

Economic activity in CESEE and global financial conditions

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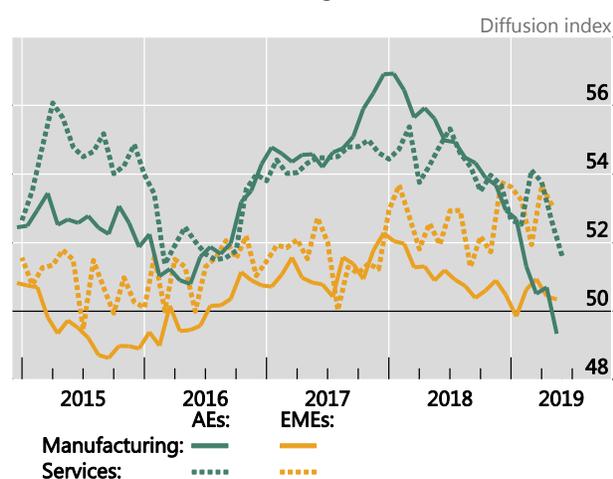
Current outlook

- Global economy is slowing
- Manufacturing hit particularly hard (cars and electronics); services holding up until recently, but now weakening, too (Graph 1, left-hand panel)
- Purchasing managers' indices (PMIs) started to signal weaker export orders already in early 2018, foreshadowing the slowdown in global trade growth in 2019 (Graph 1, right-hand panel)
- Labour markets and consumption are holding up, but investment outlook is very weak (Graph 2)
- CESEE real activity has been affected through global value chains, notably German manufacturing slowdown (Graphs 3 and 4)
- Reflecting these developments – and continued below-target inflation outcomes – monetary policy stance of major economies is no longer tightening
- After the Fed's "pivot to patience" in December 2018, markets are back to expecting low-for-long policy rates and a pause to tightening via central bank balance sheet policies (Graph 5)

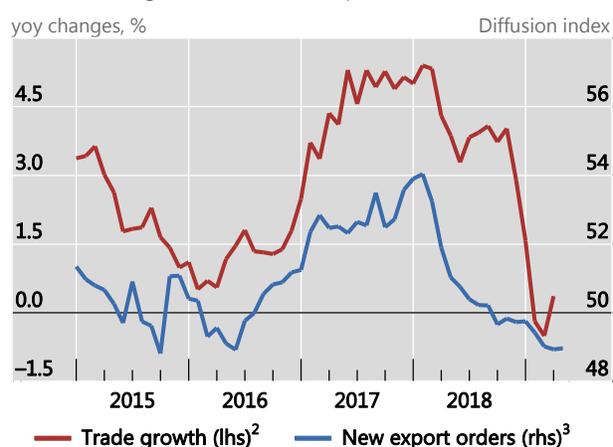
Global growth slowing, trade outlook bleak

Graph 1

Global PMIs for manufacturing and services¹



World trade growth and new export orders



¹ A value of 50 indicates that the number of firms reporting output expansion is greater than those reporting output contraction. Aggregations based on GDP and PPP exchange rates, for seven AEs and 16 EMEs. ² Simple average of volume indices for merchandise exports and imports, three-month moving average, seasonally adjusted. ³ Based on global manufacturing PMI.

