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Financial asymmetries between Euro area and the United State: An International Political Economy Perspective♦

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Abstract:

This paper assesses financial asymmetries between the Euro area and the United Stats using a financial accelerator framework. We estimate a GVAR model from 1995Q1 to 2016Q4 and find (i) that American financial shocks have a global influence whereas those of the Euro area are regional and (ii) that American financial shocks have larger effects in size than those of the Euro area. We develop an International Political Economy framework based on the concept of asymmetrical interdependence to point out policy suggestions whose the main objective is to increase the autonomy of the Euro area.

1. Introduction

The global financial crisis of 2008-2009 was followed by an abundant theoretical and empirical literature highlighting the growing role of global factors in explaining the behavior of domestic financial variables. Both advanced countries and emerging and developing economies have been affected by this trend. In a seminal paper, Rey (2013) identifies the presence of a global financial cycle exerting an influence on all countries regardless of their exchange rate regime. While this last point is debatable (see for example Obstfeld et al., 2019), the existence of the global financial cycle

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has subsequently been largely confirmed in the literature (see the literature survey by Miranda-Agrippino and Rey, 2022). In addition, it has been argued that the global financial cycle is determined to a large extent by monetary policy in the United States (Miranda-Agrippino and Rey, 2015). In line with the literature devoted to the influence of American monetary policy on the global financial cycle, a certain number of studies have analyzed the effects of spillback on the American economy. This work suggests that spillback effects are significant and tend to magnify the domestic effects of US monetary policy (Dées and Galesi, 2021; Breitenlechner et al., 2022).

Our paper is part of the previous literature insofar as we investigate the respective effects of financial shocks from the United States and the Euro area. Crucially, however, we diverge from this literature on three main points. First, while the previous literature assesses the impact of external influences on the US economy via feedback effects, we analyze the responses of US financial variables to financial shocks from the Euro area. To this end, we estimate Global Vector Autoregressive (GVAR) model to assess the international propagation of positive credit shocks, share price shocks, and house price shocks by considering three regions: the United States, the Euro area (subdivided in three groups) and some North European countries over the 1995Q1-2016Q4 period. VAR approach has been introduced by Pesaran et al. (2004). Such model allows to account for trade and financial interdependencies between countries—which is a key condition to correctly analyze international shocks transmission.

Second, our GVAR model rests on the financial accelerator mechanism (Bernanke et al., 1999) in which changes in borrowers' balance sheets exert an influence on their access to finance. For instance, higher house prices can ease household credit constraints as the value of collateral increases. In turn, this lesser credit constraint tends to favor the acquisition of real estate which leads to a further increase in house prices and thereby to rising collateral and so on. In other words,

the financial accelerator mechanism highlights how economic and financial shocks are magnified leading to a procyclical finance (for a critical review, see Fontana and Passarella, 2020).

Thirdly, in line with the seminal article by Strange (1970), but also drawing on the work of Gilpin (1975) and Keohane and Nye (1977), we combine economic analysis and international relations. More specifically, our econometric investigation seeks to assess the possible presence of asymmetries between the United States and the Euro area, asymmetries which, from our point of view, have implications in terms of the balance of power. In other words, our investigation falls within the perspective of international political economy understood as the marriage of two disciplines to use the expression of Gilpin (1975). Such an approach is relatively little used in economic journals where questions of international economics are addressed.[1]

We find that the international propagation of financial shocks is largely explained by the United States including within the Euro area regions. This result implies reforms within the Euro area promoting an increase in its autonomy vis-à-vis the American financial and monetary system.

The rest of this paper is organized as follows. Section 2 outlines our estimation methodology and the data. Section 3 reports the main results and comments. Section 4 highlights the main policy implication using an International Political Economy perspective. Section 5 concludes.

2. Methodology and Data

After introducing the main characteristics of the GVAR model, the choice of variables retained is explained.

[1] The *Journal of Policy Modeling* contributes to decompartmentalizing economic science by publishing articles that can be partly in line with international political economy. These include Seghezza and Morelli (2018) devoted to the international role of the dollar and the symposium "*Measuring and modeling regional power and leadership*" (De Lombaerde et al., 2014).

2.1. GVAR model: a brief overview

Consider a set of *N*+1 countries/regions indexed by *i*=0, 1, 2, …, *N*, with country 0 denoting the reference one. The GVAR model consists of a number of VAR models for each individual country that are linked to each other via a "linkage matrix". For ease of exposition, and without loss of generality, consider VARX(1,1) specifications (see Pesaran et al., 2004, and Dées et al., 2007 for a generalization). Those individual VARX models, that account for common global variables, are given by:

$$x_{i,t} = a_{i,0} + a_{i,1t} + \sum_{j=1}^{p_i} \phi_{i,j} x_{i,t-j} + \sum_{j=0}^{q_i} \psi_{i,j} x^*_{i,t-j} + \sum_{j=0}^{q_i} \tau_{i,j d_{t-j}} + \varepsilon_{i,t} \qquad (1)$$

for $t = 1, 2, \dots, T$ and $i = 0, 1, \dots, N$. $x_{i,t}$ is a $(k_i * 1)$ vector containing country specific domestic variables, $x^*_{i,t}$ is a $(k^*_i * 1)$ vector containing country specific variables and d_t is a m-dimensional vector of observed global variables assumed to be weakly exogenous to the global economy. $\phi_{i,j}, \psi_{i,j}$ and $\tau_{i,j}$ are of dimension $(k_i * k_i), (k_i * k^*_i)$ and $(k_i * m)$ respectively. The vectors of fixed intercepts and of deterministic time trend coefficients are both $(k_i * 1)$. $\varepsilon_{i,t}$ is a $(k_i * 1)$ vector of idiosyncratic country-specific shocks and is assumed to be serially uncorrelated with zero mean and non-singular covariance matrix:

$$\varepsilon_{i,t} \sim \mathrm{i.i.d}\,(0, \Sigma_{ii}) \qquad (2)$$

As our aim is to capture both spillovers *via* the trade channel and spillovers *via* the financial channel, bilateral trade weights are used for real variables and financial trade weights for financial variables (see also among others Eickmeier and Ng, 2015).

Using bilateral trade weights, the foreign variables specific to country *i*, $x^*_{i,t}$, are constructed as a weighted sum of the corresponding variables of the other countries. More specifically, for each country *i*, bilateral annual trade flows (including both exports and imports) with its trading partners are collected. These weights reflect the specific geographical trade composition of each country.

The choice of trade weights rests on the fact that bilateral trade has a strong influence on inter-country business cycle linkages. The construction of foreign variables is as follows:

$$x_{i,t}^{*} = \sum_{j=1}^{N} w_{ij} x_{j,t} \qquad (3)$$

where $w_{i,j}$ stands for the share of country *j* in the total trade of country *i* (measured in US Dollars), $i \neq j$. We have:

$$\sum_{j=1}^{N} w_{ij} = 1 \qquad (4)$$

for all $i, j = 1, \dots, N$ and $w_{ii} = 0$ for all $j = 1, \dots, N$.

For the construction of financial weights, we use the external positions of international banks published in the Bank of International Settlements locational banking statistics. Due to data availability, weights are estimated for 2017. The weights are calculated as the loans of a country *i* vis-à-vis *j* of the country *j* over all the loans of country *i* vis-à-vis the N countries to mirror the relative importance of each country's financial partner.

Regarding the estimation strategy, we follow the procedure suggested by Pesaran et al. (2004) and Dées et al. (2007). We first check that foreign and common global variables are weakly exogenous to ensure that Equation (1) can be independently estimated on a country-by-country basis. We then stack the country-specific domestic and foreign variables to study the dynamic for all the variables and all the considered country simultaneously. More specifically, Equation (1) is rewritten as follows:

$$A_i z_{i,t} = a_{i,0+} a_{i,1t+} B_i z_{i,t-1} + \tau_{i,0} d_t + \tau_{i,1} d_{t-1} + \varepsilon_{i,t} \qquad (5)$$

where $z_{i,t} = (x_{i,t}', x_{i,t}^{*\prime})'$, $A_i = (I, -\psi_{i,0})$ and $B_i = (\Phi_i, -\psi_{i,1})$. A_i and B_i are of dimension $k_i = (k_i + k_i^{*})$ and the rank of $(A_i - B_i)$ gives the number of long run relationships that exist among $x_{i,t}$ and $x_{i,t}^{*}$.

