

# The potential global effects and transmission channels of a slowdown in Chinese growth

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## Rationale

Having picked up following the end of the zero-COVID policy, Chinese economic activity is now slowing. This comes against a backdrop of, inter alia, increased uncertainty related to difficulties in the domestic real estate sector. This article examines and quantifies the different channels through which a potential slowdown in the Chinese economy could affect activity and inflation levels in the world's major economies.

## Takeaways

- A growth slowdown in China, partly linked to problems in its real estate sector, could pose a downside risk to activity levels in the world's major economies.
- This impact would be felt, with varying intensity, through various channels: trade, commodities and international financial markets.
- In the euro area, a temporary slowdown in Chinese economic activity of 1 percentage point (pp) would reduce GDP growth by 0.1 pp in the first year, while lowering inflation by 0.4 pp.

## Keywords

China, slowdown, spillovers, commodities, uncertainty.

## JEL classification

F01, F40, E50, E60.

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# THE POTENTIAL GLOBAL EFFECTS AND TRANSMISSION CHANNELS OF A SLOWDOWN IN CHINESE GROWTH

## Introduction

Chinese economic growth picked up in early 2023, driven by the economic reopening once the zero-COVID policy was abandoned. More recently, however, activity has lost considerable steam.

From the standpoint of domestic demand, on top of a number of other factors that were already weighing on consumption and investment, there has been an upsurge in uncertainty linked to the Chinese real estate sector, which accounts for 15% of the country's GDP and employment. This summer some of China's largest property developers deferred loan repayments, thus rekindling the problem of low confidence in the sector, with property developers facing tightening access to finance and a further slowdown in their business activity.<sup>1</sup>

On the external front, weak global demand and growing geopolitical tensions have weighed on Chinese exports in recent quarters. Going forward, this demand component is unlikely to be as strong a growth driver as it has been in the past.

As a result, China's growth outlook for 2023 and for 2024 has been revised down considerably in recent months: since the spring, the consensus forecast for Chinese economic growth in 2023 has declined by 0.8 pp to 5% (see Chart 1.a), while that for 2024 is down by 0.5 pp to 4.4% (see Chart 1.b).

China is a major player in the world economy, accounting for 18% of global GDP in purchasing power parity. As a result, a weakening of Chinese economic growth could have significant implications for economic activity in the rest of the world. This article examines those possible global economic implications, particularly for the euro area.

## Transmission channels

Slower economic growth in China would feed through to the rest of the world via several channels, the main ones being international trade and demand for commodities. However, it would also be transmitted through rising uncertainty and declining confidence, which could have repercussions in international financial markets.

The first of these channels is trade. In a setting marked by the international fragmentation of production, this channel operates not only through exports to China, but also through sales of goods and services to third countries that, in turn, export to China. China's influence over world trade has grown significantly in recent decades. For instance, in the last few years China has

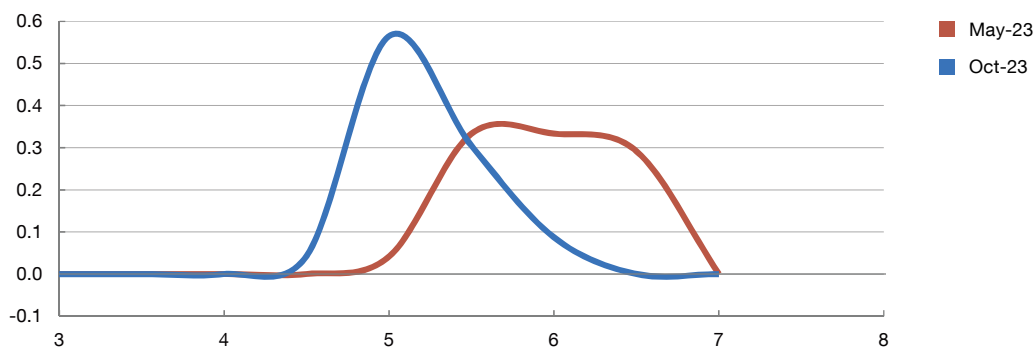
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<sup>1</sup> Banco de España (2023).