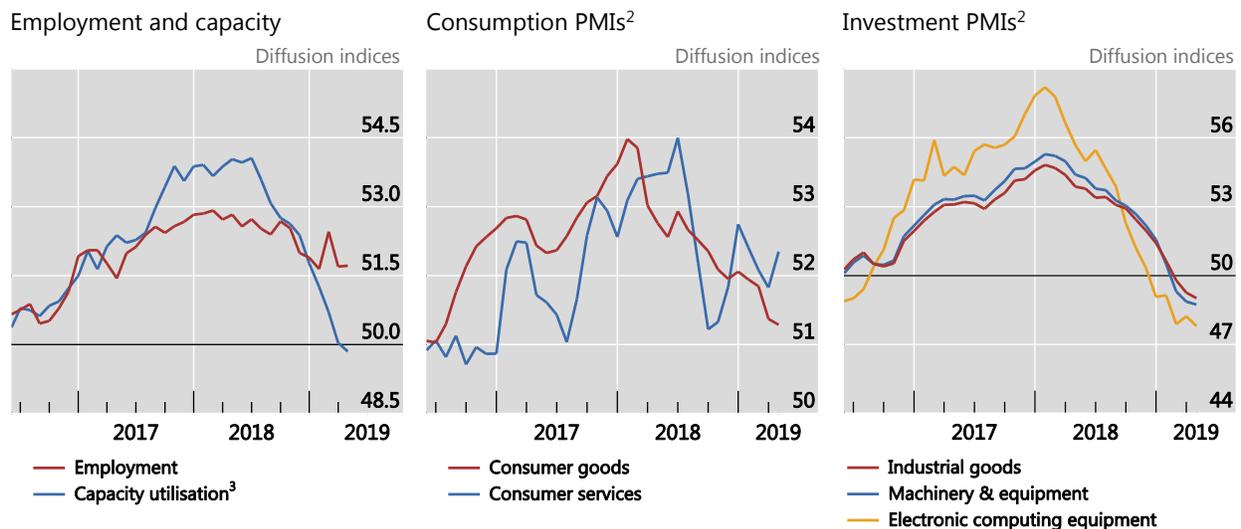
Sources: CPB Netherlands Bureau for Economic Policy Analysis; Datastream; IHS Markit; BIS calculations.

¹ Keynote remarks prepared for the 8th ECB conference on central, eastern and south-eastern European (CESEE) countries, "Resilience to global headwinds? CESEE responses to a changing trade and financial landscape", Session 2: Responses to monetary policy and financial shocks.

The views expressed are those of the author and do not necessarily represent those of the BIS.

Employment and consumption holding up, investment very weak¹

Graph 2



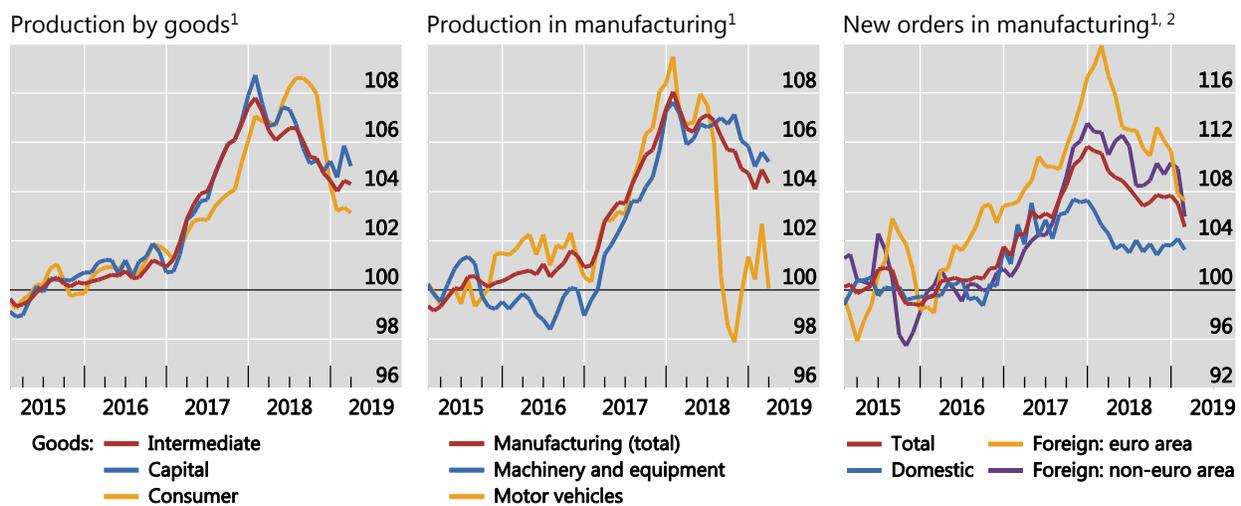
¹ Subindices of global composite (manufacturing and services) PMIs. A value of 50 indicates that the number of firms reporting improvement and deterioration is equal; a value above 50 indicates improvement. ² Three-month moving averages. ³ Manufacturing sector only.

