

Distributive Conflict, Economic Policy, and Macroeconomic Volatility in Argentina (1890–2020)

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1. Introduction

For decades, Argentina's long-run divergence has intrigued economic historians. While by the late nineteenth century the country ranked among the world's richest economies, it now occupies a middle position in the global income distribution (Bolt and van Zanden, 2020). A distinctive feature of Argentina's experience, relevant for explaining this outcome, is the marked rise in macroeconomic volatility since the mid-1970s. Unlike other South American economies, this instability has intensified over time (Catelén, 2025), and elevated volatility undermines long-run growth (Badinger, 2010; Loayza & Hnatkovska, 2004; Pastor, 2017; Ramey & Ramey, 1994).

Latin American structuralist theory provides a useful framework to understand why volatility itself becomes persistent through the emergence of vicious cyclical dynamics. These dynamics involve recurrent interaction processes that amplify and prolong fluctuations. A central mechanism in this approach is structural distributive conflict, defined as the gap between workers' wage aspirations and the economy's productive capacity (Rapetti & Gerchunoff, 2016).

This paper revisits this theoretical tradition and combines it with a modern empirical approach based on a structural VAR framework that allows for causal interpretation to assess whether the interaction between distributive conflict and economic policy can account for Argentina's recurrent cycles of instability that undermine long-run growth. The analysis examines the historical evolution of distributive conflict across three development regimes (the agro-export model, state-led industrialization, and the second globalization) within a structuralist framework linking external constraints, distributive conflict, and macroeconomic instability.

The paper's main innovation is the explicit incorporation of economic policy through a novel policy orientation index, which condenses over one hundred pages of documented actions spanning 140 years into a transparent, systematic, and historically grounded measure².

The remainder of the paper is organized as follows. Section 2 reviews the literature, Section 3 presents the historical background, Section 4 describes the data, Section 5 outlines the methodology, Section 6 discusses the results, and Section 7 concludes.

2. Literature review

The Latin American structuralist tradition places the external constraint at the centre of its growth explanation, arguing that long-run expansion is bounded by the balance between export growth and the income elasticity of imports, which imposes a structural limit on peripheral economies (Bekerman et al., 2015; Prebisch, 1949). Within this framework, literature emphasizes the role of

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² The index was originally developed for Chapter 2 of the doctoral thesis, "The Argentine Economic Policy Pendulum: A Refined Measure of Policy Volatility and Its Economic Consequences (1880–2019)."

income distribution in generating macroeconomic volatility, showing that distributive configurations shape externally constrained growth paths and cyclical instability (Dávila-Fernández & Sordi, 2019; Dutt, 2002; Garcimartin et al., 2016; Nishi, 2019).

For Argentina, structuralist contributions consistently highlight the structural nature of distributive tensions under a binding external constraint, generating high short-run volatility (Alvarez & Dvoskin, 2023; Braun & Joy, 1968; Canitrot, 1975, 1980; Diamand, 1972; Gramkow & Porcile, 2022; Mallon & Sourrouille, 1973; Olivera, 1991; Porto, 1975; Rapetti & Gerchunoff, 2016; Villanueva, 1964). Distributive conflict is understood as the mismatch between workers' wage aspirations and productive and external constraints, typically manifested through stop-and-go cycles: wage expansions fuel demand and external deficits, followed by devaluations that compress real wages, only for distributive pressures to re-emerge. This mechanism reflects the divergence between a macroeconomic equilibrium real exchange rate (RER), consistent with external balance, and a social equilibrium RER compatible with desired real wages (Rapetti and Gerchunoff, 2016).

Despite the richness of this tradition, empirical evidence on these mechanisms remains limited. For Argentina, existing studies focus on relatively short periods and lack long-run dynamic inference (Alvarez & Dvoskin, 2023; Amico, 2025), while the broader literature on business cycles relies mainly on static or descriptive approaches (Cerro, 1999; Gadea & Sanz-Villarroya, 2020; Kydland & Zarazaga, 1997; Sturzenegger & Moya, 2003)³.

Moreover, early contributions such as those by Braun and Joy (1968) already anticipated the endogeneity of economic policy and the cycle, theoretically linking distributional conflict, external constraints, and policies, albeit without formal empirical testing. The orientation index (OI) enables such empirical testing.

