Universidad de
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Departamento de Economía (Department of Economics)

Maestría en Economía (MS in Economics)

Online Appendix

Economic Policy Uncertainty and Foreign Investment in Emerging Economies. An empirical study for Brazil, Chile, Colombia, and Greece

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Abstract

In this file are all the Impulse Response Functions (IRFs) corresponding to the Structural Vector Autoregressive (SVARs) model estimations. They are reported by model and the sections are organized by country and identification assumption. The first section is a review of the orderings (Section 3 of Thesis).

Resumen

En este archivo se encuentran todas las funciones de respuesta al impulso (IRFs) para las estimaciones de los modelos de vectores autoregresivos estructurales (SVARs). Se reportan por modelo y las secciones se organizan por país y supuesto de identificación. La primera sección es un repaso de os órdenes (Sección 3 de la Tesis).

Contents

1 Identification strategy

We estimate the effect of economic policy uncertainty with a Structural Vector Autoregressive (SVAR) analysis. The vector autoregressive (VAR) model is a standard approach for multivariate time series analysis, and it consists of a system of regression equations. VAR models exploit the time-series variation in the data and are estimated by regressing each model variable on lags of its own as well as lags of the other model variables up to some prespecified maximum lag order (P). In a VAR model, every variable is endogenous because it depends on its own lags as well as the lags of every other model variable (Kilian and Lütkepohl, 2017).

If we define y_t as the vector of variables of interest in the period t, Π as the vector of constants, Φ_p as the matrix of coefficients on $t-p$ (for $p = 1, 2, ..., P$) and e_t as the vector of errors, we can write the VAR model as is shown in the equation (1).

$$y_t = \Pi + \sum_p \Phi_p * y_{t-p} + e_t \tag{1}$$

Nevertheless, the estimation of the equation (1) cannot provide a consistent estimation of the effects of any variable. Since the matrix $Var(e_t) = \Sigma$ is not diagonal, it contains news about the three variables, and we cannot isolate causal effects. It can be thought as the equivalent of having omitted variables in every regression equation to be estimated. As Kilian and Lütkepohl (2017) highlight, an econometric model is structural if each equation's errors or stochastic shocks are mutually uncorrelated. When specified in a structural form, the model allows considering situations in which one structural shock moves while leaving all other shocks unchanged. Then, we need to impose identification assumptions. As Kilian and Lütkepohl (2017) suggest, a possible way to view the identification problem is to consider a new set of shocks µt, created by linear combinations of the original errors, e_t. This is shown in the equation (2), where Q is a rotation matrix.

This is shown in the equation (2), where Q is a rotation matrix.

$$\mu_t = Q * e_t \tag{2}$$

This new set of shocks is orthogonal because we are imposing contemporaneous relationships between the variables in the system. In some sense, it is equivalent to assume a certain data structure, and because of this, the new shocks are called structural shocks and the model becomes a Structural VAR. Regarding Q, infinite combinations of elements make the matrix achieve orthogonalization. As we are interested only in the identification of shocks in EPU, we only need to impose partial identification, in the sense that we are not interested in a consistent definition or estimation of all coefficients in the system.

As Kilian and Lütkepohl (2017) analysis shows, a standard VAR model is a reduced-form model, but a structural VAR model allows thinking in terms of variation in the data, driven by cumulative effects of economically interpretable shocks. Consequently, Baker, Bloom, and Davis (2016) postulate that drawing causal inferences from VARs is «extremely challenging », but they are useful for characterizing dynamic relationships (p. 1628). Even when the identification assumptions are clearly stronger than those used in microeconomic causal studies, the lack (or difficulty in the finding) of natural experiments in macroeconomics has made them a standard tool (Christiano, Eichenbaum and Evans, 1999).

The usual restrictions consist of short and long-term restrictions in the relationship between the variables, but there are more alternatives, such as signs or moment-based (Kilian and Lütkepohl, 2017). The election of the restrictions depends on previous theory and stylized facts in the topic of interest. Consequently, as usual in the literature of policy uncertainty, we impose short-run recursive restrictions in our study. The identification assumption is a contemporaneous causal order between the variables. This ordering implies that the first shock is uncorrelated with others, the second is correlated only with the first, the third with the first and second, and so on. Naturally, with longer periods, this will be more difficult to maintain.

1.1 First ordering: EPU first

In particular, with global or «exogenous» variables, we can impose the order of equation (3) as a first alternative.

$$\begin{bmatrix} global_t \\ epu_t \\ investment_t \end{bmatrix} = y_t \tag{3}$$

What does it imply? This order is equivalent to assuming that in the period t, the shock of the global variable is uncorrelated with the others. In some sense, it works like an exogenous variable. After, the economic policy uncertainty (EPU) can be affected for the global variable but not from the investment variable in the period t.

Finally, the investment can respond to the others. Naturally, all variables can respond to the lagged values of the others.

If the local GDP is included, the order will be as in equation (4). It is equivalent to imposing that the shocks in uncertainty are uncorrelated with the contemporaneous shocks in GDP and investments variables.

$$\begin{bmatrix} epu_t \\ gdp_t \\ investment_t \end{bmatrix} = y_t \tag{4}$$

1.2 Second ordering: EPU last

As a second alternative, we can think that EPU is an endogenous response to the investment conditions. As mentioned in the literature review, some models imply feedback process or uncertainty being a response to worsening economic conditions. Thus, including an alternative order is a robustness check. This ordering is equivalent to assuming that in the period t, the investment variable can be affected for the global variable but not from the economic policy uncertainty (EPU). After, the EPU responds to the two other variables. This can be seen in the equation (5).

$$\begin{bmatrix} global_t \\ investment_t \\ epu_t \end{bmatrix} = y_t \tag{5}$$

If we include the local GDP, the order is shown in equation (6). It implies that GDP shocks are contemporaneously uncorrelated with the others. Meanwhile, the investment variable can respond to these activities shocks, and the other two shocks affect the uncertainty.

$$\begin{bmatrix} gdp_t \\ investment_t \\ epu_t \end{bmatrix} = y_t \tag{6}$$

1.3 Third ordering: EPU in the middle for GDP model

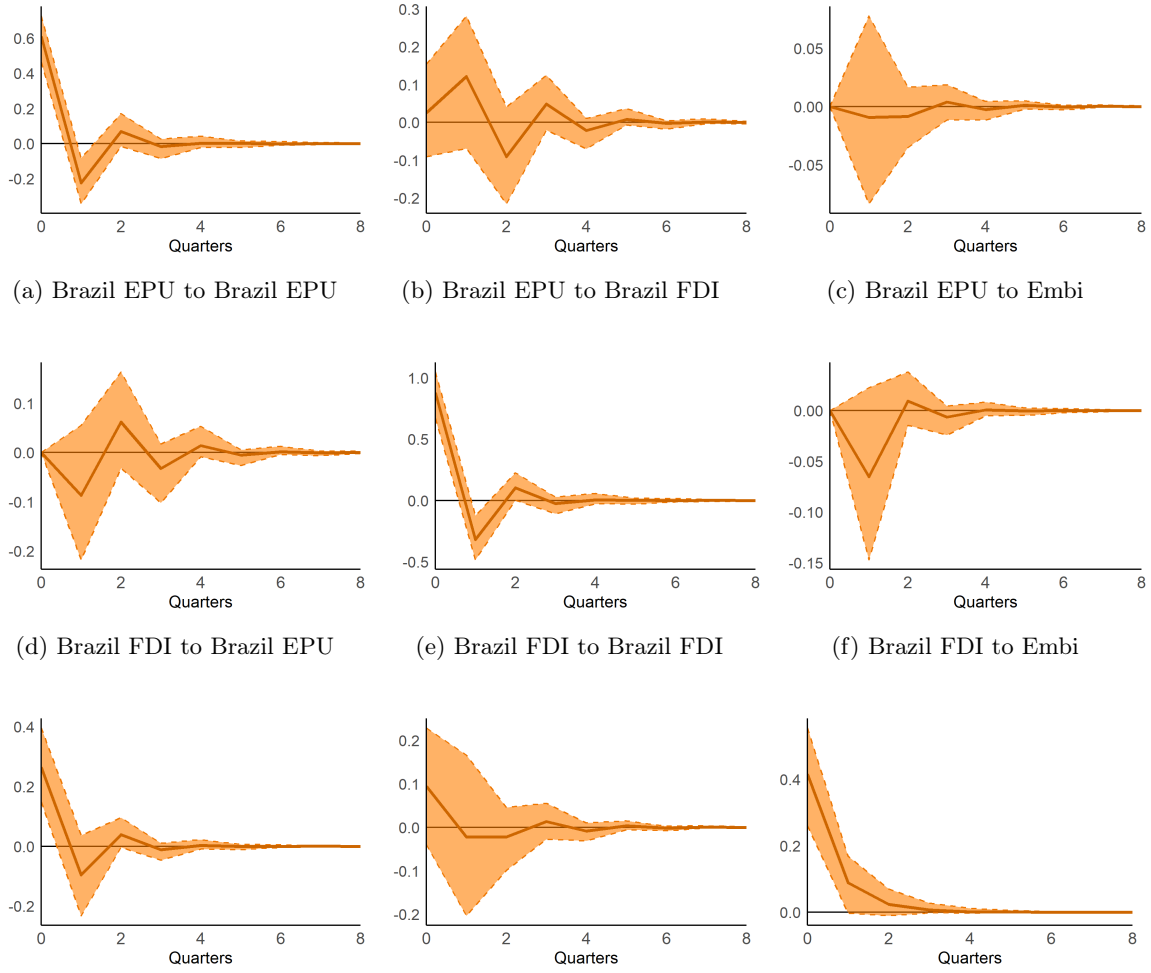
Finally, we can consider the EPU as an intermediate response between investment and GDP as an additional robustness check. This ordering is equivalent to situations with investment responding to GDP and EPU shocks contemporaneously, while the EPU only reacts to GDP shocks. The GDP shocks would be uncorrelated to other contemporaneous shocks, as in the second ordering. This third ordering is shown in the equation (7).

$$\begin{bmatrix} gdp_t \\ epu_t \\ investment_t \end{bmatrix} = y_t \tag{7}$$

2 Brazil

2.1 First Ordering

2.1.1 FDI with EMBI as control. VAR (1)



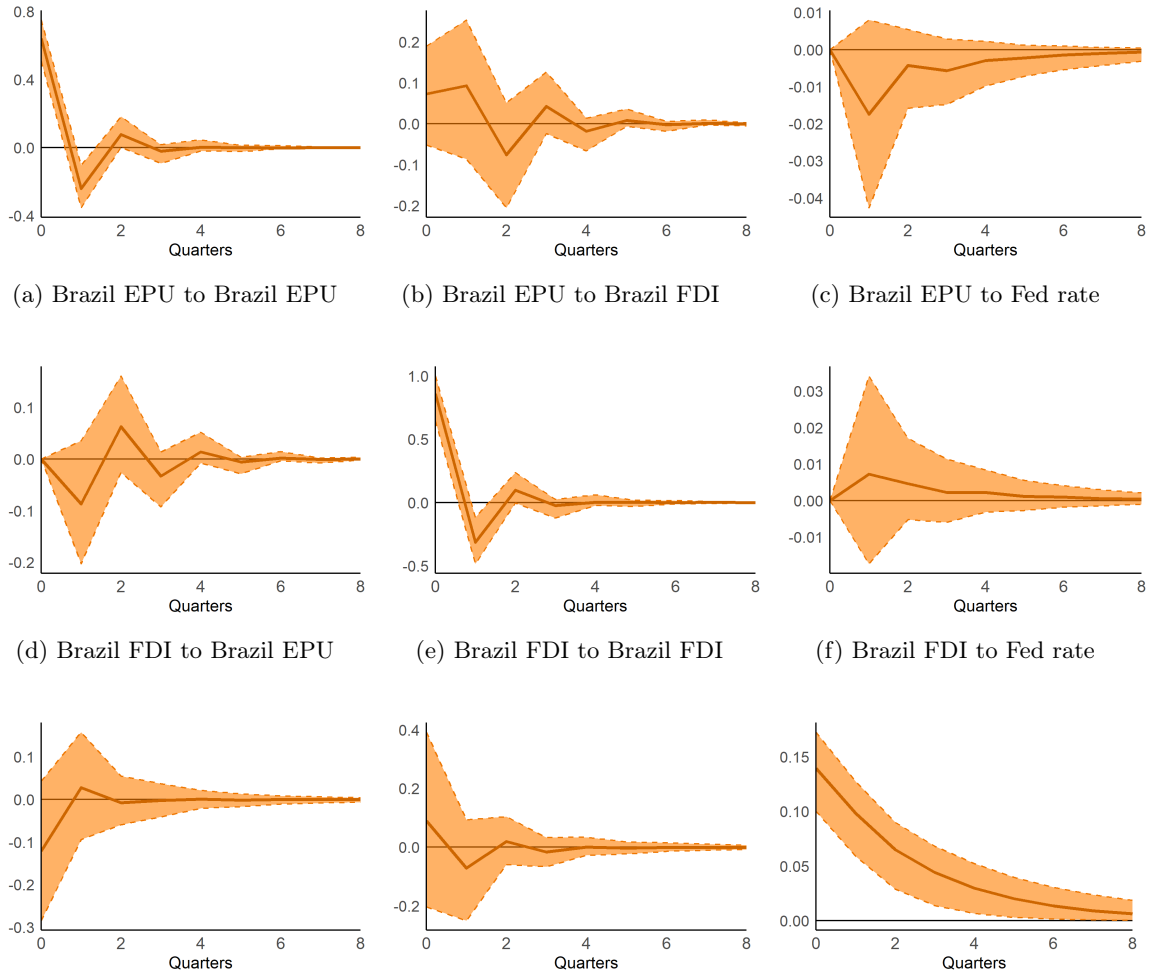
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Embi

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Embi

(g) Embi to Brazil EPU (h) Embi to Brazil FDI (i) Embi to Embi

Figure 1: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.2 FDI with Fed rate as control. VAR (1)



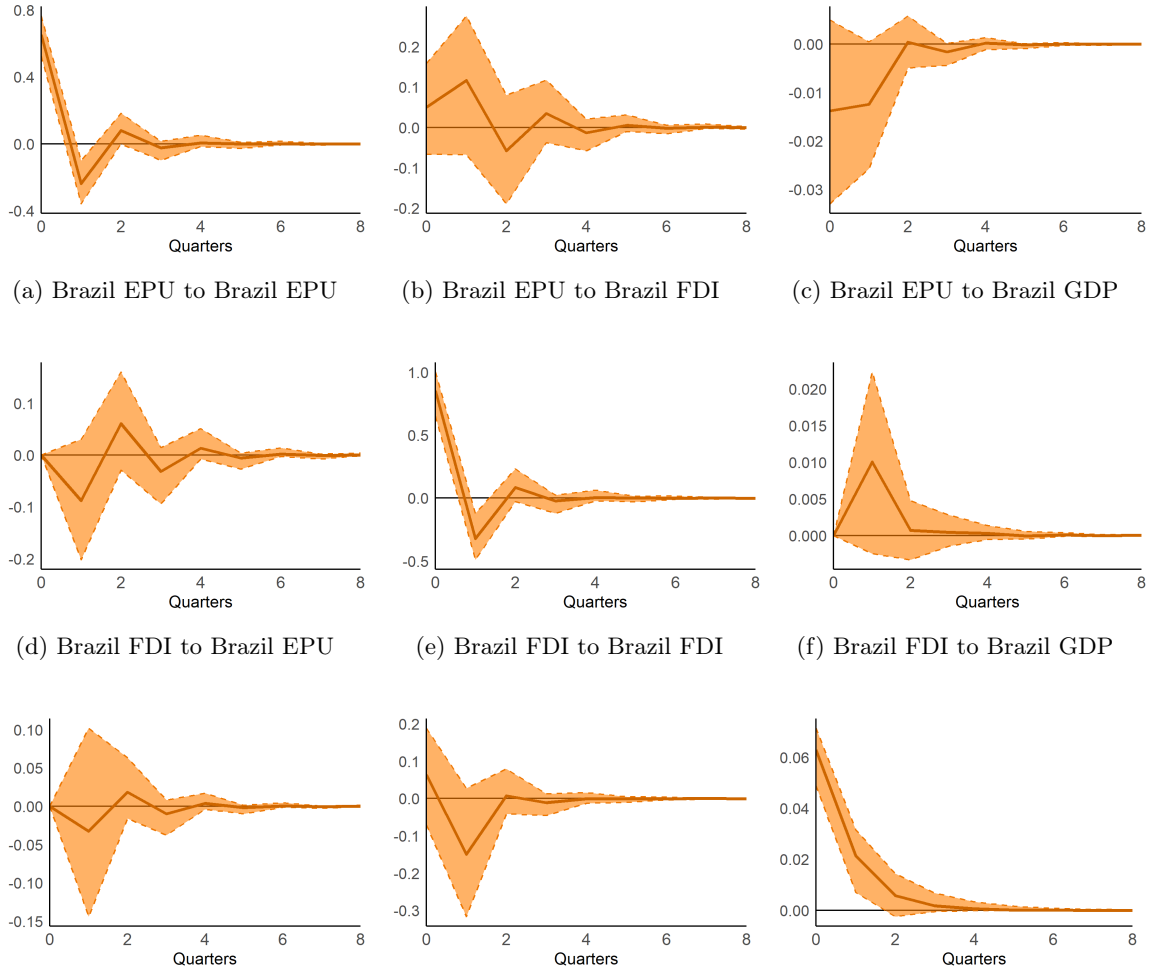
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Fed rate

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Fed rate

(g) Fed rate to Brazil EPU (h) Fed rate to Brazil FDI (i) Fed rate to Fed rate

Figure 2: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.3 FDI with GDP as control. VAR (1)



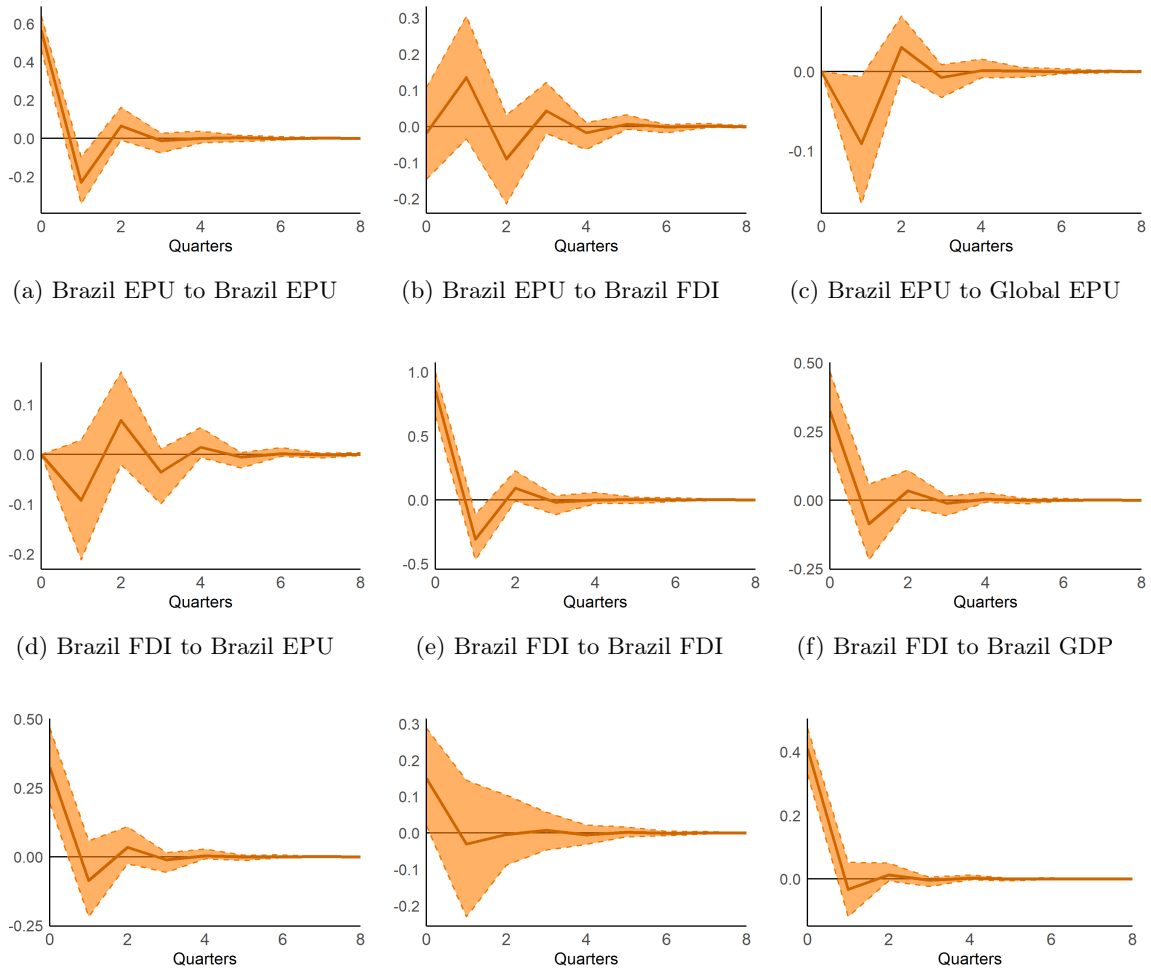
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Brazil GDP

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Brazil GDP

(g) Brazil GDP to Brazil EPU (h) Brazil GDP to Brazil FDI (i) Brazil GDP to Brazil GDP

Figure 3: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.4 FDI with Global EPU as control. VAR (1)



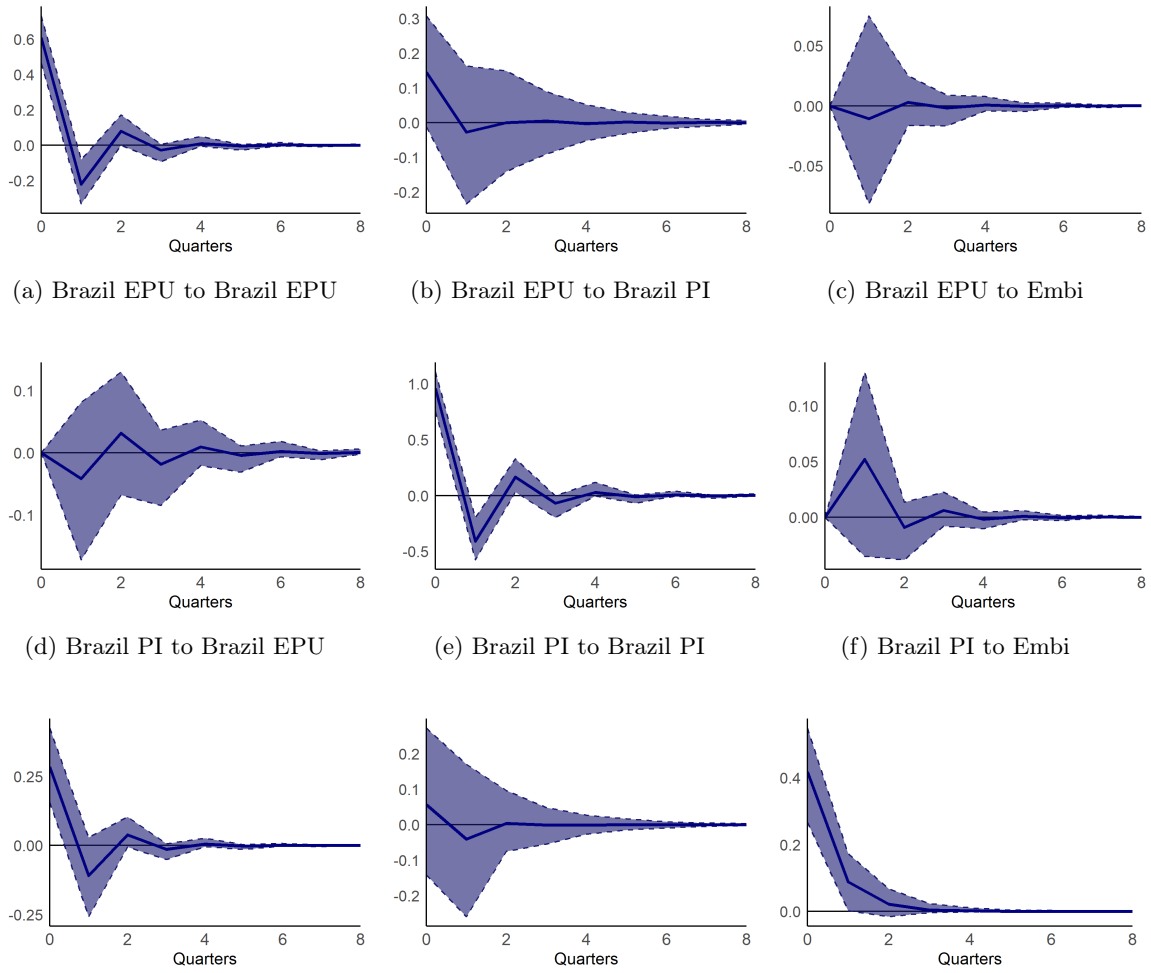
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Global EPU

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Brazil GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil FDI (i) Global EPU to Global EPU

Figure 4: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.5 PI with EMBI as control. VAR (1)



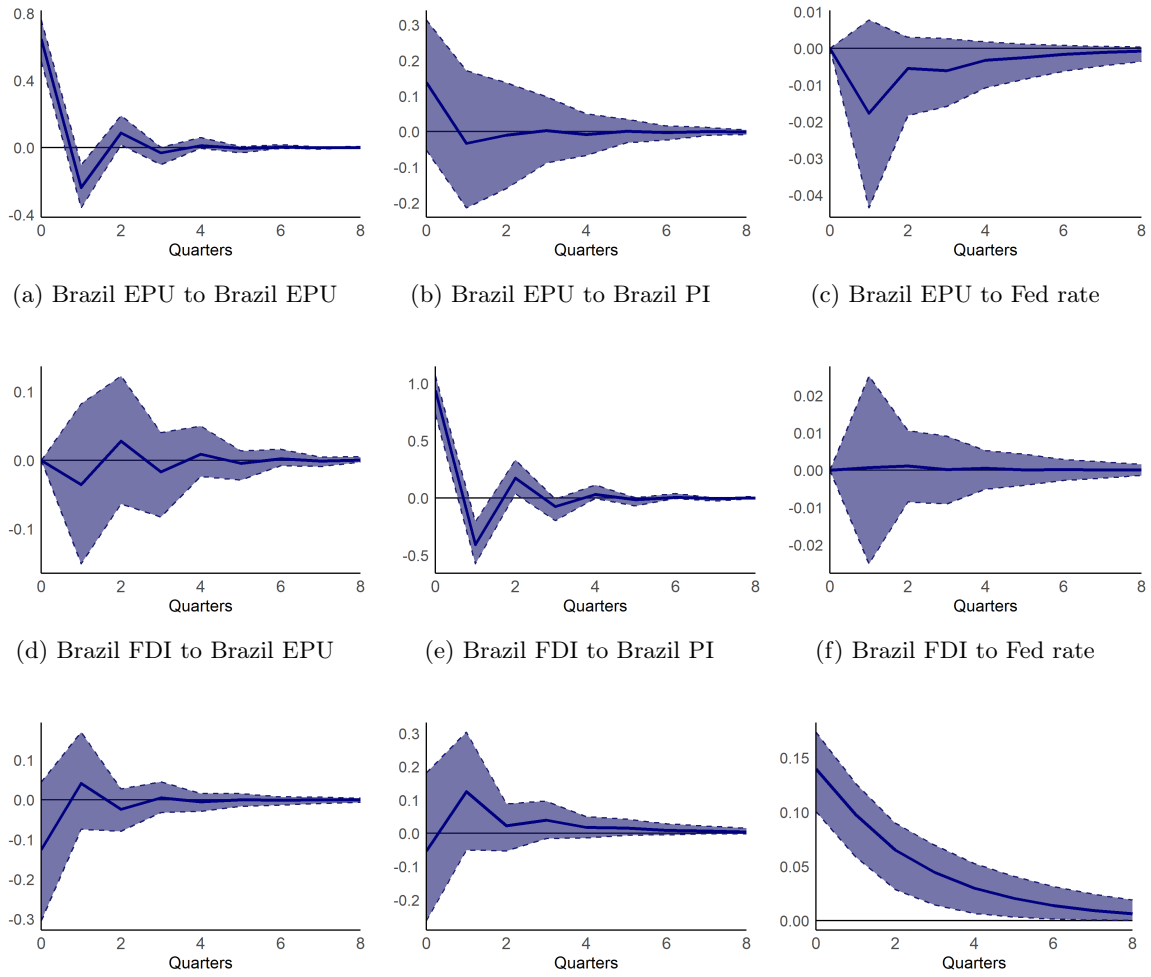
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Embi

(d) Brazil PI to Brazil EPU (e) Brazil PI to Brazil PI (f) Brazil PI to Embi

(g) Embi to Brazil EPU (h) Embi to Brazil PI (i) Embi to Embi

Figure 5: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.6 PI with Fed rate as control. VAR (1)



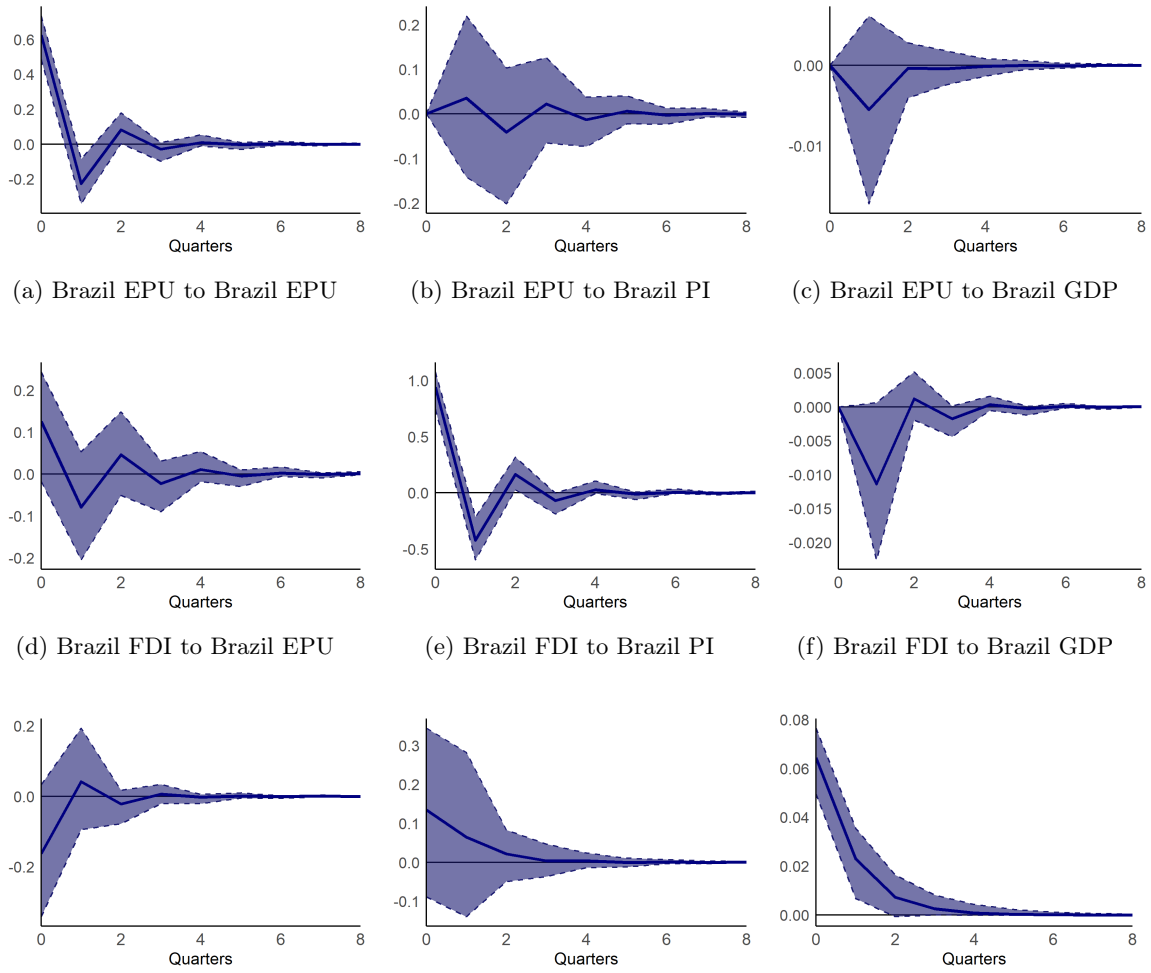
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Fed rate

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Fed rate

(g) Fed rate to Brazil EPU (h) Fed rate to Brazil PI (i) Fed rate to Fed rate

Figure 6: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.7 PI with GDP as control. VAR (1)



