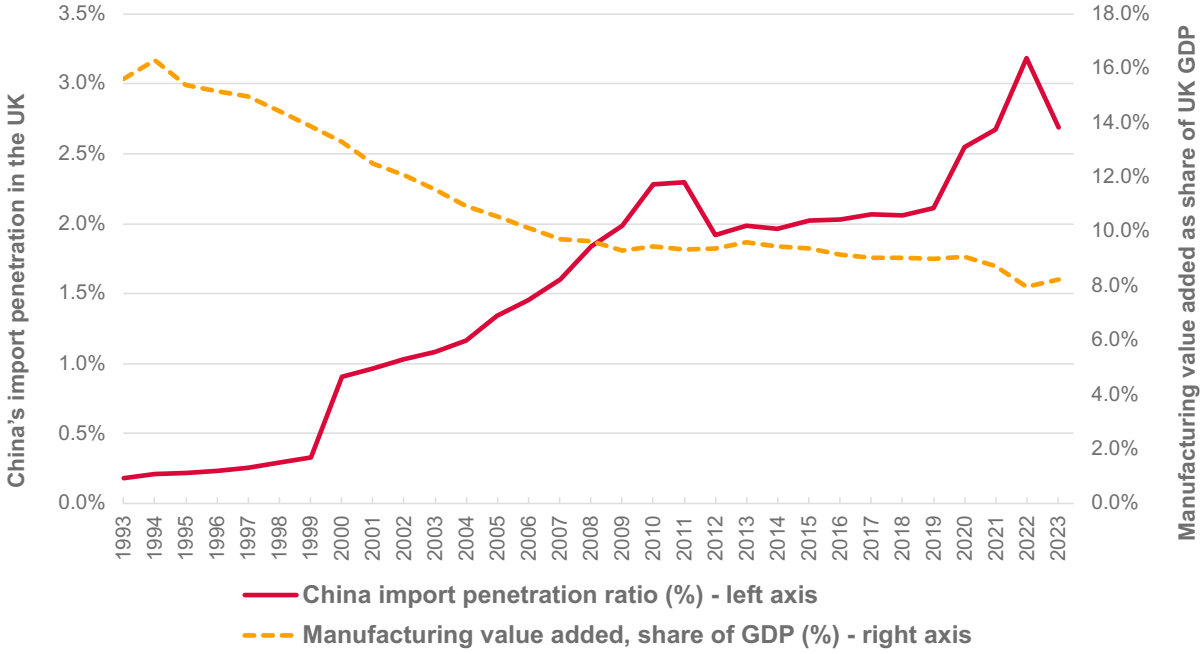
The mechanism through which this transformation occurred was globalisation, particularly the development of global value chains.

In order to take advantage of lower labour costs, multinational firms have increasingly located manufacturing activities in countries such as China and Vietnam. However, firms did not simply move production facilities abroad. To ensure that products met demanding quality standards, they also transferred knowledge, production systems, management practices and technical expertise.

The result was not merely a redistribution of production. It was also a redistribution of capabilities. Countries that initially entered global markets as low-cost production locations gradually developed increasingly sophisticated manufacturing capabilities. Over time, firms in these countries moved beyond assembly and into design, engineering, product development and innovation.

What began as a search for lower costs eventually created powerful new competitors. **Chart 3** illustrates the scale of the changes that accompanied this process. Over the same period that Chinese import penetration increased substantially, manufacturing's share of UK GDP declined.

**Chart 3. Penetration of Chinese imports and UK manufacturing value added as share of GDP**




**Note:** China import penetration ratio is defined as: IP = Imports from China / (UK GDP + UK Goods Imports – UK Goods Exports)
**Source:** World Bank (2025). World Development Indicator database

It is important to note that the chart does not establish a direct causal relationship, as the size of the manufacturing sector is influenced by many factors. Nevertheless, the simultaneous rise in Chinese import penetration and decline in manufacturing's share of UK GDP illustrate the scale of the competitive pressures facing the UK, and other advanced economies, during this period.

**Chart 4** provides further evidence of the magnitude of the shift. Between 2000 and 2022, UK imports from China increased almost sevenfold. Imports from India rose fivefold, while imports from the eight Central and Eastern European economies that joined the European Union in 2004 (the A8 economies) – Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia – increased more than eightfold.