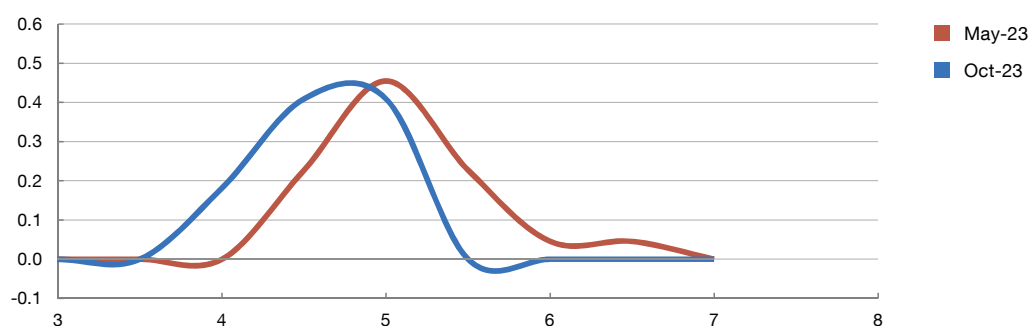
Chart 1

**Distribution of Chinese growth forecasts**

1.a China: growth forecasts for 2023 (a)



1.b China: growth forecasts for 2024 (a)



SOURCES: CEIC and Consensus Forecast.

a The density function was estimated by calculating the proportion of the forecasts within a certain range, taking intervals of 0.5 pp.

accounted for 10%-12% of global imports, up from 2.5% in 2000 (see Chart 2.a). The value added generated by Chinese domestic demand is particularly significant for Asian and commodity-exporting economies (see Chart 2.b), and is not inconsiderable for other economies, such as the euro area and the United States.

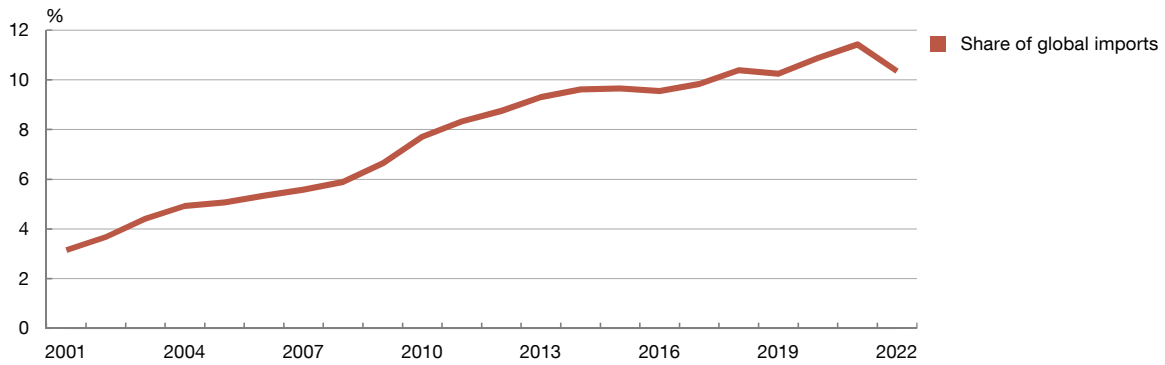
In the euro area, this exposure, which has grown significantly since 2005, is quite uneven across the countries (see Chart 2.c).<sup>2</sup> Of the region's main economies, the most exposed is Germany, where the value added attributable to Chinese domestic demand grew from 0.9% in 2005 to 2.7% in 2018. Part of this exposure (around 13% of the total) is through trade within the European Union (EU). For Spain, the share of value added attributable to Chinese domestic demand (1.2% in 2018) is lower than for the other economies considered. However, the portion via exports to the rest of the EU is larger: around 26% of the value added generated by Chinese domestic demand is incorporated into Spanish exports to the rest of the euro area.

<sup>2</sup> For more details, see Banco de España (2019).