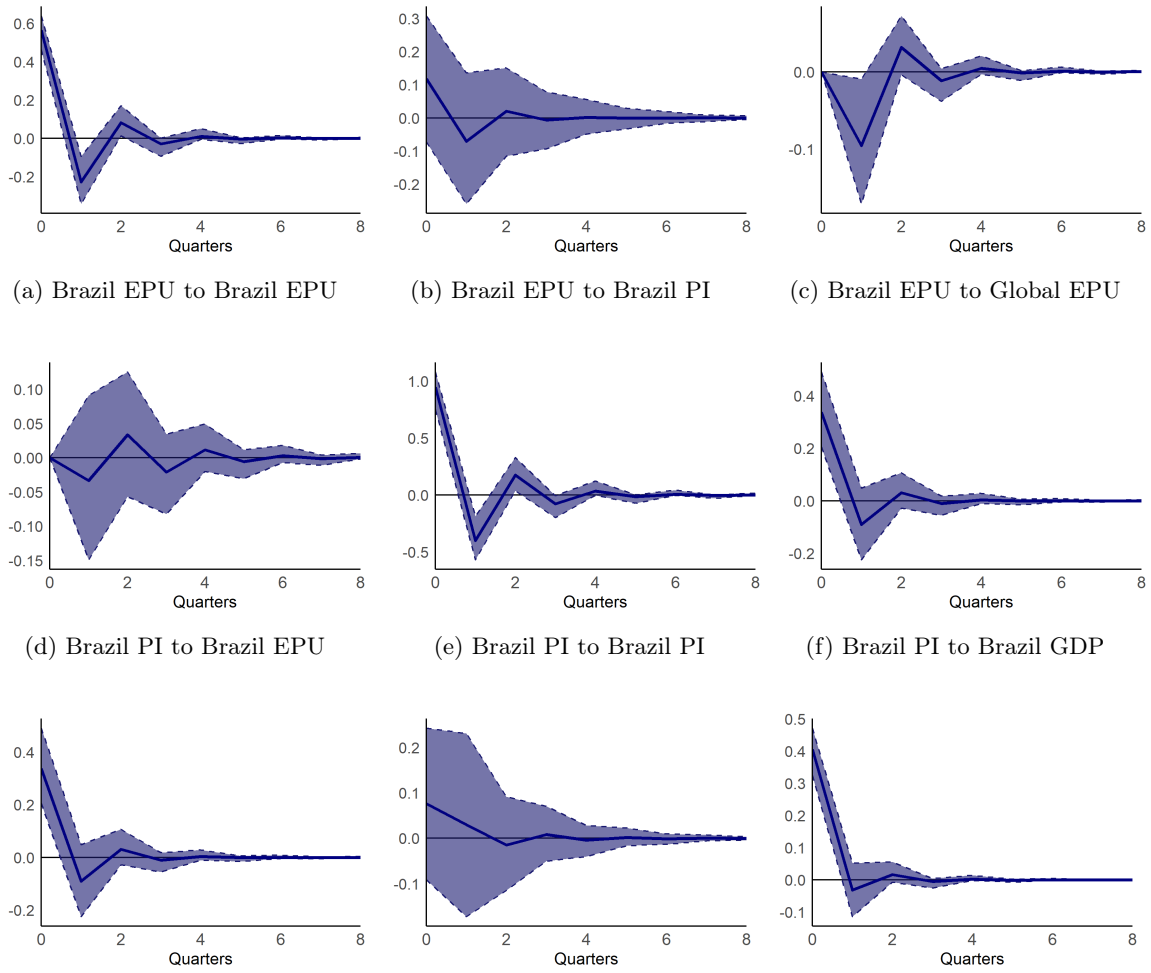
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Brazil GDP

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Brazil GDP

(g) Brazil GDP to Brazil EPU (h) Brazil GDP to Brazil PI (i) Brazil GDP to Brazil GDP

Figure 7: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.1.8 PI with Global EPU as control. VAR (1)



(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Global EPU

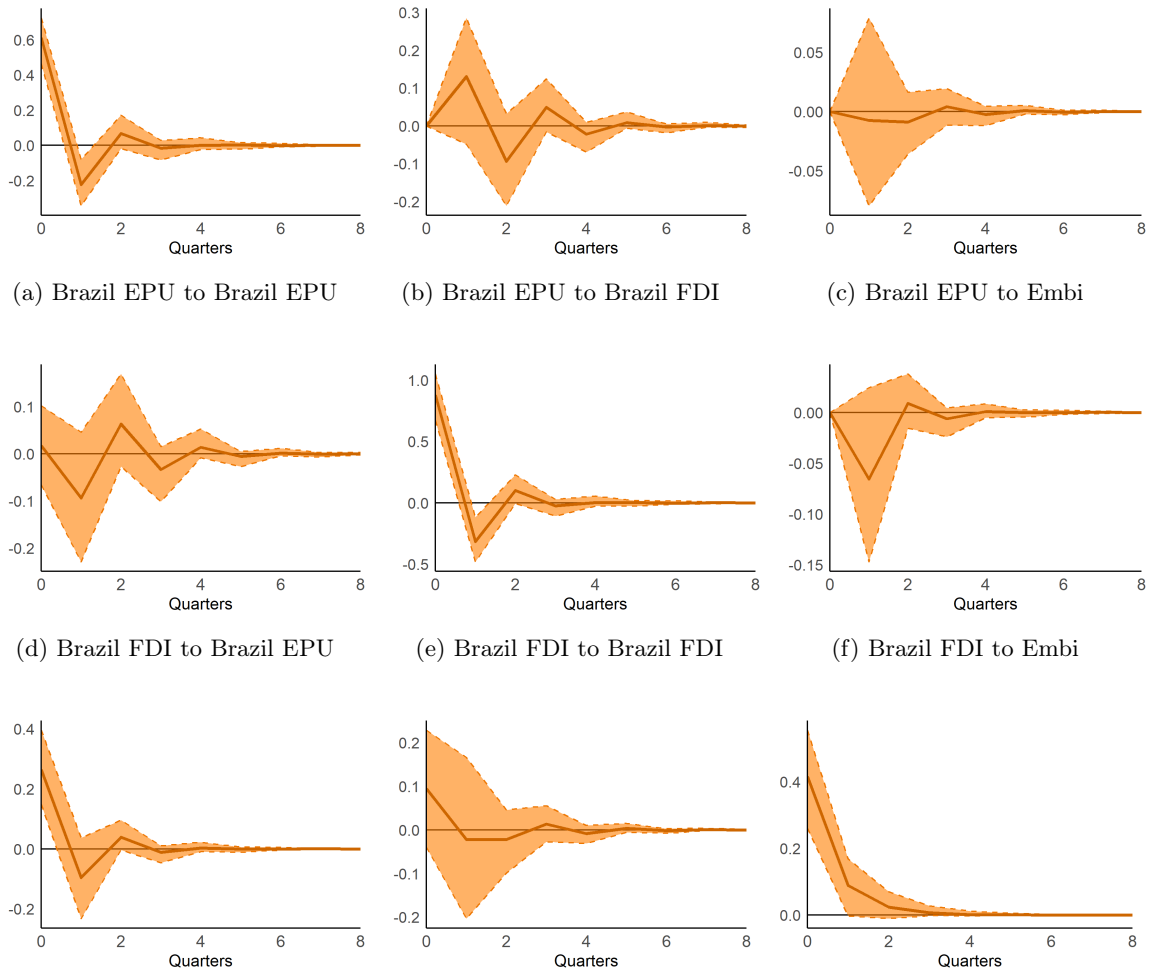
(d) Brazil PI to Brazil EPU (e) Brazil PI to Brazil PI (f) Brazil PI to Brazil GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil PI (i) Global EPU to Global EPU

Figure 8: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2 Second Ordering

2.2.1 FDI with EMBI as control. VAR (1)



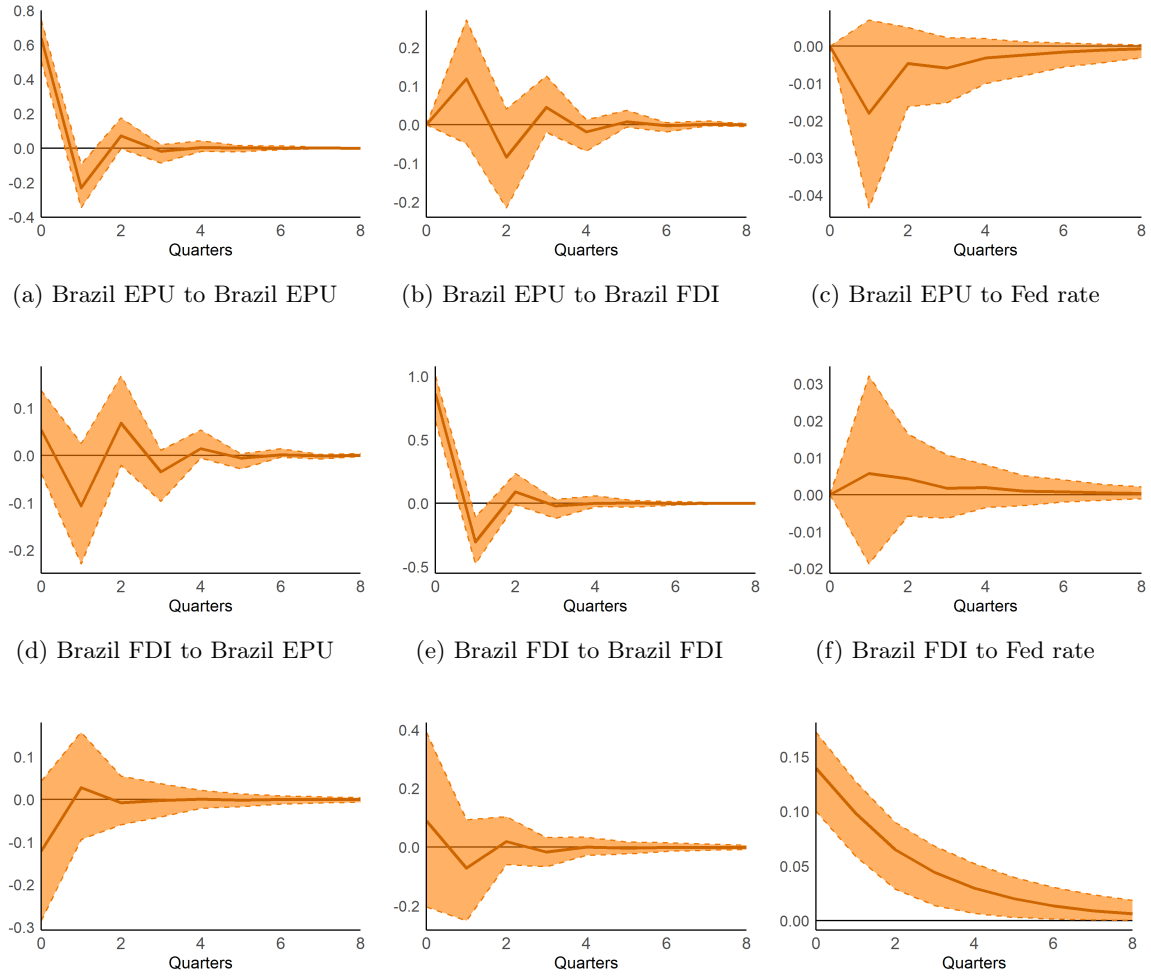
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Embi

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Embi

(g) Embi to Brazil EPU (h) Embi to Brazil FDI (i) Embi to Embi

Figure 9: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.2 FDI with Fed rate as control. VAR (1)



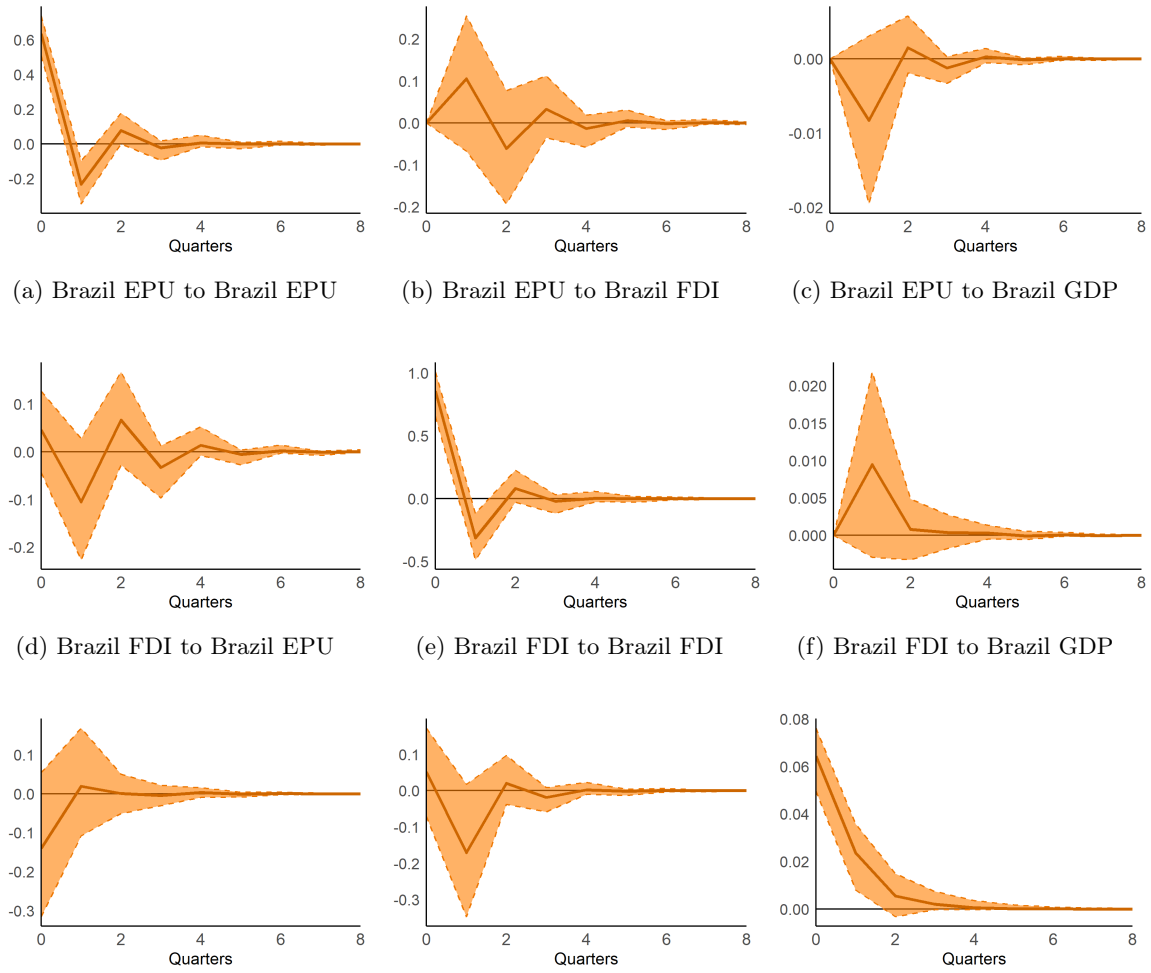
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Fed rate

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Fed rate

(g) Fed rate to Brazil EPU (h) Fed rate to Brazil FDI (i) Fed rate to Fed rate

Figure 10: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.3 FDI with GDP as control. VAR (1)



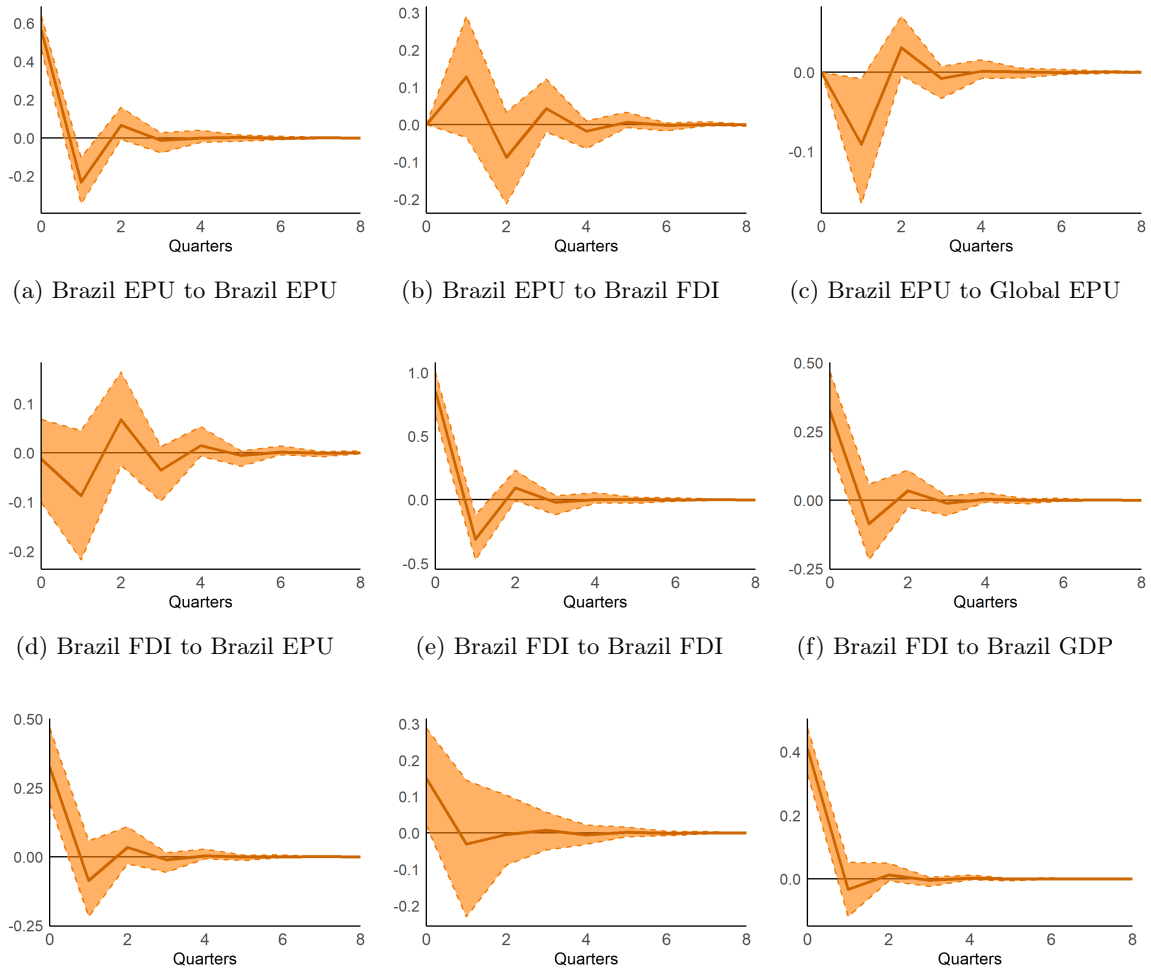
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Brazil GDP

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Brazil GDP

(g) Brazil GDP to Brazil EPU (h) Brazil GDP to Brazil FDI (i) Brazil GDP to Brazil GDP

Figure 11: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.4 FDI with Global EPU as control. VAR (1)



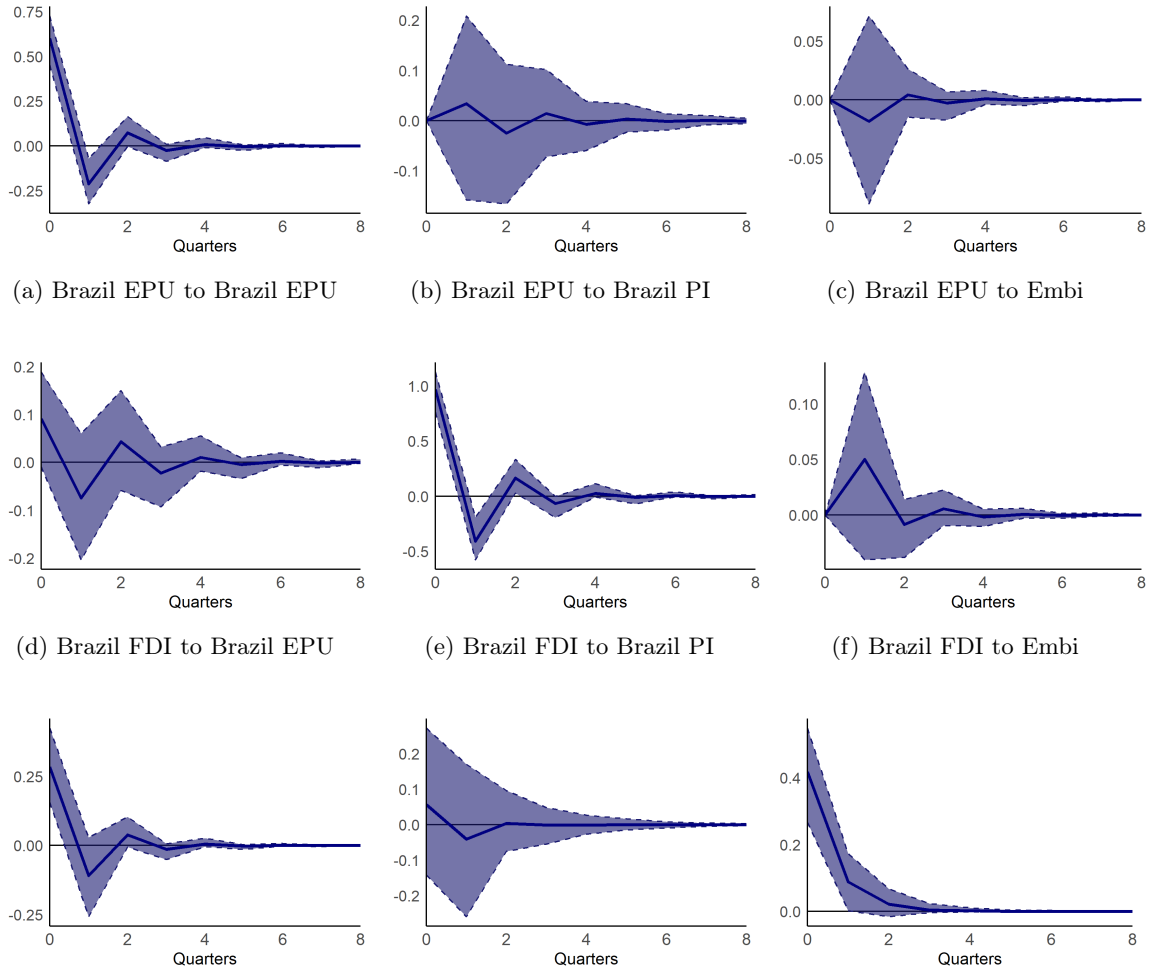
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Global EPU

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Brazil GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil FDI (i) Global EPU to Global EPU

Figure 12: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.5 PI with EMBI as control. VAR (1)



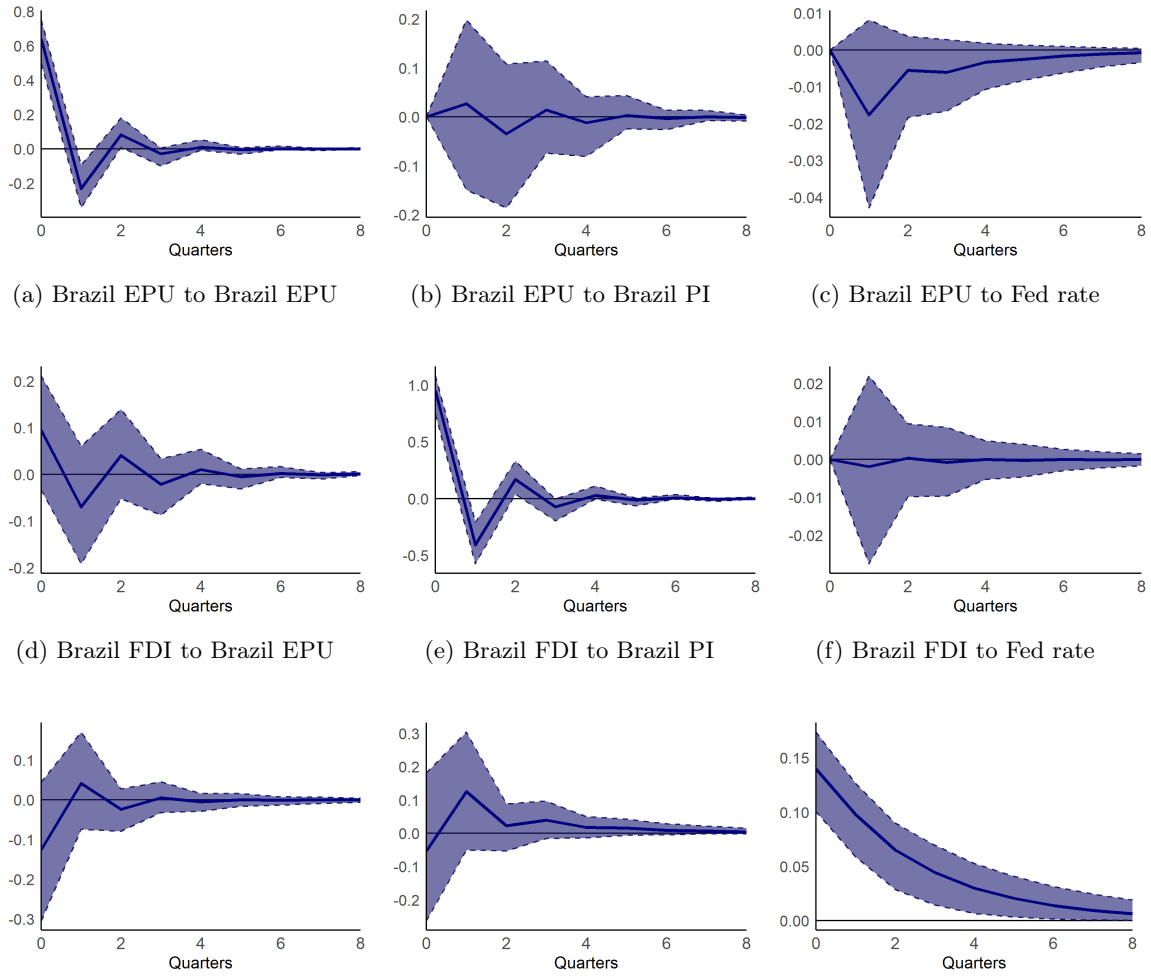
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Embi

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Embi

(g) Embi to Brazil EPU (h) Embi to Brazil PI (i) Embi to Embi

Figure 13: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.6 PI with Fed rate as control. VAR (1)



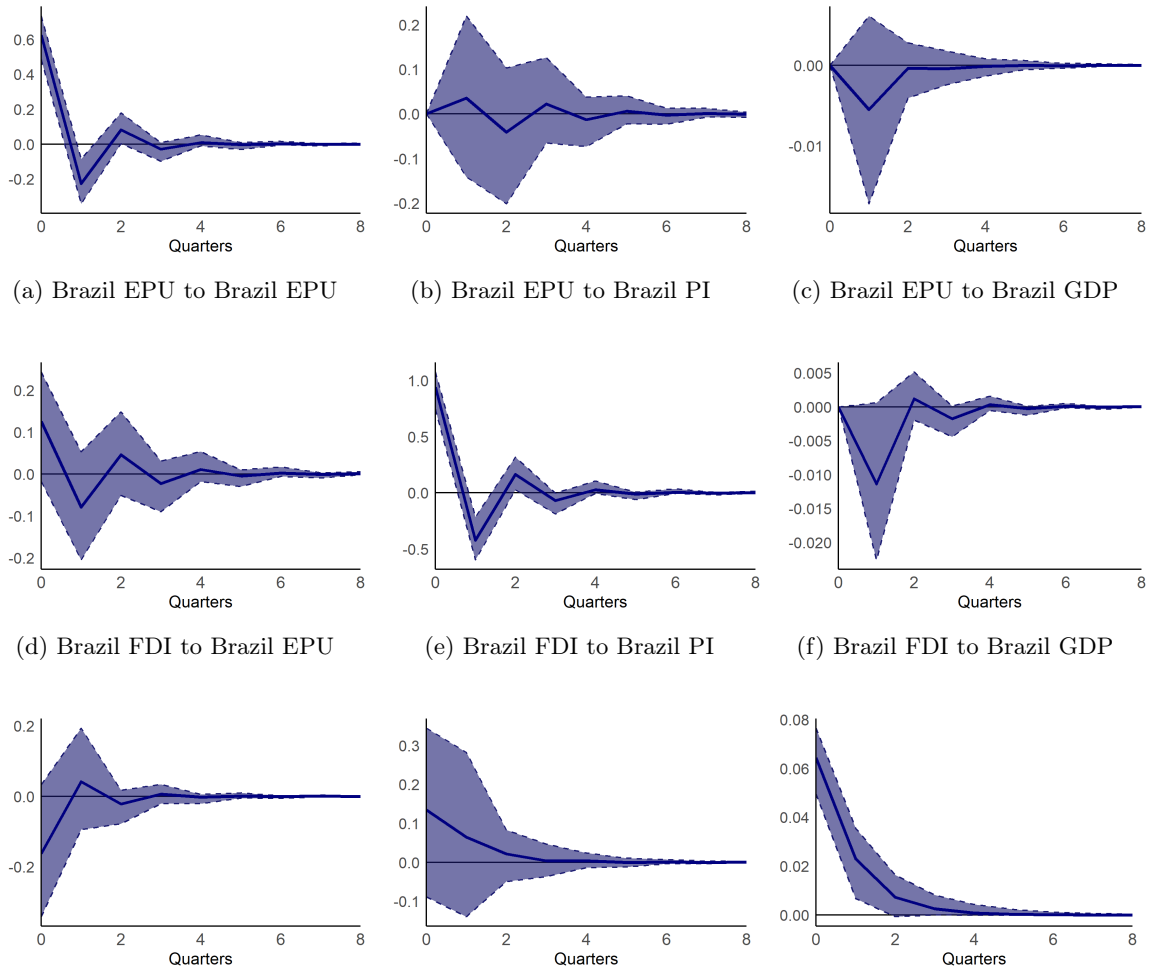
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Fed rate

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Fed rate

(g) Fed rate to Brazil EPU (h) Fed rate to Brazil PI (i) Fed rate to Fed rate

Figure 14: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.7 PI with GDP as control. VAR (1)



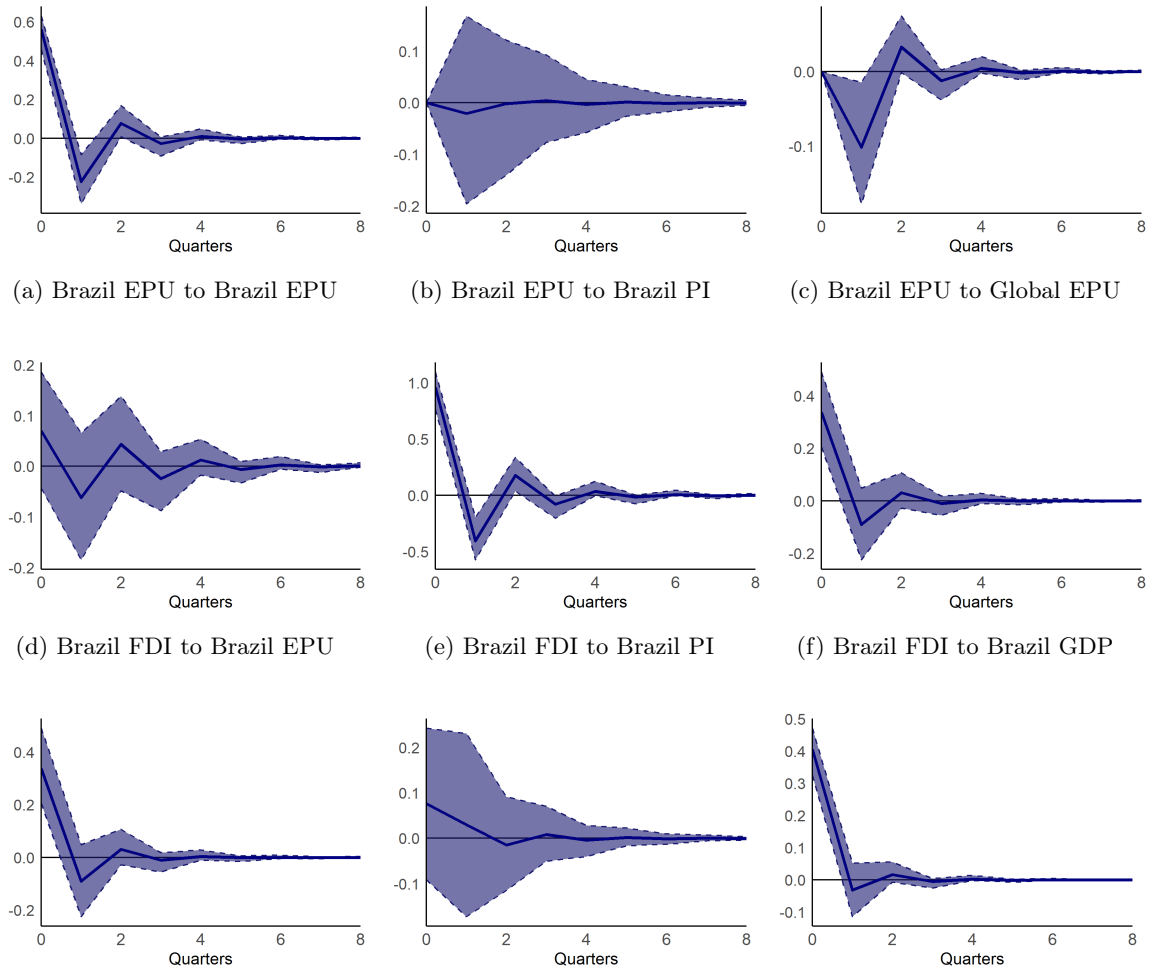
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Brazil GDP

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Brazil GDP

(g) Brazil GDP to Brazil EPU (h) Brazil GDP to Brazil PI (i) Brazil GDP to Brazil GDP

Figure 15: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.2.8 PI with Global EPU as control. VAR (1)



(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Global EPU

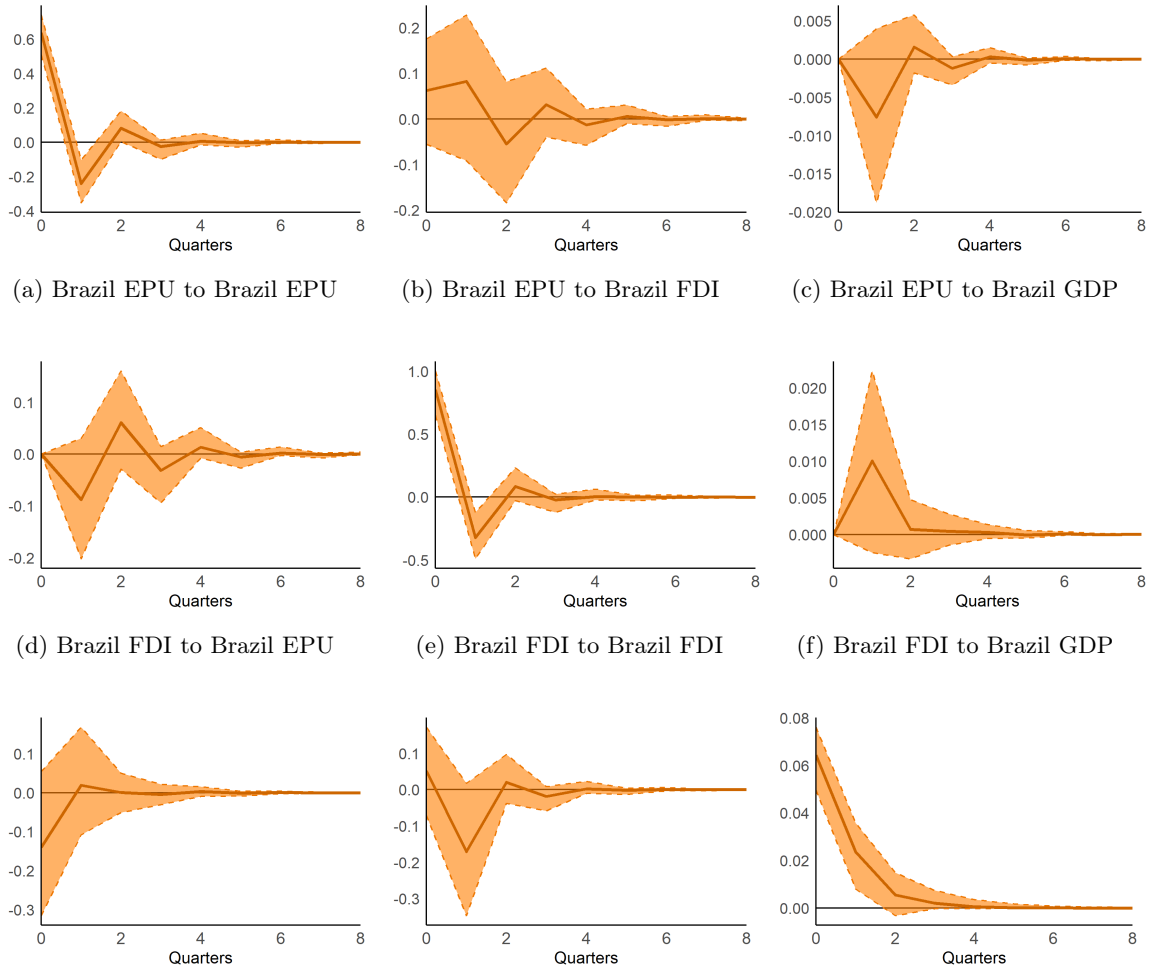
(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Brazil GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil PI (i) Global EPU to Global EPU