**Chart 4. Import values in selected countries**

| | 2000 | 2003 | 2006 | 2009 | 2012 | 2015 | 2018 | 2022 |
|---|---|---|---|---|---|---|---|---|
| **Goods imports from China (2000 = 100)** | | | | | | | | |
| UK | 100 | 148 | 264 | 329 | 355 | 398 | 400 | 697 |
| US | 100 | 163 | 306 | 309 | 444 | 504 | 563 | 576 |
| Germany | 100 | 168 | 372 | 470 | 607 | 612 | 751 | 1231 |
| France | 100 | 156 | 312 | 428 | 555 | 538 | 612 | 537 |
| Italy | 100 | 166 | 347 | 416 | 496 | 483 | 563 | 940 |
| **Goods imports from India (2000 = 100)** | | | | | | | | |
| UK | 100 | 130 | 221 | 263 | 322 | 323 | 335 | 500 |
| US | 100 | 129 | 215 | 206 | 392 | 437 | 528 | 851 |
| Germany | 100 | 132 | 237 | 321 | 409 | 382 | 481 | 725 |
| France | 100 | 125 | 236 | 304 | 455 | 449 | 536 | 603 |
| Italy | 100 | 126 | 249 | 270 | 321 | 295 | 435 | 704 |
| **Goods imports from the A8 (2000 = 100)** | | | | | | | | |
| UK | 100 | 179 | 393 | 431 | 546 | 586 | 639 | 829 |
| US | 100 | 128 | 170 | 131 | 259 | 334 | 420 | 673 |
| Germany | 100 | 164 | 227 | 255 | 338 | 365 | 465 | 547 |
| France | 100 | 154 | 305 | 379 | 464 | 431 | 566 | 658 |
| Italy | 100 | 147 | 296 | 345 | 385 | 395 | 506 | 668 |

**Note:** ***A8 countries*** include Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.
**Source:** World Bank (2026). World Integrated Trade Solution – WITS.

Similar patterns can be observed in other advanced economies. The significance of these trends extends beyond trade balances. Rising imports reflected the growing ability of firms in these countries to compete successfully across a widening range of products and technologies.

## Where is productivity generated?

The rise of new competitors raises an important question: if international competition increasingly affects the structure of advanced economies, which sectors matter most for productivity performance? **Chart 5** provides an important clue. It compares labour productivity across broad sectors in the United Kingdom, the United States, Germany, Singapore, and China.

**Chart 5. International comparison of labour productivity**
**Value added per worker, 2019 (relative productivity)**

| Economic activity | United Kingdom | United States | Germany | Singapore | China |
|---|---|---|---|---|---|
| Knowledge-Intensive Services | 1.38 | 1.68 | 1.28 | 4.23 | 2.27 |
| Manufacturing | 1.27 | 1.45 | 1.24 | 1.59 | 1.63 |
| Non-Traded Services | 0.68 | 0.65 | 0.73 | 0.64 | 0.91 |
| Agriculture, Forestry and Fishing | 0.56 | 0.67 | 0.69 | 0.06 | 0.29 |
| **Total Economy** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** |

**Note 1:** Relative productivity measured as a ratio of national average based on current values.
**Note 2**: For the UK, US and Germany, Real estate was excluded from 'Non-Traded Services' as it includes imputed rent values. Knowledge-Intensive Services include *Post and Telecommunications*; *Financial Intermediation*; *Leasing, Technical, Science & Business Services*; *Education*. Non-Traded Services include *Wholesale and Retail Trades*; *Transportation and storage*; *Hotels and Restaurants*; *Public Administration and Defence*; *Health and Social Security*; *Other Services*.
**Note 3:** For Singapore Knowledge-Intensive Services refers to '*Financial intermediation, real estate, renting and business activities*'. Non-Traded Services include *Community, social and personal services, Transport, storage and communications, and Wholesale and retail trade, repair of vehicles and household goods, hotels and restaurants.*
**Note 4***:* China data are for 2017; For China, Knowledge-Intensive Services refers to *Post and Telecommunications; Financial Intermediation; Leasing, Technical, Science & Business Services; Education.* Non-Traded Services include *Wholesale and Retail Trades; Real estate activities; Transportation and storage*; *Hotels and Restaurants*; *Public Administration and Defence*; *Health and Social Security*; *Other Services*
**Source:** Own computation based on Asian Productivity Organization (2025). *APO Productivity Database 2025;* RIETI (2023). *China Industrial Productivity Database 4.0;* OECD (2025). *STAN Database for Structural Analysis, 2025 edition*.

Despite the substantial differences between these economies, the pattern is remarkably consistent. Manufacturing and knowledge-intensive services – including finance, professional services, telecommunications, scientific activities, and other advanced business services – consistently exhibit productivity levels above the national average. By contrast, agriculture and non-traded services tend to display productivity levels below the national average.

The consistency of this pattern across economies at very different stages of development suggests that these sectoral differences are not unique to particular national contexts. Rather, they reflect broader characteristics of manufacturing and knowledge-intensive activities, including their greater scope for technological upgrading, innovation, and scale. They also reflect the fact that these activities are more exposed to international competition, which can make them disproportionately important to economy-wide productivity performance.