In a last step, we combine the country-specific models into an overall representation. To this aim, we collect all country-specific variables in a $(k * 1)$ vector $x_t = (x'_{0,t}\ ,\ x'_{1,t}, \dots, x'_{N,t})$ with $k = \sum_{i=0}^{N} k_i$. Country-specific variables in terms of x_t are the given by:

$$z_{i,t=}W_i x_t \qquad (6)$$

for all $i = 1, \dots, N$, where W_i is a $(k_i + k_i^*) \times K$ matrix of fixed constants defined in terms of country-specific weights w_{ij}. Then, stacking all country-specific equations, we get:

$$\Gamma x_t = a_{0+} a_{1t+} C x_{t-1} + \tau_0 d_t + \tau_1 d_{t-1} + \varepsilon_t \qquad (7)$$

where $a_0 = \begin{bmatrix} a_{0,0} \\ a_{1,0} \\ \vdots \\ a_{N,0} \end{bmatrix}$, $a_1 = \begin{bmatrix} a_{0,1} \\ a_{1,1} \\ \vdots \\ a_{N,1} \end{bmatrix}$, $\varepsilon_t = \begin{bmatrix} \varepsilon_{0,t} \\ \varepsilon_{1,t} \\ \vdots \\ \varepsilon_{N,t} \end{bmatrix}$, $\Gamma = \begin{bmatrix} A_0 W_0 \\ A_1 W_1 \\ \vdots \\ A_N W_N \end{bmatrix}$, $\mathrm{C} = \begin{bmatrix} B_0 W_0 \\ B_1 W_1 \\ \vdots \\ B_N W_N \end{bmatrix}$, $\tau_0 = \begin{bmatrix} \tau_{0,0} \\ \tau_{1,0} \\ \vdots \\ \tau_{N,0} \end{bmatrix}$

and $\tau_1 = \begin{bmatrix} \tau_{0,1} \\ \tau_{1,1} \\ \vdots \\ \tau_{N,1} \end{bmatrix}$.

Assuming that the $(k * k)$ matrix Γ is nonsingular, we can deduce the GVAR model in its reduced form and solve if recursively so as to predict the future values of x_t:

$$x_t = \Gamma^{-1}(a_{0+} C x_{t-1} + \tau_0 d_t + \tau_1 d_{t-1}) + \varepsilon_t \qquad (8)$$

2.2. Data

We estimate a GVAR model including 11 Euro area countries (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain), 5 other European economies (Denmark, Norway, Sweden, Switzerland, the United Kingdom), and the United States spanning the period 1995Q1–2016Q4. The choice of the period rests on the tradeoff between data availability and a sufficient length of time to estimate our model.

In the spirit of the financial accelerator approach, we select data allowing us to emphasize the roles played by movements in credit and asset (house and equity) prices in shaping the evolution of financial and macroeconomic aggregates at an international level. In other words, our selected

variables can be interpreted as spillover channels. A significant lesson drawn from the Global Financial Crisis is the destabilizing impact of international credit shocks. Our credit variable is the credit to households & NPISHs except for Austria, Ireland, and Switzerland for which we use the credit to the private sector. Data are extracted from the BIS database and expressed in base 100 = 2015. The relationship between the collateral constraint and aggregate credit is proxied by two asset price variables. First, our model includes real house price indices. It is noteworthy that house prices tend to be increasingly driven by real and financial global factors leading to the presence of co-movements across major cities (IMF, 2018). The second asset price variable is equity price as it comoves with business cycles (Claessens and Kose, 2017). These two variables are extracted from the OECD database (100 = 2015).

As macroeconomic variables, our GVAR model includes the consumption price index (CPI), the gross domestic product (GDP) in constant prices, the private final consumption expenditure in constant prices, and the long-term interest rates. CPI, GDP, and private consumption are extracted from OECD database; long-term interest rates from Eurostat except for Norway for which we use Norges Bank data. These macroeconomic variables characterize the business cycle. Our last macroeconomic variable represents the exogenous global one captured by the oil price index (100 = 2015; IMF database).

Our country sample is decomposed in five subregions used in our GVAR baseline estimates. The first one, (denoted *Enorth*), includes the other European countries while the second subregion is related to the United States. The other three subregions concern the Euro area countries. Following Merler (2015), subregions are distinguished according to the magnitude of both credit growth to the private sector, house prices and stock prices:

- Austria, Belgium, Finland, Germany, and the Netherlands are countries exhibiting no significant financial boom over the studied period. This subregion is denoted *Core*;

- France and Italy experimented a moderate financial boom. We name this subregion *Intermed*;

- Greece, Ireland, Portugal, and Spain are countries with the strongest financial boom-bust cycle. Interestingly, we see also that they experimented the strongest GDP fluctuations. Specifically, during the pre-crisis period increase in GDP has been particularly sizeable, followed by a sharp contraction in the aftermath. This last subregion is denoted *Peripheral*.

Our country-specific $VARX^*$ models include seven variables and a global variable given by the oil price. More specifically, the country specific vector of domestic variable is:

$$x_{it} = (pc_{it}, cpi_{it}, gdp_{it}, lir_{it},\ hp_{it},\ sp_{it}, cp_{it})' \tag{9}$$

for $i\ \in \{0, \dots, N\}$.

We include the oil price as endogenous variable in the US model Dees et al. (2007a). The U.S. model is set for $i = 0$. We have:

$$x_{0t} = (pc_{0t}, cpi_{0t}, gdp_{0t}, lir_{0t},\ hp_{0t},\ sp_{0t}, cp_{0t}, oil_{0t})' \tag{10}$$

where oil_{0t} is the oil price index (in logarithm).

The foreign counterpart of these vectors of variables are respectively given by:

$$x_{it}^* = (pc_{it}^*, cpi_{it}^*, gdp_{it}^*, lir_{it}^*, hp_{it}^*, sp_{it}^*, cp_{it}^*)' \tag{11}$$

for $i \in \{0, \dots, N-1\}$, and

$$x_{0t}^* = (cpi_{0t}^*, gdp_{0t}^*, lir_{0t}^* cp_{0t}^*)' \tag{12}$$

The country-specific foreign real variables cpi_{it}^*, $gdp_{it}^*, lir_{it}^*, cp_{it}^*$ are constructed using fixed trade weights (reference year: 2015). Country-specific foreign financial variables $pc_{it}^*, hp_{it}^*, sp_{it}^*$ we use the financial weight matrix based on 2017.

Given the importance of the U.S. financial variables in the global economy, the U.S. specific foreign financial variables, $pc_{it}^*, hp_{it}^*, sp_{it}^*$ are not included in the U.S. model as they are unlikely to be long run forcing with respect to the U.S. domestic financial variables.[2]

3. Results

The results of the GVAR model estimates are analyzed from a dual perspective. On the one hand, we are particularly interested in the impact of financial shocks. More specifically, in the spirit of the accelerator model, we pay particular attention to credit-driven and financial asset-driven fluctuations. To this end, we successively consider three types of shocks: credit, house prices, and share prices. On the other hand, we seek to see to what extent there are asymmetries in terms of transmission of these financial shocks from the United States and the Euro area (divided into three sub-regions). In other words, we focus our attention (i) on the impact of American (European) financial shocks on certain European (American) domestic variables and (ii) on the magnitude of the responses of European variables to American and European shocks. In other words, to what extent do US financial shocks exert a greater influence than intra-European shocks? In the rest of this section, we focus our attention on the responses of financial variables and GDP by considering only the international effects of financial shocks.[3]

3.1. Credit to the private sector shock

Positive private credit shock in the United States (Figure 1 in appendix) exhibits sizeable spillover effects, especially for the three Euro area subregions (12 quarters) and to a lesser extent in *Enorth* region (8 quarters). In the aftermath of the U.S. shock, GDP increases in *Core* and *Intermed* over 11-12 quarters while the response is short-lived in *Enorth*. For Peripheral Euro area subregion, GDP

[2] Preliminary tests have been performed. Weak exogeneity tests show that the weak exogeneity hypothesis is never rejected for each of the foreign variables. Parameter stability tests suggest that our model is stable despite the Global Financial Crisis. Finally, according to persistence profile test, the model returns to equilibrium within 5 years.
[3] All results are available from the authors upon request.

response is positive but insignificant. Interestingly, our results suggest that a positive U.S. credit shock does not exert a significant influence on asset prices on other regions or subregions. Specifically, responses are either insignificant (house prices) or short-lived (*Peripheral* and *Enorth* for share prices).

