## Box I.2.1: Spillover effects to the EU from a potential sharp slowdown in China

China's GDP growth has been on a downward trend for over a decade. Annual average growth has halved from 10.6% during the 2000s to 5.3% since 2018. Notwithstanding a negative impact of the COVID-19 zero-tolerance policy, much of this pronounced slowdown is structural. Lack of progress in rebalancing the economy from investment to consumption has gradually reduced the marginal return of investment. High investment has gone hand in hand with a rapid accumulation of debt. China's debt level is significantly higher than in other countries at similar levels of economic development. In particular local governments, but also the corporate sector, are highly indebted by comparison. At the same time, consumption is held back by the absence of a robust social safety net. China is also facing adverse demographic trends, having the fastest ageing population among all major economies. As a result, growth in China is likely to keep losing strength <sup>(1)</sup> over the medium-term.

The faltering post-**pandemic recovery adds to China's structural woes.** The removal of the strict COVID-19 measures last December presaged a quick and robust recovery in 2023-Q1. However, growth has moderated thereafter as households delay spending to rebuild savings buffers and on the back of the ongoing real estate crisis. In a context of falling prices and demand, many firms in the real estate sector are facing severe solvency concerns. Approximately half of the biggest 50 developers have been defaulting payments on their liabilities. The collapse in construction activity has created a major drag on fixed-asset investment and intensified the financial challenges of local governments. Falling house prices also reinforce negative wealth effects on domestic consumption, as households hold more than 70% of their total wealth in real estate.

With a moderate policy response to the slowdown thus far, downside risks to the outlook remain elevated. Against this backdrop, this box examines the exposure of the EU to China's economy and estimates the impact of a possibly sharper slowdown of China's economy than assumed in the baseline of this Autumn Forecast.

## Spillover effects for the EU – QUEST simulation

The channels through which slower Chinese growth could affect the EU are complex and inter-linked. First, the two regions are connected via direct trade linkages. As Graph 1 illustrates, China's share in the EU's export basket is limited. There is some variation across Member States, with Germany and Ireland exhibiting the largest trade exposure to China, reaching 6.8% and 6.4% of total exports in 2022. Measuring trade exposure as a share of economic output, exports destined directly to China make up only 1.5% of EU GDP, with Germany and Ireland again displaying the highest shares (2.8% and 2.6%, respectively), followed by Slovakia and Netherlands. Second, the EU and China also have indirect trade linkages through third countries whose import demand from the EU might be influenced by their exposure to Chinese spending. Third, the general equilibrium response of prices and incomes would influence the broader macroeconomy beyond the sectors involved in international trade, including the profitability of EU companies operating in China. Global commodity prices constitute another spillover channel to the world economy. Finally, there might be potential financial contagion effects. Real estate developers are among the most indebted companies in China, with a non-negligible share of internationally issued debt. An aggravation of the property crisis in China could lead to widespread defaults, which could reverberate through the world's financial markets.

<sup>&</sup>lt;sup>(1)</sup> Illustrating this trend, the latest IMF medium-term forecasts for China predict a significant deceleration in Chinese GDP growth to 3.4% by 2028.



The potential spillovers to the EU from Chinese growth are estimated with a multi-country **version of the Commission's macroeconomic model**, **QUEST** <sup>(2)</sup>. This is an open-economy DSGE model, featuring both a tradeable and non-tradeable sector, and including four country blocks: the EU as a whole, China, the US and the rest of the world. The simulated alternative growth path for China features a persistent decline in Chinese domestic demand starting in 2024, driven by weaker investment and consumption. <sup>(3)</sup> The financial contagion effect mentioned above is captured in the model through an exogenous increase in risk aversion that would lead to tighter financial conditions across the globe. <sup>(4), (5)</sup>