This observation helps explain why changes in the relative importance of these sectors may have significant implications for aggregate productivity performance.

Historically, successful economic development has been associated with the expansion of these types of activities. The experiences of Japan, South Korea, Taiwan, Singapore, and, more recently, China illustrate this pattern. As these economies increased the scale of manufacturing and knowledge-intensive activities, the contribution of higher-productivity sectors to overall economic output expanded, supporting sustained improvements in productivity, economic growth, and living standards.

## How advanced economies changed

If manufacturing and knowledge-intensive services are particularly important for productivity growth, an obvious question follows: how has the structure of advanced economies changed over time?

**Chart 6** examines structural change in the UK between 2000 and 2018. Several trends stand out. First, manufacturing's share of the economy fell from 14.8% to 10.1%. Second, knowledge-intensive services expanded from 18.6% to 22.3% of economic activity. Third, productivity growth across the economy remained relatively weak, averaging only 0.5% per year.

**Chart 6. Structural change, United Kingdom, 2000-2018**

| Sectoral group | 2000 | | 2018 | |
|---|---|---|---|---|
| | Value added per worker (£) | Proportion of the economy (value added shares) | Value added per worker (£) | Proportion of the economy (value added shares) |
| Knowledge-Intensive Services | 63,173 | 18.6% | 85,660 | 22.3% |
| Manufacturing | 35,218 | 14.8% | 71,410 | 10.1% |
| Non-Traded Services | 49,238 | 41.0% | 48,438 | 43.6% |
| Agriculture, Forestry and Fishing | 29,847 | 0.9% | 30,800 | 0.6% |
| Other Production | 99,752 | 10.4% | 68,148 | 10.0% |
| Real Estate | 692,393 | 14.3% | 475,104 | 13.4% |
| **Total Economy** | **59,217** | **100%** | **64,602** | **100%** |
| **Annual growth rate of value added per worker 2000-2018: 0.5%** | | | | |

**Note 1:** Value added per worker in chained volume measures (CVM).
**Note 2:** Knowledge-Intensive Services include *Post and Telecommunications*; *Financial Intermediation*; *Leasing, Technical, Science & Business Services*; *Education*. Non-Traded Services include *Wholesale and Retail Trades*; *Transportation and storage*; *Hotels and Restaurants*; *Public Administration and Defence*; *Health and Social Security*; *Other Services*. Other production include *Mining and quarrying*; *Power, steam, gas and tap water supply*; *Construction.*
**Note 3:** Growth rate measured as a compound annual growth rate (geometric average).
**Source:** Own computation based on OECD (2025). *STAN Database for Structural Analysis, 2025 edition*.

These changes suggest that while the UK successfully expanded knowledge-intensive services, this expansion coincided with relatively weak aggregate productivity growth, suggesting that the expansion of knowledge-intensive services alone was not sufficient to prevent relatively weak aggregate productivity growth

A comparison with the United States is instructive. **Chart 7** shows that the US also experienced a decline in manufacturing's share of the economy, falling from 15.7% to 11.8% between 2000 and 2018. However, the United States simultaneously achieved a larger expansion of highly productive knowledge-intensive services. As a result, overall labour productivity grew at an average annual rate of 1.2%, more than twice the UK rate.

**Chart 7. Structural change, United States, 2000-2018**

| Sectoral group | 2000 | | 2018 | |
|---|---|---|---|---|
| | Value added per worker (£) | Proportion of the economy (value added shares) | Value added per worker (£) | Proportion of the economy (value added shares) |
| Knowledge-Intensive Services | 142,898 | 25.5% | 202,353 | 28.5% |
| Manufacturing | 98,128 | 15.7% | 179,752 | 11.8% |
| Non-Traded Services | 73,358 | 38.7% | 82,184 | 39.0% |
| Agriculture, Forestry and Fishing | 56,825 | 1.2% | 85,847 | 0.9% |
| Other Production | 136,556 | 7.6% | 133,651 | 7.6% |
| Real Estate | 919,127 | 11.2% | 1,181,613 | 12.2% |
| **Total Economy** | **100,101** | **100%** | **124,560** | **100%** |
| **Annual growth rate of value added per worker 2000-2018: 1.2%** | | | | |

**Note 1:** Value added per worker in chained volume measures (CVM).
**Note 2:** Real estate was excluded from 'Non-Traded Services' as it includes imputed rent values, consistent with common practice.
**Note 3:** Knowledge-Intensive Services include *Post and Telecommunications*; *Financial Intermediation*; *Leasing, Technical, Science & Business Services*; *Education*. Non-Traded Services include *Wholesale and Retail Trades*; *Transportation and storage*; *Hotels and Restaurants*; *Public Administration and Defence*; *Health and Social Security*; *Other Services*. Other production include *Mining and quarrying*; *Power, steam, gas and tap water supply*; *Construction.*
**Note 4:** Growth rate measured as a compound annual growth rate (geometric average).
**Source:** Own computation based on OECD (2025). *STAN Database for Structural Analysis, 2025 edition*.