Accordingly, this paper fills two related gaps. First, it provides systematic long-run empirical evidence on the dynamic mechanisms of structural distributive conflict in Argentina. Second, it brings economic policy orientation into this analysis, contributing to a broader debate, beyond the Argentine case, on the role of economic policies in shaping growth performance.

3. Historical background

Over the period covered by this study, Argentine economic historiography typically distinguishes three development strategies. From the late nineteenth century until 1929, Argentina is commonly characterized as an agro-export economy integrated into the first globalization. Growth during this phase was outward-oriented and driven by the expansion of the agricultural frontier (Bértola & Ocampo, 2013).

Between 1930 and the mid-1970s, Argentina experienced a profound transformation associated with state-led industrialization and a markedly more closed economy (SLI stage). During this period, an “unbalanced productive structure” emerged, characterized by a discrete productivity gap between a primary sector operating at international cost levels and supplying foreign exchange, and an expanding industrial sector with higher-than-international costs (Diamand, 1972, 1983). Because many industrial inputs and capital goods were not produced domestically,

³ In Catelén (2025), a recursive VAR model is used to analyse short-run cyclical dynamics using a recursive VAR framework, focusing on external shocks and stop-and-go dynamics rather than on distributive conflict.

industrial expansion generated a persistent demand for foreign exchange, turning the external constraint into a chronic limitation on growth and giving rise to a stop-and-go dynamic. This helps explain the rising volatility of the RER and of economic policy (Appendix-A Figure 10), which were repeatedly used as adjustment mechanisms but ultimately reinforced the stop-and-go dynamic rather than stabilizing it.

This phase marks the genesis of distributive conflict as a feature of Argentine macroeconomic dynamics. On the external front, declining export values in the 1930s and reduced access to foreign capital tightened the external constraint. Internally, the emergence of a new distributive regime associated with Peronism reshaped income distribution and strengthened workers' wage aspirations (Rapetti and Gerchunoff, 2016). The interaction between these external and internal forces made distributive conflict a key mechanism linking growth, external balance, and macroeconomic instability.

From 1976 onwards, Argentina entered a second phase of globalization, marked by intensified liberalization and a retreat from state-led industrialization. During this stage, distributive conflict appeared to lose prominence, as the authoritarian policies of the military dictatorship aimed to suppress distributive tensions and weaken popular coalitions (Canitrot, 1980). Despite these changes, growth volatility increased again during this period, reaching levels that were unusually high by South American standards (Nicolini and Catelén, 2025), while RER volatility continued to rise, reinforcing macroeconomic instability⁴. In this line, Rapetti and Gerchunoff (2016) note a possible re-emergence of distributive conflict in the early 2010s, when tensions between external equilibrium and societal material aspirations resurfaced.

4. Data

This paper builds on two data contributions. First, it constructs macroeconomic series for Argentina by harmonizing multiple historical sources, addressing the absence of a single dataset covering the long run. Second, it draws on a novel economic policy orientation dataset that provides a systematic and historically grounded measure of policy stance.

Table 1 presents the variables and their sources⁵. The data are annual and cover the period 1890–2020. These variables are a subset of a larger dataset constructed for the thesis, which compiles 24 spliced and harmonized variables.

⁴ Sánchez (2018) identifies 1975 as the only year for which there is broad consensus in Argentine historiography regarding a definitive break in both the absolute growth trend and the country's relative performance vis-à-vis advanced economies. This turning point reflects the joint effect of a changing international environment -marked by the oil shock, the collapse of Bretton Woods, and the expansion of global finance- and escalating domestic political and balance-of-payments tensions. These dynamics culminated in the 1976 military coup, the longest and most transformative in Argentine history, which initiated a profound shift in the policy regime and in the macroeconomic dynamics analysed in this paper (Catelén, 2025).

⁵ Appendix A Figure 10 reports the series and their standard deviations by period.