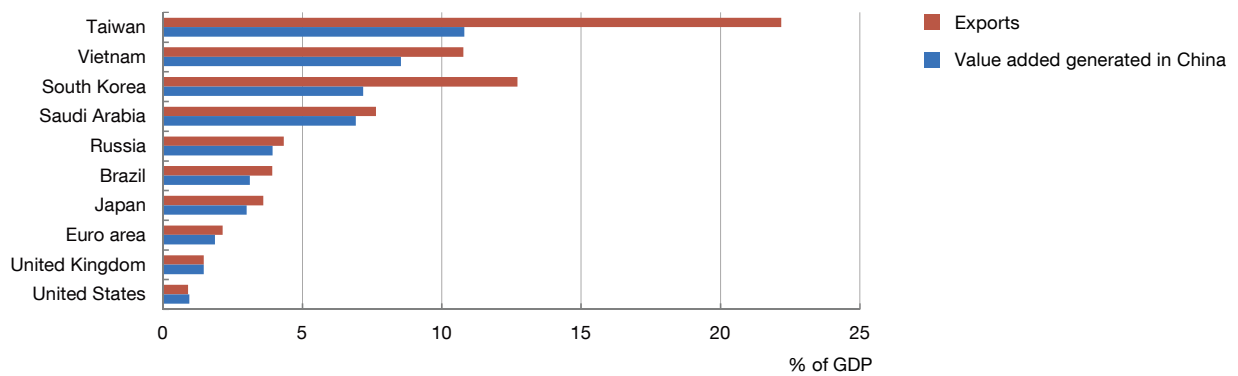
Chart 2

Importance of the Chinese economy via international trade

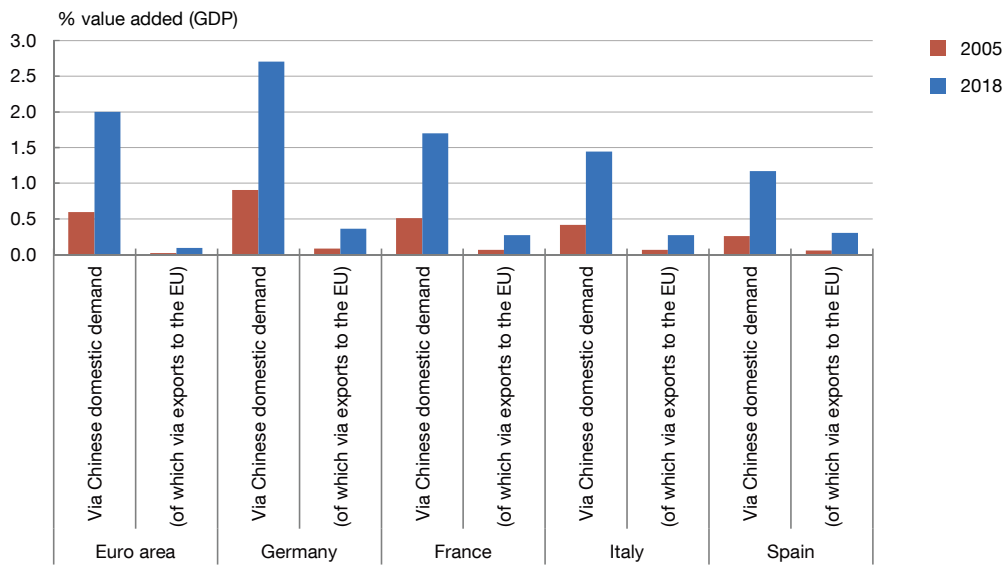
2.a China: share of global imports



2.b Trade exposure to China (a)



2.c Euro area: exposure to China in value added terms



SOURCES: October 2023 World Economic Outlook (IMF), Banco de España and OECD TiVa.

a The ten countries/regions with the largest exposures to China in value added terms are shown. Analysis using data from the OECD's Trade in Value Added (TiVa) database, which can be used to determine the share of each economy's value added that is attributable to the domestic demand of third countries.



Commodity prices represent a second channel through which a slowdown in Chinese activity could impact the global economy. China is one of the leading consumers of energy and metal commodities. As a result, a slowdown in the country (especially in its real estate sector) could trigger a sharp price drop for those inputs. Indeed, China represents between 50% and 60% of global consumption of metals such as aluminium, steel, copper and nickel. In energy commodities, the country accounts for 60% of global coal consumption, while that figure is 15% for oil and 12% for natural gas (see Chart 3.a).