The comparison highlights an important point. Structural change does not affect all countries equally. Similar pressures from globalisation can produce different outcomes depending on the ability of economies to expand new high-productivity activities. Some countries have been more successful than others in replacing declining activities with new sources of productivity growth.

## The productivity puzzle revisited

Much of the debate around productivity growth focuses on capital accumulation, labour supply, and market allocation efficiency. These factors undoubtedly represent important analytical dimensions. However, comparatively less attention has been paid to sector-level productivity dynamics and the composition of economic activity. Yet aggregate productivity growth depends not only on improvements within individual sectors, but also on how economic activity is distributed across sectors with different productivity levels. **Chart 8** sheds light on this issue by decomposing productivity growth into two components: productivity growth occurring within sectors and productivity growth resulting from labour moving between sectors.

**Chart 8. Between- and within-sector sources of productivity growth, G7 countries and China**

| Country | Productivity growth (1999-2019)* | | |
|---|---|---|---|
| | | Components** | |
| | | Within effect | Between effect |
| Canada | **1.01** | 0.76 | 0.25 |
| France | **0.75** | 0.92 | -0.18 |
| Germany | **0.52** | 0.78 | -0.26 |
| Italy | **-0.13** | -0.11 | -0.02 |
| United Kingdom | **0.53** | 0.88 | -0.34 |
| United States | **1.32** | 1.70 | -0.37 |
| China | **11.90** | 10.42 | 1.47 |

* Annual average percent change
** Percentage points
Note 1: Japan is not included due to data limitations.
Note 2: China data are for 1999-2017
Source: Own computation based on OECD (2025). *STAN Database for Structural Analysis, 2025 edition*; RIETI (2023). *China Industrial Productivity Database 4.0*

For most G7 economies, productivity growth was driven primarily by improvements within sectors. In several cases, including the United Kingdom, Germany, France, and the United States, the contribution of structural change was actually negative. In other words, labour tended to move towards sectors with lower average productivity rather than towards sectors with higher relative productivity.

China stands out as a striking exception. Not only did China achieve exceptionally rapid productivity growth, but structural change itself contributed positively to growth. Labour moved from lower-productivity activities into higher-productivity sectors, reinforcing the gains generated by technological upgrading and investment. More broadly, the evidence suggests that structural change has not generally reinforced productivity growth in advanced economies. In several cases, it has worked in the opposite direction, reducing aggregate productivity growth. This contrasts sharply with China's experience, where structural transformation acted as an additional source of productivity growth.

This distinction is important. The evidence suggests that productivity growth depends not only on how productive sectors become, but also on the changing composition of economic activity. An economy may contain highly productive sectors, but if those sectors account for a shrinking share of employment and output, their contribution to aggregate productivity growth will inevitably diminish.

## Understanding the new age of competition

Taken together, the evidence points towards a broader interpretation of the growth slowdown experienced by advanced economies since 1990. The integration of China, India and the former communist economies into global markets dramatically increased international competition. Global value chains facilitated the transfer of production and capabilities across borders. New competitors emerged in sectors that had previously been dominated by advanced economies.

At the same time, many advanced economies experienced significant structural change. Manufacturing declined as a share of economic activity, while other sectors expanded. Some countries successfully developed new sources of productivity growth, particularly in knowledge-intensive services. Others were less successful. The result was a period in which the most productive sectors of many advanced economies became relatively less important within the overall economy.

This does not imply that globalisation was a mistake. The process generated enormous benefits for billions of people and contributed to one of the largest reductions in global poverty ever recorded. However, it does suggest that the competitive environment facing advanced economies changed fundamentally.

The challenge today is therefore not simply one of increasing productivity within existing sectors. It is also a question of understanding how the structure of economies evolves in response to global competition, and how changes in that structure shape long-run growth performance.

The evidence presented here suggests that changes in the structure of the global economy, the distribution of productive capabilities, and the composition of economic activity deserve a more prominent place in discussions of long-run growth than they have typically received. These factors are unlikely to provide a complete explanation for the productivity slowdown. Like many complex economic phenomena, the slowdown can be understood at different levels: in terms of its immediate drivers, its underlying causes, and the deeper structural forces shaping those causes.

The perspective developed in this brief is best understood as a contribution to that broader explanation. It may help explain why many advanced economies have struggled to sustain previous rates of productivity and economic growth. Understanding these dynamics may therefore be one of the most important challenges for economic analysis and policymaking in the decades ahead.