Table 1: Variables

Variable	Definition	Source	Transformation applied ⁶
GDPpc	Gross domestic product per capita	Ferreres (2005) and the World Bank	$\Delta \log (GDPpc)$
RER	Real exchange rate index. Avg. 1935-2013 = 100	Gerchunoff and Rapetti (2016)	Level of log (RER)
Real wages	Real wage index. 1970 = 100	Ferreres (2005), IEERAL, Graña, and Kennedy (2008), and the INDEC database	$\Delta \log (Real\ wage)$
Orientation index (OI)	Economic policy orientation index	Catelén (2024)	Level (OI)

Source: own elaboration

The economic policy OI was constructed in Catelén (2024) based on Arza and Brau (2021) and Lora (2001) and provides a synthetic measure of the degree of alignment of macroeconomic policies with prevailing international recommendations of what constitutes “sound economic policy” over time. The underlying intuition draws on Diamond’s (1983) pendulum, which describes recurrent shifts between an expansionary/populist approach that seeks to accelerate growth and improve income distribution through Keynesian policy instruments, and an orthodox/conservative approach aimed at market liberalization, trade openness, and a reduction in state intervention.

The index was constructed through a careful survey of primary and secondary sources (laws, decrees, de Pablo, 2005; Gerchunoff & Llach, 2018; Rapoport, 2006, 2010, among others). It is grounded in a detailed and fully traceable policy meta-narrative of more than a hundred pages documenting objectives, actions, and results across administrations, designed to be reusable by future research (see Appendix-B for an example of the meta-narrative). For each year, it codes the orientation of economic policy across seven dimensions: fiscal, monetary, exchange rate, trade, capital mobility, privatization, and regulation⁷. For each dimension, policies are coded as 1 if aligned with prevailing international recommendations, with 0.5 when contradictory measures coexist within the same area, and with 0 in the remaining cases⁸. The resulting index is the unweighted annual average of these seven dimensions, ranging from 0 (fully heterodox orientation) to 1 (fully orthodox / aligned with international recommendations).

⁶ Since VAR models require stationary series to avoid spurious estimations and ensure valid inference, the Augmented Dickey–Fuller (ADF) unit root test is applied to assess stationarity. The null hypothesis is that the series contains a unit root, that is, it is non-stationary. See Appendix A Table 3.

⁷ Following Lora (2001), policy variables are used (e.g., tariffs, tax rates or bank reserve ratios), rather than outcome variables (e.g., the ratio of foreign trade, or the size of public spending or financial depth).

⁸ Naturally, the consensus on what constitutes “sound economic policy” evolved over the long period analysed, and the classification criteria are therefore time specific. The details of these changes are discussed in the chapter where the index is developed (Catelén, 2024). For illustrative purposes, up to 1929 adherence to the gold standard is classified as aligned monetary and exchange-rate policy. Thereafter, the decision rule proposed by Arza and Brau (2021) is applied, whereby exchange-rate policy is classified as aligned (1) when the foreign-exchange market is liberalized and the policy orientation targets a competitive RER.

5. Method

This section presents the econometric strategy used to analyse a system that interacts in a fully endogenous manner, allowing to examine how economic policy shapes macroeconomic dynamics and how economic conditions feed back into policy decisions. To address these reciprocal influences, the analysis relies on a Structural Vector Autoregressive (SVAR) framework, which models the joint evolution of the variables and identifies causal mechanisms through theory-based long-run restrictions (Blanchard & Quah, 1989). The imposition of zero long-run restrictions enables the recovery of economically interpretable shocks within this interconnected system. Technical details of the model are reported in Appendix-C.

For the vector $X_t = [\Delta \log GDPpc_t; \log RER_t; \Delta RealWages_t; OI_t]$, the model identifies four structural shocks:

- **Policy orientation shock:** Captures orientation changes in economic policy (liberalizing versus interventionist).
- **Long-run growth/productivity shock:** Reflects persistent changes in productivity and long-run structural transformation affecting potential output.
- **External competitiveness shock:** Represents persistent movements in the RER, capturing changes in external competitiveness.
- **Distributive shock:** Captures distributive struggles that primarily affect real wages.

With 4 variables, identifying these shocks requires imposing 6 long-run restrictions. These are grounded in structuralist theory and summarized in Table 2.

Table 2: Long-run restrictions on the impact matrix C (∞)
(0 = no long-run effect; · = unrestricted)

Variable/Shock	Policy shock	Productivity shock	External competitiveness shock	Distributive shock
GDPpc	0	·	·	0
RER	·	·	·	·
Real wages	0	·	·	·
Policy orientation	·	0	0	0

The rationale behind each restriction is discussed below, following the order of the table by row:

- i. **Policy orientation does not determine long-run GDPpc:** Long-run growth is driven by productivity, structural change, productive structure, and the external constraint, rather than by ideological orientation. Importantly, the model identifies shocks, not sustained policy regimes: a pure policy shock does not represent a long-term development strategy⁹.

