

THE IMPACT OF THE CHINESE ECONOMY ON THE EURO AREA AND SPAIN THROUGH EUROPEAN VALUE CHAINS

The global repercussions of economic developments in China are increasingly important, given this country's growing weight in the world economy in recent decades and its central role in multilateral trade flows (see Chart 1). Trade relationships between countries are nowadays more complex than a few decades ago, in a setting characterised by international fragmentation of production through "global value chains". For instance, the final use of Spain's exports to China, which may incorporate value added from third countries, is either to satisfy the domestic demand of this Asian country, or else as an input for new exports from China to other countries. Likewise, some Spanish exports to other countries will be incorporated into the production of goods and services that will, in turn, ultimately be exported to China. For example, almost half of Spain's exports to the rest of the European Union are intermediate goods and services, which are used as inputs in the production of other goods and services in these countries.

This box explores a particular aspect of the Chinese economy's trade relationship with the euro area and Spain: the links through European value chains. For this purpose it uses the information contained in world input-output tables,¹ which enables the origin of the value added incorporated into the exports from one country to another to be traced and broken down by final use. Estimates of the impact of a hypothetical slowdown in China on the main euro area economies based on this approximation are presented.

Chart 2 shows the value added of the euro area, and its four main economies, attributable to Chinese domestic demand. In the specific case of Spain, this has increased significantly in recent years, to stand at 0.9% of GDP in 2015, up 0.7 percentage points (pp) from 2005. A significant part of this link is generated through European production chains, since 27% of the Spanish value added that satisfies domestic demand in China is incorporated into the exports of the rest of the European Union (in

particular, 8% through German exports). As regards Spain's sectoral exposure, Chinese domestic demand is more important for wholesale and retail trade, professional services, transport, chemicals and motor vehicles (see Chart 3). European value chains are especially important in the motor vehicles and machinery sectors. In comparative terms, Spain's link to China in terms of value added is half that of the euro area as a whole, and a third of that of Germany, which, of the main euro area economies, has the strongest relationship with the Chinese economy (see Chart 2 again).

Chart 4 presents some simulations of the impact on the value added of the euro area, Germany, France, Italy and Spain, of a hypothetical slowdown in the Chinese economy that is sharper than that projected by the main analysts, using, again, the information contained in input-output tables. The main justification for this slowdown is linked to the far-reaching and difficult-to-fine-tune structural rebalancing currently taking place in this economy, resulting from policies to boost private consumption relative to investment (with greater import content), domestic relative to external demand,² and services relative to industry. Three scenarios approximating different aspects of this structural transformation process are presented in the chart.³ The first scenario ("no rebalancing") assumes that final demand declines, but that its composition remains unchanged, the second ("investment rebalancing") considers that the additional slowdown is entirely due to lower investment, while the third ("foreign demand rebalancing") assumes a reduction in imports of final goods.

As seen in Chart 4, the largest adverse effect corresponds to the third scenario of reduced imports of final products. In that case, a fall in Chinese imports equal to 1 pp of GDP reduces value added in the euro area by 0.2 pp,⁴ mainly due to the effect on the German economy. The negative impact under the second scenario is larger than that under the "no-rebalancing" scenario, owing to the higher

1 See, for example, R. Koopman, Z. Wang and S.-J. Wei (2014), "Tracing Value-Added and Double Counting in Gross Exports", *American Economic Review*, Vol. 104, pp. 459-494.

2 The foreign value added incorporated into Chinese exports as a percentage of the total exports of this economy, which approximates the import content of exports, has fallen by 9 pp since 2005.

3 The magnitude of the shocks under the three scenarios is equivalent to 1% of the GDP of China. Specifically, an adjustment is simulated of around USD 100 billion (1% of China's GDP in 2015) in final demand (first scenario), investment (second scenario) and imports of final products (third scenario).

4 Approximately 10% of the value added associated with euro area exports to China.

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Chart 1
CHINA: GDP GROWTH, CONTRIBUTIONS AND IMPORTS