For Euro area, we find that spillover effects remain largely confined to a regional dimension. Specifically, except for the private credit when responses are positive and persistent in other Euro area subgroups, *Peripheral* countries do not exhibit significant external transmission effects (Figures 4). *Intermed* and *Core* countries exert an influence on other Euro area economies, but such influence is limited to private credit and GDP (Figures 2-3). Importantly, all Euro area subgroups exhibit a similar pattern for asset prices. On the one hand, a positive credit shock in a subgroup does not lead to a synchronization in house prices over the studied period as responses are insignificant. For share prices, we see that responses are either insignificant or positive at the impact only, whatever the origin of the shock from a Euro area subregion.

These findings are consistent with those of Eickemeier and Ng (2015) who find that the U.S. credit supply shocks exert a stronger negative effect on foreign GDP than those from the Euro area and Japan. Our results also converge with the literature on the global financial cycle (Rey, 2013, Dées and Galesi, 2021). However, compared to the literature, we also identify more sizeable international spillover effects from U.S. private credit shocks than transmission ones from Euro area subregions. This suggests the existence of a form of double asymmetry: one stemming from the effects of American (European) shocks on European (American) variables and the other linked to the fact that European variables are more influenced by American shocks than by intra-European shocks.

3.2. House prices shocks

House prices shocks are of particular interest as developments in housing markets in advanced economies have played a significant role in the accumulation of financial disequilibria leading to the

global financial crisis. In addition, housing markets have amplified the recession's macroeconomic effects.

Regarding spillovers from the United States (Figures 1), it is worth highlighting the overall significant and persistent impact of U.S. house prices shock. In all European regions, private credit increases in the aftermath of the positive U.S. house prices shock. Private credit exhibits both inertia -as responses are significant after 6 quarters in all Euro area subregions and 2 quarters in *Enorth*- and lasting impact as responses remain significant for almost 20 quarters. Except in *Peripheral* subgroup, the shock is accompanied by an increase in GDP with a long-lasting impact. GDP reacts with a lag of 2-6 quarters but remains positive thereafter. Share prices do not react at the impact of the shock but increase after 2 quarters. However, responses tend be relatively short-lived especially in Euro area subregions. Last but not least, house prices are the only variable that does not react significantly to the U.S. shock, the only exception being the *Enorth* region for 6 quarters. It should however be stressed that the responses have the expected theoretical sign (positive).

A striking result is that the spillover effects from the Euro area are very weak, especially towards the United States and the *Enorth* region. House prices shock from *Core* subregion exhibits positive spillovers in all regions (Figures 2), but responses are significant only for *Intermed* (2-18 quarters) and *Peripheral* (3-15 quarters). The shock elicits insignificant responses for other variables. However, it should be noted that many of the responses have the expected effects in the sense that a positive house price shock has an expansionary macroeconomic effect. Figures 3 show that positive house prices shock in *Intermed* lead to an increase in house prices in other regions. But responses are significantly different from zero only in *Peripheral* Euro area subregion (over 16 quarters). In a similar way, we identify positive and significant responses for GDP in *Peripheral* euro area subregion. These results suggest a very weak transmission from *Intermed* subgroup to other regions. We identify even weaker spillover effects from *Peripheral* Euro area subregion.

Our findings for house price shocks confirm the asymmetry between the respective effects of US (European) shocks on European (US) variables. However, the magnitude of the transmission of US house price shocks is smaller than that found for credit shocks. Two main explanations can be put forward. On the one hand, even if we observe an increase in the co-movements of house prices between countries in recent years, houses remain a non-tradable asset that mainly responds to domestic factors. On the other hand, our model does not capture the variables traditionally put forward to explain these international co-movements, namely to mortgage-to-GDP ratios and home ownership ratios (Claessens, and Kose, 2017). If we consider only the Euro area, our results are in line with Vansteenkiste and Hiebert (2011) who find that spillovers from country-specific house price shocks are relatively low in the Euro area. This last finding may explain the presence of a double asymmetry between the United States and the Euro area, even if it is of lesser magnitude than those identified for private credit shocks.

3.3. Equity prices shocks

Positive U.S. equity prices shocks exert a sizeable and persistent influence on foreign equity prices (Figures 1). By contrast, euro area subregions tend to affect only other Euro area equity markets. Spillovers to non-Euro area countries are short-lived. An interesting exception is the *Peripheral* subgroup (Figures 4) for which positive equity prices shock leads to an increase in *Enorth* equity prices from Q4 to Q11 and in the United States equity prices over four quarters (Q5-Q9). These findings confirm the global impact of U.S. financial shocks while those of Euro area are more regional. Spillovers from U.S. and Euro area equity prices shocks have insignificant or very short-lived influence on other variables included in the GVAR model. These results are in line with Ehrmann et al. (2011) who estimate a multifactor model to assess the two-ways international financial transmission between the United States and the Euro area for seven asset prices over the period 1989–2008. They find that U.S. financial markets explain a significant larger part of euro area

prices changes than the influence exerted by euro area financial markets on U.S. In addition, the absence of a significant impact of stock price shocks on the other variables of our model can be explained by the fact that these shocks have an impact that does not exert significant permanent effects.

4. Policy implications: An international political economy perspective

The main striking results of the previous section can be summarized as follows: (i) international spillover effects from the U.S. private credit shocks exert a stronger influence than spillovers from the Euro area subregions; (ii) U.S. financial shocks have a global impact whereas Euro area ones tend to be regional. In other words, the United States has the decisive weight of in the international transmission of financial shocks. As stressed in the introduction of this paper, we contribute to the literature by advancing policy implications based on an International Political Economy perspective. Specifically, our framework draws from the concept on "complex interdependence" (Keohane and Nye, 1977). It challenges the state-centric realist paradigm by highlighting the increasing role of transnational actors who tend to fragment power in the world economy. However, "complex interdependence" investigates to what extent interdependence is a source of power through a corollary concept, namely the "asymmetrical interdependence" between actors. "Power, in general, could be understood to consist of a state's control over that for which others are dependent on it." (Cohen, 2015: 36).[4] Keohane and Nye (1977) distinguish two types of asymmetric interdependence. The first is the "sensitivity interdependence" that refers "to the costly effects of cross-border flows on societies and governments, within an unchanged framework of basic policies." (Keohane and Nye, 2012 [1977]: 232). A typical example is the international influence of U.S. stock exchange. The

[4] Of course, the concept of power inequalities is not entirely new. The American economist Hirschman (1945) and the French economist Perroux (1948) contributed decisively to its development. But it is important to bear in mind the fact that mainstream economics has largely disregarded the question of power in its analyses, particularly in terms of international economic relations.

second is “vulnerability interdependence” in which actors “decide on strategies” (*ibidem*: 14) leading to changes within a framework of policies. The U.S. unilateral decision to suspend the dollar convertibility into gold on August 15th 1971. Importantly, to the extent that the ability of nations to modify the framework of economic policies and/or the rules of the game differs between them, the “vulnerability interdependence” can be interpreted as a source of power in the sense that it implies an ability to control the results, and therefore to influence other actors. States widen their political space, *i.e.* the various strategic choices which are offered to them in a context of interdependence. However, the capacity of a state to influence others is based on a precondition: the ability to carry out autonomous policies, *i.e.* policies not influenced from outside. We follow Cohen (2015: 30) who highlighted the fundamental distinction between influence (“power over”, the external dimension of power) and autonomy (“power to” the internal dimension of power). From this perspective, the implications in terms of the Euro area's strategic choices in a context of asymmetric financial interdependencies are critically based on measures aimed at regaining a capacity for autonomy before considering any real international influence. It is important to stress that Euro area countries have deepened their integration into an international environment based on multilateralism. Influenced by the rationalism of the Age of Enlightenment and free trade, European nations and institutions have favored a strategy based on respect for the rules of multilateralism without worrying about the geopolitical dimension of international economic relations. In other words, *de facto* the Europeans have accepted the leadership role held by the Americans in the international liberal order. This behavior has led, on the one hand, to the domination of the dollar as the pivotal international currency and, on the other hand, to the pre-eminence of American views on financial deregulation, which has thus given a central place to the American financial system at the level global. The results of our GVAR can be interpreted in this way. They confirm the role of global banks – most of them American –as a major world transmission channel of changes in the monetary policy

of the United States *via* various channels such as the financial channels, the credit channel and/or the exchange rate channel (Bruno and Shin, 2015). They also suggest that the Euro area has not yet been able to deflect shocks from the U.S. financial system. The bankruptcy of the American bank Silicon Valley Bank is very representative of the "sensitivity dependence" of European banks. Banking strains in Europe contrast with the weak reaction of US banks to the Greek banking crisis in 2011 (Allegret et al., 2017).