Sources: IHS Markit; BIS calculations.

Production and new orders in Germany slowing

2015 = 100

Graph 3



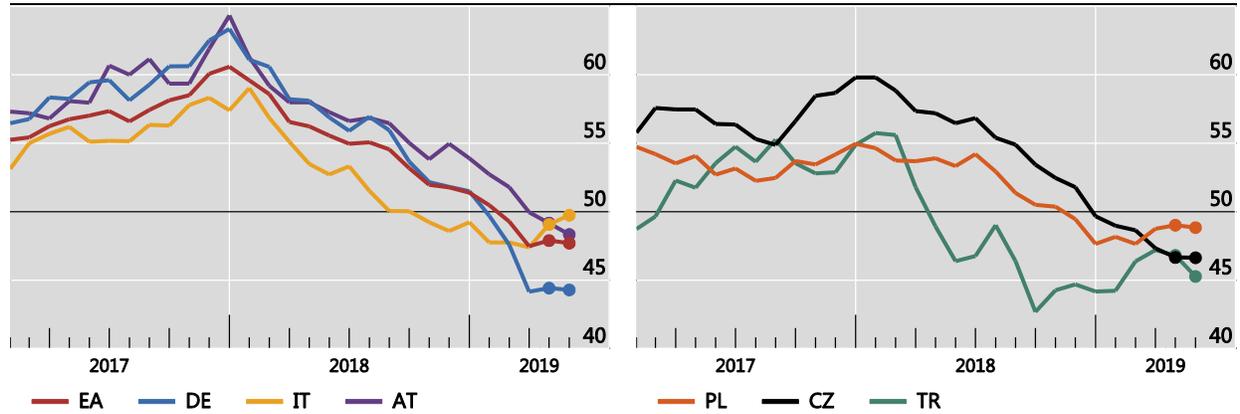
¹ Seasonally and calendar adjusted; three-month moving average. ² Volume index.

Source: Destatis; BIS calculations.

Manufacturing activity falling in sync across Europe

Diffusion indices¹

Graph 4



The dots indicate last two observations.

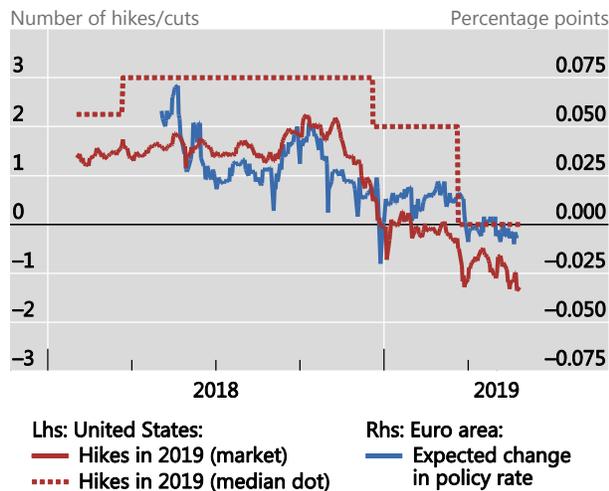
¹ A value of 50 indicates that the number of firms reporting improvement and deterioration is equal; a value above 50 indicates improvement. ² Manufacturing sector only.

Source: IHS Markit.