Figure 16: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.3 Third Ordering

2.3.1 FDI with GDP as control. VAR (1)



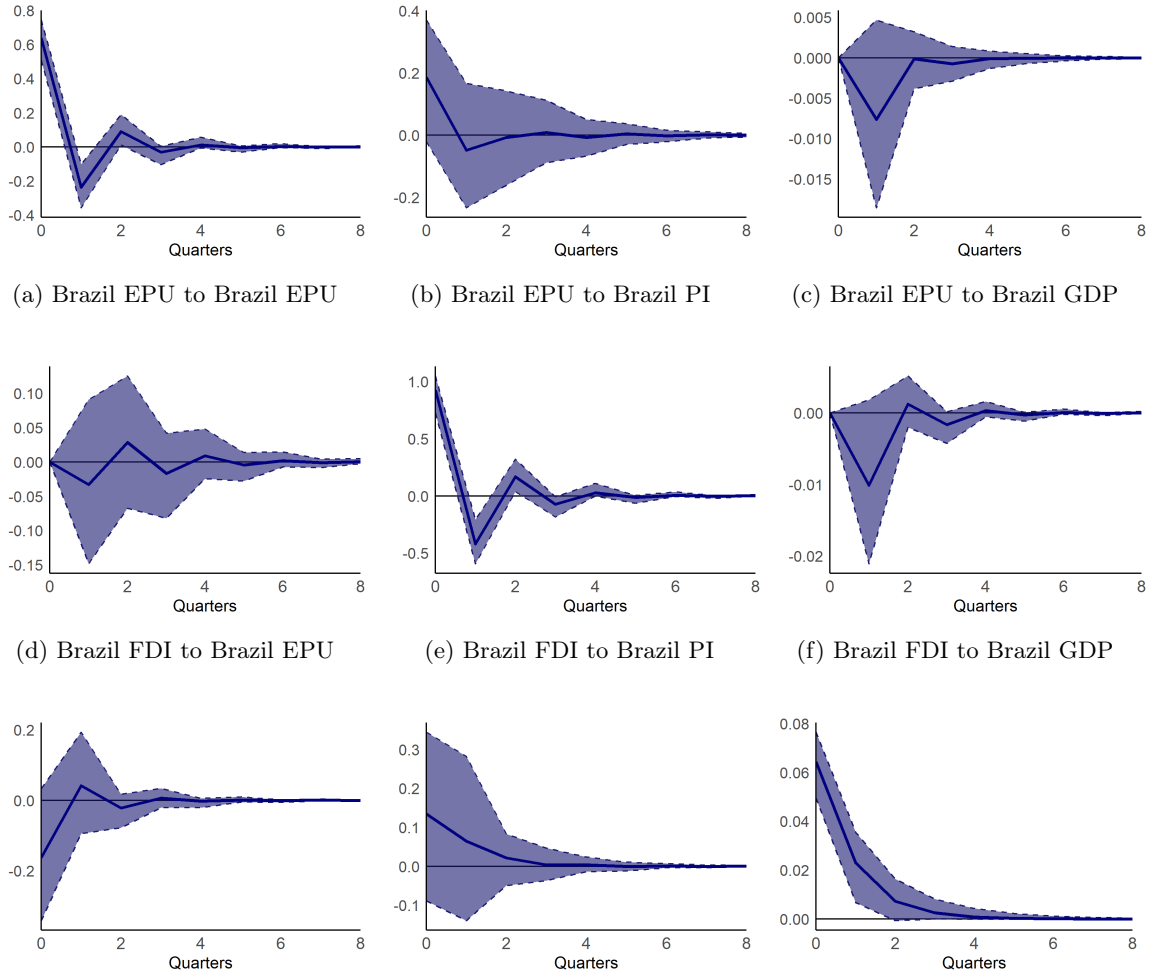
(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil FDI (c) Brazil EPU to Brazil GDP

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil FDI (f) Brazil FDI to Brazil GDP

(g) Brazil GDP to Brazil EPU (h) Brazil GDP to Brazil FDI (i) Brazil GDP to Brazil GDP

Figure 17: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

2.3.2 PI with GDP as control. VAR (1)



(a) Brazil EPU to Brazil EPU (b) Brazil EPU to Brazil PI (c) Brazil EPU to Brazil GDP

(d) Brazil FDI to Brazil EPU (e) Brazil FDI to Brazil PI (f) Brazil FDI to Brazil GDP

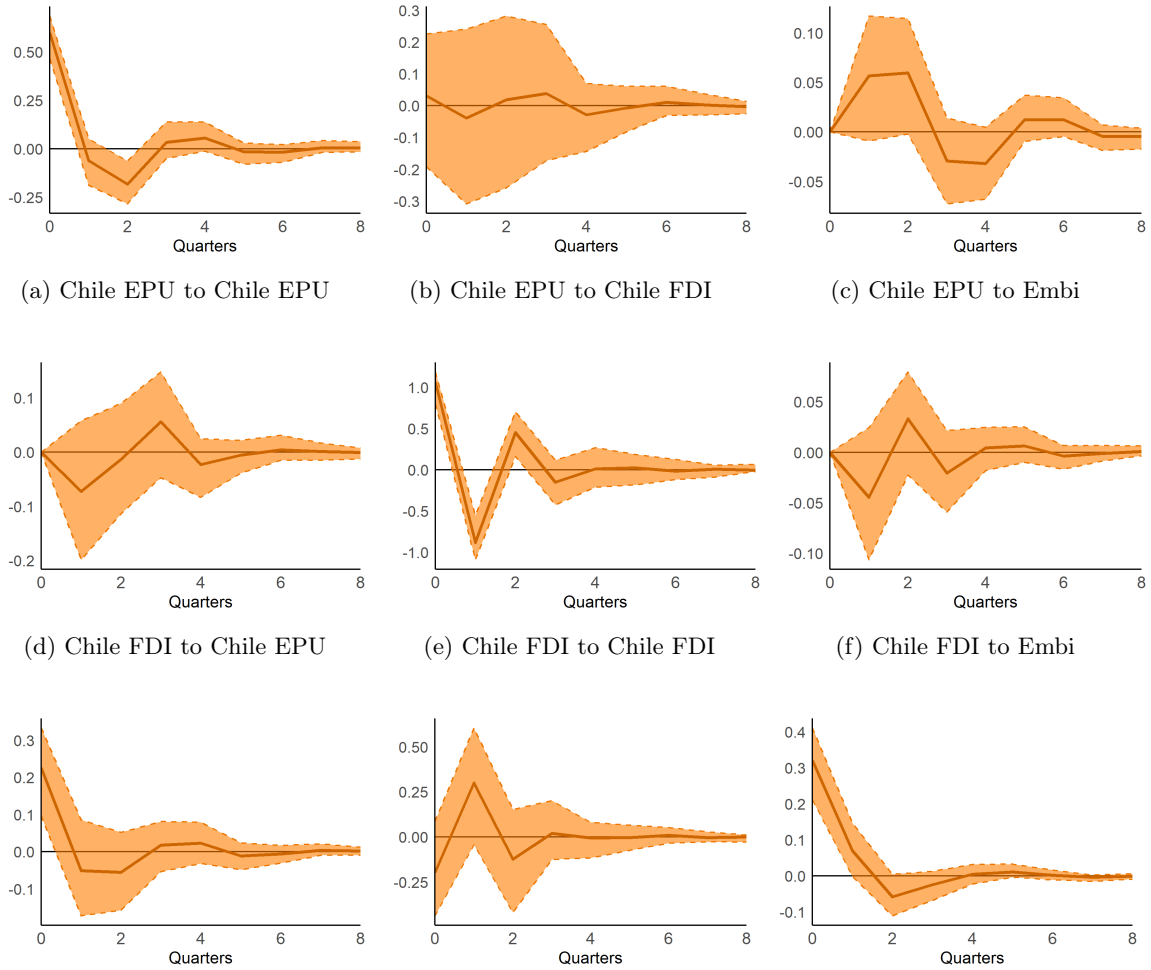
(g) Brazil GDP to Brazil EPU (h) Brazil GDP to Brazil PI (i) Brazil GDP to Brazil GDP

Figure 18: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3 Chile

3.1 First Ordering

3.1.1 FDI with EMBI as control. VAR (2)



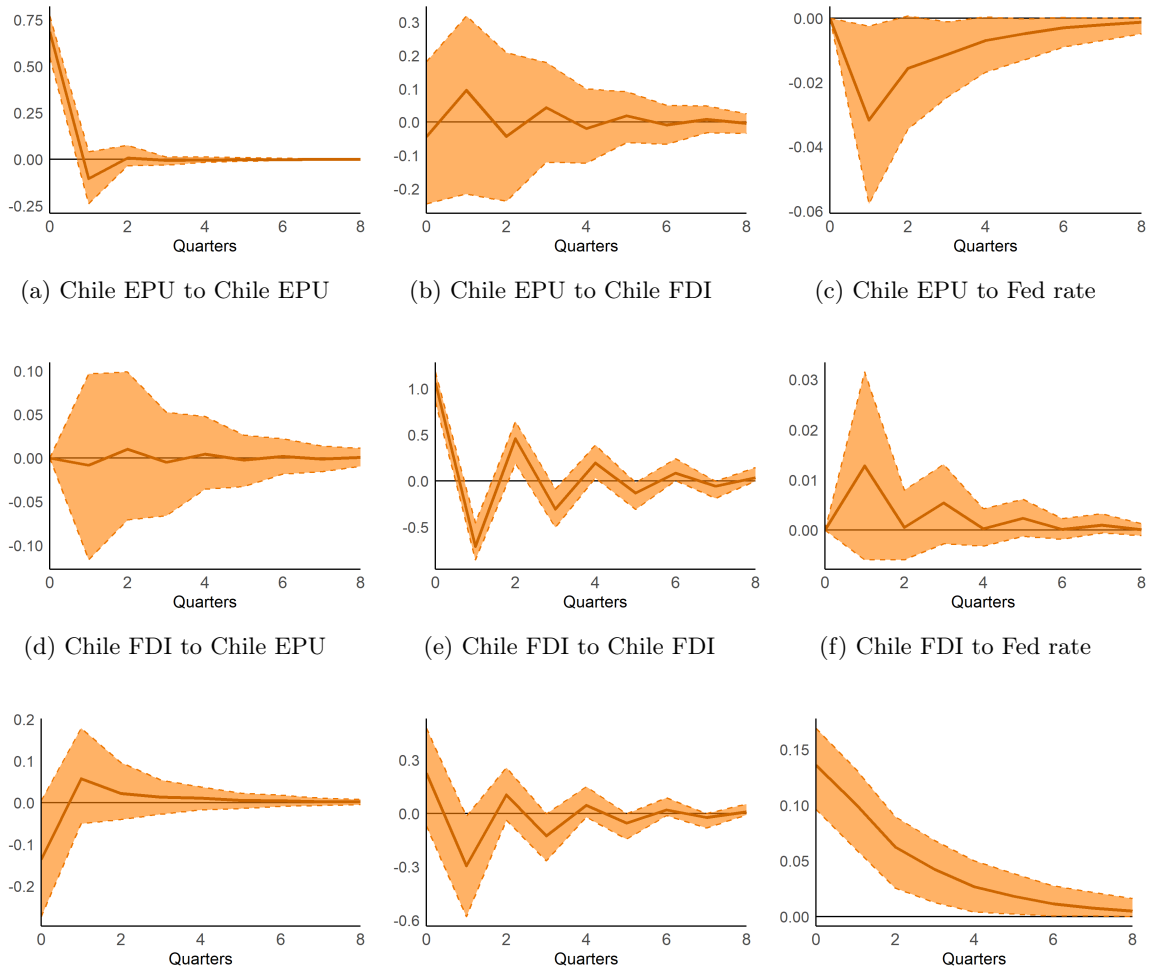
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Embi

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Embi

(g) Embi to Chile EPU (h) Embi to Chile FDI (i) Embi to Embi

Figure 19: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.2 FDI with Fed rate as control. VAR (1)



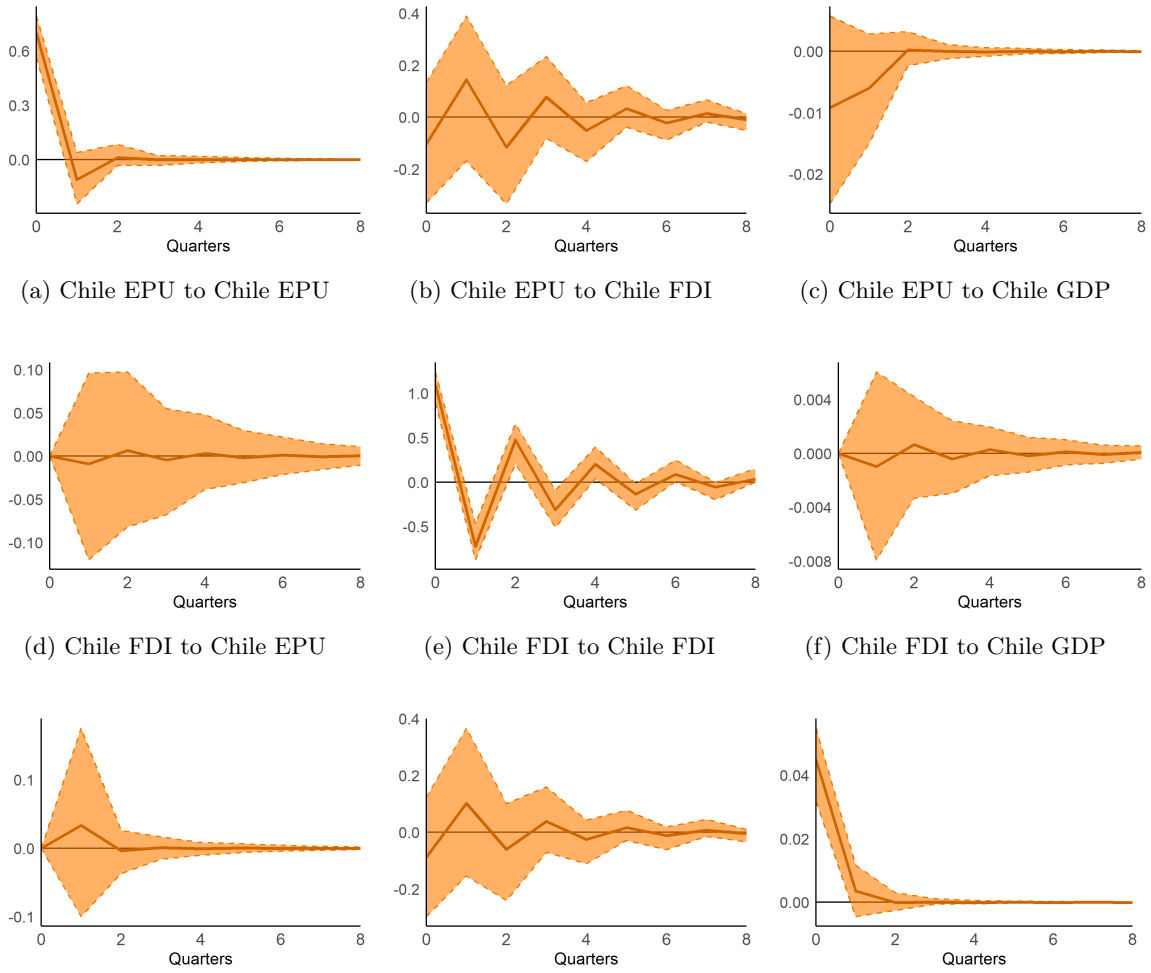
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Fed rate

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Fed rate

(g) Fed rate to Chile EPU (h) Fed rate to Chile FDI (i) Fed rate to Fed rate

Figure 20: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.3 FDI with GDP as control. VAR (1)



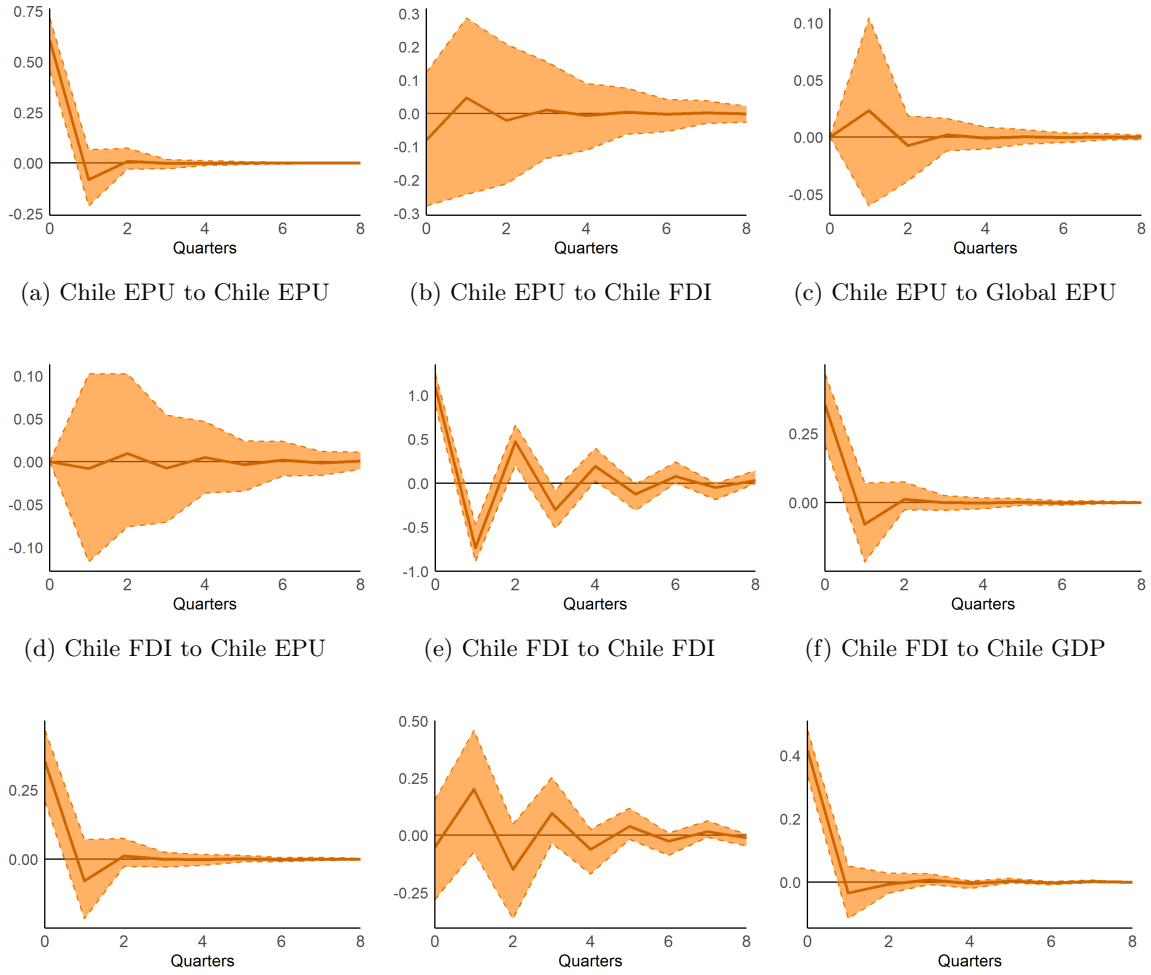
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Chile GDP

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Chile GDP

(g) Chile GDP to Chile EPU (h) Chile GDP to Chile FDI (i) Chile GDP to Chile GDP

Figure 21: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.4 FDI with Global EPU as control. VAR (1)



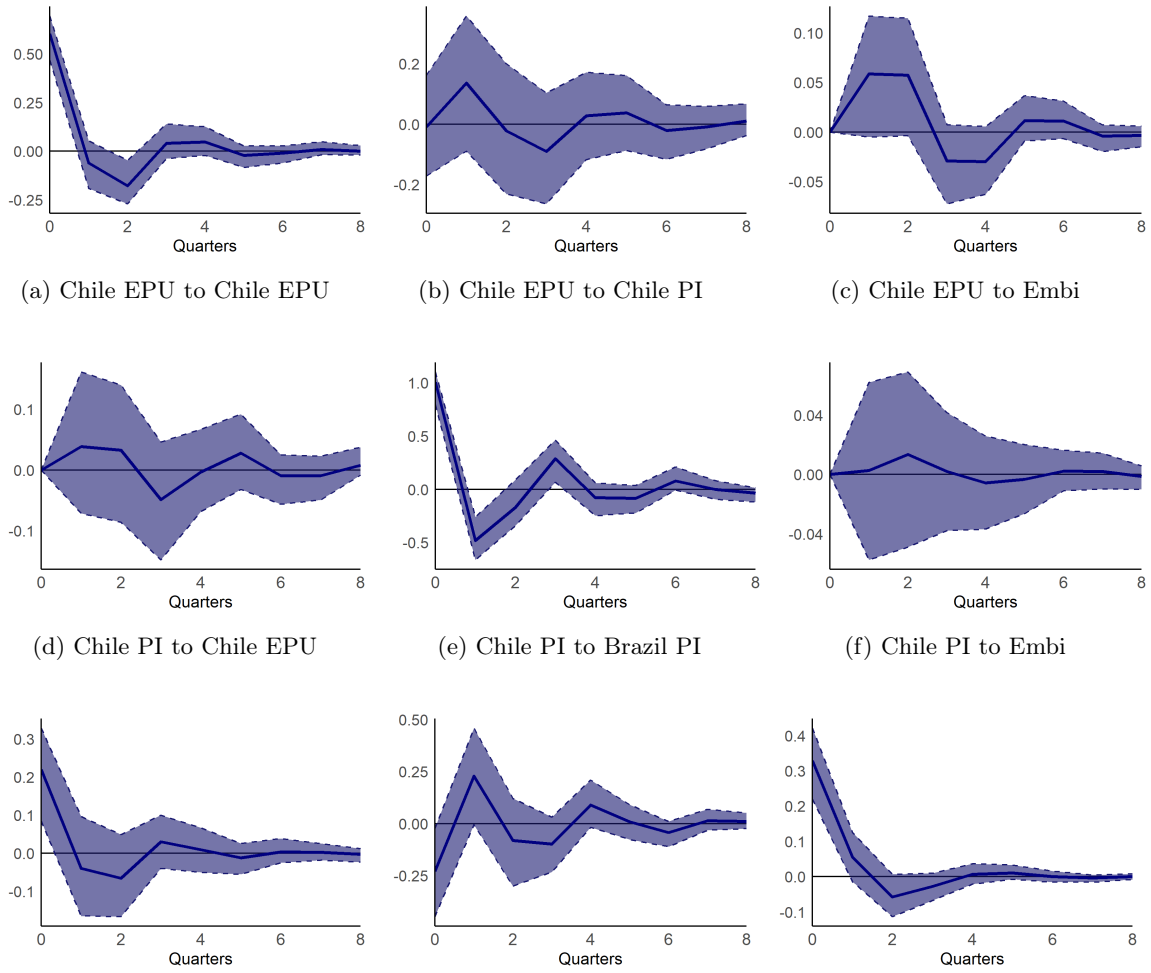
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Global EPU

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Chile GDP

(g) Global EPU to Chile EPU (h) Global EPU to Chile FDI (i) Global EPU to Global EPU

Figure 22: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.5 PI with EMBI as control. VAR (2)



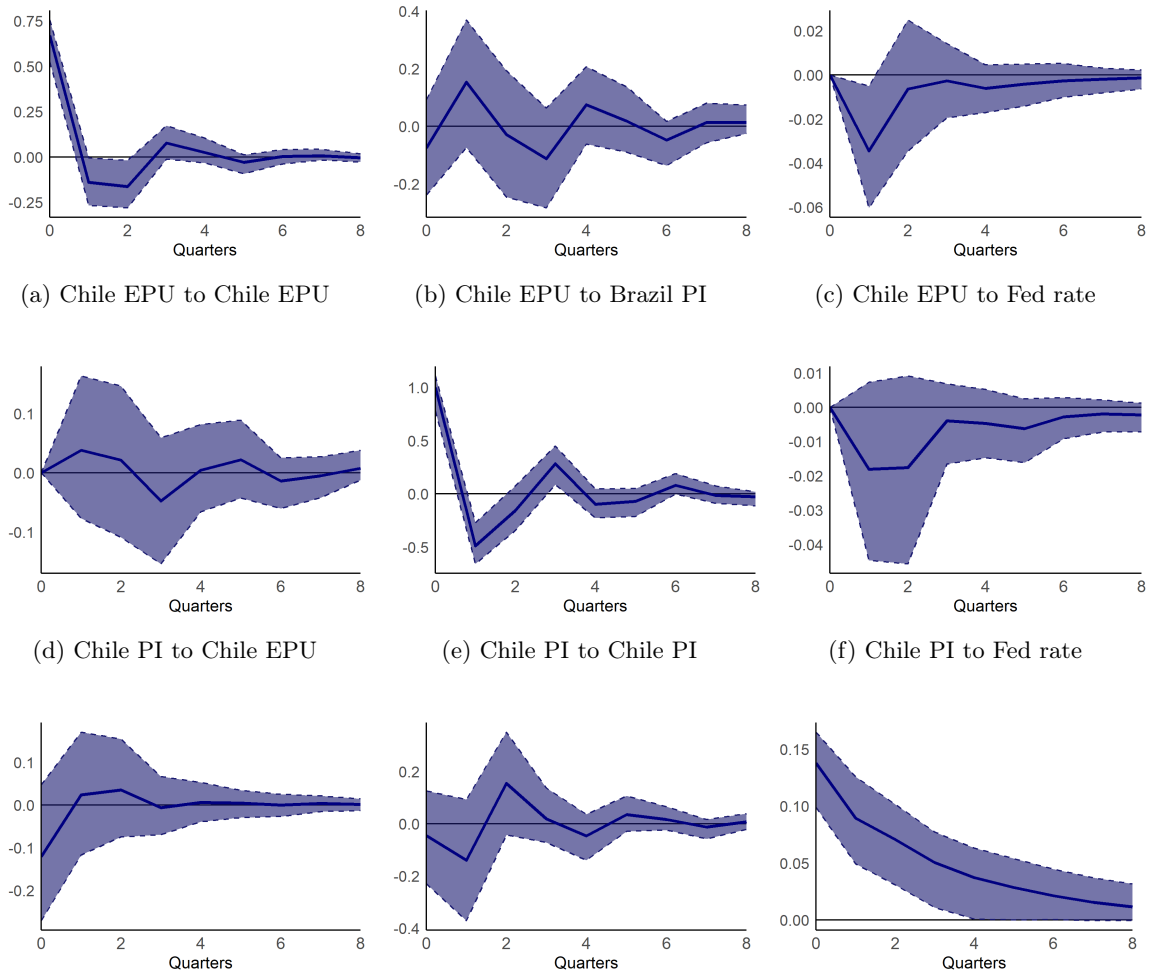
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Embi

(d) Chile PI to Chile EPU (e) Chile PI to Brazil PI (f) Chile PI to Embi

(g) Embi to Chile EPU (h) Embi to Brazil PI (i) Embi to Embi

Figure 23: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.6 PI with Fed rate as control. VAR (2)



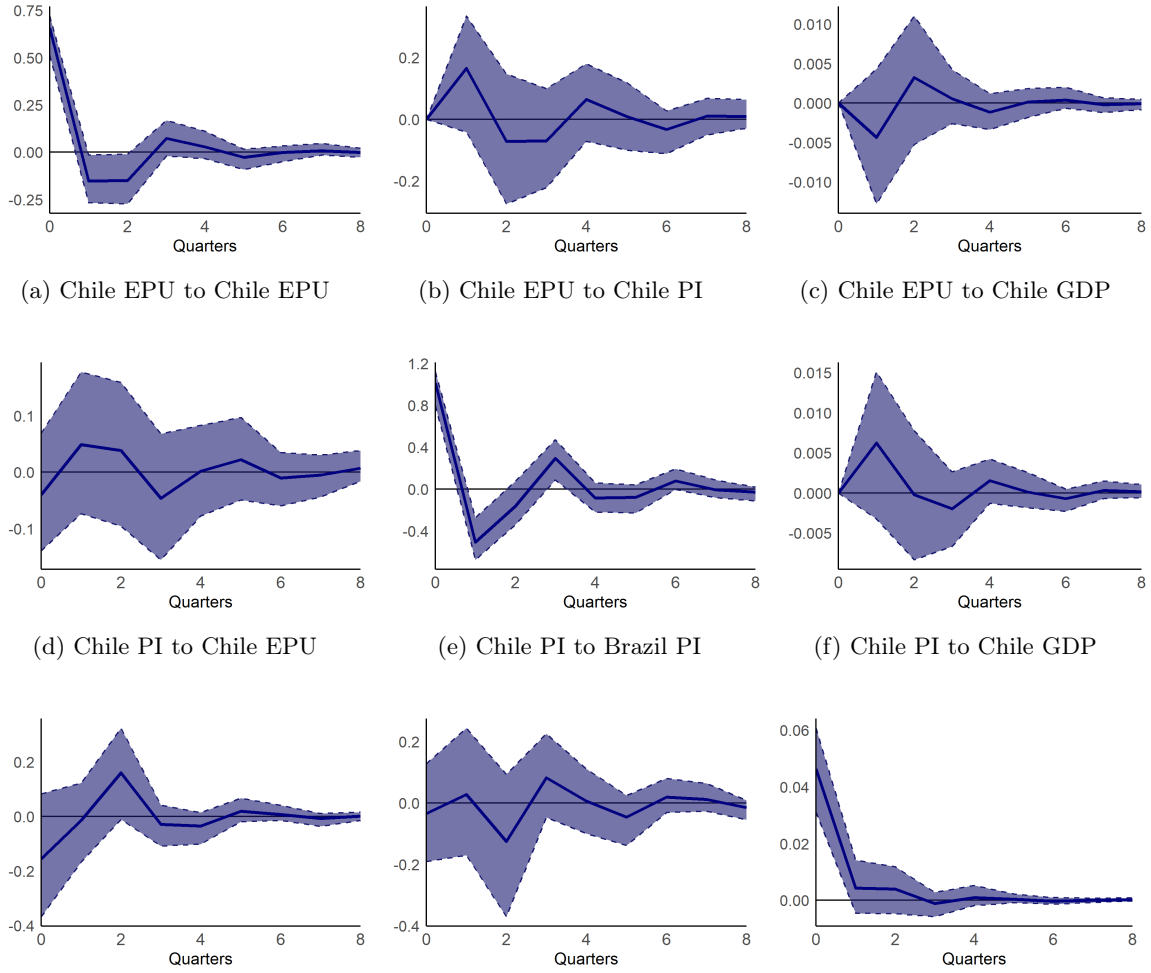
(a) Chile EPU to Chile EPU (b) Chile EPU to Brazil PI (c) Chile EPU to Fed rate

(d) Chile PI to Chile EPU (e) Chile PI to Chile PI (f) Chile PI to Fed rate

(g) Fed rate to Chile EPU (h) Fed rate to Brazil PI (i) Fed rate to Fed rate

Figure 24: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.7 PI with GDP as control. VAR (2)



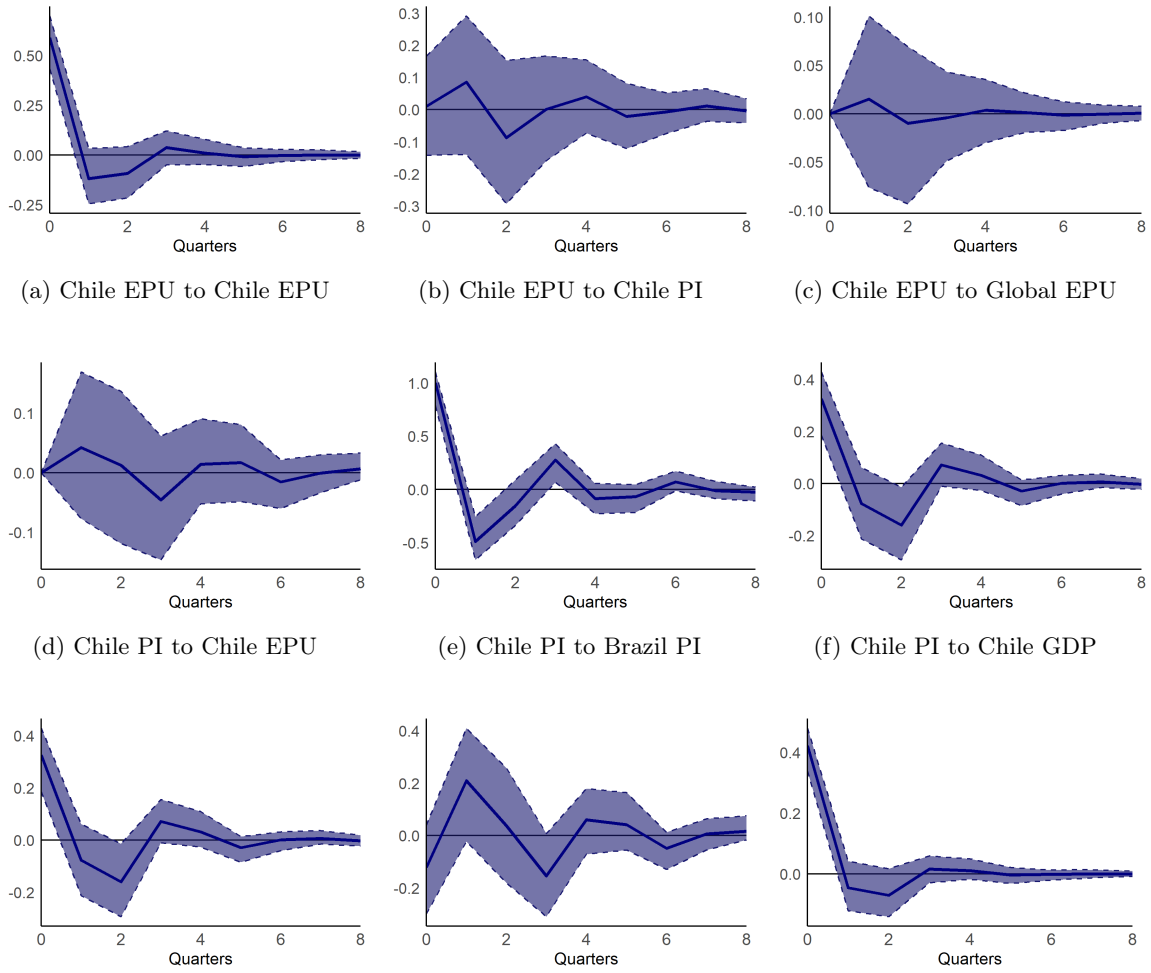
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Chile GDP