Meanwhile, the global political environment has undergone profound changes in terms of world politics. First, the global financial crisis of 2008-2009 weakened the United States' capacity for political influence by casting doubt on the merits of the financial deregulation promoted by the Reagan, Bush, and Clinton administrations. Importantly, as Kirshner (2014) has pointed out, ""a new heterogeneity of thinking" [has emerged] with regard to ideas about how to best manage domestic and international money and finance." (p.2). Secondly, the U.S. administration has gradually adopted a unilateral approach in the management of interdependences going so far as to adopt measures that may be contrary to the interests of its allies. A particularly significant case is the use of currency as a weapon, what Farrell and Newman (2019) have called "Weaponized Interdependence". At this level, the extraterritoriality of U.S. plays a decisive role in the increasing tensions between the United States and its traditional allies. Finally, if the United States has benefited from a "unipolar moment" in the aftermath of the collapse of the Soviet bloc, the decade of 2010 was marked by a return to power competition. These movements call for economic measures on the part of the Euro area favoring its "geopoliticization" or what Baldwin (1985) called "economic statecraft".

Since the end of the 2010s, the European Commission has clearly changed its attitude. More specifically, after adopting a passive attitude vis-à-vis the international issues of the euro, like the European Central Bank, more and more members of the Commission are putting forward

geopolitical arguments to defend two related strategic choices. The first relates to the Euro area's dependence on the US dollar. As Josep Borrell pointed out in 2021, "to increase EU's strategic autonomy, an excessive dependence on the dollar is one of our weaknesses."[5]

In December 2018, the Commission launched a consultation with private and public market players regarding their expectations on the internationalization of the euro. This consultation is important because the history of monetary rivalries suggests that the internationalization of a domestic currency depends on demand factors (on this point, see Cohen, 2015). However, the internationalization of the currency also relies on the expression of political will.[6] From this point of view, the reaction of the European Union to the intensification of the weaponization of the SWIFT (Society for Worldwide Interbank Financial Telecommunication) network by President Donald Trump in 2018 is a turning point. Specifically, whereas in previous years the European Union had rather supported American initiatives concerning the SWIFT network, this time the countries of the Union considered that the unilateral decision of the United States went against their interests. As a result, E.U. countries have taken initiatives aimed at reducing dependence on American financial power. To this end, the INSTEX (Instrument in Support of Trade Exchanges) was created in 2019 to facilitate payments for trade transactions between the European Union and Iran. If the system has not been effective - it was closed in January 2023 after the completion of a single transaction - it nevertheless represents an important step in the geopolitical positioning of the European Union and the Euro area. In addition, the central bank digital currencies (CBDCs) open new perspectives in terms of monetary rivalries. As pointed out by Eichengreen et al. (2018), digital technologies tend to significantly reduce the traditional inertia observed in the internationalization of currencies. An

[5] Josep Borrell is the High Representative of the European Union for Foreign Affairs and Security Policy and the Vice-President of the European Commission. See the HR/VP Blog, "Taking action to protect our economic sovereignty", 26 01 2021.

[6] Eichengreen (2011, chapter 2) offers an interesting analysis of the US dollar experience between the 1910s and 1920s.

important consequence is that the digitization of money is likely to accelerate the internationalization of a domestic currency, thus leading to a profound upheaval in monetary rivalries. China has already launched its e-CNY experiment. The objectives of the Chinese CBDC are twofold: on the one hand, to improve the efficiency of the payment system and the financial system in China; on the other hand, to promote the internationalization of the renminbi in a context of geopolitical competition with the United States. The e-CNY is fundamentally an instrument of "geonomics" (Blackwill and Harris, 2016). The Euro area is relatively advanced in its digital currency project. In the competition between powers, we consider that the future digital euro could be an effective tool to gain autonomy vis-à-vis the United States. Indeed, digitization makes international payment systems more efficient both in terms of cost and speed. There is therefore an incentive for the markets to use this type of instrument. This point is all the more important since so far the United States does not seem willing to seize the opportunity to shape the future digital international monetary system.

Sensitivity interdependence raises the question of future developments in European financial systems. The conventional wisdom rests on the deepening of the Banking Union and the Capital Markets Union. The objective is to allow international investors to access more liquid and deep markets. It is also a matter of increasing the supply of safe assets in euros. Here again, the implementation of the new Next Generation EU (NGEU) recovery fund is an important step in the search for increased autonomy. It marks a rupture in the policy adopted hitherto by the European Union. These initiatives are consistent with the process of internationalization of currencies. Indeed, no significant international currency has emerged without a large financial system. However, the results of our GVAR model, which suggest a strong centrality of the United States within the global financial system network, leads us to suggest a complementary orientation to that adopted so far. Specifically, most European countries accompanied the financial deregulation initiated by the

United States by favoring the marketization of banks to the detriment of their traditional credit activity. The European countries could regain a certain autonomy by instigating reforms going in the direction of a densification between the bank and the industry. Historically, close relationship that has fostered European economic development. Moreover, despite a large body of literature, there is no definitive evidence to suggest that financial markets perform better than credit-based economies from a growth perspective. The objective here is to reconnect with the DNA of European countries, DNA that has been dissolved in a form of Americanization of our financial systems which, far from strengthening them, has on the contrary accentuated their dependence on the dollar.

5. Conclusion

This paper analyzed the financial interdependencies between the United States and the Euro area by estimating a GVAR model covering the period 1995Q1-2016Q4. The econometric model is based on certain relations expected from a model of the financial accelerator type. Our contribution to the literature is to marry (in the sense of Gilpin (1975)) our results with an approach in terms of international political economy. This approach allowed us to identify the asymmetrical interdependence between the United States and the Euro area and to identify certain recommendations intended to increase the autonomy of the Euro area.

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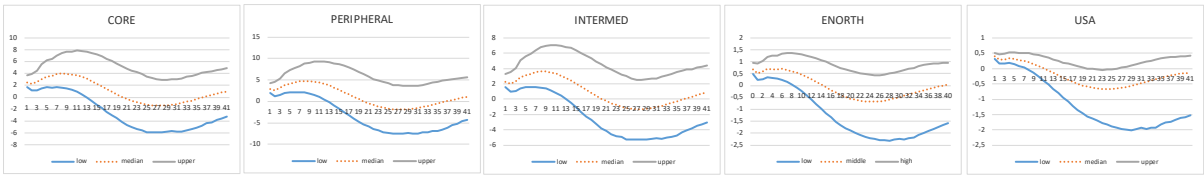
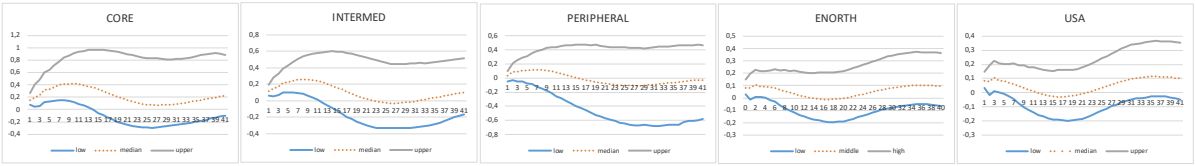
Appendix