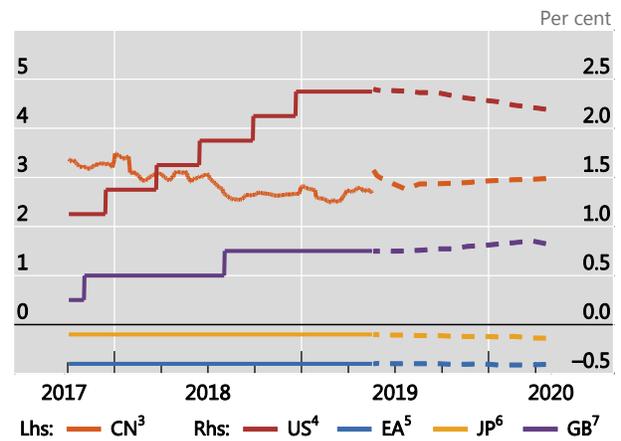
Monetary policy in major economies expected to remain accommodative

Graph 5

2019 policy expectations¹



Expected path for the policy rates²



¹ Based on the prices of Fed funds and Eonia futures. ² The dashed lines indicate expected rates based on overnight indexed swap (OIS) forward rates, for China, interest rate swap (IRS) forward rates. ³ Seven-day repo rate, 22-day moving average. ⁴ Mid-point of the target range for the federal funds rate. ⁵ Deposit facility rate. ⁶ Interest rate applied to current accounts that financial institutions hold at the Bank of Japan. ⁷ Official bank rate.

Sources: Board of Governors of the Federal Reserve System; Bloomberg; Datastream; national data.

Monetary and financial shocks at the current juncture

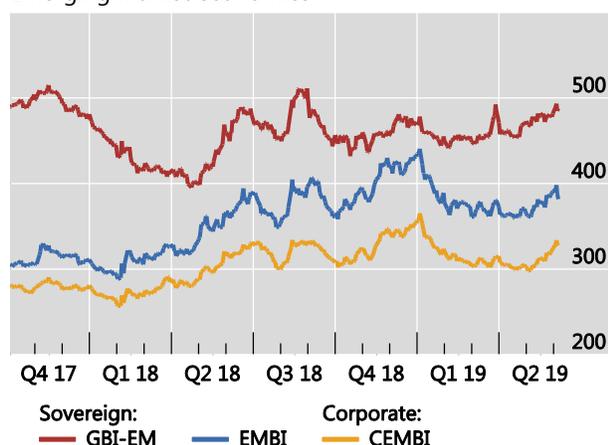
- When draft programme for this conference was first circulated in December 2018, monetary policy normalisation in the United States had been underway for three years. In the euro area, the ECB was taking initial steps towards normalisation by ending its net bond purchases
- Since then, the global economic and financial landscape has evolved. An increase in policy interest rates and/or central bank balance sheet tightening are no longer imminent (Graph 5)
- Instead, financial conditions could tighten through an endogenous rise in risk premia: still weaker trade outlook and political uncertainties could dent business and investor sentiment, widening spreads for riskier borrowers (Graph 6)