(d) Chile PI to Chile EPU (e) Chile PI to Brazil PI (f) Chile PI to Chile GDP

(g) Chile GDP to Chile EPU (h) Chile GDP to Chile PI (i) Chile GDP to Chile GDP

Figure 25: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.1.8 PI with Global EPU as control. VAR (2)



(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Global EPU

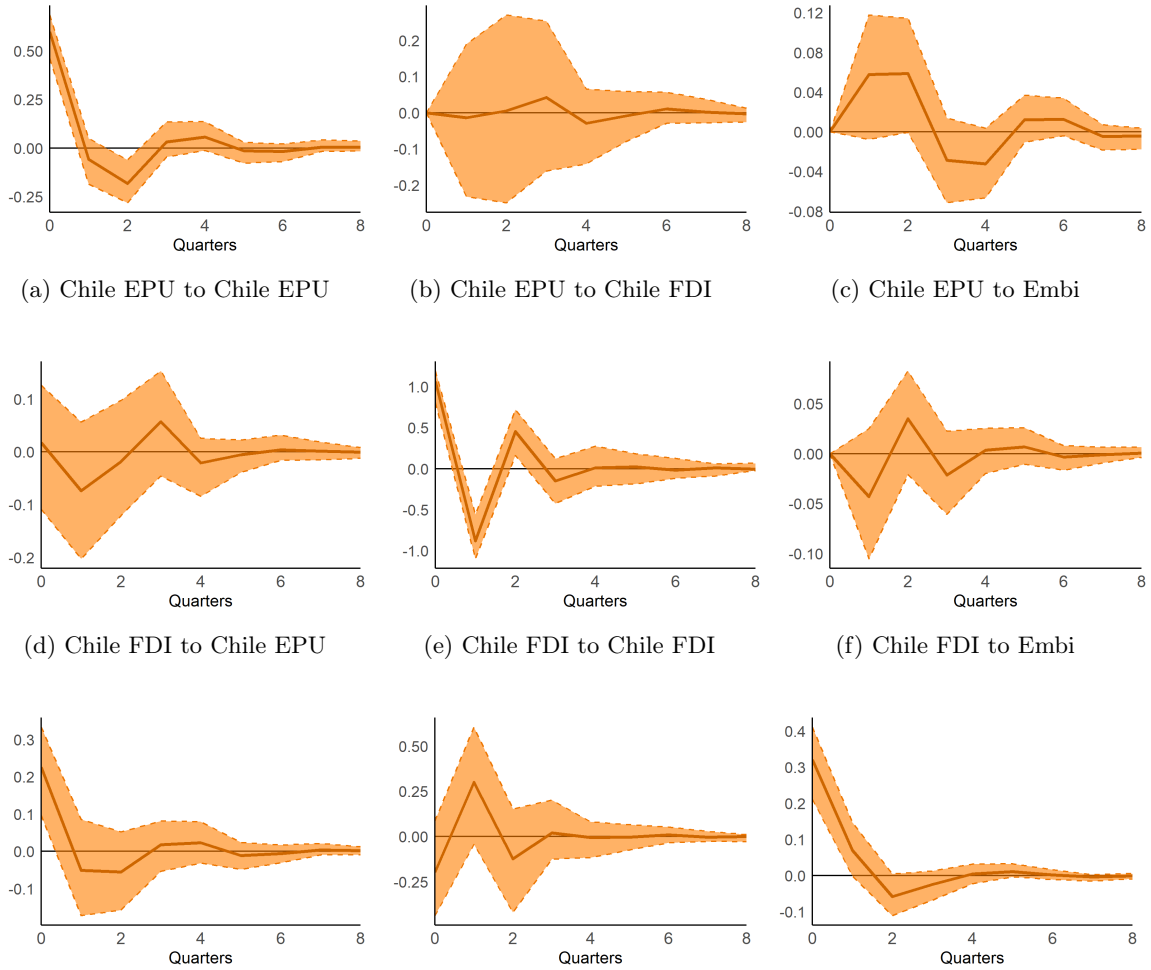
(d) Chile PI to Chile EPU (e) Chile PI to Brazil PI (f) Chile PI to Chile GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil PI (i) Global EPU to Global EPU

Figure 26: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2 Second Ordering

3.2.1 FDI with EMBI as control. VAR (2)



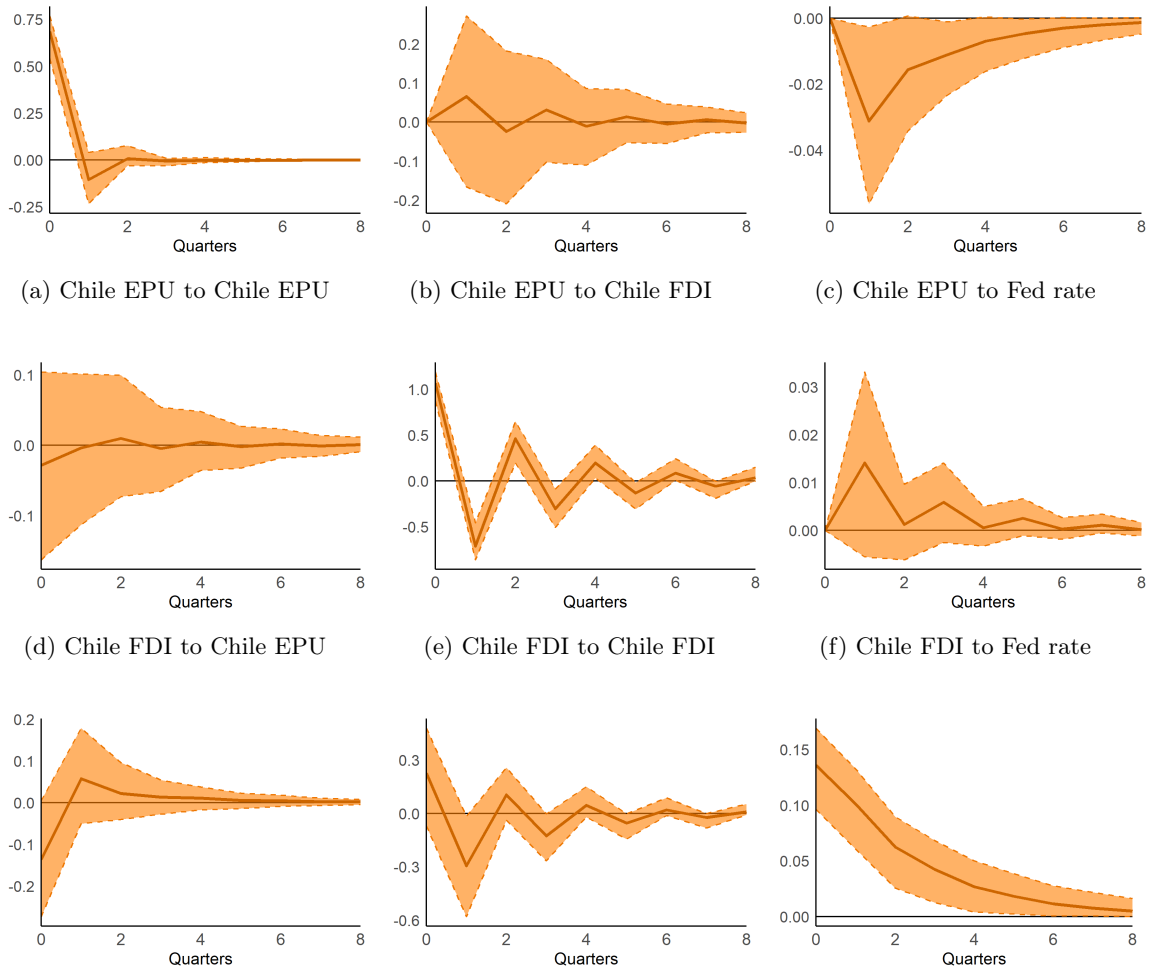
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Embi

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Embi

(g) Embi to Chile EPU (h) Embi to Chile FDI (i) Embi to Embi

Figure 27: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.2 FDI with Fed rate as control. VAR (1)



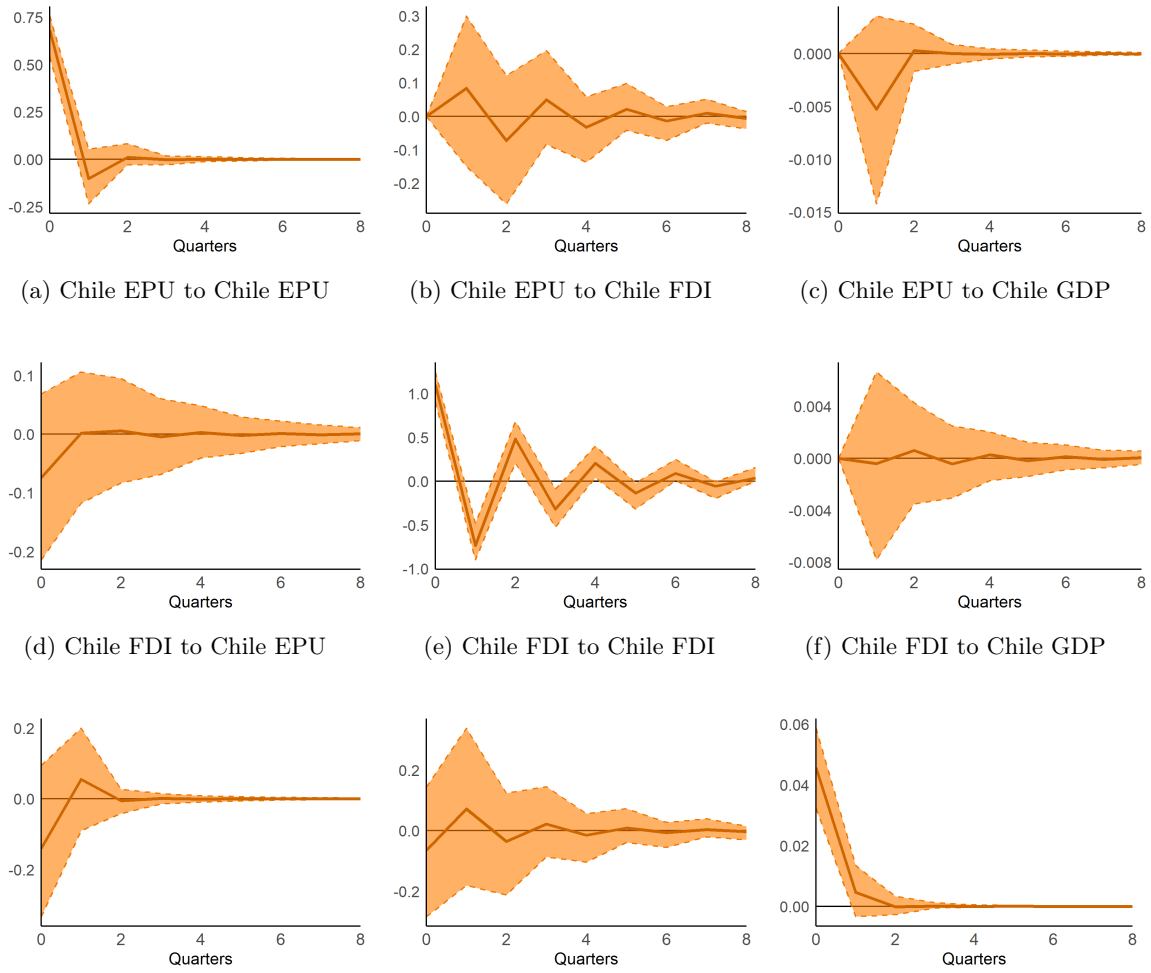
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Fed rate

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Fed rate

(g) Fed rate to Chile EPU (h) Fed rate to Chile FDI (i) Fed rate to Fed rate

Figure 28: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.3 FDI with GDP as control. VAR (1)



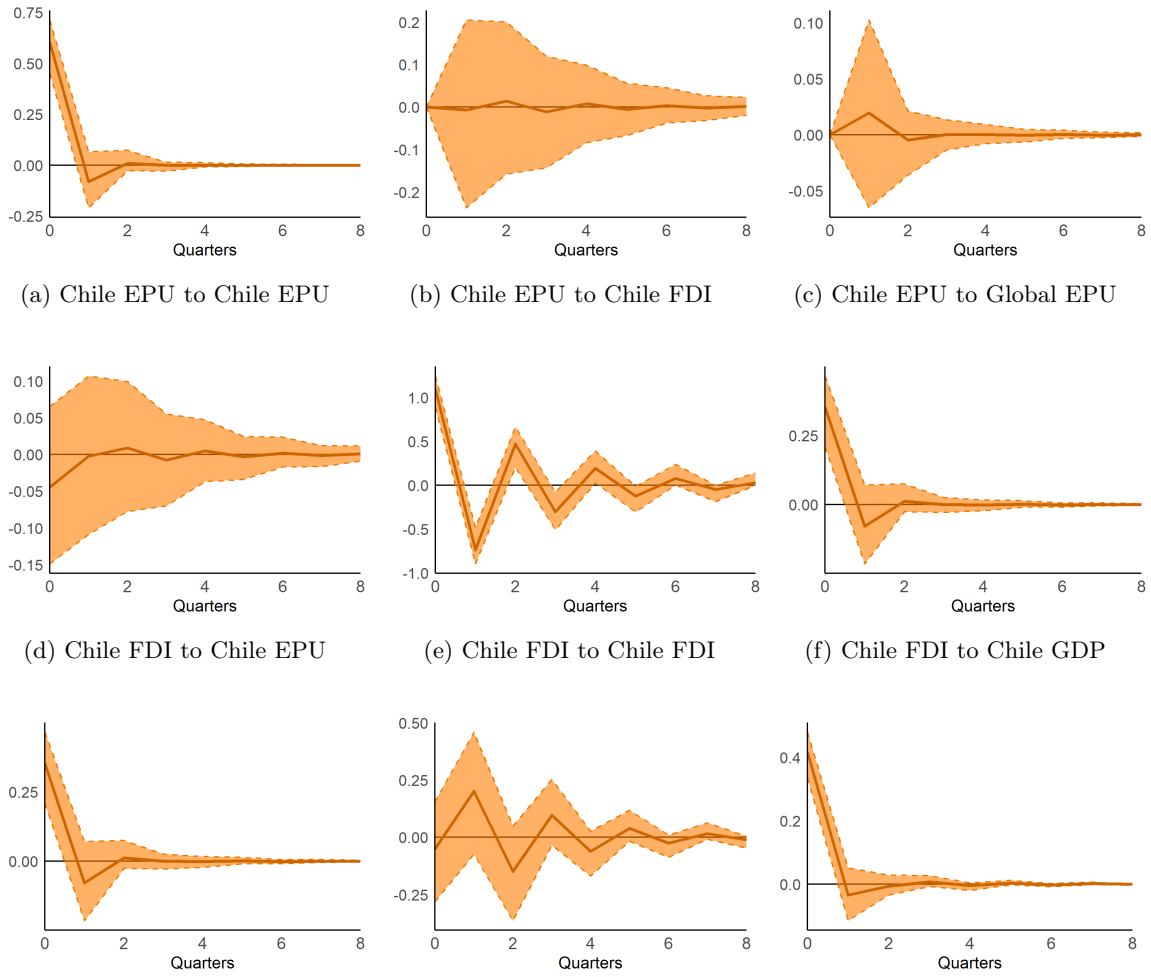
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Chile GDP

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Chile GDP

(g) Chile GDP to Chile EPU (h) Chile GDP to Chile FDI (i) Chile GDP to Chile GDP

Figure 29: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.4 FDI with Global EPU as control. VAR (1)



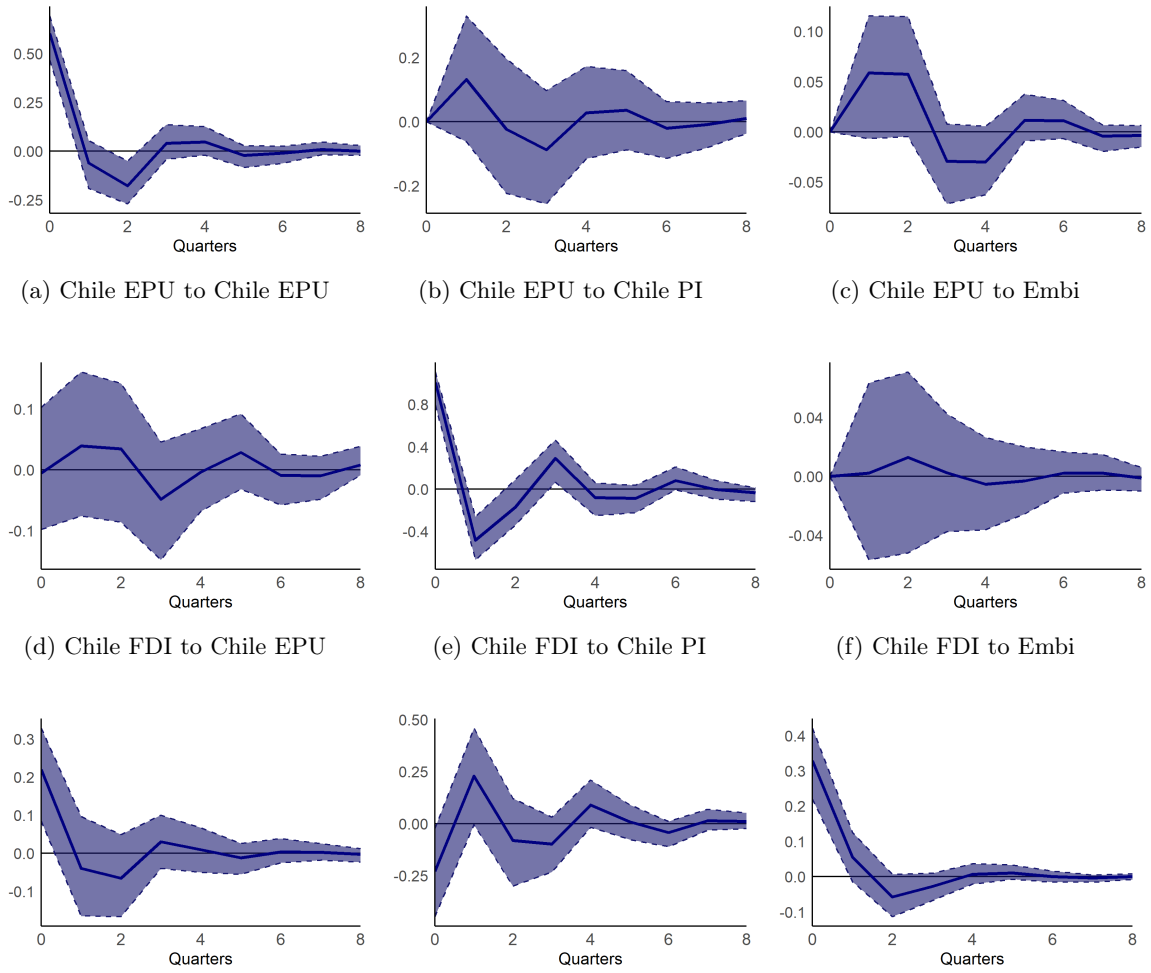
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Global EPU

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Chile GDP

(g) Global EPU to Chile EPU (h) Global EPU to Chile FDI (i) Global EPU to Global EPU

Figure 30: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.5 PI with EMBI as control. VAR (2)



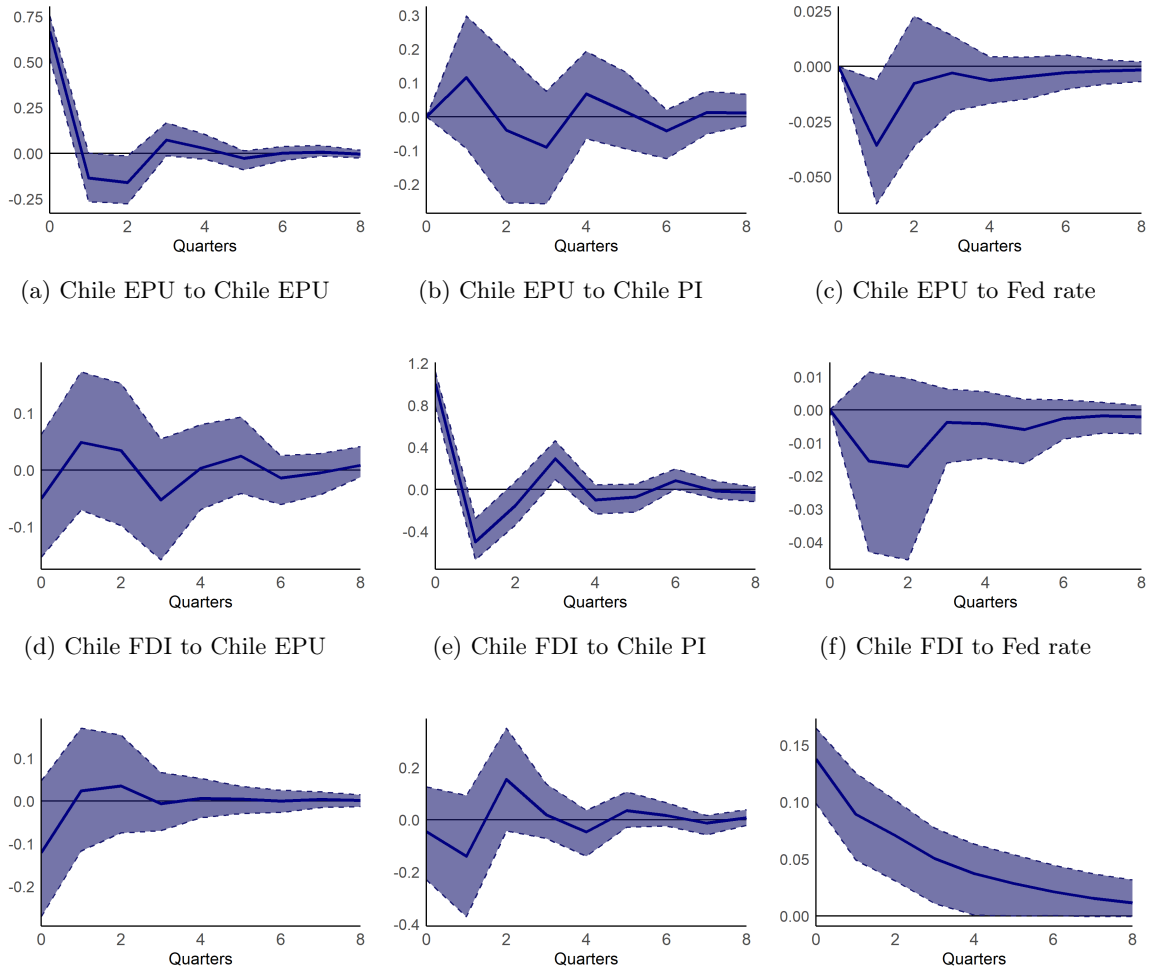
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Embi

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile PI (f) Chile FDI to Embi

(g) Embi to Chile EPU (h) Embi to Chile PI (i) Embi to Embi

Figure 31: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.6 PI with Fed rate as control. VAR (2)



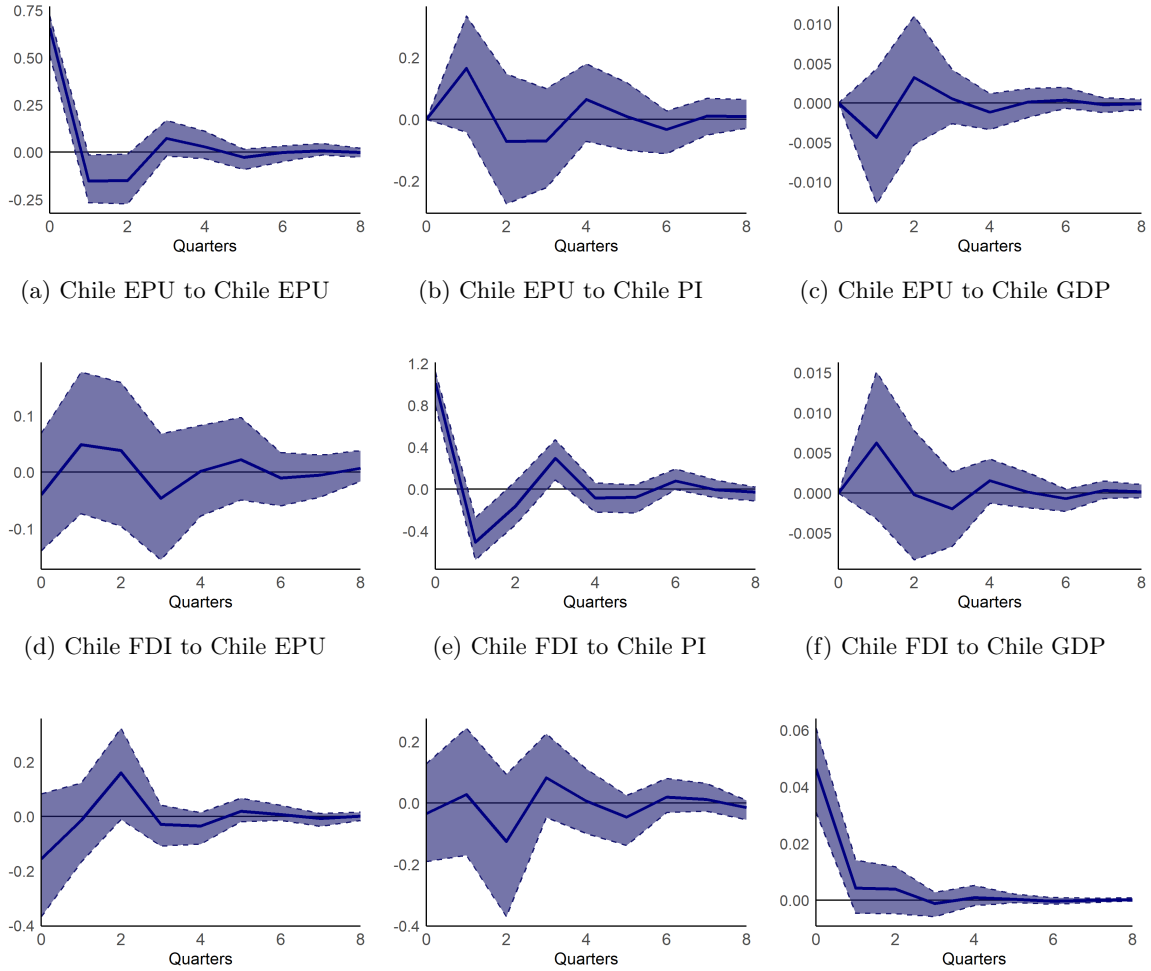
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Fed rate

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile PI (f) Chile FDI to Fed rate

(g) Fed rate to Chile EPU (h) Fed rate to Chile PI (i) Fed rate to Fed rate

Figure 32: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.7 PI with GDP as control. VAR (2)



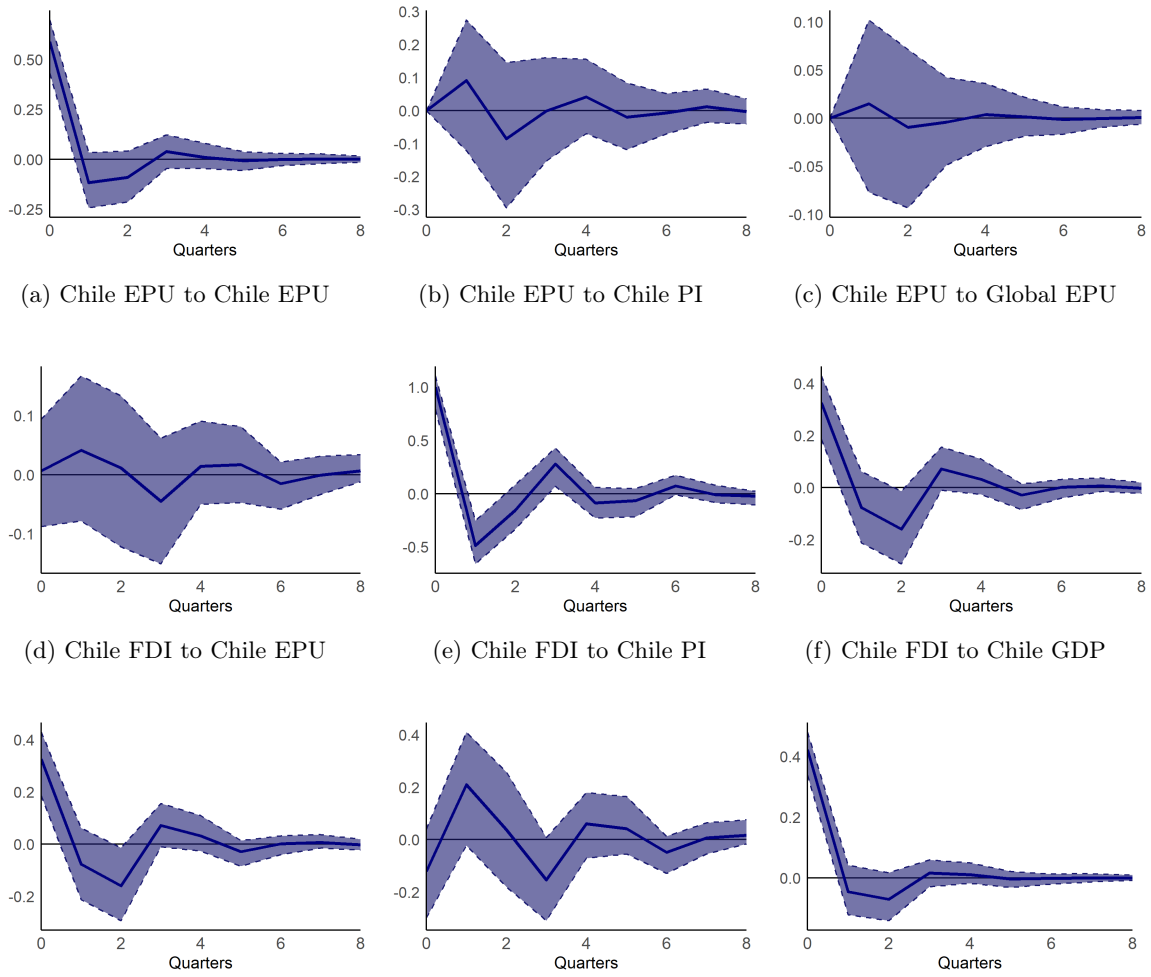
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Chile GDP

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile PI (f) Chile FDI to Chile GDP

(g) Chile GDP to Chile EPU (h) Chile GDP to Chile PI (i) Chile GDP to Chile GDP

Figure 33: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.2.8 PI with Global EPU as control. VAR (1)



(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Global EPU

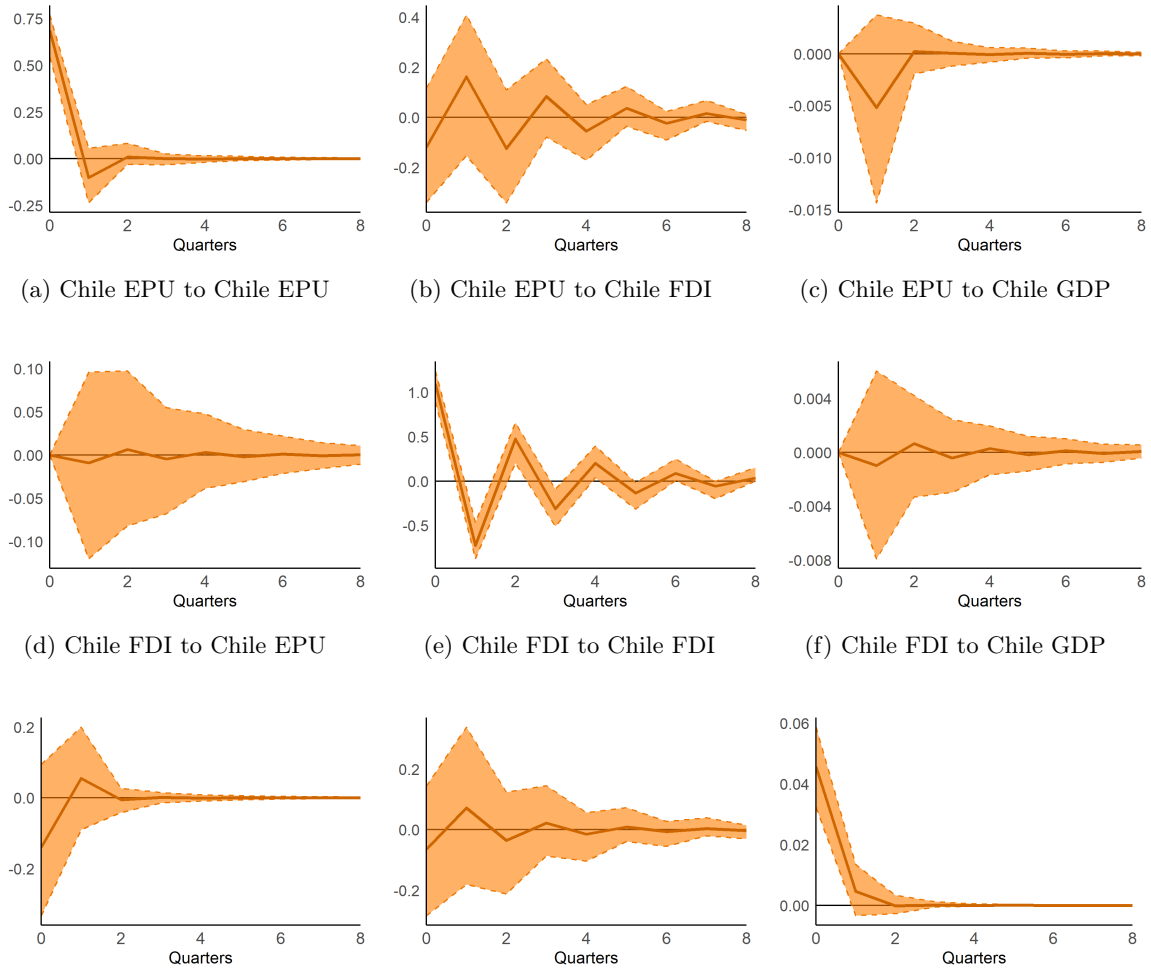
(d) Chile FDI to Chile EPU (e) Chile FDI to Chile PI (f) Chile FDI to Chile GDP