Lastly, international financial markets are a third transmission channel, operating both directly (through financial exposure to China) and indirectly (driven by changing economic sentiment and global uncertainty). Direct financial exposure is, in principle, thought to be limited. Indeed, although the Chinese economy's financial significance has grown in recent decades (such that by end-2022 China's total international investment position exceeded those of other emerging economies and those of some advanced economies), it still lags well behind the major global financial centres such as the United States and the United Kingdom (see Chart 3.b). Similarly, China's capital account remains tightly closed by global standards, on a level comparable with the top 25% of the world's most restrictive countries (see Chart 3.c). That said, given the marked increase in global dependence on China, a downturn in the country's growth outlook could trigger more pronounced indirect effects on international financial markets, causing, for instance, global equity markets to fall and risk premia to rise.

## A simulation of the potential global effects of slower growth in China

To assess the possible impact of slower growth in China on the rest of the world, we performed a simulation using the National Institute Global Econometric Model (NiGEM).<sup>3</sup> The scenario considered involves a series of temporary shocks triggered by a 1 percentage point (pp) decrease in China's growth over one year transmitted through the three channels mentioned in the preceding section.<sup>4</sup>

To capture the effects of the trade channel, we consider that the temporary 1 pp decrease in Chinese growth stems from a drop in domestic demand, mostly (80%) in investment. This more marked decrease in investment than in consumption aims to reflect the current preponderance of risks stemming from the real estate market. In addition, this composition of the slowdown in growth is important for quantifying the possible impact of the trade channel, given the different import intensity of investment compared with consumption.

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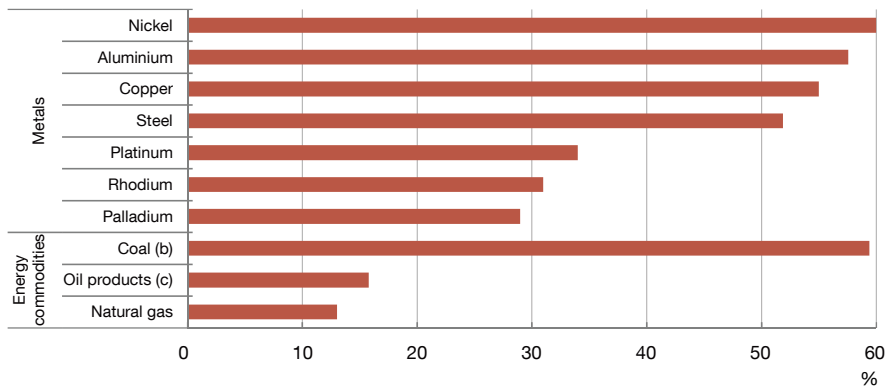
3 Further information on the model devised by the National Institute of Economic and Social Research is available at <https://www.niesr.ac.uk/nigem-macroeconomic-model>. The simulation includes as assumptions adaptive expectations, constant nominal exchange rates and an endogenous economic policy response. No further discretionary fiscal policy measures from the Chinese authorities are considered, as the growing public sector debt problems suggest increasingly limited fiscal space.

4 This article updates and expands upon Bing, Roth and Santabárbara (2019). Compared with that article, which assesses the global impact of a permanent growth slowdown in China, prompted by lower potential growth because of rebalancing policies, in this article we simulate a temporary shock. In addition, the commodities and financial channels have been recalibrated to reflect the latest empirical evidence available.