Risk spreads are widening

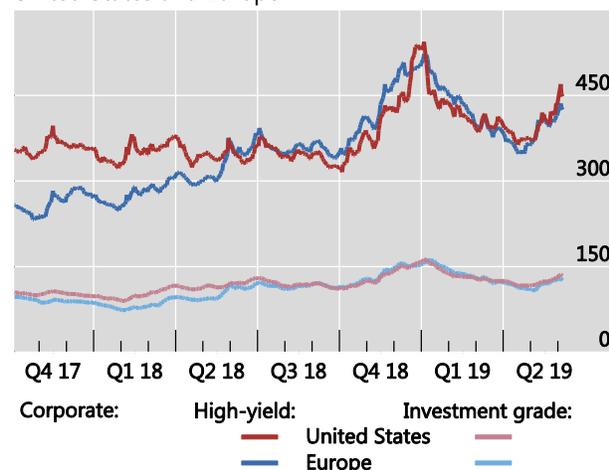
In basis points

Graph 6

Emerging market economies¹



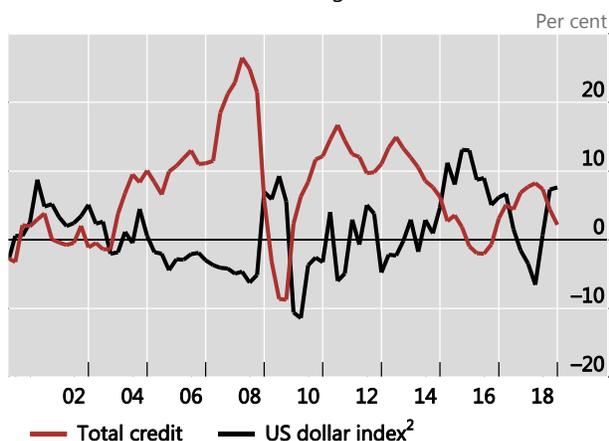
United States and Europe²



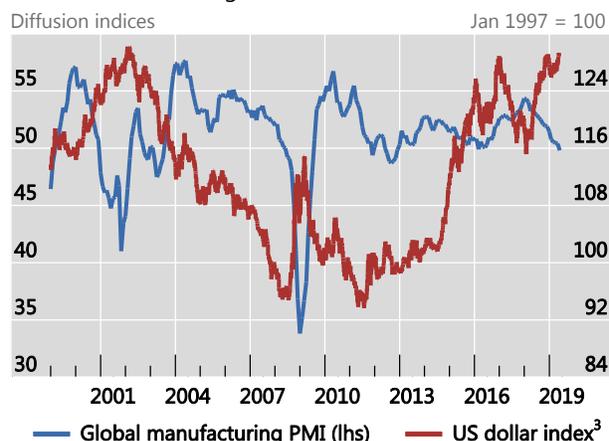
¹ For GBI-EM; spread over five-year US Treasury securities; for EMBI and CEMBI, stripped spread. ² Option-adjusted spreads.

Sources: Bloomberg; ICE BofAML indices; JPMorgan Chase; BIS calculations.

- A particular concern is a further **strengthening of the dollar**
- A large body of literature (eg Avdjiev et al, 2019a, 2019b; Hofmann et al, 2019) documents an empirical relationship between the strength of the dollar and global financing conditions, especially for EMEs (Graph 7, left-hand panel)
 - Weaker dollar → easier financing conditions, more credit to EMEs
 - Stronger dollar → tighter financing conditions, less credit to EMEs
- What is the economics behind this relationship?
 - On the supply side, creditworthiness of borrowers improves as dollar denominated liabilities of bank customers fall relative to their domestic assets. This reduces tail risk in banks' credit portfolios; relaxes value-at-risk (VaR) or economic capital constraint; creates capacity for additional lending (Bruno and Shin, 2015)
 - On the demand side, balance sheets of firms borrowing in dollars strengthen as dollar liabilities decline in domestic currency terms; this may encourage more borrowing in dollars