(g) Global EPU to Chile EPU (h) Global EPU to Chile PI (i) Global EPU to Global EPU

Figure 34: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.3 Third Ordering

3.3.1 FDI with GDP as control. VAR (1)



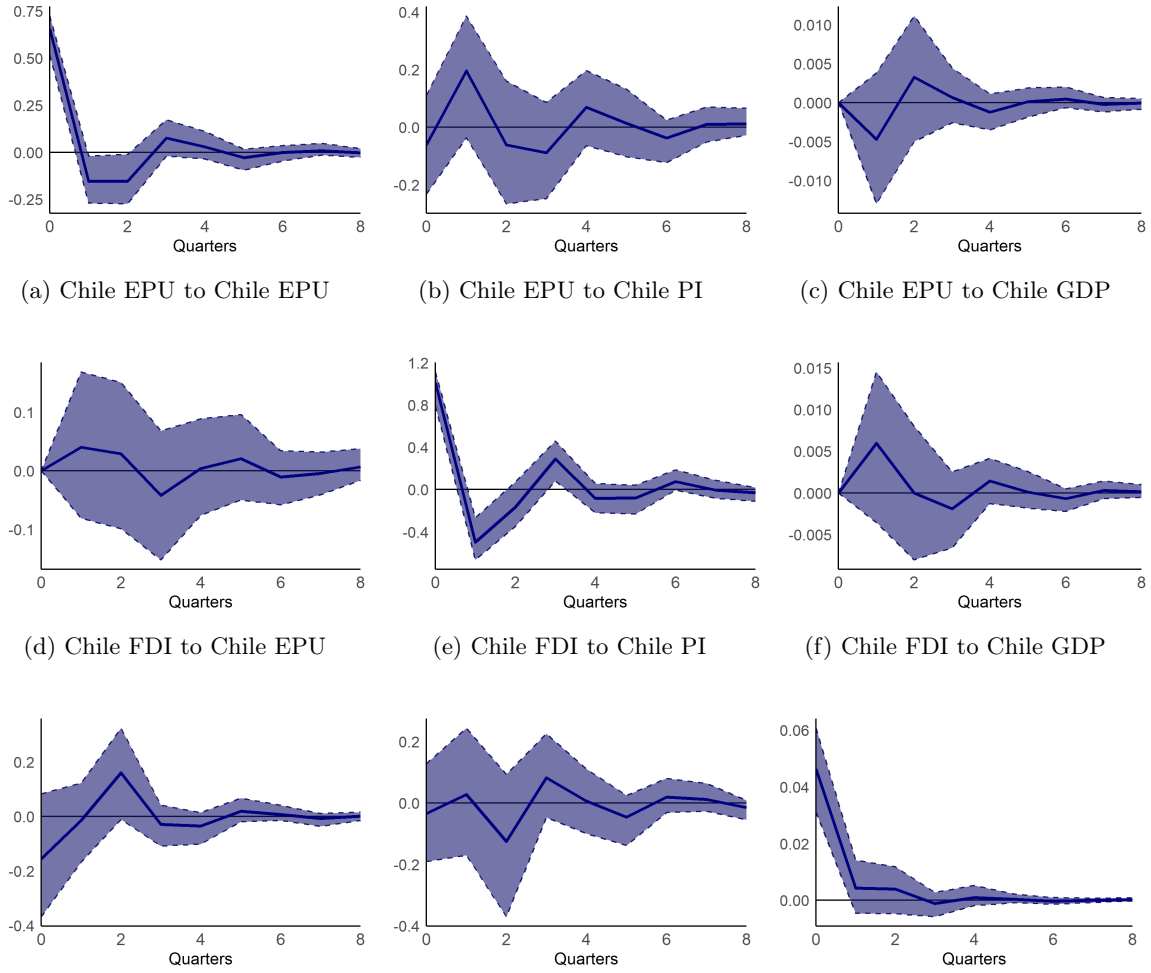
(a) Chile EPU to Chile EPU (b) Chile EPU to Chile FDI (c) Chile EPU to Chile GDP

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile FDI (f) Chile FDI to Chile GDP

(g) Chile GDP to Chile EPU (h) Chile GDP to Chile FDI (i) Chile GDP to Chile GDP

Figure 35: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

3.3.2 PI with GDP as control. VAR (2)



(a) Chile EPU to Chile EPU (b) Chile EPU to Chile PI (c) Chile EPU to Chile GDP

(d) Chile FDI to Chile EPU (e) Chile FDI to Chile PI (f) Chile FDI to Chile GDP

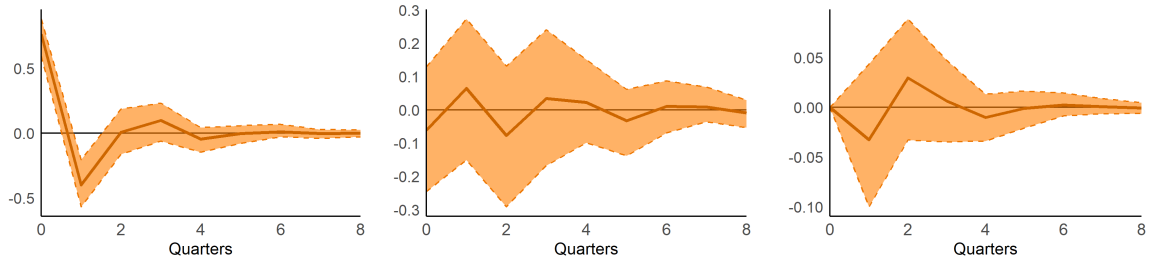
(g) Chile GDP to Chile EPU (h) Chile GDP to Chile PI (i) Chile GDP to Chile GDP

Figure 36: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

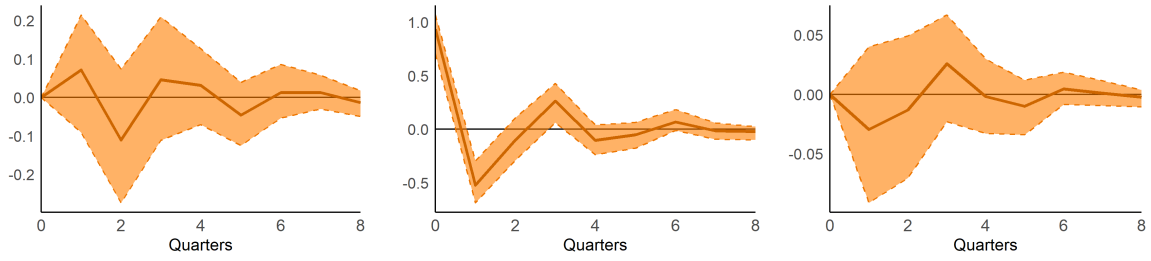
4 Colombia

4.1 First Ordering

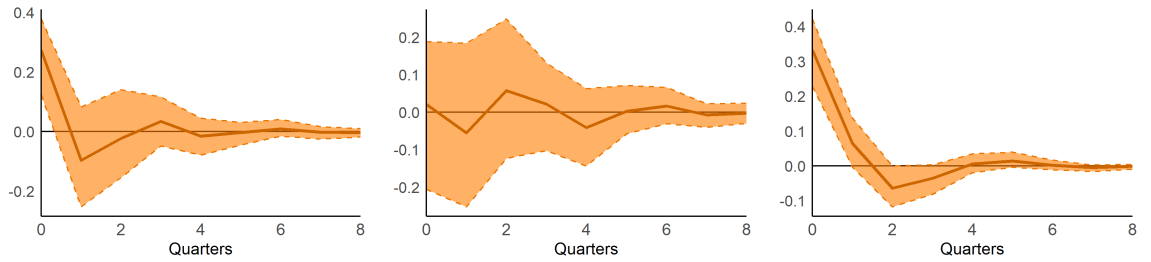
4.1.1 FDI with EMBI as control. VAR (2)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Embi



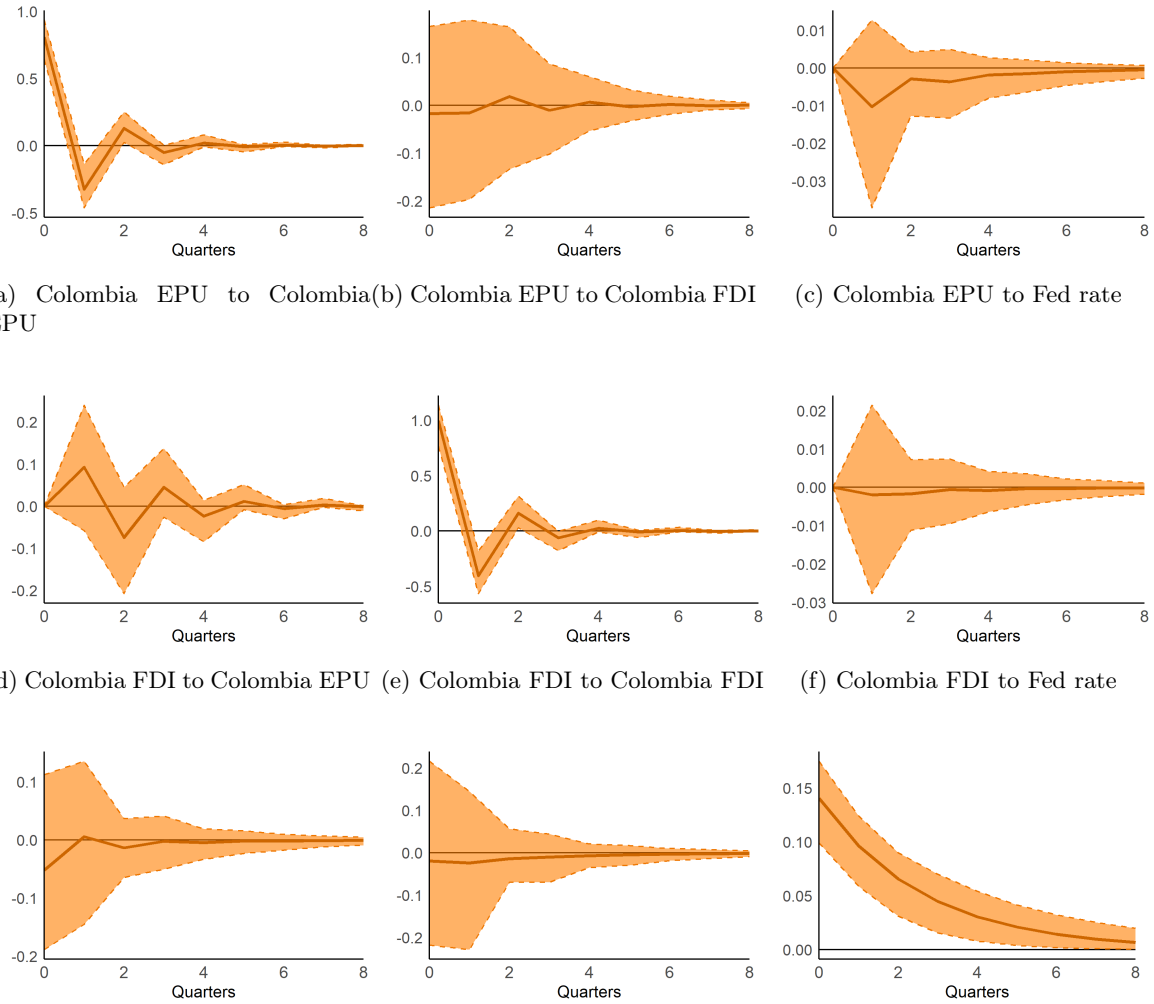
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Embi



(g) Embi to Colombia EPU (h) Embi to Colombia FDI (i) Embi to Embi

Figure 37: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.1.2 FDI with Fed rate as control. VAR (1)



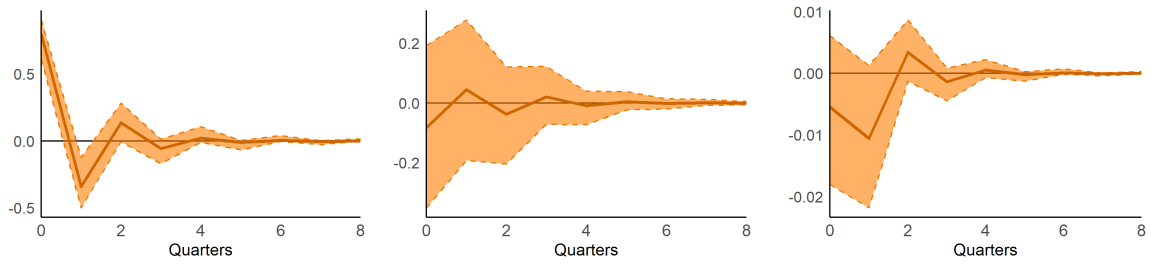
(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Fed rate

(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Fed rate

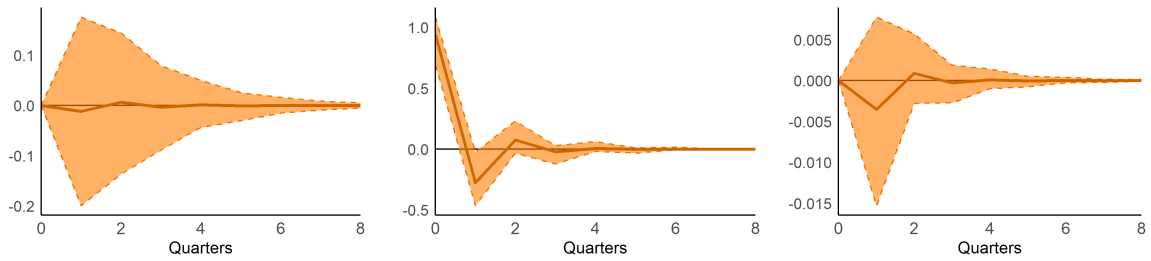
(g) Fed rate to Colombia EPU (h) Fed rate to Colombia FDI (i) Fed rate to Fed rate

Figure 38: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

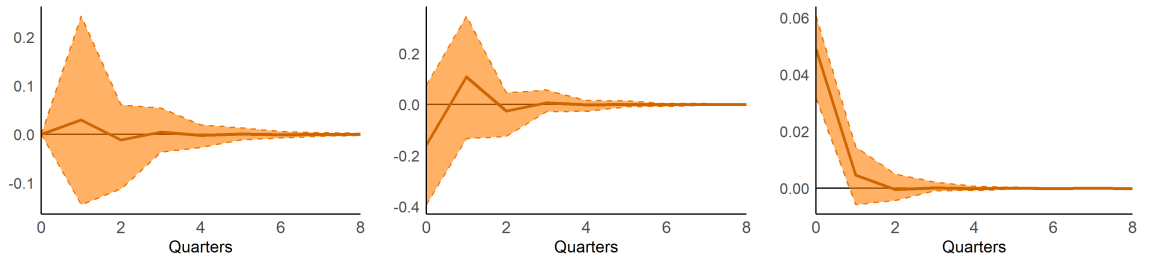
4.1.3 FDI with GDP as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Colombia GDP



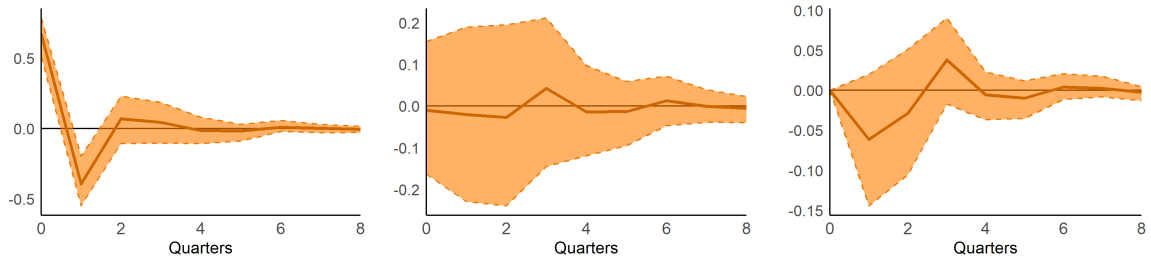
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Colombia GDP



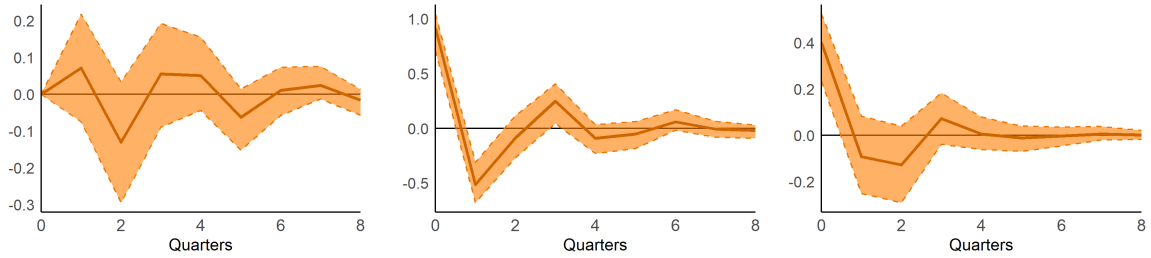
(g) Colombia GDP to Colombia EPU (h) Colombia GDP to Colombia FDI (i) Colombia GDP to Colombia GDP

Figure 39: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

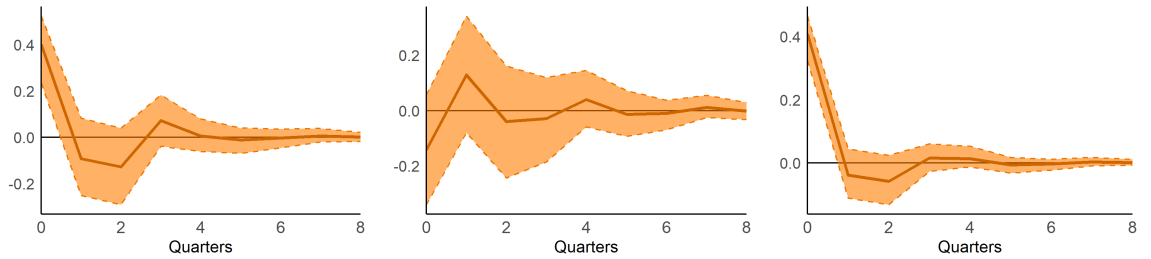
4.1.4 FDI with Global EPU as control. VAR (2)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Global EPU



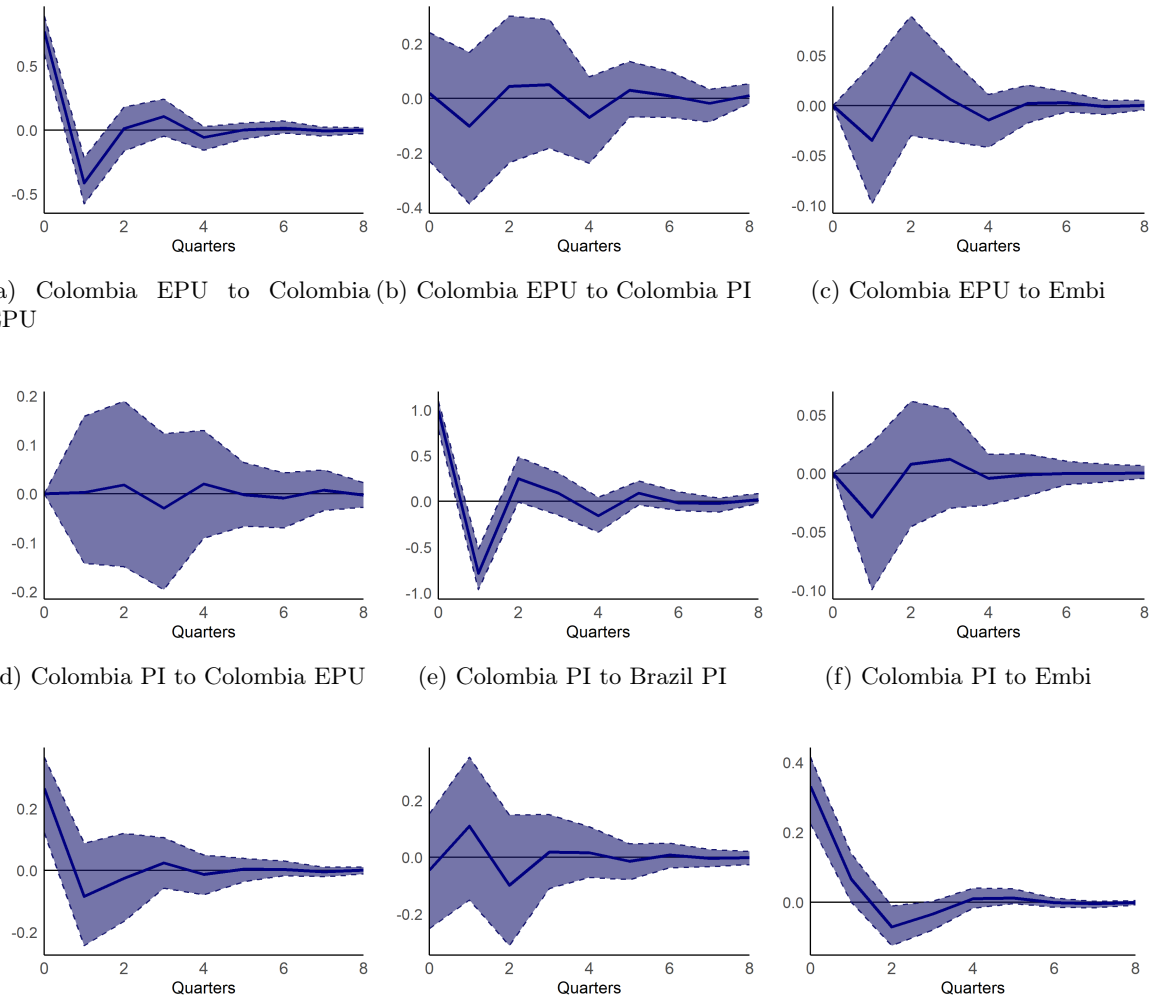
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Colombia GDP



(g) Global EPU to Colombia EPU (h) Global EPU to Colombia FDI (i) Global EPU to Global EPU

Figure 40: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.1.5 PI with EMBI as control. VAR (2)



(a) Colombia EPU to Colombia EPU

(b) Colombia EPU to Colombia PI

(c) Colombia EPU to Embi

(d) Colombia PI to Colombia EPU

(e) Colombia PI to Brazil PI

(f) Colombia PI to Embi

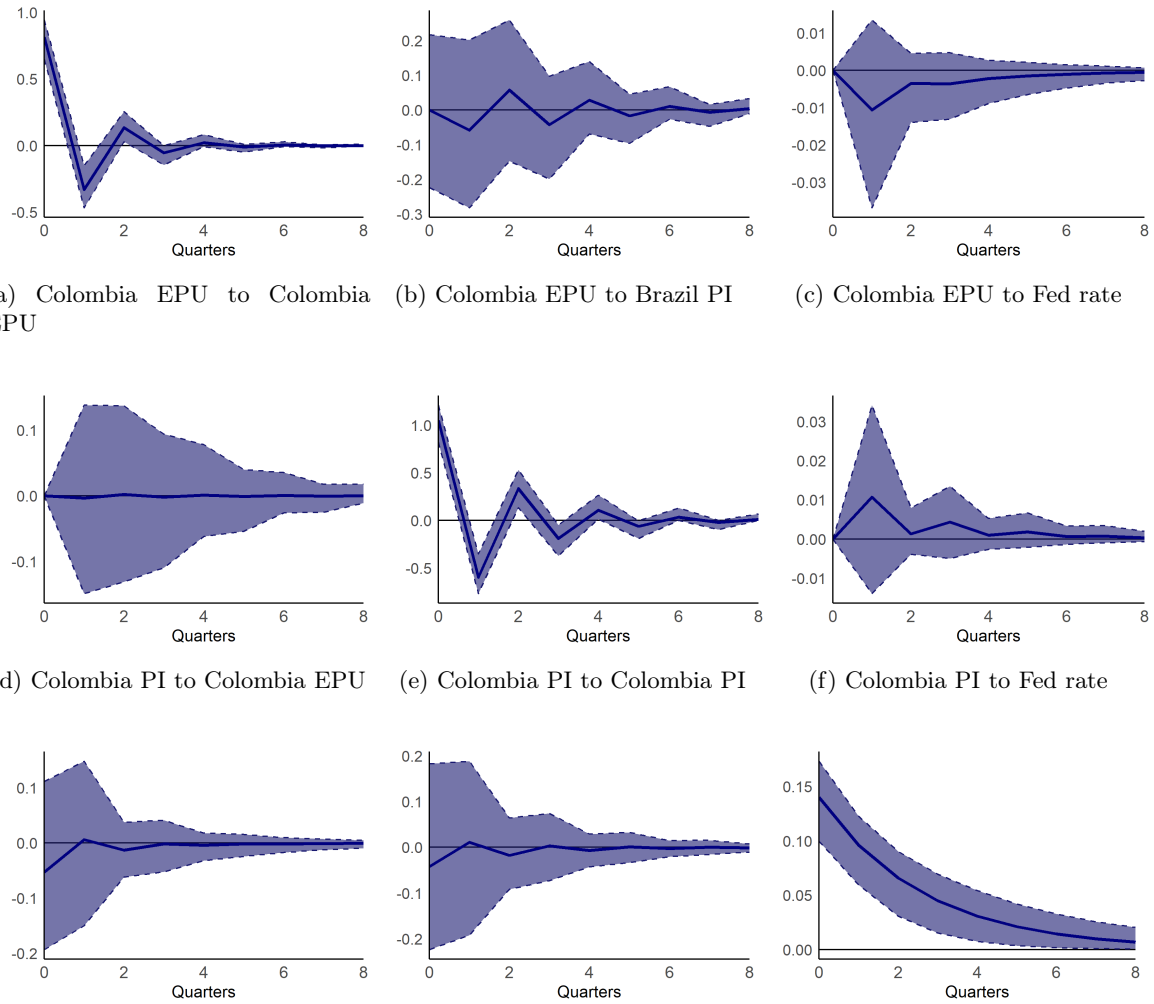
(g) Embi to Colombia EPU

(h) Embi to Brazil PI

(i) Embi to Embi

Figure 41: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.1.6 PI with Fed rate as control. VAR (1)



(a) Colombia EPU to Colombia EPU

(b) Colombia EPU to Brazil PI

(c) Colombia EPU to Fed rate

(d) Colombia PI to Colombia EPU

(e) Colombia PI to Colombia PI

(f) Colombia PI to Fed rate

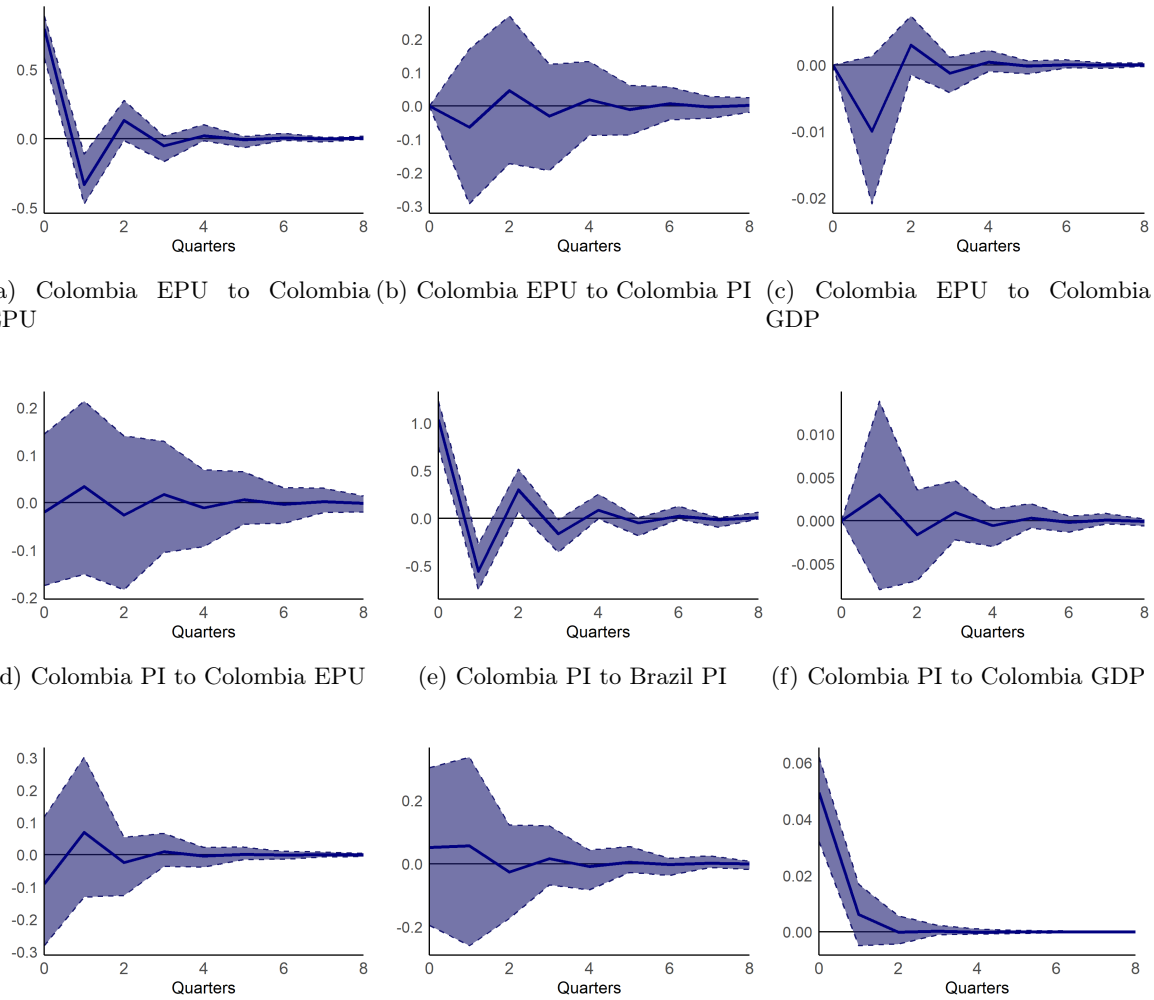
(g) Fed rate to Colombia EPU

(h) Fed rate to Brazil PI

(i) Fed rate to Fed rate

Figure 42: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.1.7 PI with GDP as control. VAR (1)



(a) Colombia EPU to Colombia EPU

(b) Colombia EPU to Colombia PI

(c) Colombia EPU to Colombia GDP

(d) Colombia PI to Colombia EPU

(e) Colombia PI to Brazil PI

(f) Colombia PI to Colombia GDP

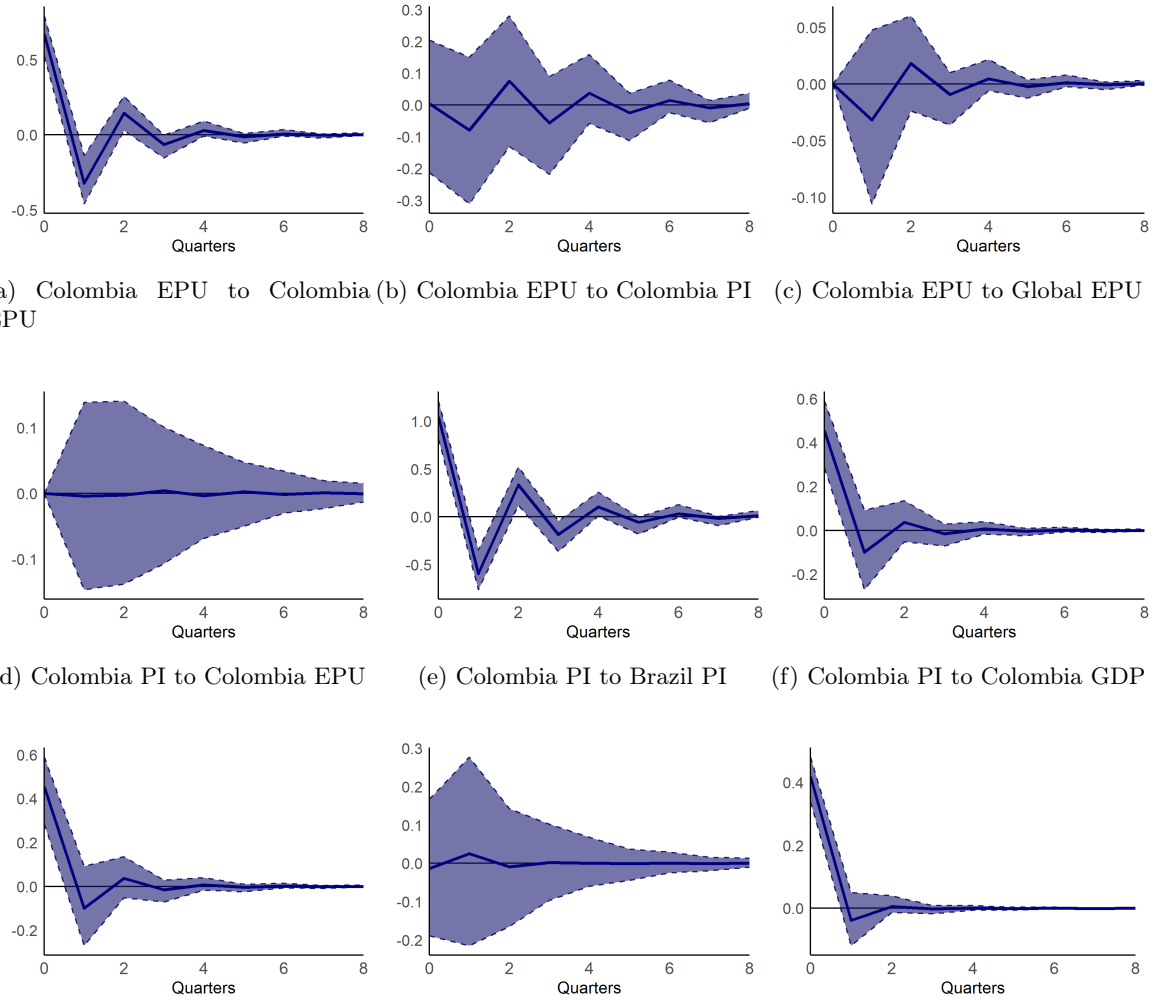
(g) Colombia GDP to Colombia EPU

(h) Colombia GDP to Colombia PI

(i) Colombia GDP to Colombia GDP

Figure 43: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.1.8 PI with Global EPU as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia PI (c) Colombia EPU to Global EPU