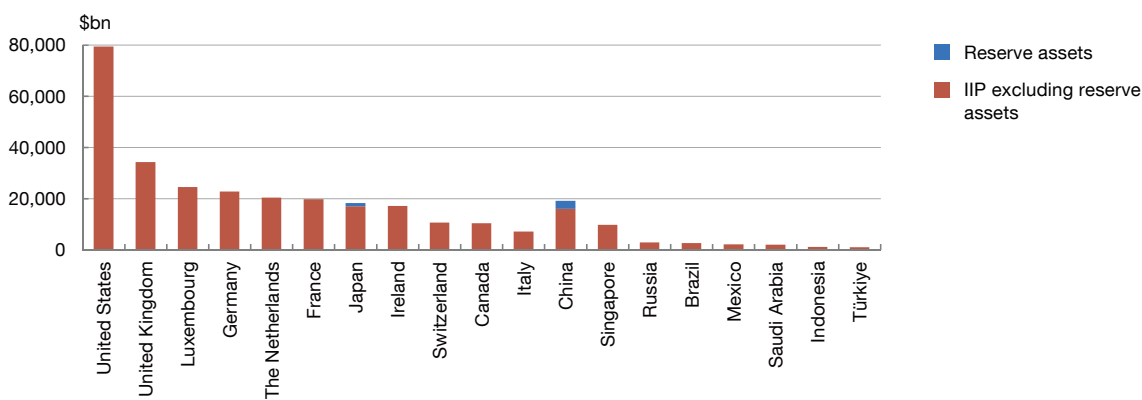
Chart 3

**Global importance of the Chinese economy via the commodity and financial channels**

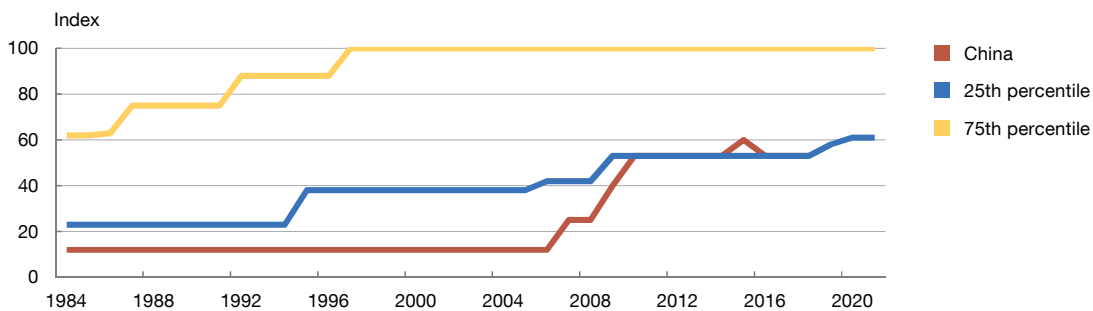
3.a China's share of global consumption of commodities. 2022 (a)



3.b International investment position (IIP)



3.c Capital account openness index (d)



SOURCES: USDA Economic Research Service, IEA, Nornickel 2022 Annual Report, Hydro 2022 Annual Report, IMF (IFS) and Zhang (2023).

- a The energy products relate to 2021.
- b Includes peat and oil shale.
- c Comprising refinery gas, ethanol, LPG, aviation fuel, motor gasoline, jet fuel, kerosene, diesel, fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin wax, petroleum coke and other oil products.
- d Calculated using the Annual Reports on Exchange Arrangements and Exchange Restrictions (AREAER), which track the regulations used by governments in their international financial transactions. The index thereby provides a metric for the level of restrictions, along with the stringency thereof. The index ranges from 0 to 100, with 0 representing a fully closed capital account and 100 representing a fully open capital account.



To capture the global effect of an economic slowdown in China through the commodities channel, some aspects of NiGEM have been expanded. First, we calibrated the response of commodity prices to a slowdown in activity in China drawing on Kolerus, N'Diaye and Saborowski (2016), so that a 1 pp drop in growth would, after one year, be associated with a drop in oil prices of approximately 9.5% and in industrial metal prices of around 8.5%. Second, we calculated the fall in value of energy commodity and industrial metal exports associated with this decrease in prices, drawing on information in the Organisation for Economic Co-operation and Development's Trade in Value Added statistics and the price elasticities of supply estimated by Baumeister and Hamilton (2023) and Boer, Pescatori and Stuermer (2021). This allowed us to determine the decrease in the national income and domestic demand of each country that produces these commodities.