Dollar credit to EMEs and change in dollar NEER¹

Global manufacturing PMIs and broad dollar index

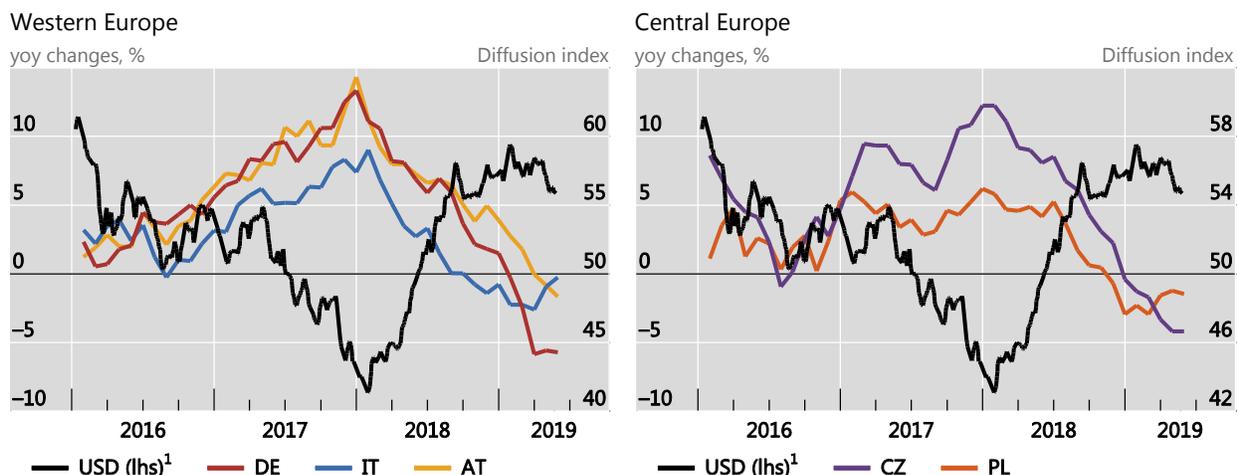


¹ Annual growth of dollar-denominated credit (bank loans and debt securities) to non-bank financial corporations denominated. ² Annual change in Federal Reserve Board trade-weighted nominal dollar index, major EMEs ("other important trading partners"), trade in goods. A positive value indicates appreciation of the US dollar. ³ Federal Reserve Board trade-weighted nominal dollar index, broad group of major trading partners of the US ("broad"), trade in goods. A positive value indicates appreciation of the US dollar.

Sources: Federal Reserve Bank of St Louis, FRED; Datastream; Dealogic; Euroclear; IHS Markit; Thomson Reuters; Xtrakter Ltd; national data; BIS calculations.

- What is not widely known is that the broad dollar index also tracks closely changes in global manufacturing activity measured by PMIs (Graph 7, right-hand panel)
- This relationship holds for both advanced and emerging market economies – including in the euro area and central Europe (Graph 8)
- This is surprising: in Europe, and especially the euro area, we take it for granted that the euro, not the dollar, sets the tone for the real sector²
- The association between the dollar and real activity is a correlation, not causation. But it is unlikely to be coincidental – it could reflect the **working capital channel** of trade fluctuations (Bruno et al, 2018)
- Global value chains (GVCs) figure prominently in global trade and lie at the intersection of two important themes: financing requirement for working capital and prevalence of dollar invoicing in global trade (Shin, 2019)
- The upshot of the interaction of these two themes is that a stronger dollar is associated with tighter credit conditions for financing working capital
- With manufacturing being globally integrated, it is not surprising that manufacturing PMIs, and in particular new export orders, are highly correlated with trade and the dollar exchange rate (note that PMIs sample firm-level flows such as sales or export orders at monthly frequency, and are thus a near-contemporaneous proxy for firms' sales – accounting information on sales is normally available on an annual basis only)

² According to Eurostat (2019), 56% of extra-EU imports and 35% of extra-EU exports were invoiced in US dollars in 2018, compared with 35% and 48%, respectively, invoiced in euros. The share of exports invoiced in dollars increased by 3 percentage points between 2010 and 2018, while the share of exports invoiced in euros decreased by 5 points.



¹ Federal Reserve Board trade-weighted nominal dollar index, broad group of major trading partners of the US ("broad"), based only on trade in goods. An increase indicates appreciation of the US dollar. Five-day moving average.

Sources: Federal Reserve Bank of St Louis, FRED; IHS Markit; BIS calculations.