Figures 1
U.S. private credit shock

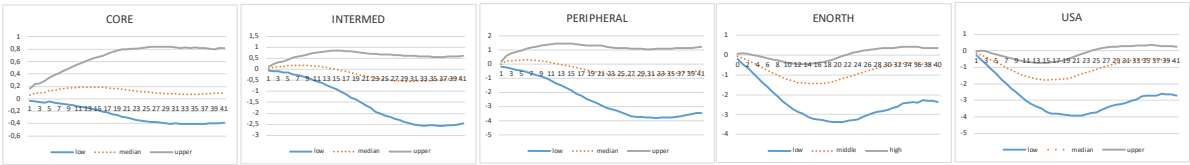
Responses of private credit



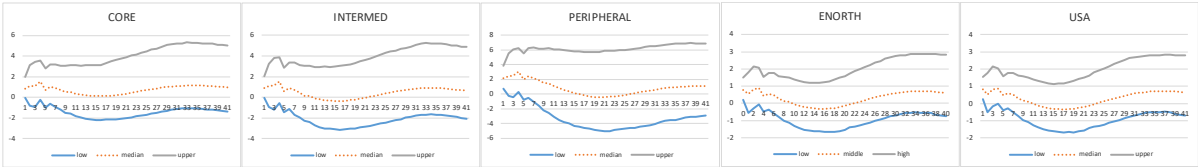
Responses of GDP



Responses of house prices

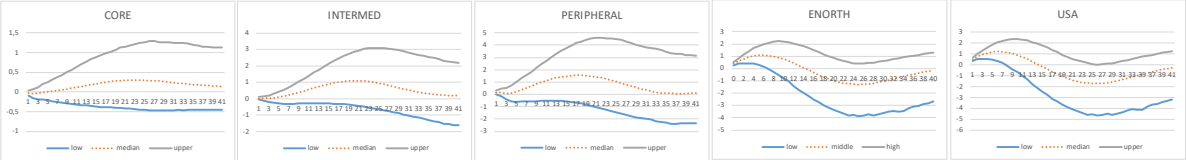


Responses of share prices

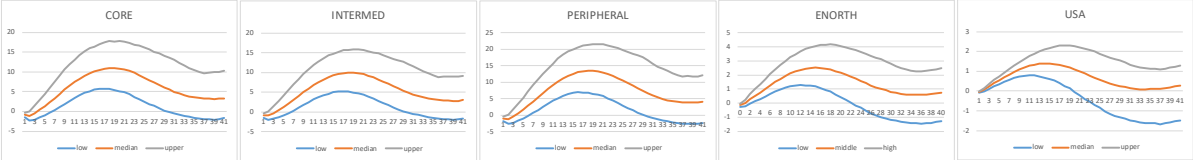


U.S. House prices shocks

Responses of house prices



Responses of private credit



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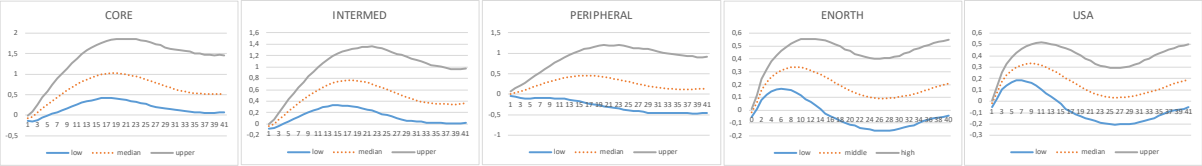

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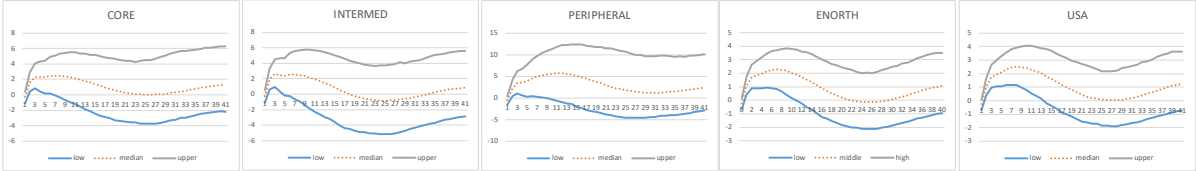
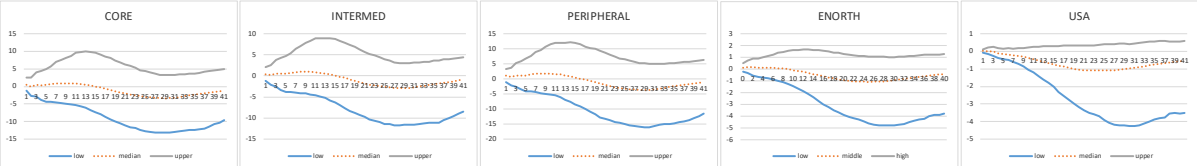
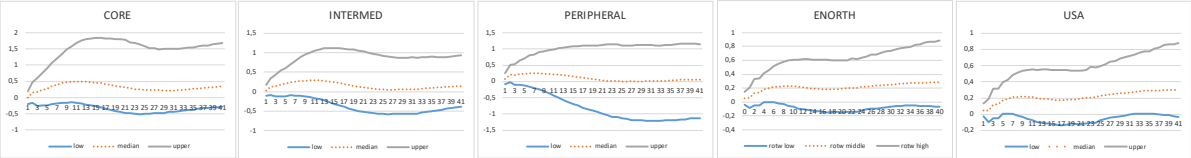