Turning to the channel that operates through the level of uncertainty/confidence on international financial markets, we considered Ahmed et al. (2019), which shows that a 1 pp decrease in Chinese growth could translate into an increase in corporate spreads of 130 basis points (bp) in emerging market economies and of 35 bp in advanced economies. We did not consider, however, a more adverse scenario in which the current situation could lead to a disorderly slowdown in the Chinese real estate sector, as the adverse effects of the current deceleration are expected to be confined to a small group of domestic banks and China's less open capital account is expected to limit the impact of these developments on international financial stability.<sup>5</sup>

The scenario that includes the set of shocks described above would lower global growth by 0.5 pp after one year (see Chart 4.a). In the advanced economies (largely net importers of commodities), the impact on GDP growth would be smaller (-0.2 pp) as the contractionary effect of the trade and financial shocks would be offset by the expansionary effect stemming from lower commodity prices. Conversely, the contraction in activity would be sharper in the emerging market economies (-0.8 pp) and, in particular, in the commodity-producing countries and some Asian economies with closer trade ties with China.

Among the advanced economies, GDP growth in the United States and the euro area would fall by around 0.1 pp, mainly due to the effects associated with higher financial market uncertainty. The contractionary effect of the trade channel would be somewhat smaller, while lower commodity prices would have clearly expansionary effects.

Turning to the effects on inflation, this scenario would also trigger widespread disinflationary pressures, associated mainly with lower commodity prices. These pressures would be more marked in emerging market economies<sup>6</sup> because of the greater impact on their activity (see Chart 4.b).

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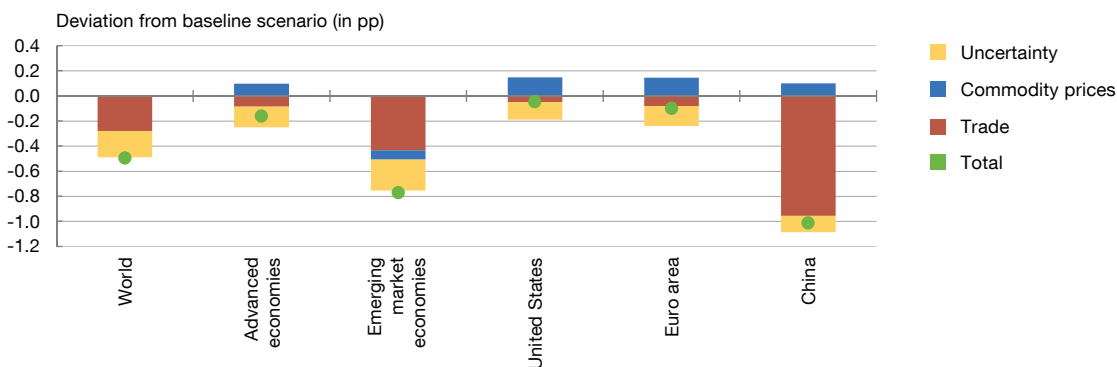
5 Neither did we consider in this simulation the potential flight-to-safety effects on long-term government debt yields in the main advanced economies, or the potential effects, working in the opposite direction, of a drop in China's foreign exchange reserves and the diversification of these reserves into other assets. Nor have we considered the effects of the slowdown in Chinese activity on stock prices on the main global stock markets, as in principle they would be temporary and limited (Cashin, Mohaddes and Raissi, 2016).

6 The greater disinflationary impact on the emerging market economies would be explained by the larger share of goods in the consumption basket, which are more commodity-intensive than services, and greater disinflationary pressures stemming from a steeper fall in activity.

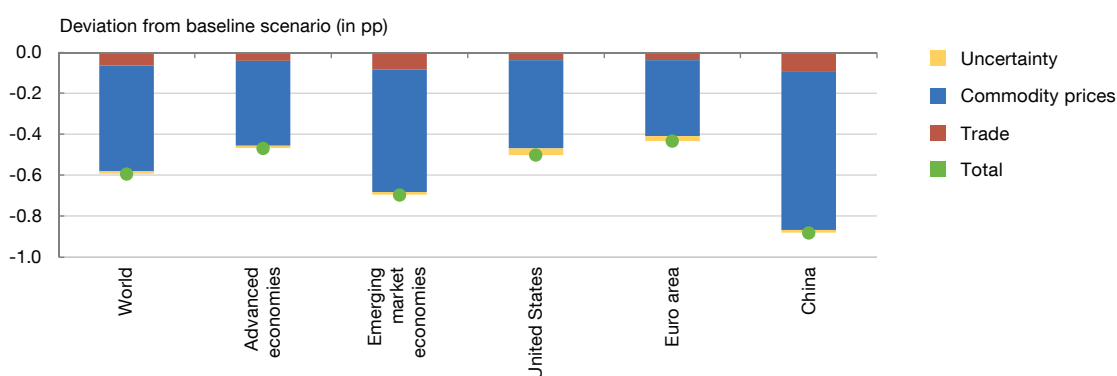
Chart 4

### Impact of a temporary 1 pp slowdown in growth in China

#### 4.a Impact on real GDP. First year (a)



#### 4.b Impact on inflation. First year (a)



SOURCE: Banco de España.