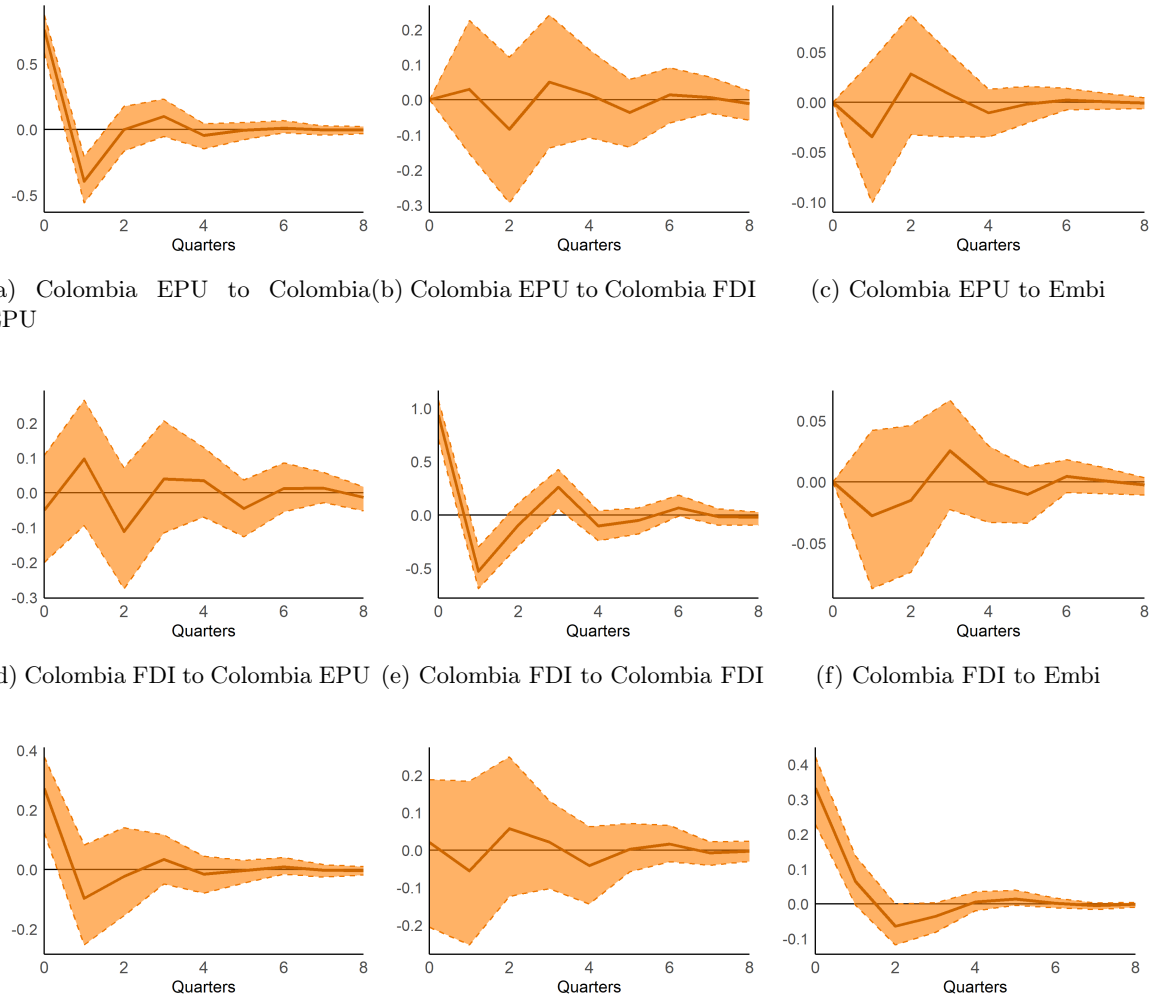
(d) Colombia PI to Colombia EPU (e) Colombia PI to Brazil PI (f) Colombia PI to Colombia GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil PI (i) Global EPU to Global EPU

Figure 44: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.2 Second Ordering

4.2.1 FDI with EMBI as control. VAR (2)



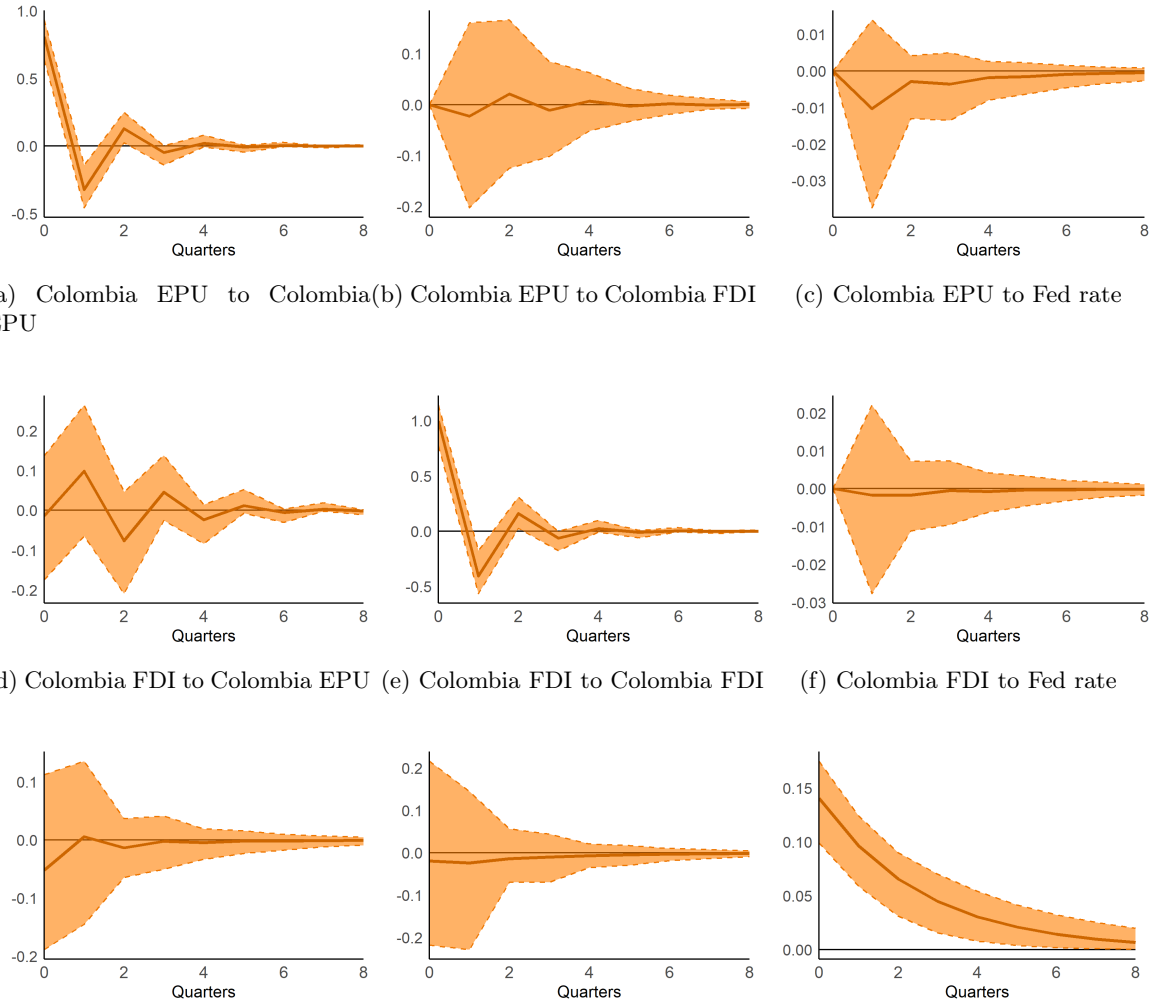
(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Embi

(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Embi

(g) Embi to Colombia EPU (h) Embi to Colombia FDI (i) Embi to Embi

Figure 45: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.2.2 FDI with Fed rate as control. VAR (1)



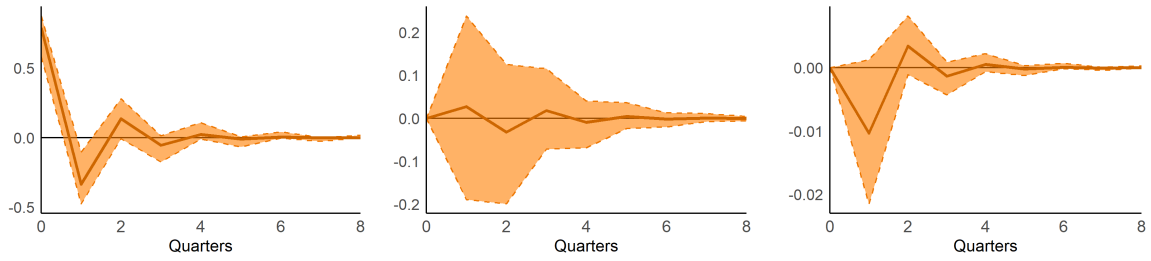
(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Fed rate

(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Fed rate

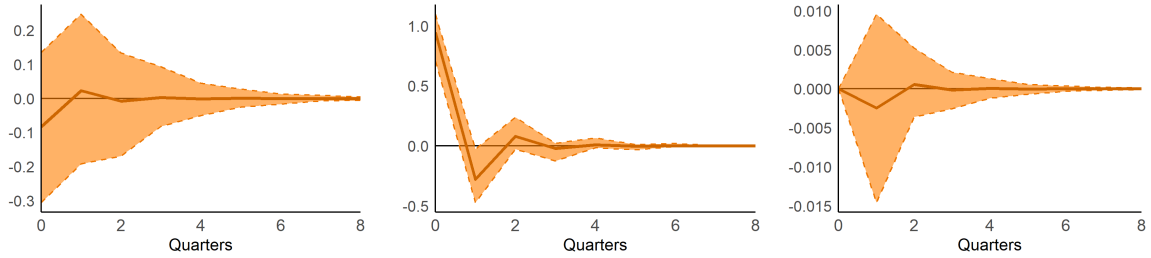
(g) Fed rate to Colombia EPU (h) Fed rate to Colombia FDI (i) Fed rate to Fed rate

Figure 46: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

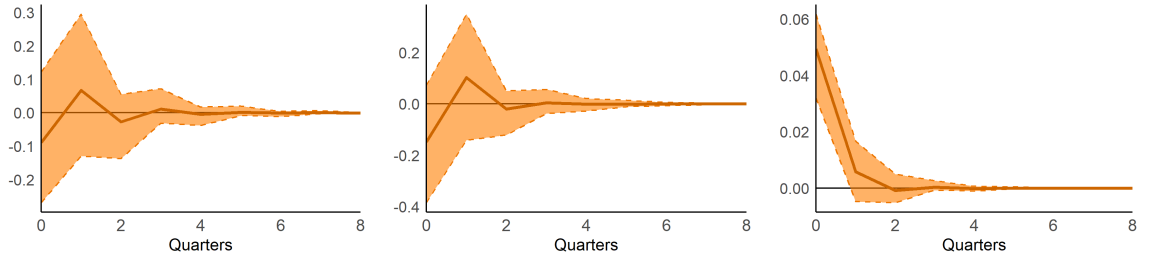
4.2.3 FDI with GDP as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Colombia GDP



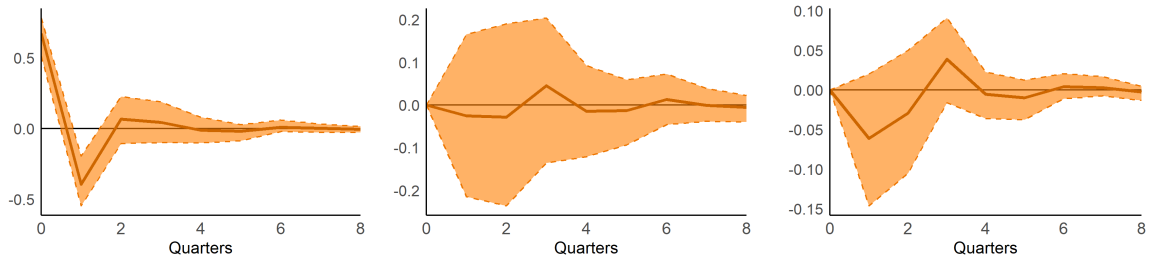
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Colombia GDP



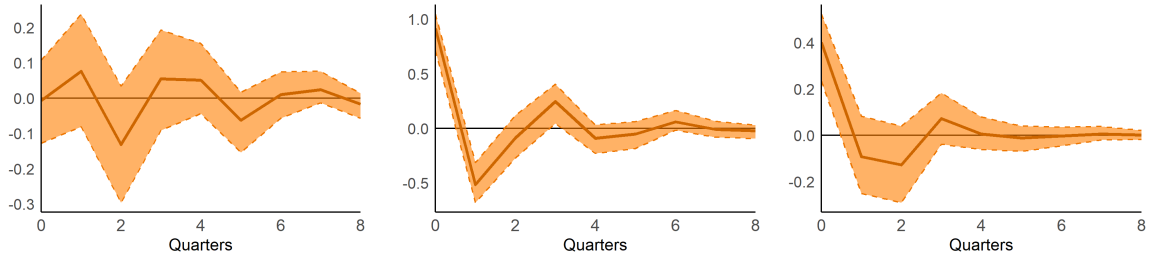
(g) Colombia GDP to Colombia EPU (h) Colombia GDP to Colombia FDI (i) Colombia GDP to Colombia GDP

Figure 47: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

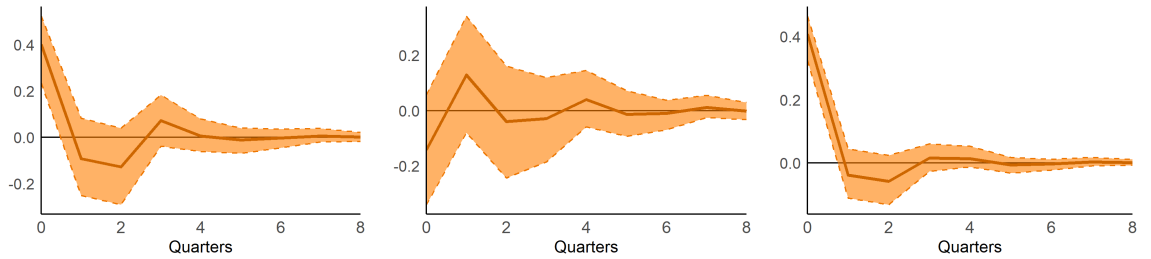
4.2.4 FDI with Global EPU as control. VAR (2)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Global EPU



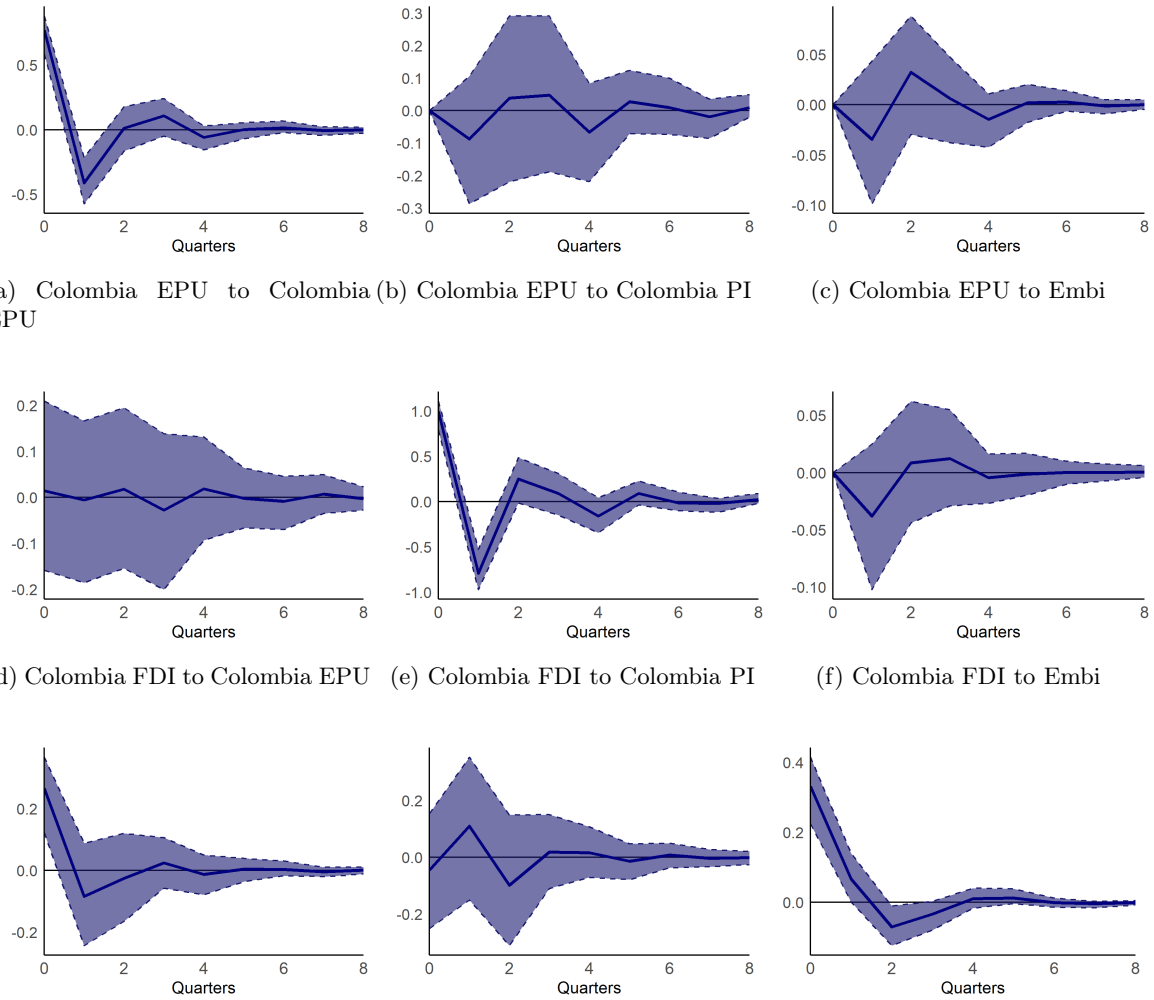
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Colombia GDP



(g) Global EPU to Colombia EPU (h) Global EPU to Colombia FDI (i) Global EPU to Global EPU

Figure 48: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.2.5 PI with EMBI as control. VAR (2)



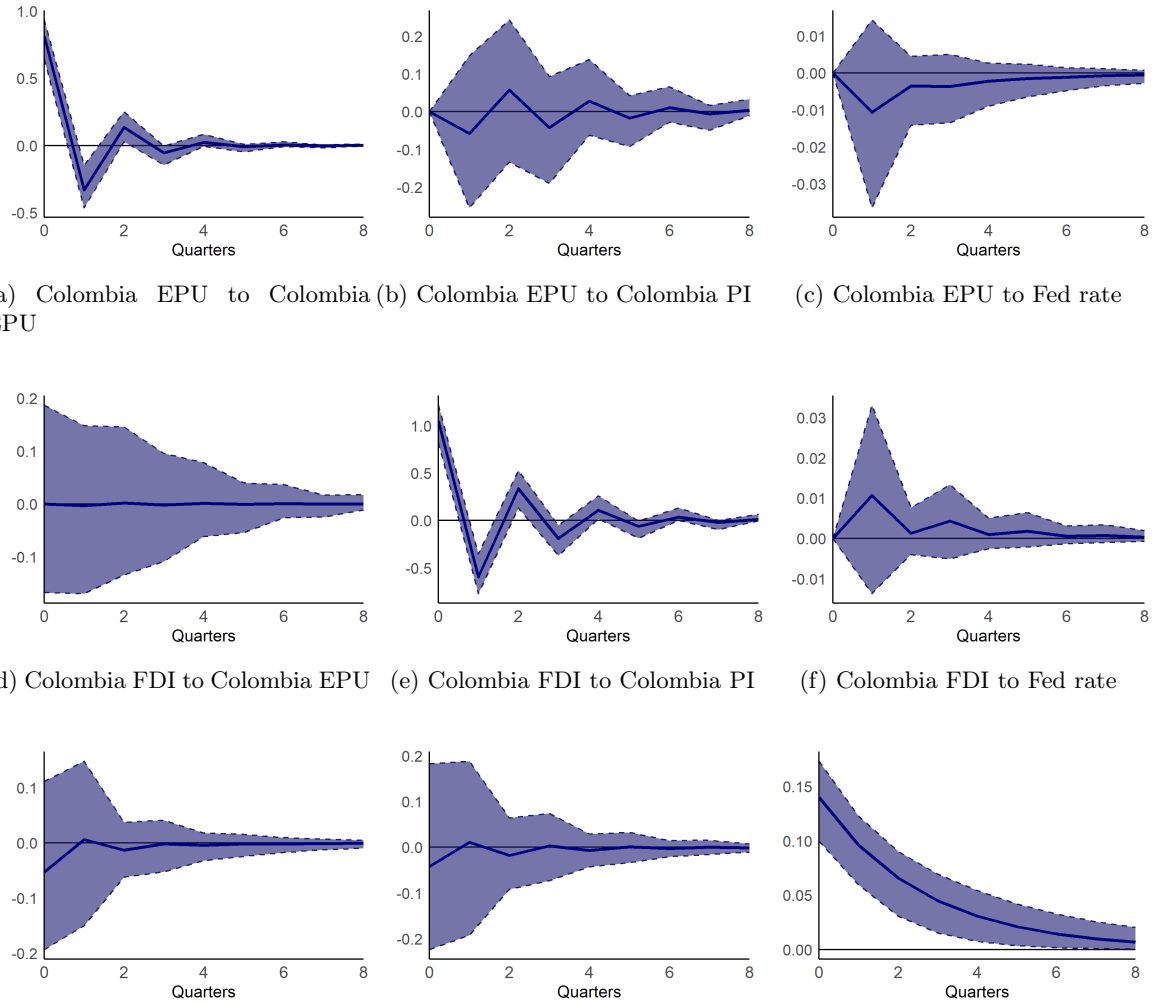
(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia PI (c) Colombia EPU to Embi

(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia PI (f) Colombia FDI to Embi

(g) Embi to Colombia EPU (h) Embi to Colombia PI (i) Embi to Embi

Figure 49: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.2.6 PI with Fed rate as control. VAR (1)



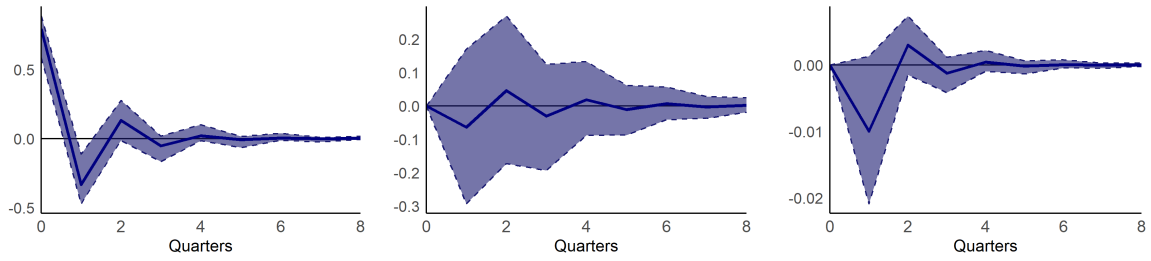
(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia PI (c) Colombia EPU to Fed rate

(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia PI (f) Colombia FDI to Fed rate

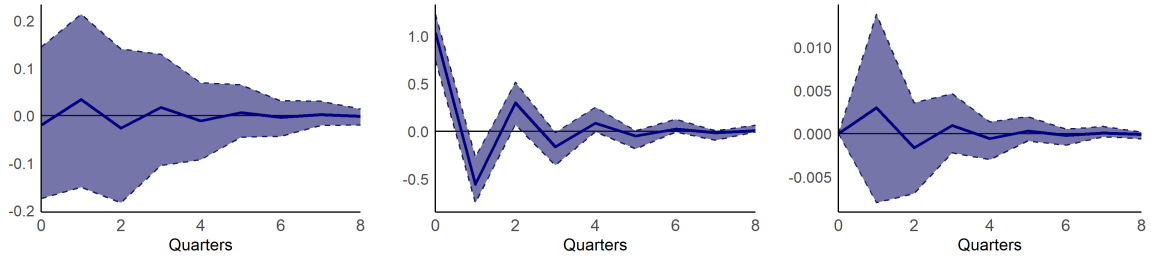
(g) Fed rate to Colombia EPU (h) Fed rate to Colombia PI (i) Fed rate to Fed rate

Figure 50: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

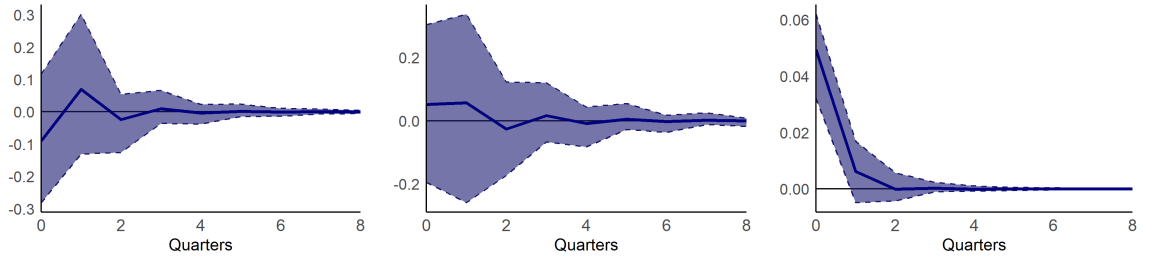
4.2.7 PI with GDP as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia PI (c) Colombia EPU to Colombia GDP



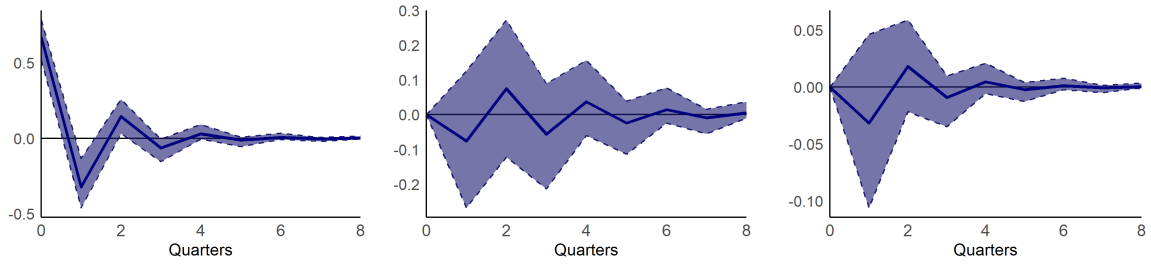
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia PI (f) Colombia FDI to Colombia GDP



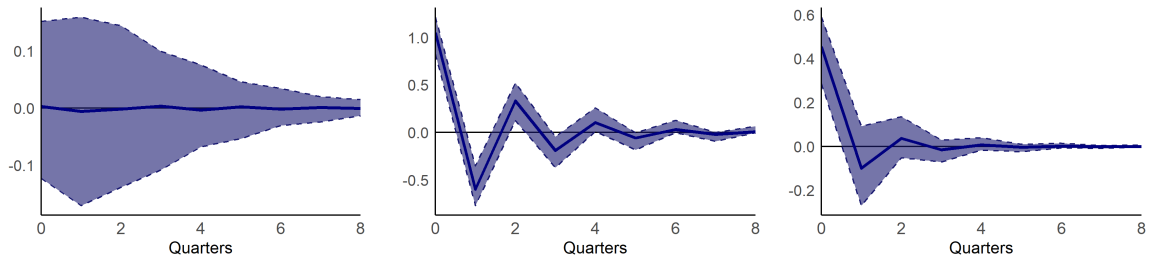
(g) Colombia GDP to Colombia EPU (h) Colombia GDP to Colombia PI (i) Colombia GDP to Colombia GDP

Figure 51: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

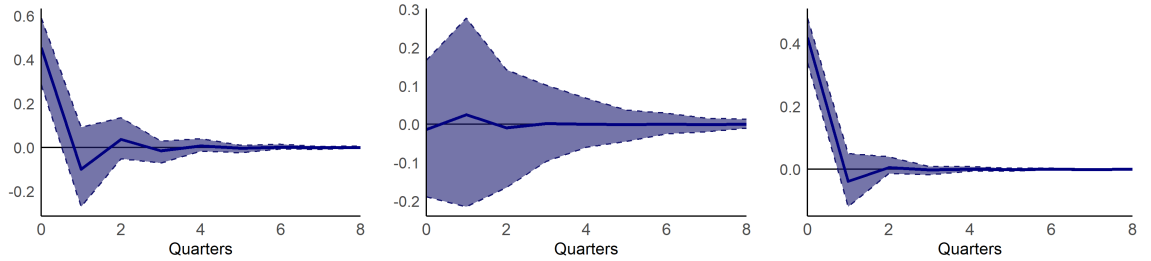
4.2.8 PI with Global EPU as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia PI (c) Colombia EPU to Global EPU



(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia PI (f) Colombia FDI to Colombia GDP

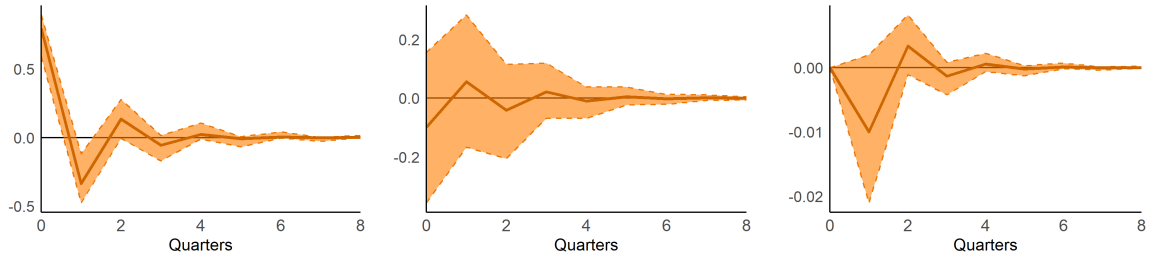


(g) Global EPU to Colombia EPU (h) Global EPU to Colombia PI (i) Global EPU to Global EPU

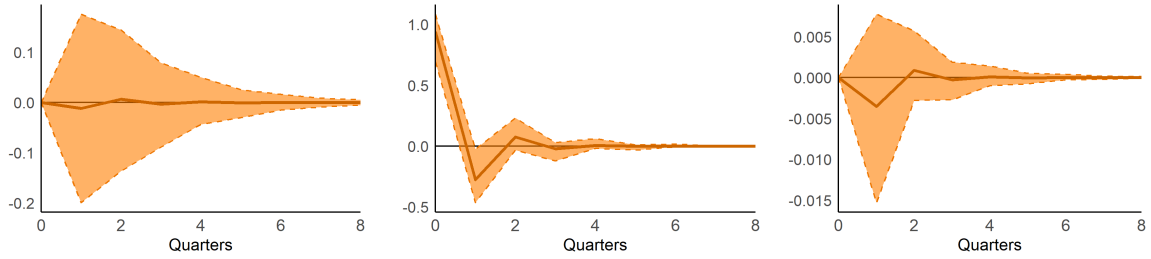
Figure 52: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

4.3 Third Ordering

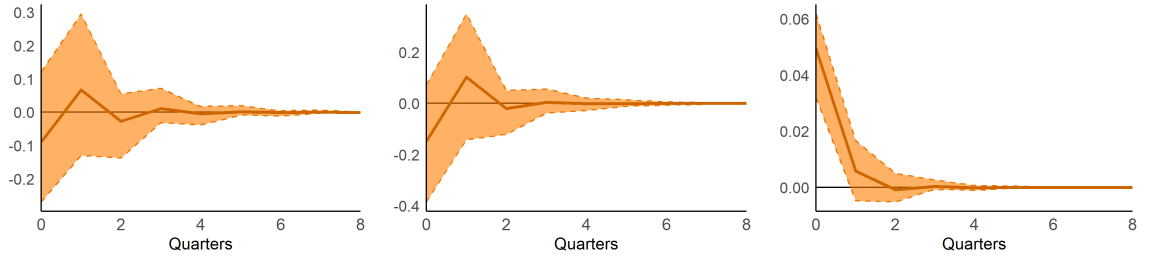
4.3.1 FDI with GDP as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia FDI (c) Colombia EPU to Colombia GDP



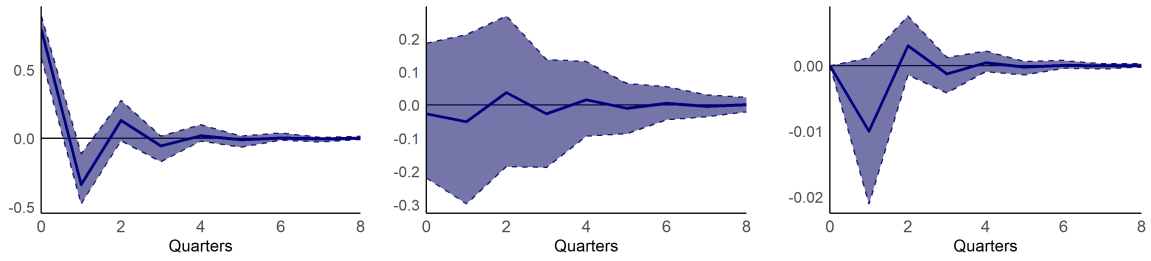
(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia FDI (f) Colombia FDI to Colombia GDP



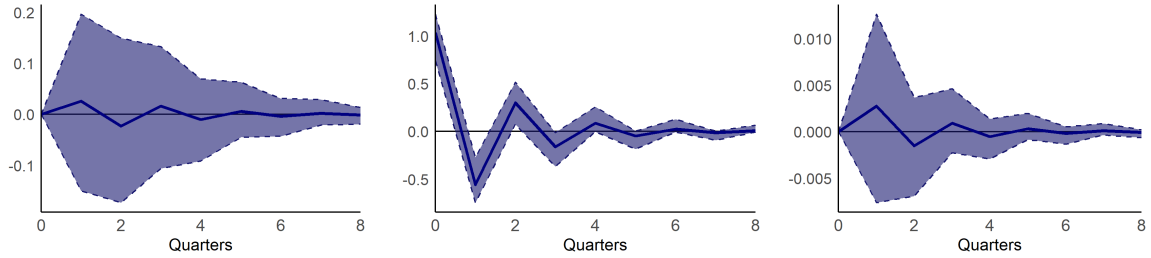
(g) Colombia GDP to Colombia EPU (h) Colombia GDP to Colombia FDI (i) Colombia GDP to Colombia GDP

Figure 53: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1. VAR(p) refers to the lag specification of the model.