U.S. Equity price shocks

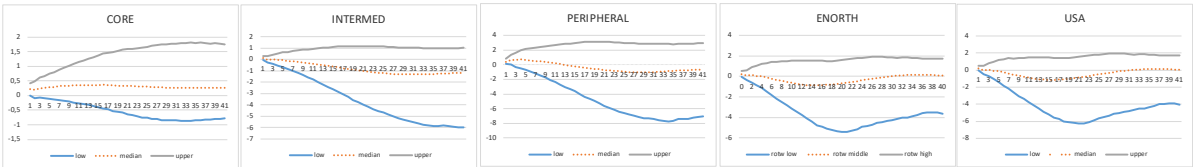
Responses of private credit



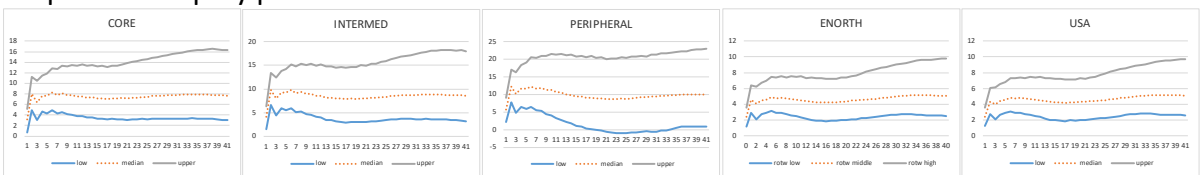
Responses of GDP



Responses of house prices



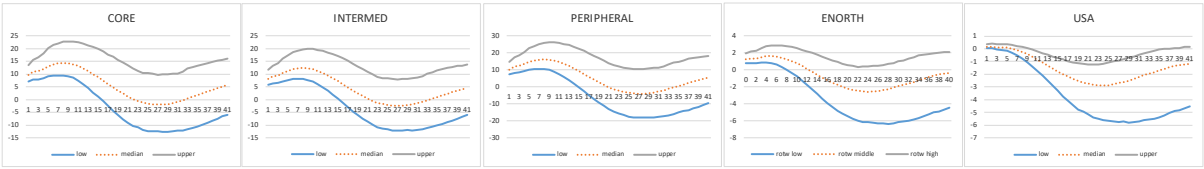
Response of equity prices



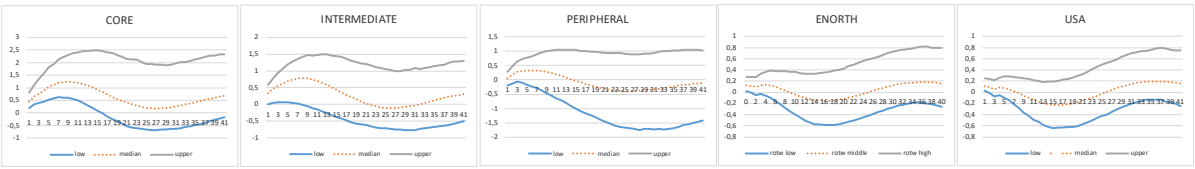
Figures 2

Core euro area private credit shock

Responses of private credit shock



Responses of GDP



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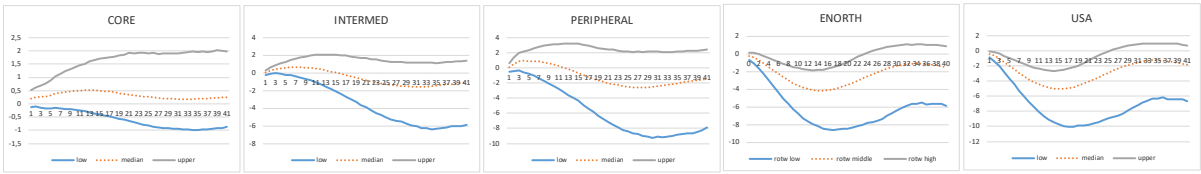
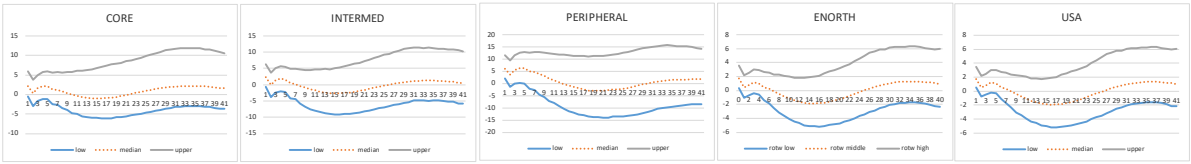
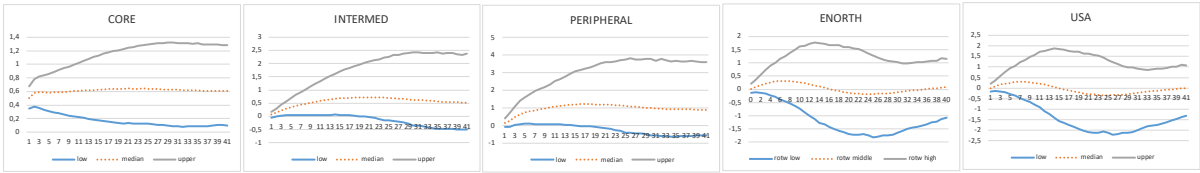


Responses of share prices

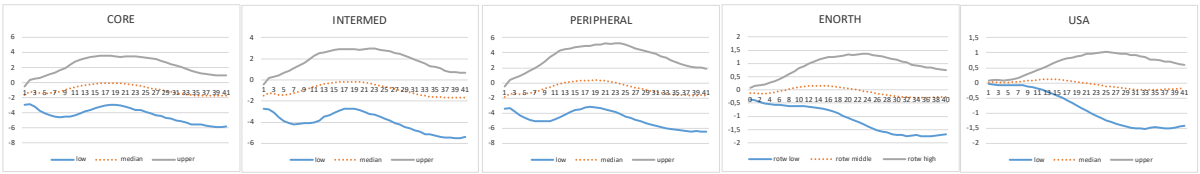


Core euro area House prices shocks

Responses of house prices



Responses of private credit



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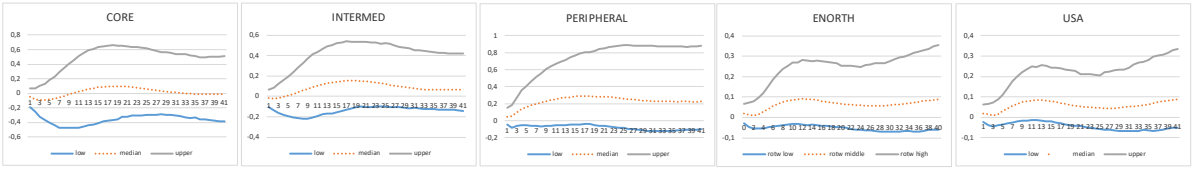

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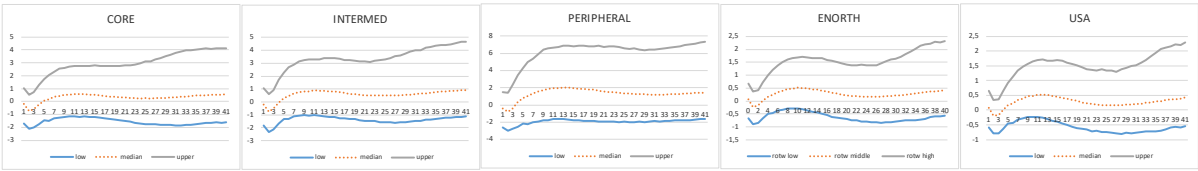
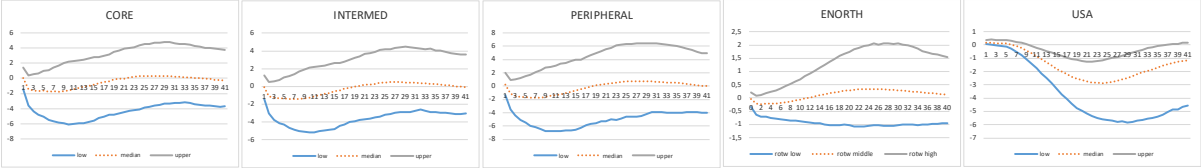


Core euro area Equity price shocks

Responses of private credit



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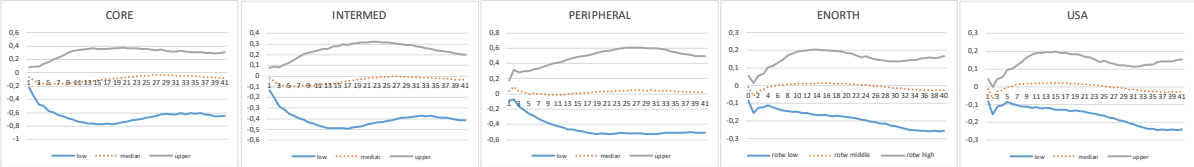

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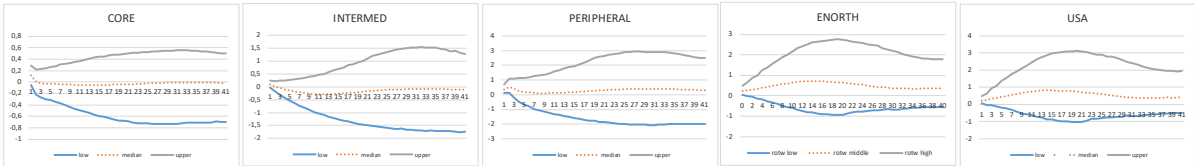
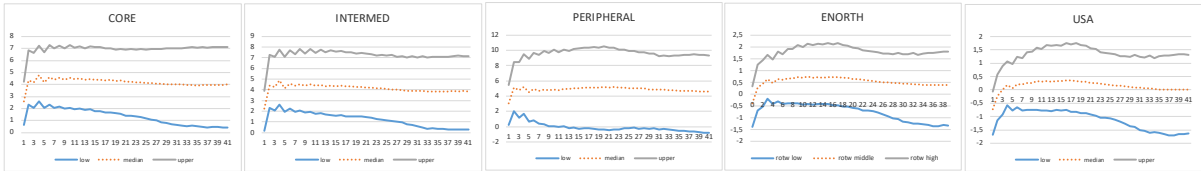