a The simulations include as assumptions adaptive expectations, constant nominal exchange rates and an endogenous economic policy response.



## Concluding remarks

This article considers the risk of an economic slowdown in China as a short-term phenomenon that, as such, translates into a temporary economic shock. However, China's economic model currently faces structural challenges that could limit its future growth for longer than expected. Indeed, the pillars upon which China's growth has rested in recent decades are looking weaker. First, investment, which accounted for around 50%-60% of China's growth in the 1990s and 2000s, has yielded considerably diminishing returns since then. In this regard, Chart 5.a shows that the capital investment needed for an additional unit of output has doubled over time, which would suggest that capital productivity has fallen substantially. Second, demographic trends, which drove considerable GDP and productivity growth, thanks to strong migration from the countryside to cities and to the increase in the working-age population, are reversing due to the slowdown in migration and significant population ageing (see Chart 5.b).

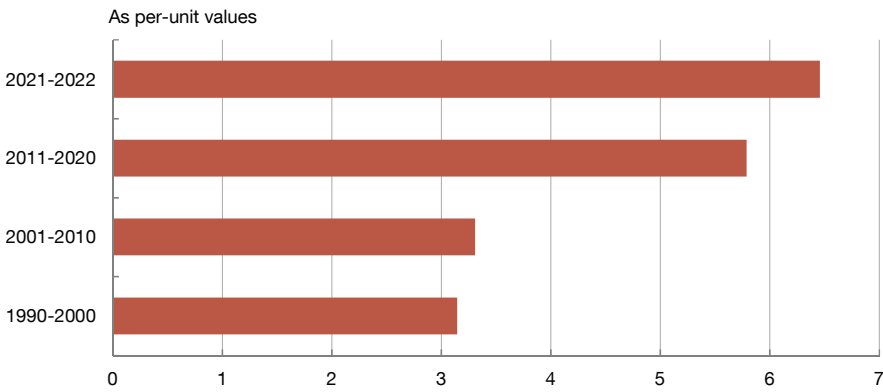
In addition, we now have to factor in an increasingly complex global geopolitical environment. Indeed, in recent years there has been a particularly significant increase in the number of trade