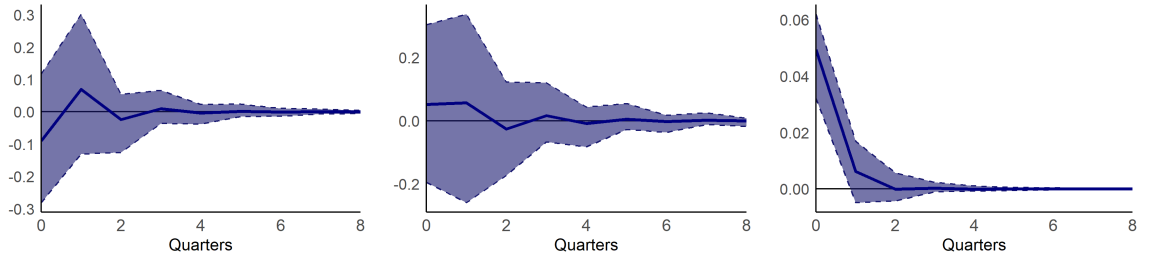
4.3.2 PI with GDP as control. VAR (1)



(a) Colombia EPU to Colombia EPU (b) Colombia EPU to Colombia PI (c) Colombia EPU to Colombia GDP



(d) Colombia FDI to Colombia EPU (e) Colombia FDI to Colombia PI (f) Colombia FDI to Colombia GDP



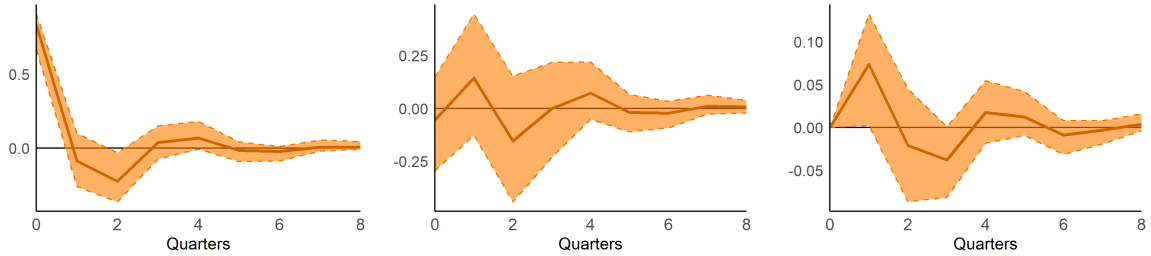
(g) Colombia GDP to Colombia EPU (h) Colombia GDP to Colombia PI (i) Colombia GDP to Colombia GDP

Figure 54: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1 and GDP model, which is 2005Q1-2020Q1.VAR(p) refers to the lag specification of the model.

5 Greece

5.1 First Ordering

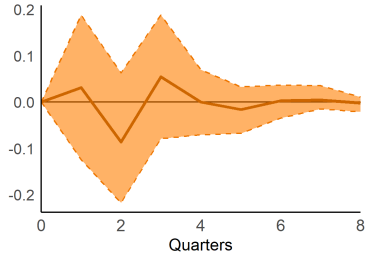
5.1.1 FDI with EMBI as control. VAR (2)



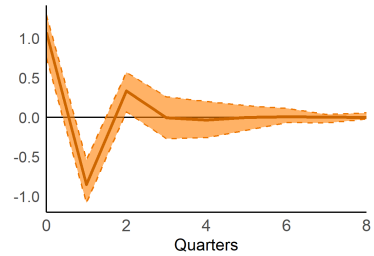
(a) Greece EPU to Greece EPU

(b) Greece EPU to Greece FDI

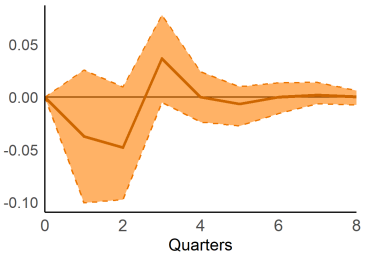
(c) Greece EPU to Embi



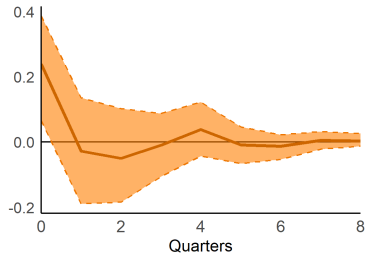
(d) Greece FDI to Greece EPU



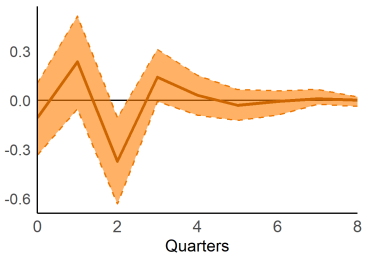
(e) Greece FDI to Greece FDI



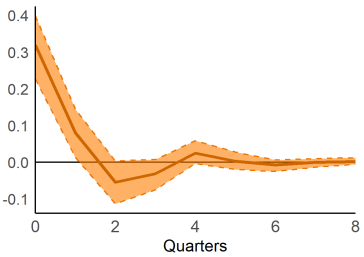
(f) Greece FDI to Embi



(g) Embi to Greece EPU



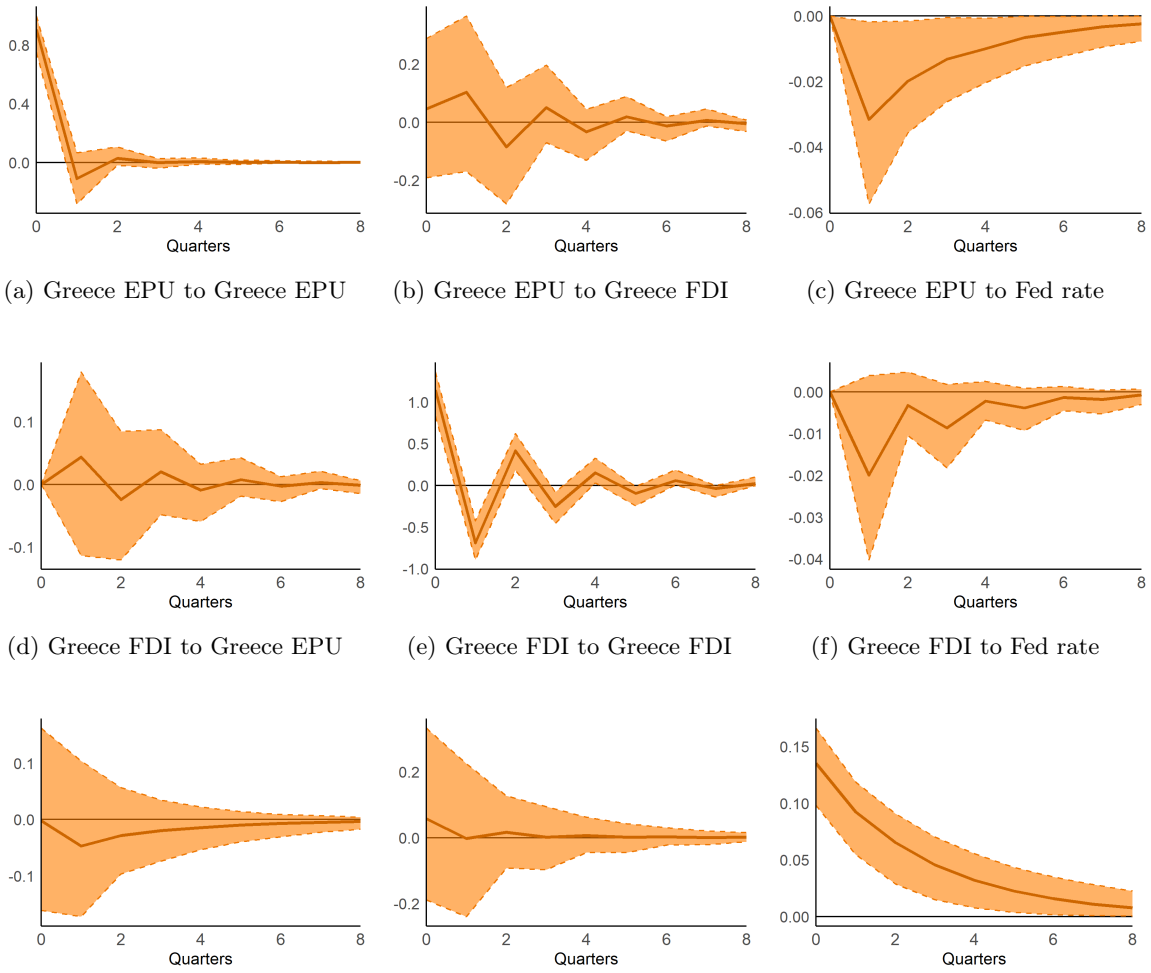
(h) Embi to Greece FDI



(i) Embi to Embi

Figure 55: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.1.2 FDI with Fed rate as control. VAR (1)



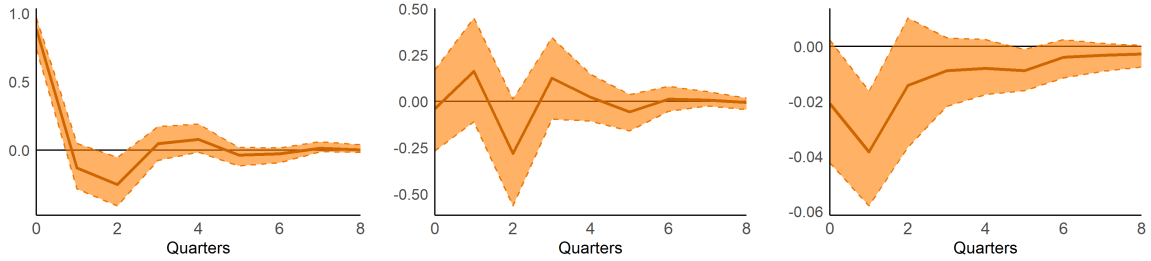
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Fed rate

(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Fed rate

(g) Fed rate to Greece EPU (h) Fed rate to Greece FDI (i) Fed rate to Fed rate

Figure 56: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

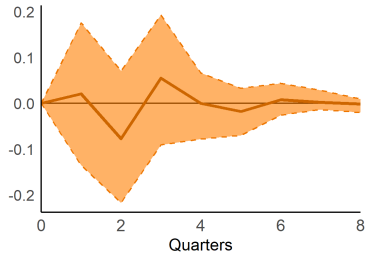
5.1.3 FDI with GDP as control. VAR (2)



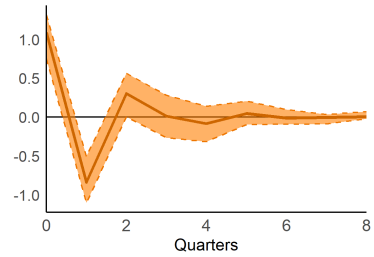
(a) Greece EPU to Greece EPU

(b) Greece EPU to Greece FDI

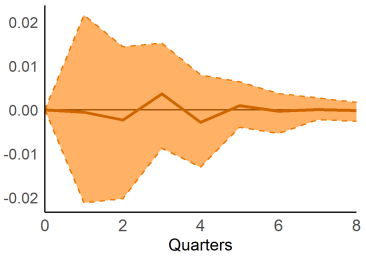
(c) Greece EPU to Greece GDP



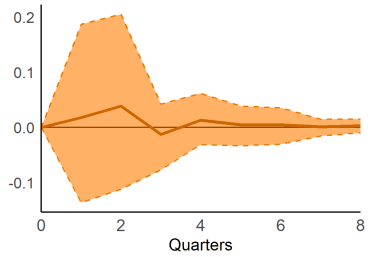
(d) Greece FDI to Greece EPU



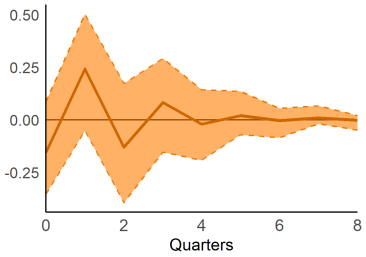
(e) Greece FDI to Greece FDI



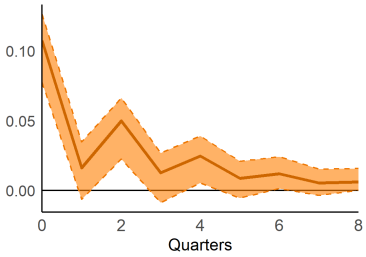
(f) Greece FDI to Greece GDP



(g) Greece GDP to Greece EPU



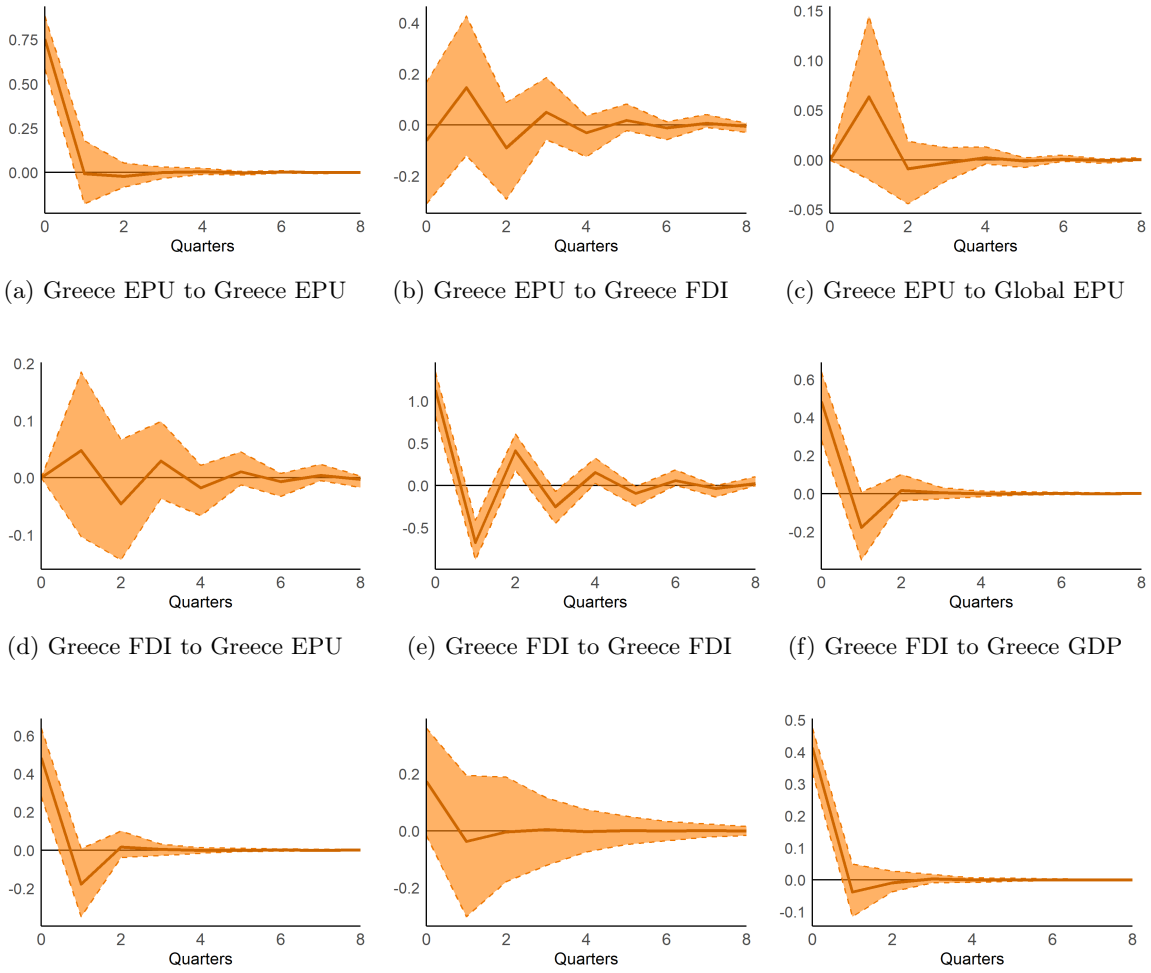
(h) Greece GDP to Greece FDI



(i) Greece GDP to Greece GDP

Figure 57: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.1.4 FDI with Global EPU as control. VAR (1)



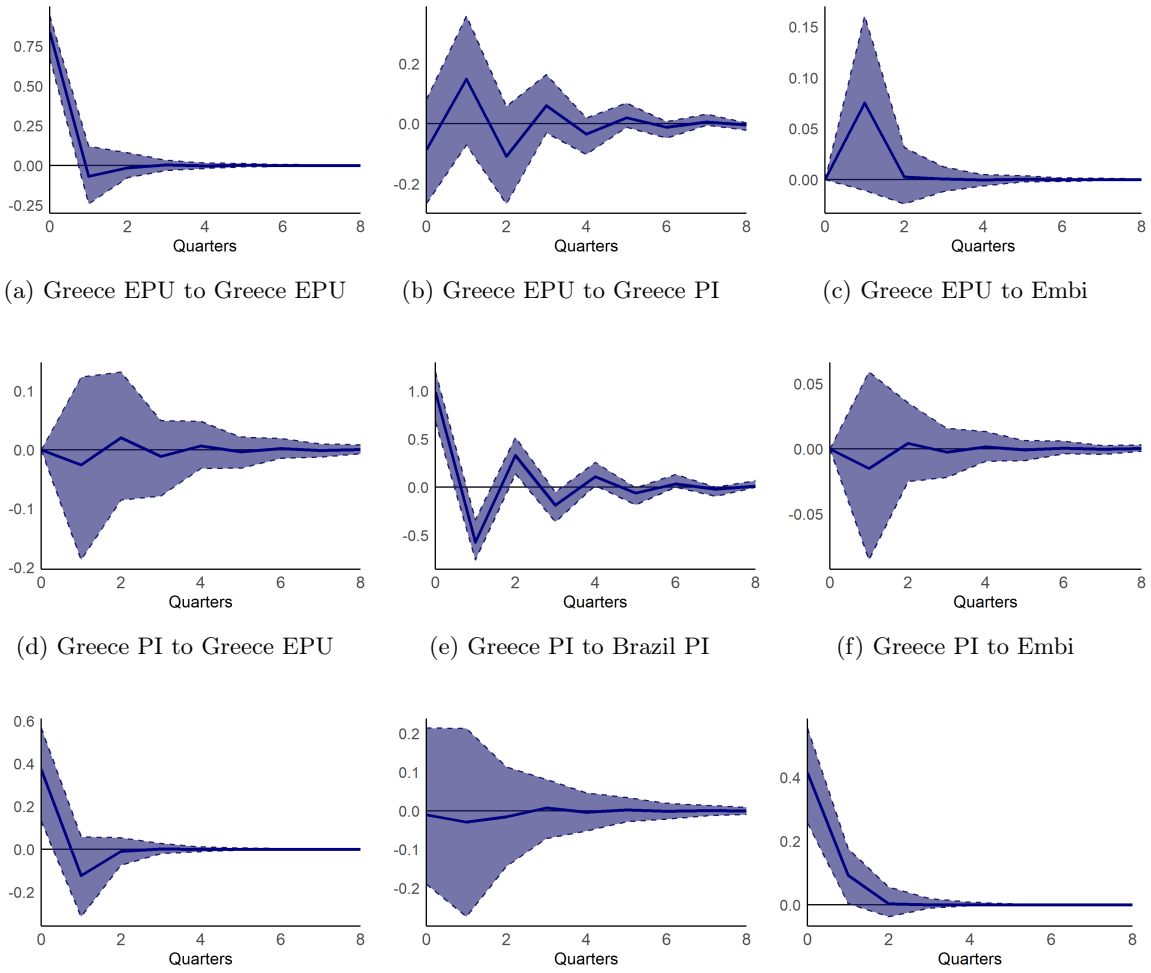
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Global EPU

(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Greece GDP

(g) Global EPU to Greece EPU (h) Global EPU to Greece FDI (i) Global EPU to Global EPU

Figure 58: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.1.5 PI with EMBI as control. VAR (1)



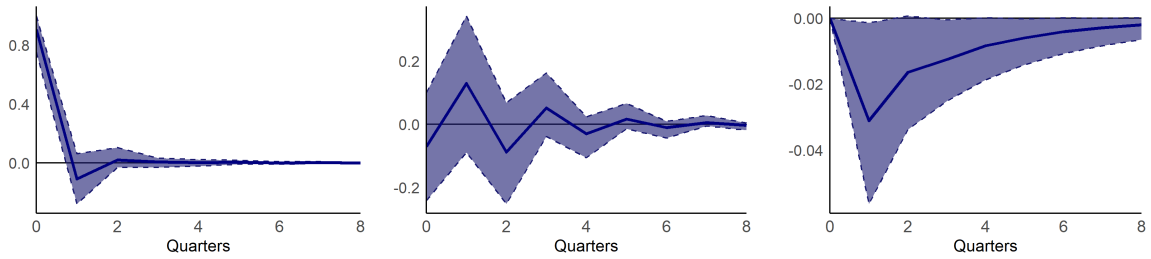
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Embi

(d) Greece PI to Greece EPU (e) Greece PI to Brazil PI (f) Greece PI to Embi

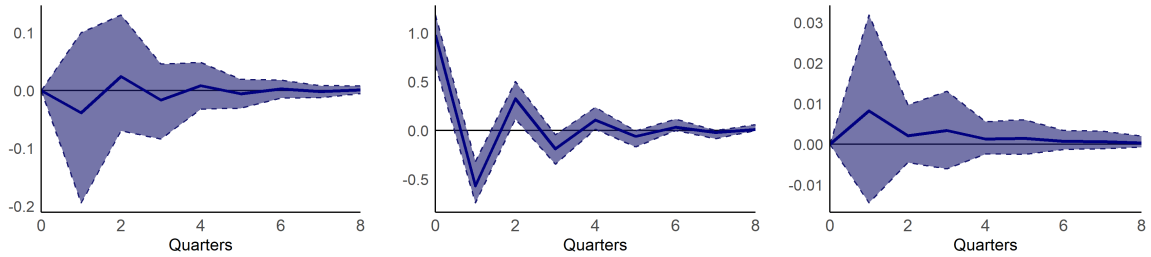
(g) Embi to Greece EPU (h) Embi to Brazil PI (i) Embi to Embi

Figure 59: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

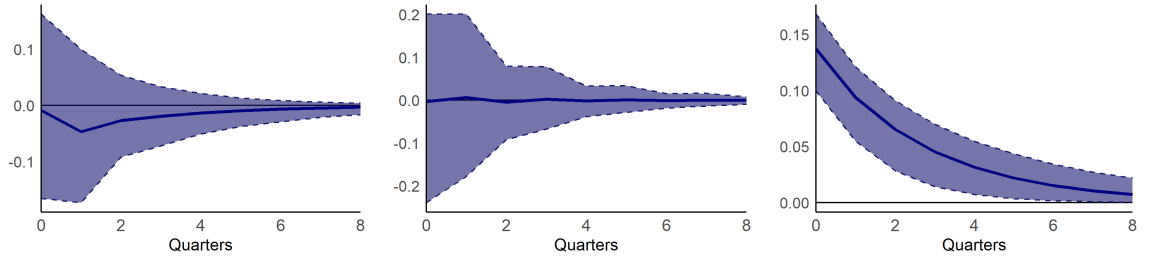
5.1.6 PI with Fed rate as control. VAR (1)



(a) Greece EPU to Greece EPU (b) Greece EPU to Brazil PI (c) Greece EPU to Fed rate



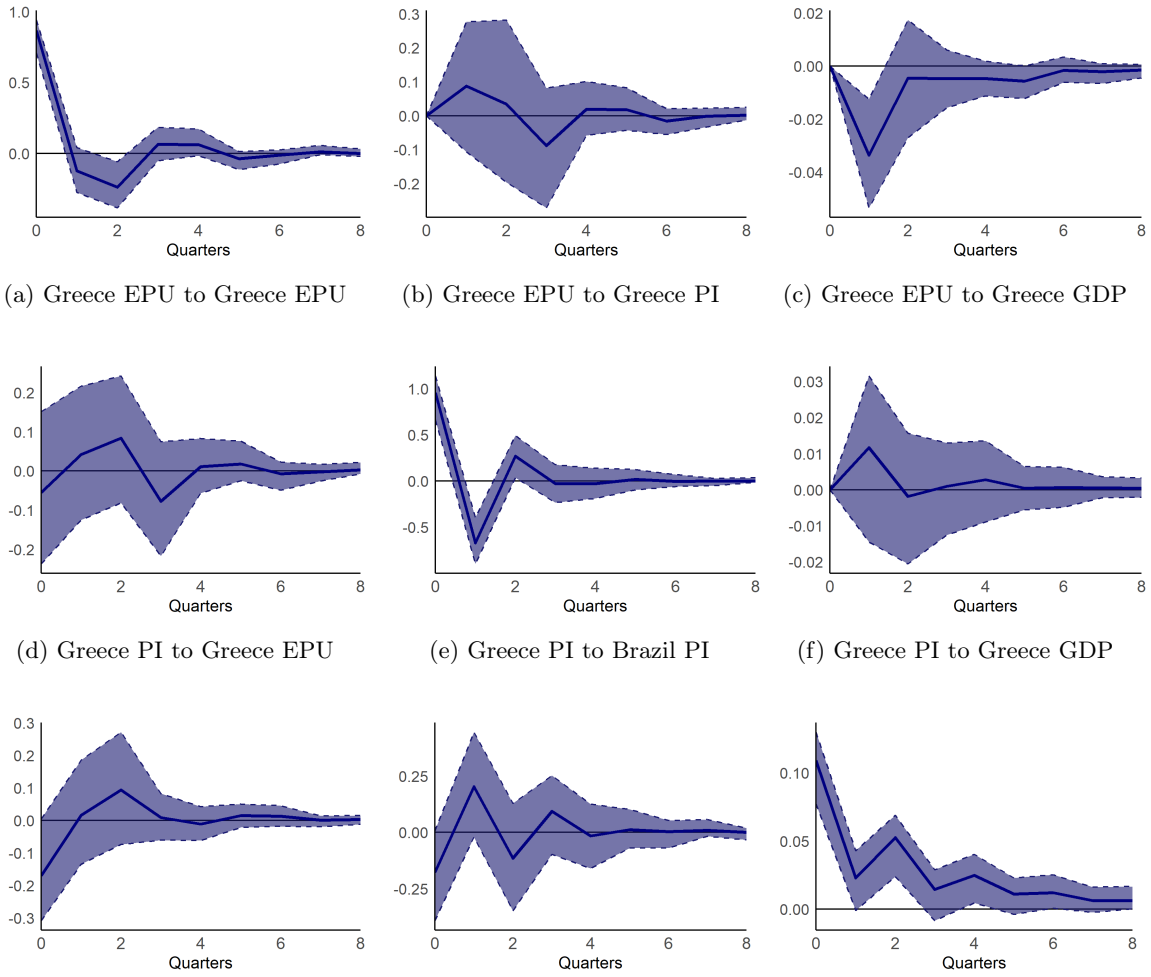
(d) Greece PI to Greece EPU (e) Greece PI to Greece PI (f) Greece PI to Fed rate



(g) Fed rate to Greece EPU (h) Fed rate to Brazil PI (i) Fed rate to Fed rate

Figure 60: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.1.7 PI with GDP as control. VAR (2)



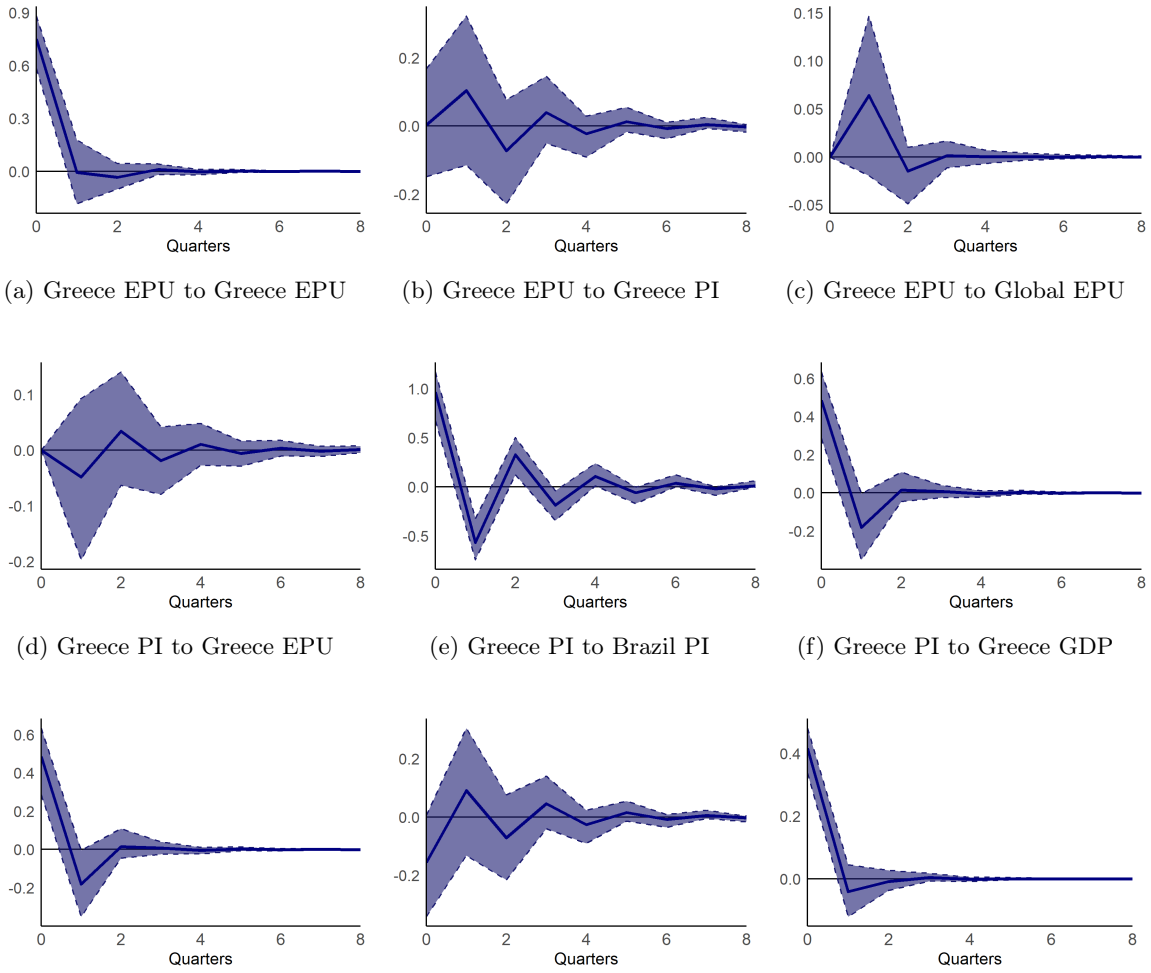
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Greece GDP

(d) Greece PI to Greece EPU (e) Greece PI to Brazil PI (f) Greece PI to Greece GDP

(g) Greece GDP to Greece EPU (h) Greece GDP to Greece PI (i) Greece GDP to Greece GDP

Figure 61: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.1.8 PI with Global EPU as control. VAR (1)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Global EPU

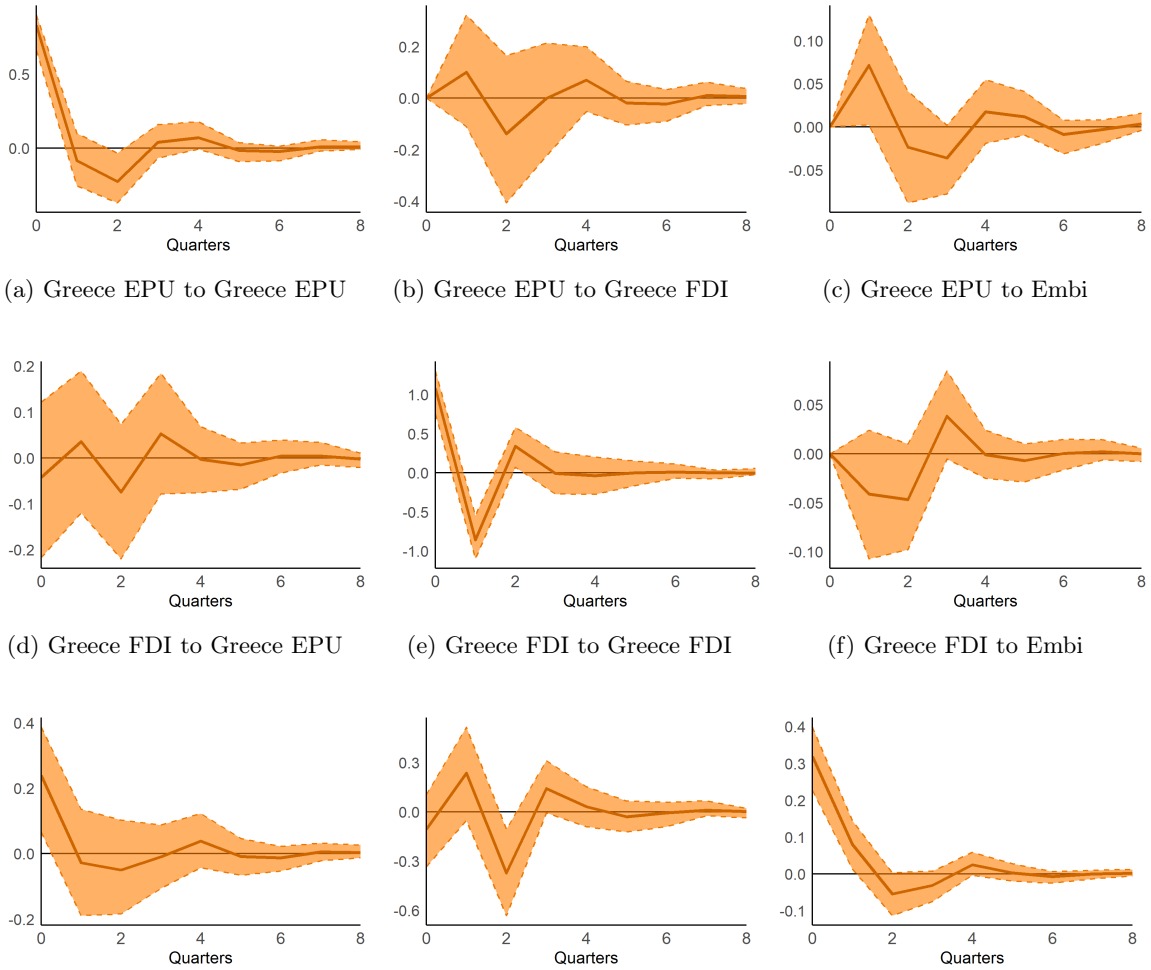
(d) Greece PI to Greece EPU (e) Greece PI to Brazil PI (f) Greece PI to Greece GDP