The simulated scenario results in the volume of Chinese GDP 2.6% and 2.3% lower in 2024 and 2025, respectively, than it would be without the above shocks (see Graph 2a). The sharp slowdown in Chinese domestic spending implies a markedly weaker import demand by China. corresponding to lower external demand for China's trading partners, including the EU (see Graph 2c). There are also indirect spillovers to EU exports via weakening import demand in the rest of the world (see Graph 2d), as real incomes in other countries are hit by lower Chinese spending. In addition, these countries would need less EU-produced intermediate inputs for their declining exports to China. In line with these adverse direct and indirect trade effects, aggregate GDP in the EU declines compared to the baseline, but only by a fraction of the Chinese output losses. As lower exports hit real output and incomes in the EU, domestic demand weakens as well, for EU-produced and imported goods alike. These general equilibrium responses of the EU economy make the impact on real output somewhat deeper than the effect of lower exports alone would indicate (see Graph 2b). A potential financial contagion would deepen the growth-moderating impact of the Chinese slowdown. (6) First, tighter financial conditions depress European investment and consumption further. Second, the global nature of financial stress means that demand growth from the EU's other trading partners is hurt as well (beyond the effect of weaker Chinese import demand on these countries), which additionally constrains external demand for Europe. Overall, the spillovers of these combined effects lead to a 0.3% and 0.2% smaller output in the EU in 2024 and 2025, respectively.

The simulated shocks also induce a response of international relative prices. Weaker aggregate demand in China puts downward pressure on prices, both domestically and, to a lesser extent, abroad. As a result, China's terms of trade initially deteriorates. Weaker global price pressures

<sup>&</sup>lt;sup>(2)</sup> For more details on QUEST, see: Burgert, M., W. Roeger, J. Varga, J. in 't Veld and L. Vogel (2020). "A Global Economy Version of QUEST: Simulation Properties." *European Economy Discussion Paper 126.* 

<sup>(3)</sup> As a result, in the first year of the simulation, consumption in China declines by 2.3%, while investment is 10.7% lower than it would be without the shocks.

<sup>&</sup>lt;sup>(4)</sup> The financial contagion effects of slower growth in China are not captured endogenously in QUEST, which does not model financial balance sheets and the banking sector in detail. Instead, these channels are illustrated by an exogenous 1 pp. shock to the risk premium on investments in other countries, decaying gradually.

<sup>&</sup>lt;sup>(5)</sup> In addition to the endogenous response of various economic variables following these shocks, the simulations assume an endogenous reaction by monetary policy as well, which controls the short-term nominal interest rate in response to deviations of inflation from target.

<sup>&</sup>lt;sup>(6)</sup> The additional risk premium shock contributes around a third of the GDP effects in the first two years.

## Box (continued)

mean that from the EU's perspective imports become cheaper (e.g. via lower commodity prices), <sup>(7)</sup> leading to a persistent terms-of-trade gain for Europe <sup>(8)</sup> and to lower inflation. An even more important disinflationary force comes via weaker aggregate demand lowering price pressures for domestic value added as well. As a result, annual CPI inflation in Europe would be 0.1 pps. lower both in 2024 and 2025 under the simulated scenario.



*Note:* The effects of a Chinese slowdown scenario, featuring weaker domestic demand in China as well as increased risk aversion in global financial markets. Black lines depict the impulse responses from QUEST simulations, expressed as percentage deviations from the counterfactual without these shocks. Coloured bars capture contributions by multiple variables to these impulse responses.

Overall, the results suggest that the direct and indirect effects of a sharper-than-expected growth moderation in China on the EU economy would be contained, <sup>(9)</sup> **given the EU's low** trade exposure to China. However, the model does not incorporate the full range of potential effects through which a sharp growth moderation in China might affect the EU. For instance, an abrupt economic weakening in China might entail the failure of important companies, potentially disrupting global supply chains in a non-linear way, which is not incorporated in the QUEST simulations. Furthermore, the stylised nature of the potential financial contagion scenario means that its impact is subject to considerable uncertainty. History has shown that, in the event of large sudden financial stress with cascading defaults and bankruptcies, non-linearities could lead to a much more disruptive scenario, especially in the current highly uncertain and tense global environment.

<sup>(7)</sup> In the two-sector version of QUEST (featuring tradeable and non-tradeable sectors) only bilateral aggregate import price indices are modelled. They capture the price of a generic tradeable good imported from a particular trading partner. While this is not broken down into separate goods categories, such as commodities or industrial goods, the important commodity price channel is still captured, just at a more aggregate level.

<sup>(8)</sup> The associated real exchange rate appreciation hurts the competitiveness of European exporters as well as of producers competing with more affordable imports in the domestic market, putting further pressure on the external balance of the EU via expenditure switching.

<sup>&</sup>lt;sup>(9)</sup> The QUEST simulation results presented here are broadly in line with recent analyses by other international institutions, see European Central Bank (2023). "ECB Staff Macroeconomic Projections for the Euro Area." September 2023, Box 3, and OECD (2023). "Economic Outlook Interim Report: Confronting Inflation and Low Growth." September 2023, Box 1.