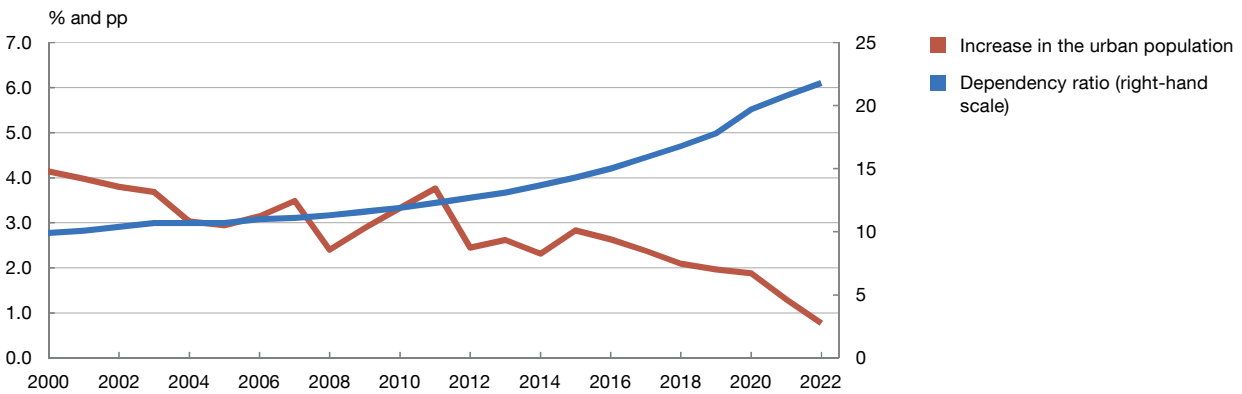
Chart 5

**The Chinese economy's structural challenges**

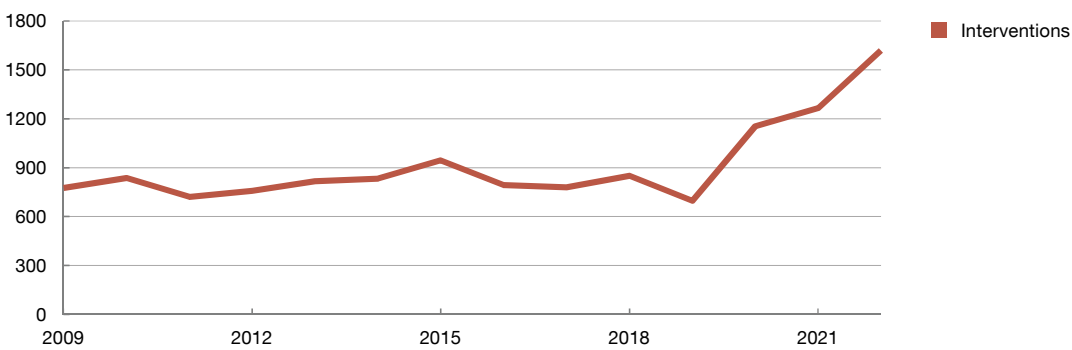
5.a Incremental capital-output ratio (a)



5.b Dependency ratio and increase in the urban population (b)



5.c Number of harmful interventions affecting China (c)



SOURCES: CEIC, World Development Indicators (World Bank) and Global Trade Alert.

- a The incremental capital-output ratio is a metric that represents the marginal amount of investment needed to generate an additional unit of output. It is calculated as the investment in a given year divided by the increase in output on the previous year.
- b The urban population is defined as the percentage of the total population living in urban areas and the dependency ratio is calculated as the over-65s relative to the total population.
- c Harmful interventions comprise a wide range of trade restrictions that include, for example, tariffs, import licensing requirements, export bans, local labour requirements, anti-dumping or anti-subsidy measures, among many others.



restrictions imposed on China at international level (see Chart 5.c). This makes it the country facing the highest number of trade restrictions globally and is an obstacle to China's foreign trade and growth. In the same vein, the tightening of controls on technology transfers in strategic sectors, such as semiconductors and chips, could slow China's adoption of these technologies and affect its medium and long-term productivity.<sup>7</sup> Similarly, establishing restrictions on Chinese exports of critical commodities,<sup>8</sup> such as rare earths, cobalt and graphite, would adversely impact the advanced economies and, in particular, the EU.<sup>9</sup>

In the medium term, global trade fragmentation could reshape China's current role in world trade, altering its spillovers to the other economies. Growing geopolitical tensions could affect decisions by firms in advanced economies to offshore in China. For now, evidence of reshoring is very limited, but some recent surveys show multinational firms' growing interest in this strategy (Di Stefano, Giovannetti, Mancini, Marvasi and Vannelli, 2022). These surveys also signal that firms that import from China believe the country poses a significant supply chain risk and, consequently, are designing supplier diversification strategies. If these structural factors take further hold, growth in China could fall sharply and lastingly, with significant implications for the rest of the world.

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7 Changes in US trade policy with China since 2017 have led to an incipient shift in US imports and foreign direct investment away from China and towards "friendlier" or geographically closer countries. Specifically, Vietnam and Mexico appear to be the biggest beneficiaries, systematically gaining in market share in those product categories in which the share of imports from China has gradually diminished (Alfaro and Chor, 2023).

8 The European Commission has a list of 30 critical raw materials, based on economic importance and substitutability. Some of them, such as rare earths and cobalt, are critical to strategic sectors, e.g. the technology sector (European Commission, 2020).

9 Trade restrictions on these minerals could lead to major bottlenecks and push up the price of these commodities, which would in turn put the brakes on the green transition and digitalisation (Ioannou and Pérez, 2023).

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