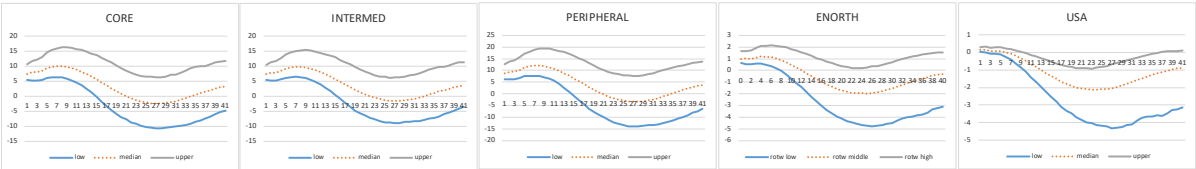
Response of equity prices



Figures 3

Intermed euro area private credit shock

Responses of private credit



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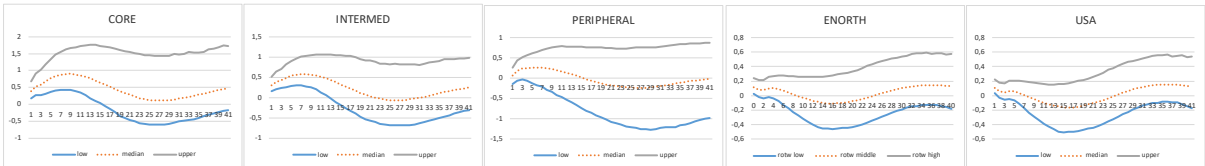

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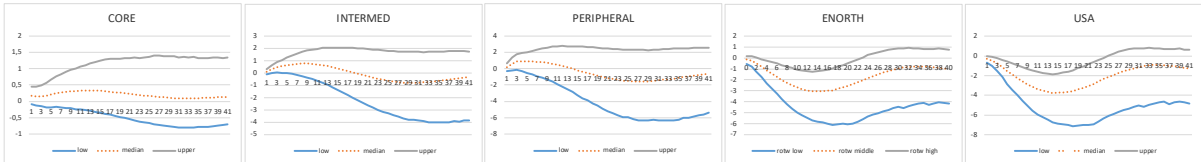
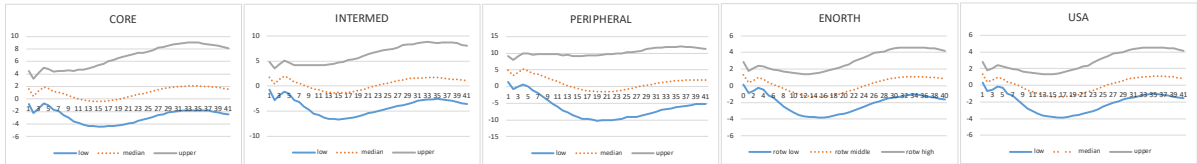
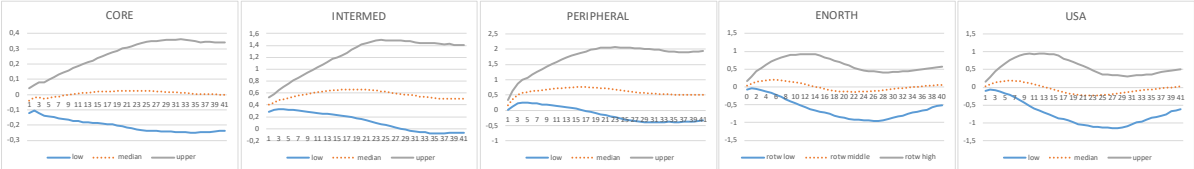


Responses of share prices

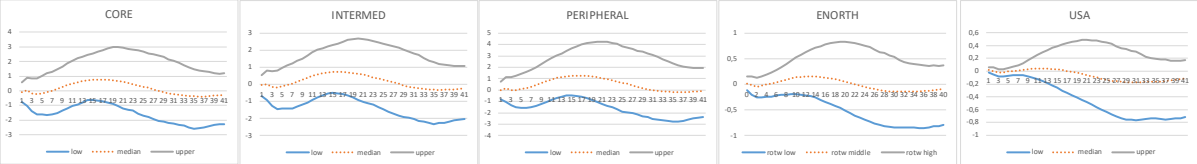


Intermed euro area House prices shocks

Responses of house prices



Responses of private credit



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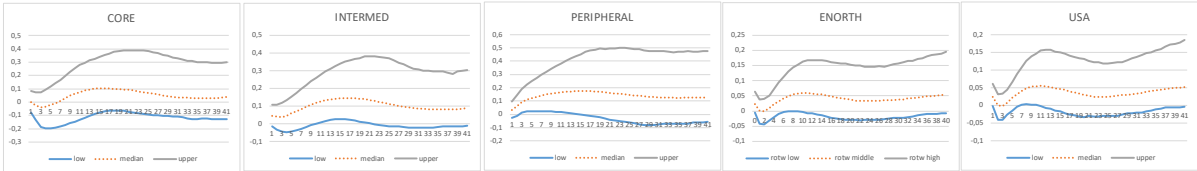
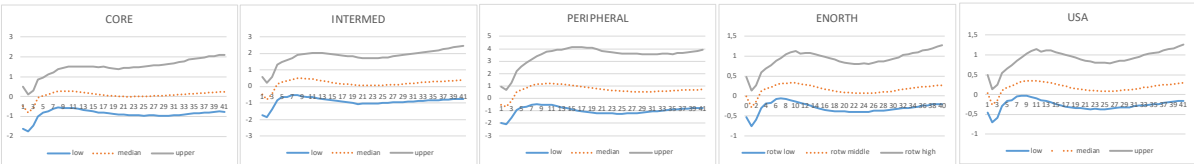
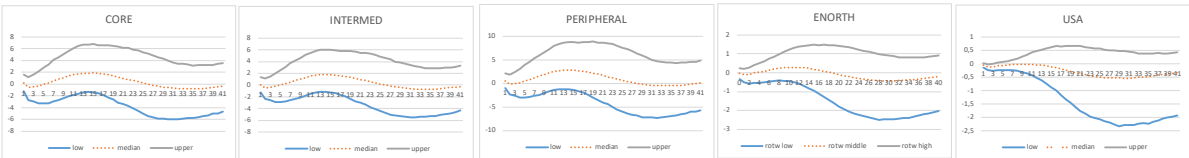