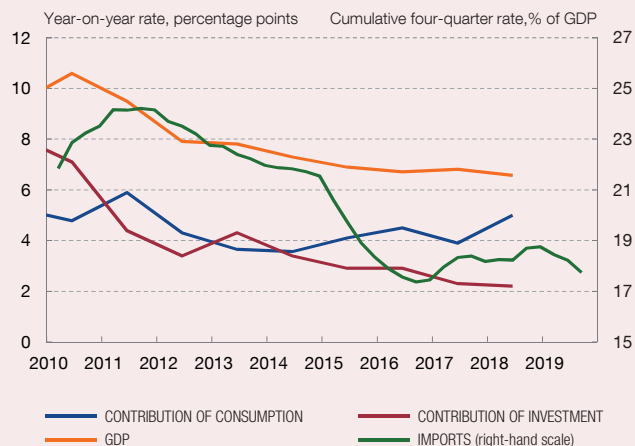


Chart 2
EURO AREA: EXPOSURE OF VALUE ADDED TO CHINA

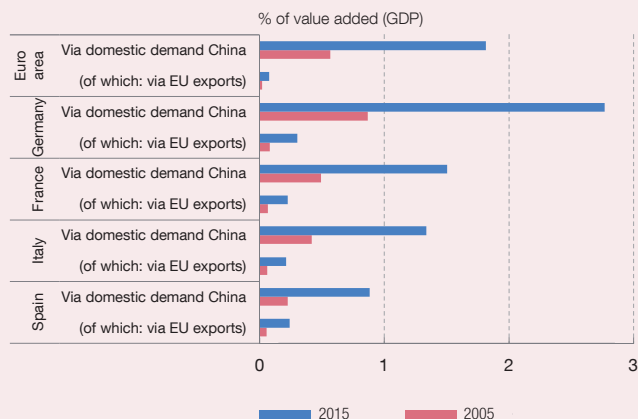


Chart 3
SPAIN: EXPOSURE OF SECTORAL VALUE ADDED TO CHINA IN 2015

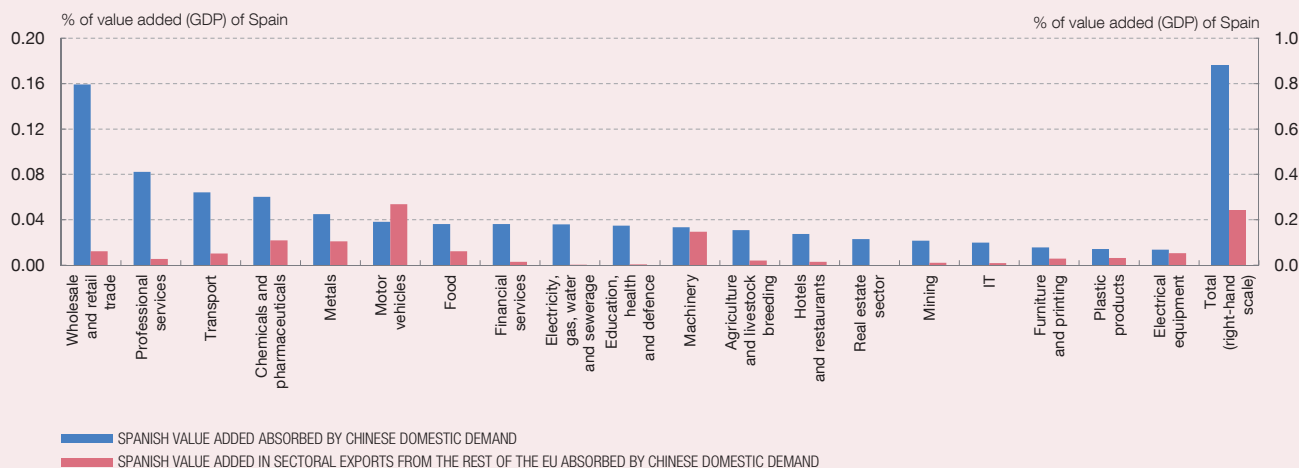
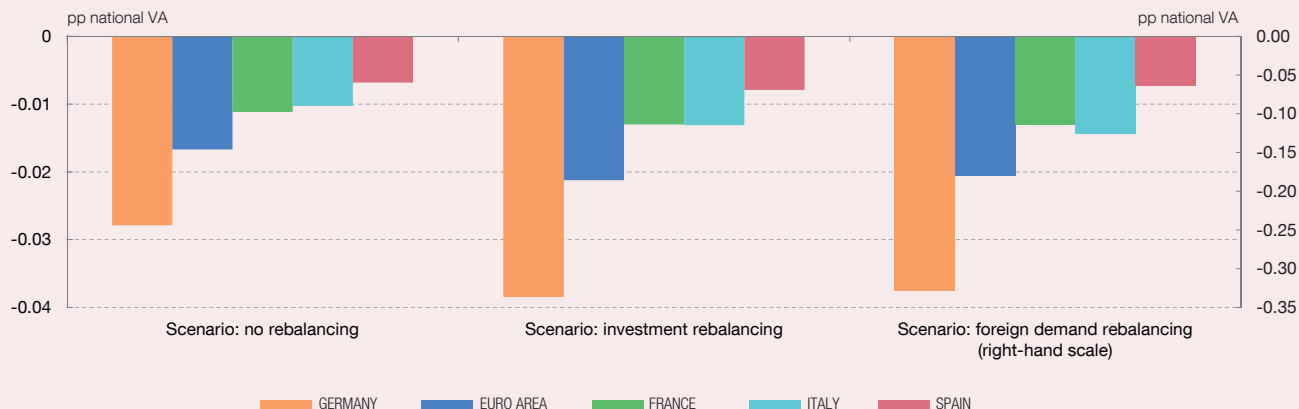


Chart 4
EURO AREA: SIMULATIONS OF THE IMPACT OF AN ECONOMIC SLOWDOWN IN CHINA



SOURCES: CEIC, OECD TiVA and own calculations based on WIOD 2016.

Note: Estimation of the spillover effect in an initial round under the assumption that there will be no changes in the productive structure.

import content of investment than of final demand as a whole, and to the specialisation of some euro area economies in capital goods. In this respect, at industry level, the largest fall would occur in capital goods manufacture and, specifically, in machinery, the value added of which would fall by 0.5 pp in Spain and by almost 2 pp in Germany. The smaller negative impact on the Spanish economy under the three simulated scenarios is mainly due to the higher weight of its exports of consumer goods and services to China, as compared

with the greater importance of capital goods, in particular, in the other countries.

These simulations, although illustrative, have certain limitations, as the approach used focuses exclusively on trade relationships. In particular, other channels through which the slowdown in China may affect the European economies, such as the commodity markets channel, the global financial system channel and the channel that operates through uncertainty and global confidence, are not analysed.⁵

5 The dynamic effects on productive specialisation and trade composition, and the reaction of prices are not considered either. For example, X. Bing, M. Roth and D. Santabárbara (2019), "Impacto global de una desaceleración en China", Analytical Article, *Boletín Económico*, 4/2019, use the NiGEM global macroeconomic model to simulate a 1 pp fall in Chinese growth considering all the above-mentioned channels and find that the overall impact on the euro area economies would be significantly more negative than that considered in this box.