Transmission of financial/monetary shocks through internationally active banks

- We don't know how strong this working capital channel is in CESEE
- But we know that CESEE is highly integrated with euro area real and financial sectors. Therefore we can use insights from models of monetary/financial spillovers via internationally active banks
 - o For domestic transmission, the key issue is understanding heterogeneity in individual banks' responses to domestic monetary policy shocks
 - o For international transmission, we also have to look at global banks' cross-country responses to monetary policy shocks
- In most international banking models, monetary policies of at most two countries – lender and borrower countries – play a role alongside other factors shaping credit supply and demand. This is based on the traditional view of international banks "exporting" domestic savings abroad
- But what if the bulk of cross-border lending is denominated in a third, global, currency? Multinational banking groups raise funding and extend credit in a range of currencies – roughly half of BIS reporting banks' cross-border assets and liabilities are denominated in dollars and about a third are in euros. This means that the monetary policy of a third country – neither the lender's nor the borrower's – may also come into play in cross-border lending. Prominent examples:
 - o US dollar and hence the Fed's monetary policy
 - o A case familiar to CESEE countries: Swiss franc and the SNB monetary policy
- Recent BIS work (Avdjiev et al, 2018) finds that all three monetary policies can have significant effects on cross-border bank lending:
 - o Monetary tightening in lender and borrower countries (eg euro area and CESEE) reduces credit growth in respective countries – no surprise there
 - o Monetary tightening in a global currency (USD, EUR) produces a contraction in cross-border bank lending denominated in that currency – we've see that already in Graph 7

- But with cross-border loans denominated in a third currency, international banks can arbitrage significant differences in monetary policy stances
 - When monetary policy in a lender country (eg the euro area) tightens, banks may increase their lending in a currency with cheaper funding costs (eg USD, CHF), and extend more loans in that currency either at home or abroad – this was the painful lesson some CESEE countries learned in 2015, when the Swiss franc appreciated sharply
 - Similarly, when monetary policy in a borrower country (eg CESEE) tightens, banks and firms in that country may borrow more in cheaper foreign currency, from either resident or non-resident banks
 - The strength of transmission through these channels depends on the frictions banks and borrowers face
- Buch et al (2018) prepared a meta-analysis of 19 coordinated, individual country studies based on bank-level microdata (part of the International Banking Research Network, IBRN). They explained changes in domestic lending to the real economy in terms of foreign monetary policy, a range of bank balance sheet characteristics, and a set of control variables
 - Most countries experienced large effects of US – and in some cases euro area, UK and BoJ – monetary policy on the domestic real economy via cross-border bank lending. Both conventional and unconventional policy had cross-border spillovers
 - Bank-level characteristics and “frictions” that banks face are very important in international transmission: the ease with which banks can adjust capital and liquidity; whether they can access different types of funding (eg wholesale market); extent of FX funding; availability of collateral, etc
- Hajek and Horvath (2018) examined how monetary shocks that emanate from the euro area and the US affect economic activity and prices in non-euro EU countries (BG, HR, CZ, DK, HU, PL, RO, SE, UK):
 - Raising the ECB shadow policy rate slows down the economic activity (and, to some extent, inflation) in all non-euro EU countries (Graph 9)
 - Effects of UMP measures are weaker than those of interest rates
 - Changes in the Fed shadow policy rate have slightly smaller effects than changes in the ECB shadow policy rate in these countries

Responses of industrial production in CESEE to a 100-bp increase in the ECB shadow policy rate Graph 9