Responses of share prices

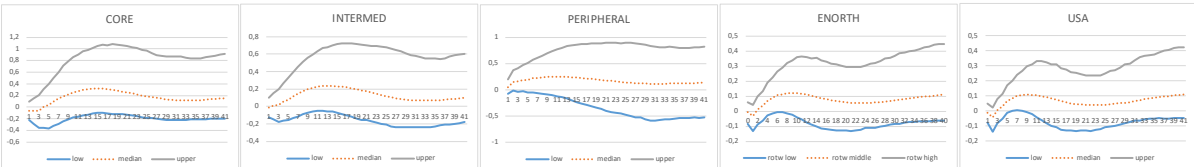


Intermed euro area Equity price shocks

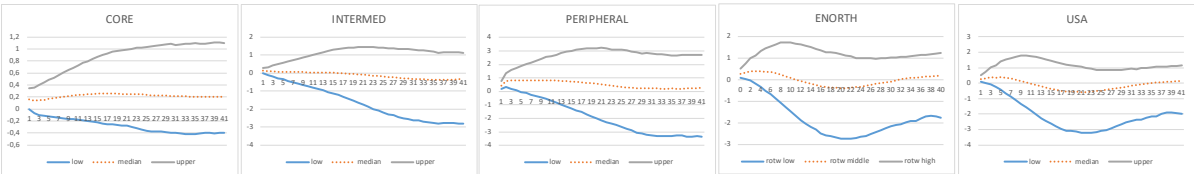
Responses of private credit



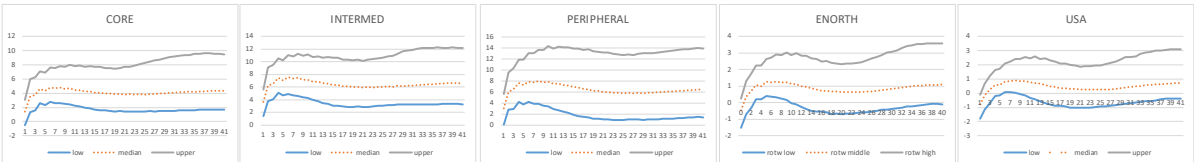
Responses of GDP



Responses of house prices



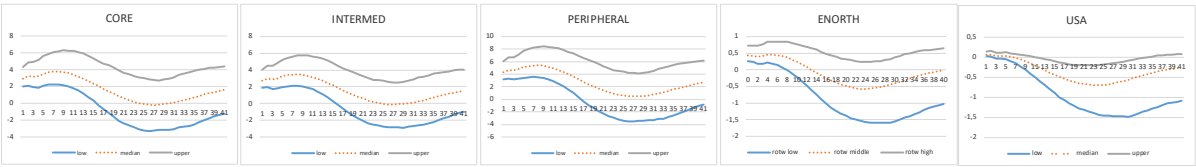
Response of equity prices



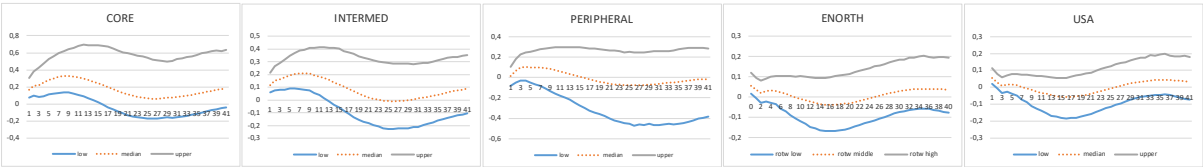
Figures 4

Peripheral euro area private credit shock

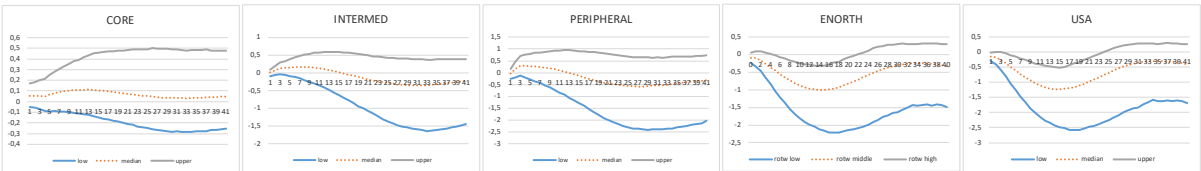
Responses of private credit



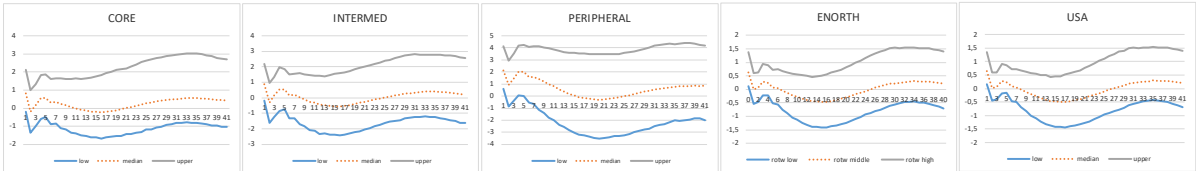
Responses of GDP



Responses of house prices

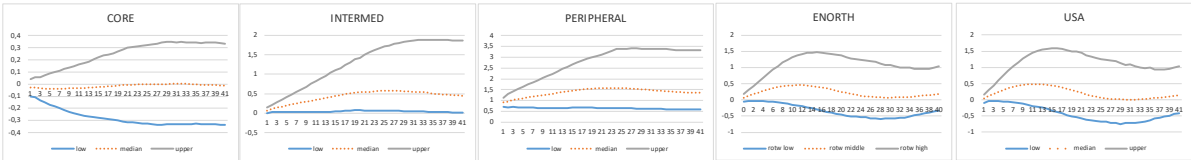


Responses of share prices

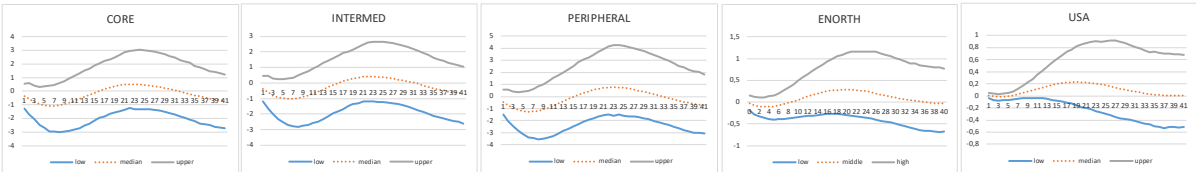


Peripheral euro area House prices shocks

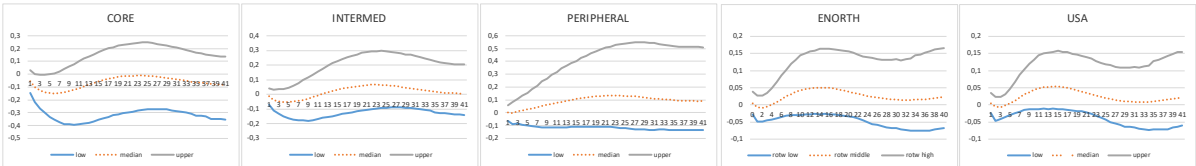
Responses of house prices



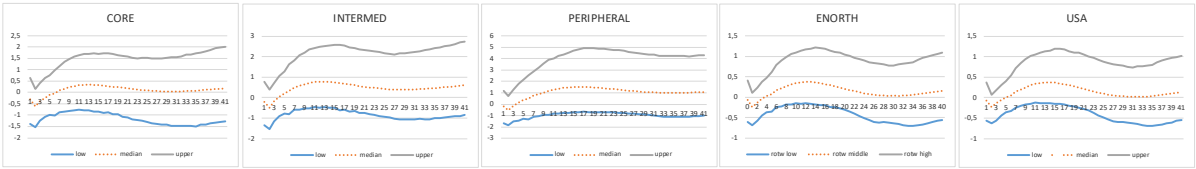
Responses of private credit



Responses of GDP

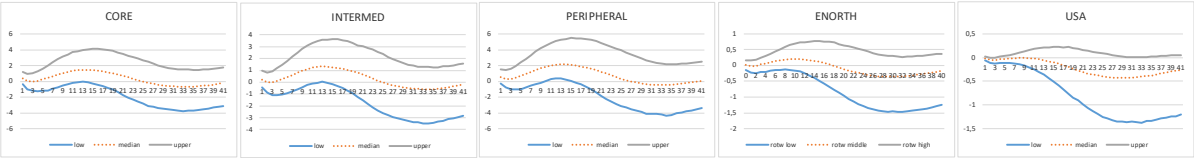


Responses of share prices

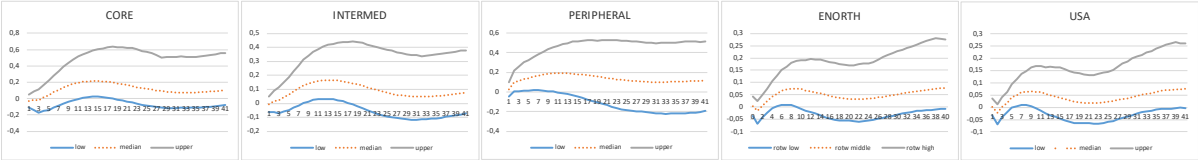


Peripheral euro area Equity price shocks

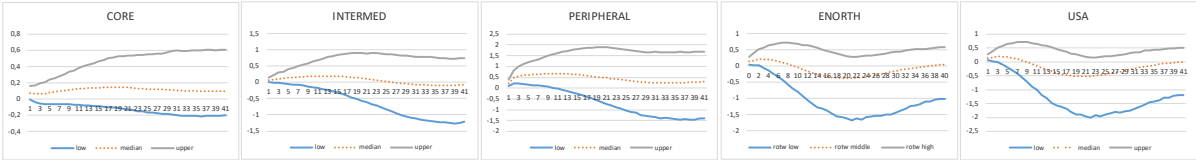
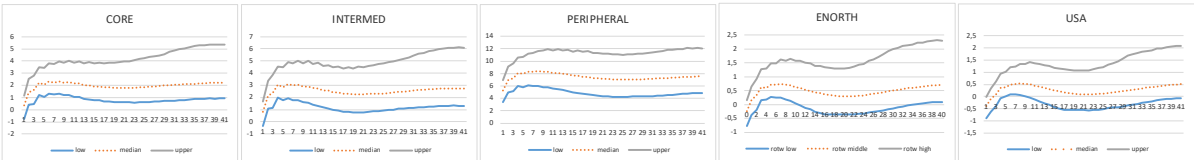
Responses of private credit



Responses of GDP



Responses of house prices



Response of equity prices