(g) Global EPU to Brazil EPU (h) Global EPU to Brazil PI (i) Global EPU to Global EPU

Figure 62: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. First ordering (EPU first) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.2 Second Ordering

5.2.1 FDI with EMBI as control. VAR (2)



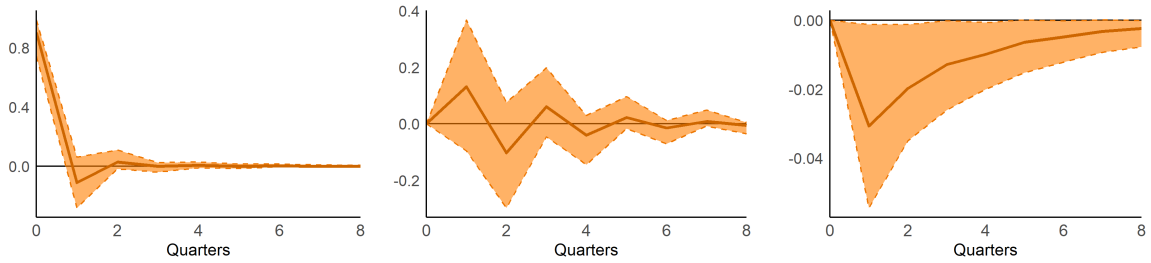
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Embi

(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Embi

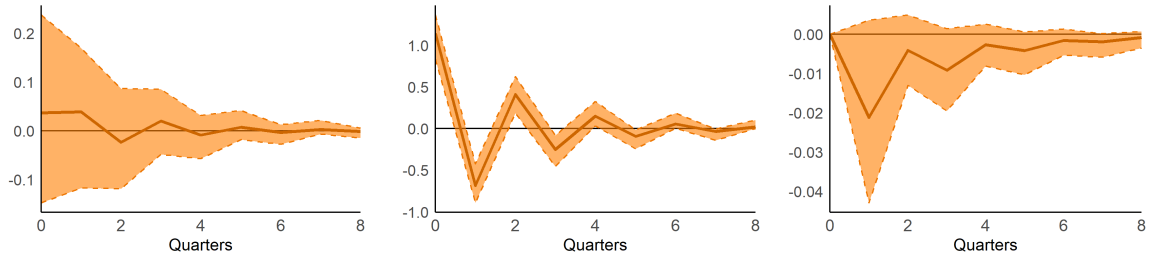
(g) Embi to Greece EPU (h) Embi to Greece FDI (i) Embi to Embi

Figure 63: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

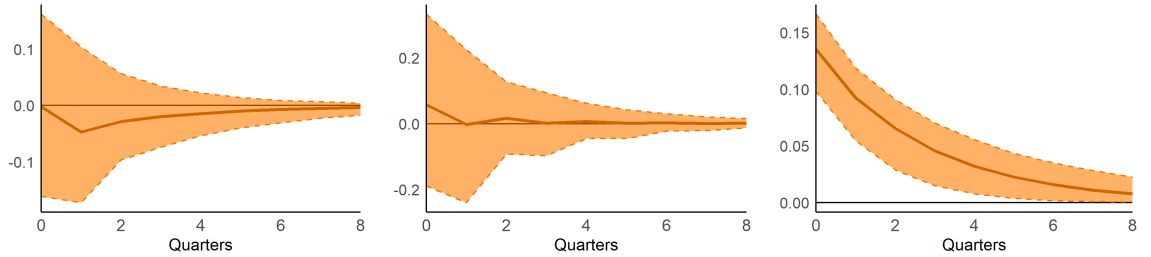
5.2.2 FDI with Fed rate as control. VAR (1)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Fed rate



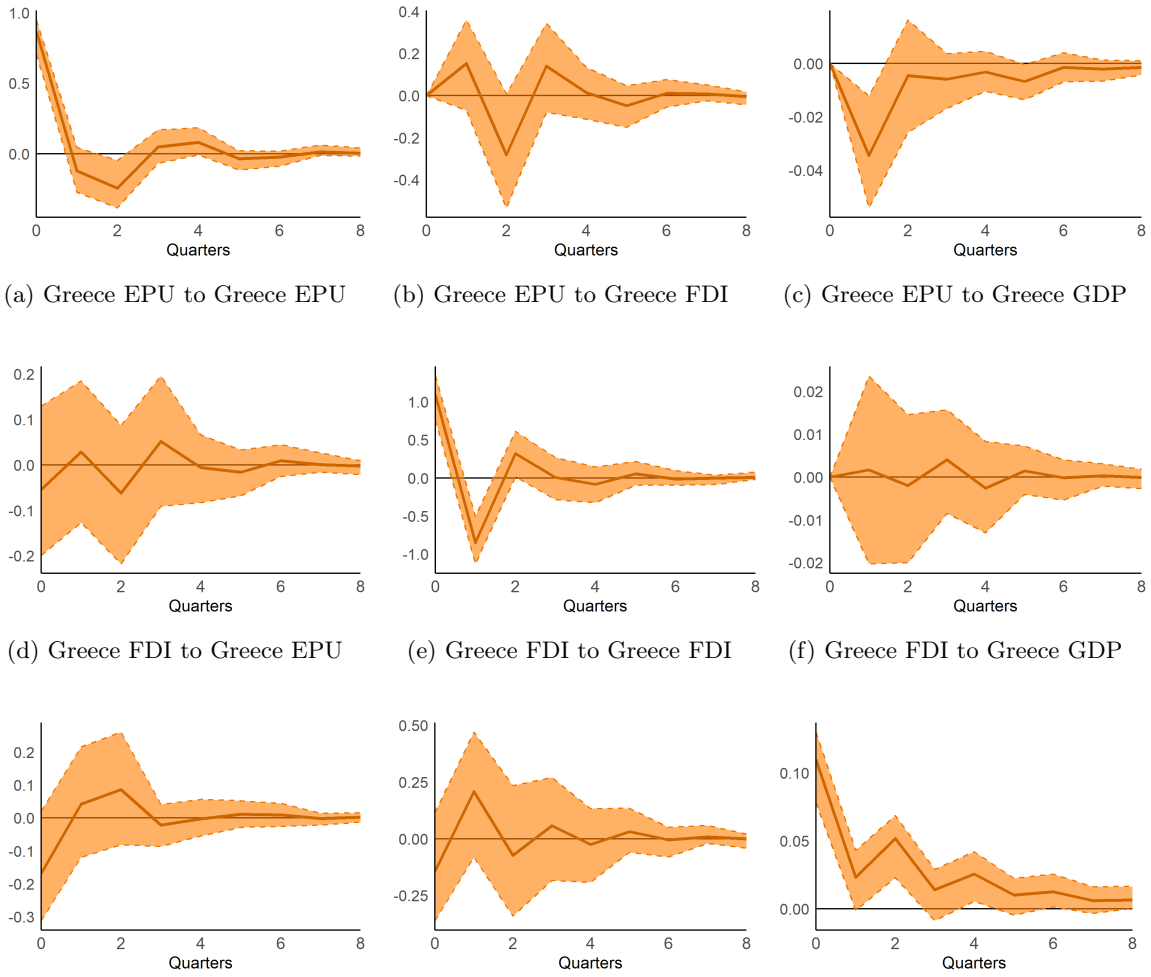
(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Fed rate



(g) Fed rate to Greece EPU (h) Fed rate to Greece FDI (i) Fed rate to Fed rate

Figure 64: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.2.3 FDI with GDP as control. VAR (2)



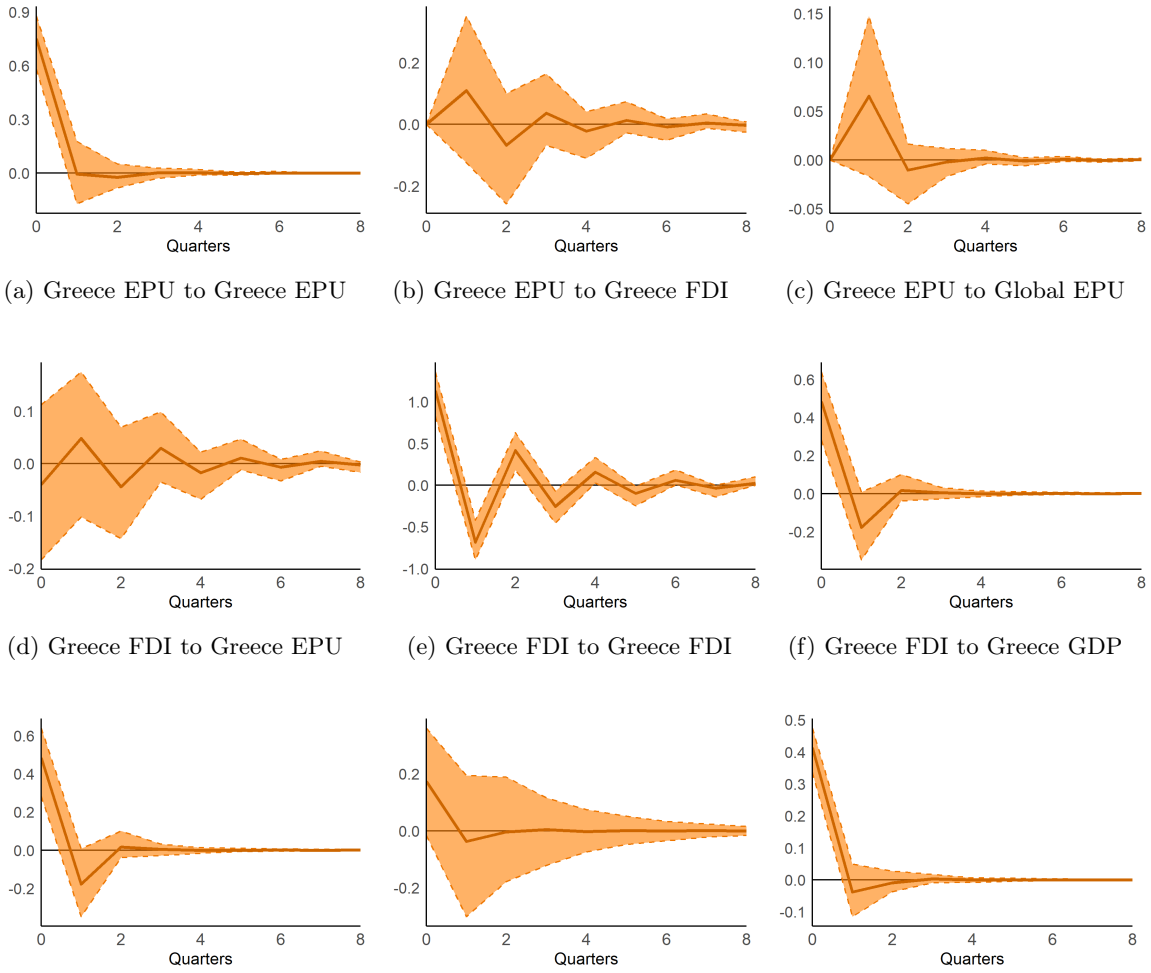
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Greece GDP

(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Greece GDP

(g) Greece GDP to Greece EPU (h) Greece GDP to Greece FDI (i) Greece GDP to Greece GDP

Figure 65: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.2.4 FDI with Global EPU as control. VAR (1)



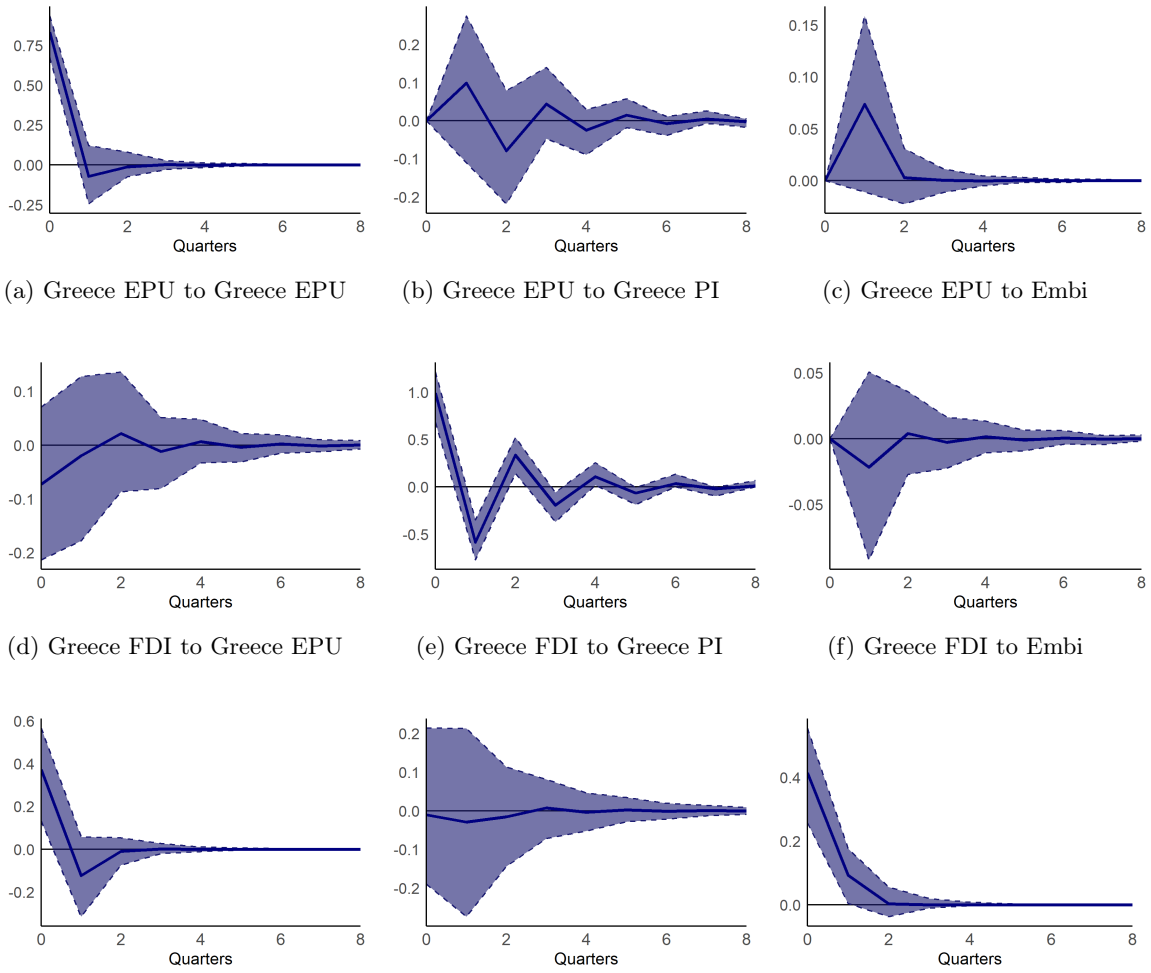
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Global EPU

(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Greece GDP

(g) Global EPU to Greece EPU (h) Global EPU to Greece FDI (i) Global EPU to Global EPU

Figure 66: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.2.5 PI with EMBI as control. VAR (1)



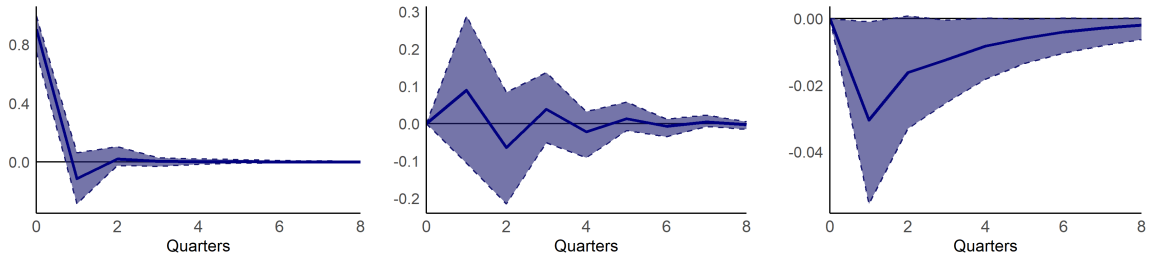
(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Embi

(d) Greece FDI to Greece EPU (e) Greece FDI to Greece PI (f) Greece FDI to Embi

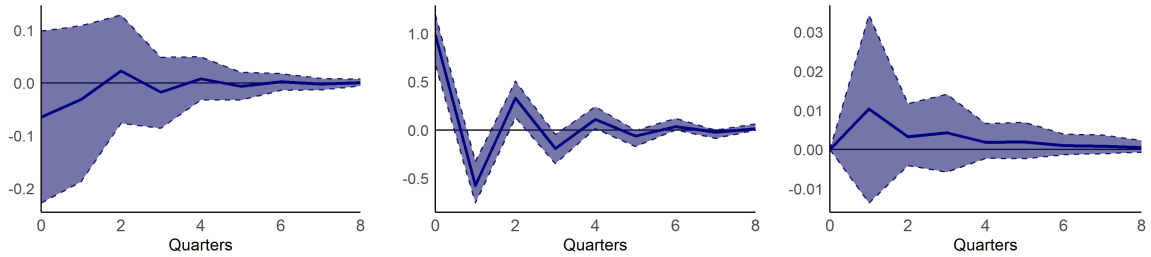
(g) Embi to Greece EPU (h) Embi to Greece PI (i) Embi to Embi

Figure 67: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

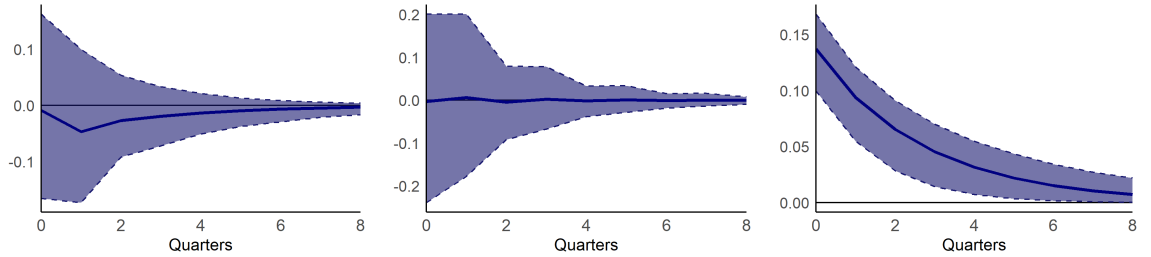
5.2.6 PI with Fed rate as control. VAR (1)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Fed rate



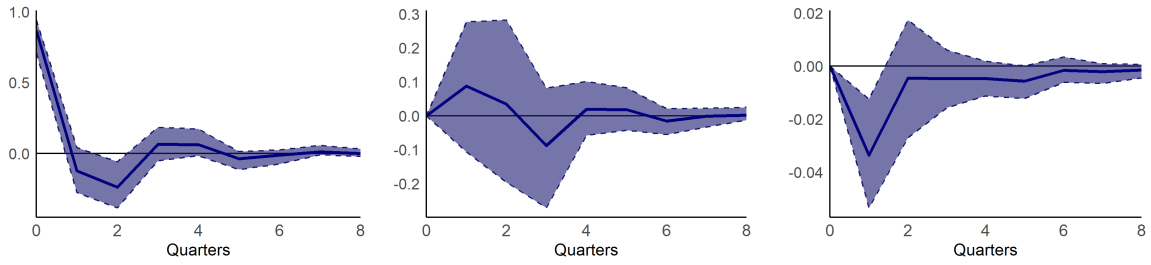
(d) Greece FDI to Greece EPU (e) Greece FDI to Greece PI (f) Greece FDI to Fed rate



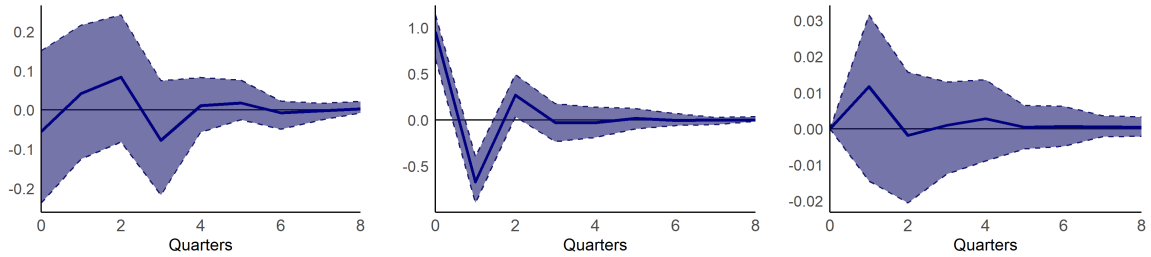
(g) Fed rate to Greece EPU (h) Fed rate to Greece PI (i) Fed rate to Fed rate

Figure 68: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

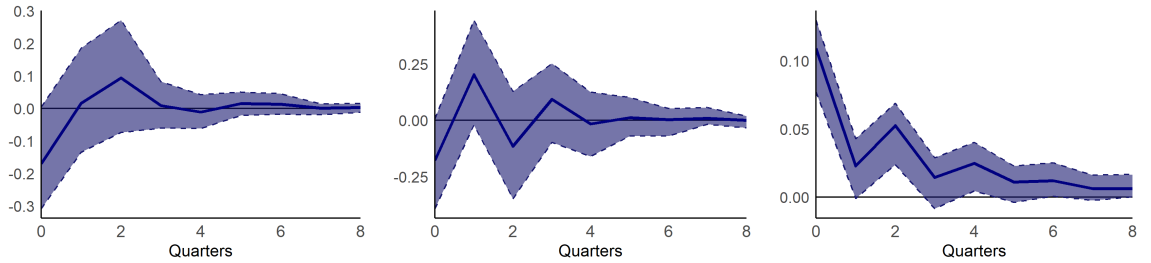
5.2.7 PI with GDP as control. VAR (2)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Greece GDP



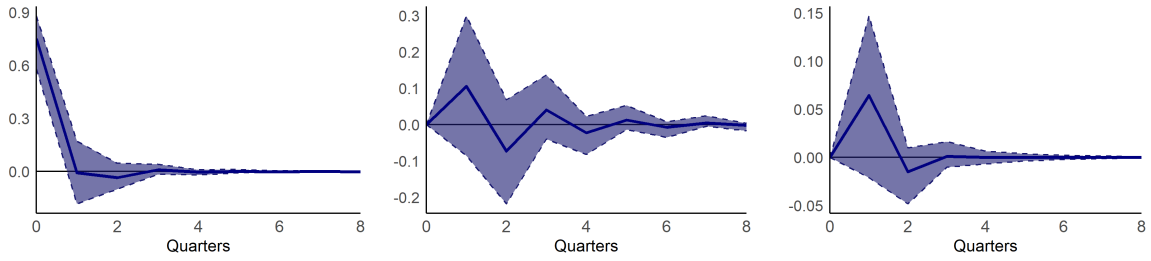
(d) Greece FDI to Greece EPU (e) Greece FDI to Greece PI (f) Greece FDI to Greece GDP



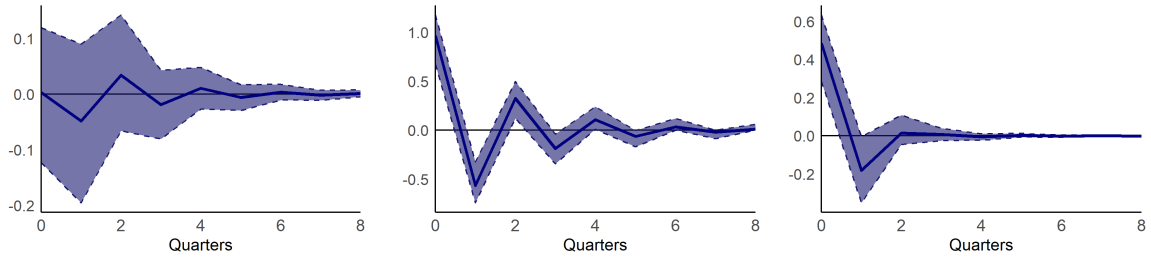
(g) Greece GDP to Greece EPU (h) Greece GDP to Greece PI (i) Greece GDP to Greece GDP

Figure 69: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

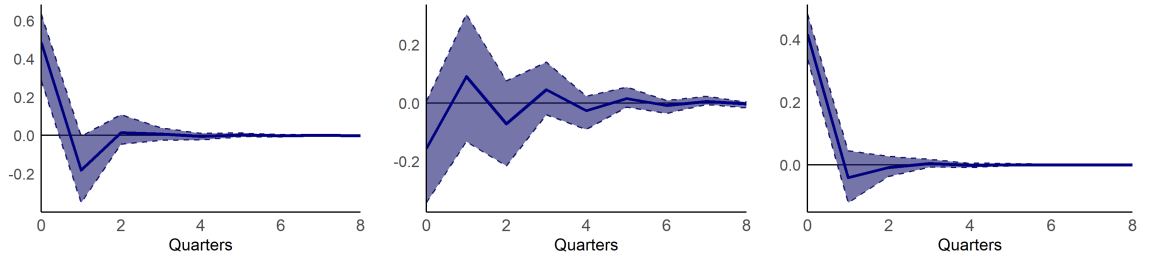
5.2.8 PI with Global EPU as control. VAR (1)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Global EPU



(d) Greece FDI to Greece EPU (e) Greece FDI to Greece PI (f) Greece FDI to Greece GDP

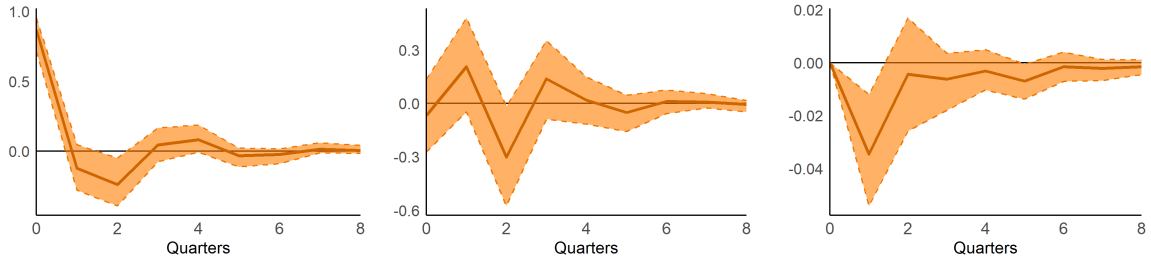


(g) Global EPU to Greece EPU (h) Global EPU to Greece PI (i) Global EPU to Global EPU

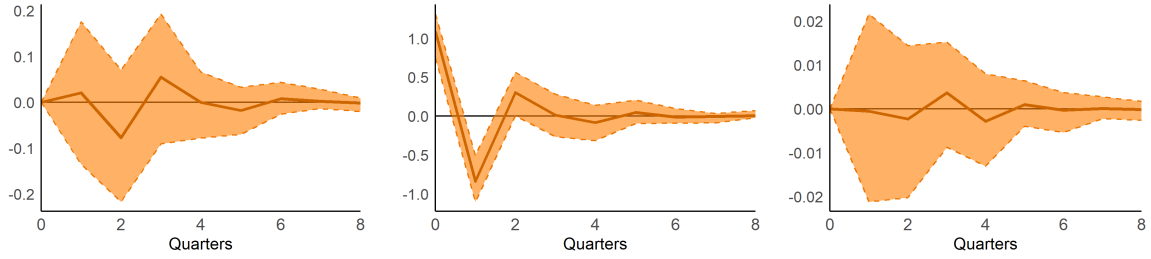
Figure 70: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Second ordering (EPU last) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

5.3 Third Ordering

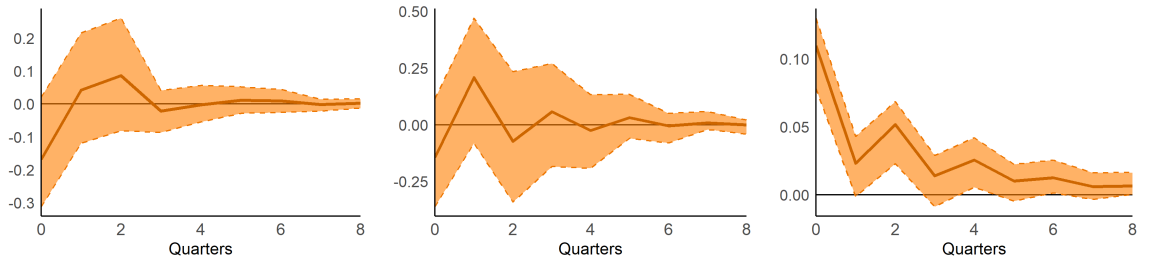
5.3.1 FDI with GDP as control. VAR (2)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece FDI (c) Greece EPU to Greece GDP



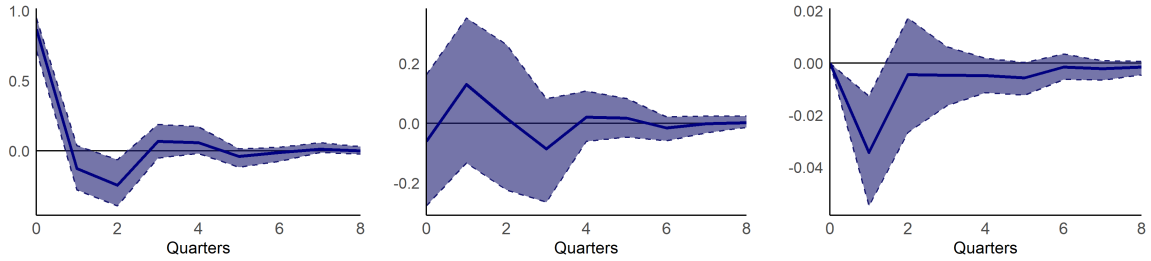
(d) Greece FDI to Greece EPU (e) Greece FDI to Greece FDI (f) Greece FDI to Greece GDP



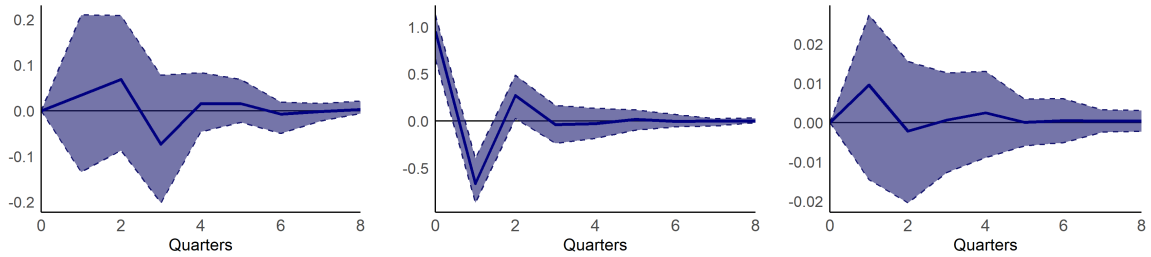
(g) Greece GDP to Greece EPU (h) Greece GDP to Greece FDI (i) Greece GDP to Greece GDP

Figure 71: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.

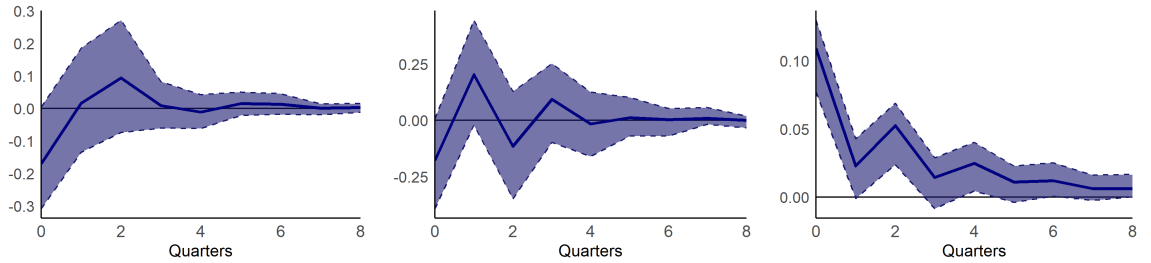
5.3.2 PI with GDP as control. VAR (2)



(a) Greece EPU to Greece EPU (b) Greece EPU to Greece PI (c) Greece EPU to Greece GDP



(d) Greece FDI to Greece EPU (e) Greece FDI to Greece PI (f) Greece FDI to Greece GDP



(g) Greece GDP to Greece EPU (h) Greece GDP to Greece PI (i) Greece GDP to Greece GDP

Figure 72: Orthogonalized Impulse Response Functions graphs for a one-standard-deviation shock. Third ordering (EPU intermediate) is used as identification assumption. All variables are quarterly and standardized, with zero mean and unitary variance. Each subfigure correspond to a IRF from one shock to a variable, as subtitle indicates. Sample: 1997Q1-2020Q1, except for the Embi model, which is 1998Q1-202Q1. VAR(p) refers to the lag specification of the model.