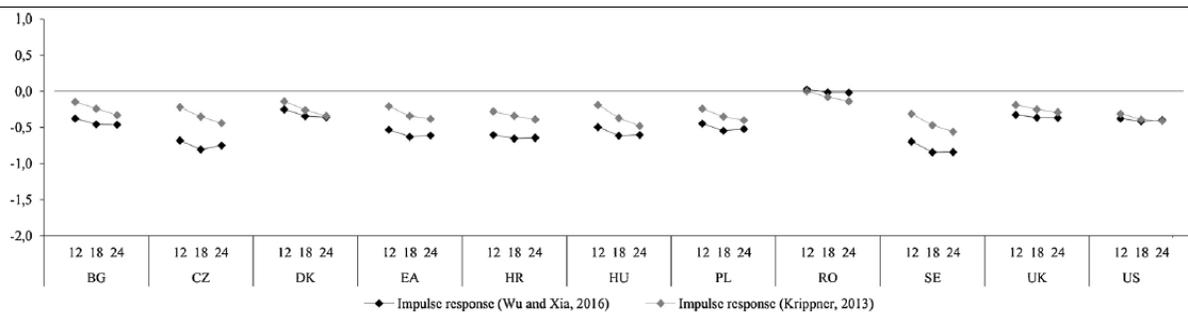


Fig. A1. Responses of industrial production to a 100-bp increase in the ECB shadow policy rate across models with different shadow policy rates. Notes: Generalized impulse responses on three horizons: 12, 18 and 24 months.

Source: Hajek and Horvath (2018), p 100.

- Finally, Bluwstein and Canova (2016) found that the ECB’s unconventional monetary policy measures generated important domestic fluctuations in nine European countries not adopting the euro: the Czech Republic, Hungary, Norway, Poland, Romania, Sweden as well as Bulgaria, Denmark and Switzerland
 - Output and inflation responses were similar across fixed/flexible exchange rate regimes: ER movements slightly reduced output and amplified inflation responses (ERs acted as shock absorbers), but the transmission through macro-financial linkages was overall much stronger → spillovers are independent of the exchange rate regime
 - International spillovers were larger in countries with more advanced financial systems and larger share of domestic banks

How could CESEE countries respond to financial shocks?

- These findings suggest that real activity in CESEE countries is quite sensitive to changes in global financial conditions. What does this imply for central banks in the region?
- One implication is the need to monitor closely how global financial conditions evolve, and how they spill over to the domestic economy through bank and non-bank credit
 - Portfolio bond and equity flows to the region are small, and, since the former are mostly related to sovereign bonds, more of an issue for fiscal policy
- Financing conditions in CESEE tightened slightly in 2018 but remain favourable overall (EIB, 2018)
- Funding conditions for international banking groups active in the region were easing in 2018, supported by the growth of deposits. Collateral requirements were also easing. However, longer-term funding conditions – banks’ access to international and intra-group funding – had not eased
- As credit demand from firms was growing, especially for working capital, a sizeable gap opened between credit demand and supply last year (EIB, 2018)
- If global financial conditions tighten further this year, firms’ access to finance could thus become a constraint to growth. This implies a need to consider how to facilitate credit flows when external financing conditions tighten relative to desired domestic policy settings
- In such cases, paying attention to credit-constrained firms, especially SMEs, might bring considerable net benefit: small firms make up a sizeable share of overall employment, so understanding developments that affect these firms is important from an aggregate perspective
- Small firms are also financially more opaque, so their owners often have to use housing equity as collateral for firm credit. This implies that changes in domestic policy rates and macroprudential regulations could have pronounced effects on SME activity in some countries
- There is indeed evidence that this collateral lending channel can be economically important: in Spain and Italy, a 1 percentage point change in the growth of collateral values induces a 0.8 point change in liabilities and a similarly sized change in investment of firms with less than \$500,000 in total assets (Banerjee and Blickle, 2016).³ This collateral lending channel is weaker in France and the United Kingdom
- Furthermore, changes in collateral values mostly affect employment in young firms. Older firms grow less rapidly, and finance increases in employment from current revenues rather than bank borrowing

³ For firms of this size, the value of an average house generally represents a large proportion of total assets.

- In CESEE countries, SMEs' access to bank credit is likely to be more constrained than in Italy and Spain, given the relative state of development of CESEE countries' banking systems and legal frameworks that govern recourse, loan enforcement and bankruptcy resolution
- As monetary policy can affect the value of collateral through the balance sheet channel, these findings suggest that changes in policy rates could have a pronounced effect on firm activity in CESEE countries, many of which have very high home ownership rates

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