⁹ Also, there is extensive literature arguing that policy orientation does not directly affect long-term growth when controlled for institutional factors (Acemoglu et al., 2003; Easterly, 2004; Rodrik, 2011; among others).

- ii. **Distributive shocks do not alter long-run GDPpc:** Consistent with Rapetti and Gerchunoff (2016), distributive shocks do not affect long-run GDPpc in isolation, but only through their interaction within the dynamics of structural distributive conflict¹⁰.
- iii. **Policy orientation does not permanently determine real wages:** Economic policy can redistribute income, anchor wages, or liberalize markets, but it cannot sustain a real wage level permanently disconnected from productivity.
- iv. **Policy orientation follows a pendular dynamic:** In line with Diamond's (1983) pendulum hypothesis, economic policy orientation is characterized by recurrent reversals rather than cumulative long-run learning. The orientation index is therefore constructed to capture shifts in policy stance within fixed bounds and is stationary by construction. As a result, only its own shock can have permanent effects.

With these restrictions, a one lag model is estimated¹¹, and a set of diagnostic tests is performed (Appendix-D Table 4). The following section reports selected model results¹².

6. Results

6.1. The Dynamics of Distributive Conflict in Argentina, 1880–2020

Structural impulse-response functions show the joint dynamic responses of the model's variables to the identified shocks¹³. Consistent with Gerchunoff and Rapetti (2016), real wages and external competitiveness move inversely: a competitiveness shock reduces real wages, while a distributive shock appreciates the RER (Figure 1).

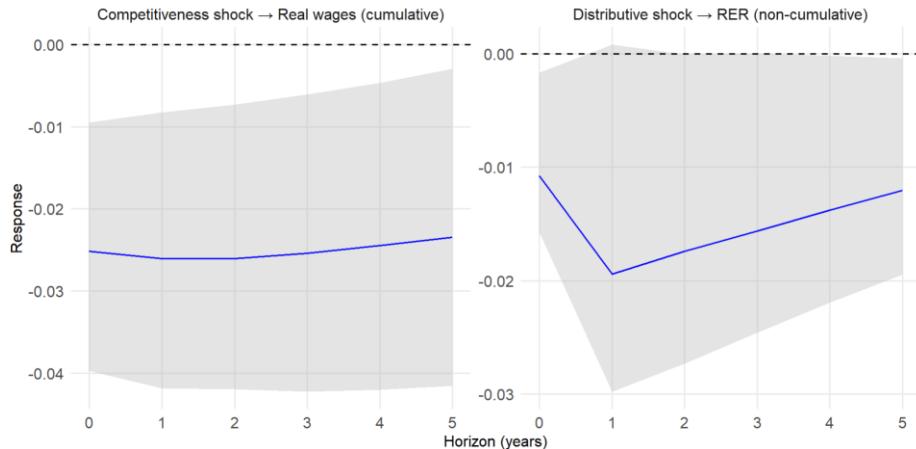
¹⁰ The qualifier “structural” refers to a conflict that arises endogenously from the productive and external structure of the economy and persists as a systemic dynamic, rather than a transitory distributive shock (Gerchunoff and Rapetti, 2016).

¹¹ The lag length is selected based on the Akaike and Hannan–Quinn information criteria.

¹² Due to space constraints, the full set of Granger causality tests, impulse-response functions, and variance decompositions is reported in the Appendix D (Table 5 and Figures 11 to 17). The results are presented over a five-year horizon, as the average duration of the Argentine business cycle over the period analysed is 4.4 years (Nicolini and Catelén, 2025). 80% confidence bands are plotted, as suggested by Drechsel & Tenreyro (2017), and are obtained through bootstrap-based inference.

¹³ Impulse-response functions are reported in accumulated form for variables expressed in first differences ($\Delta \log GDPpc$; $\Delta RealWages$) to recover their effects on levels, and in non-accumulated form for variables expressed in levels ($\log RER$; OI).

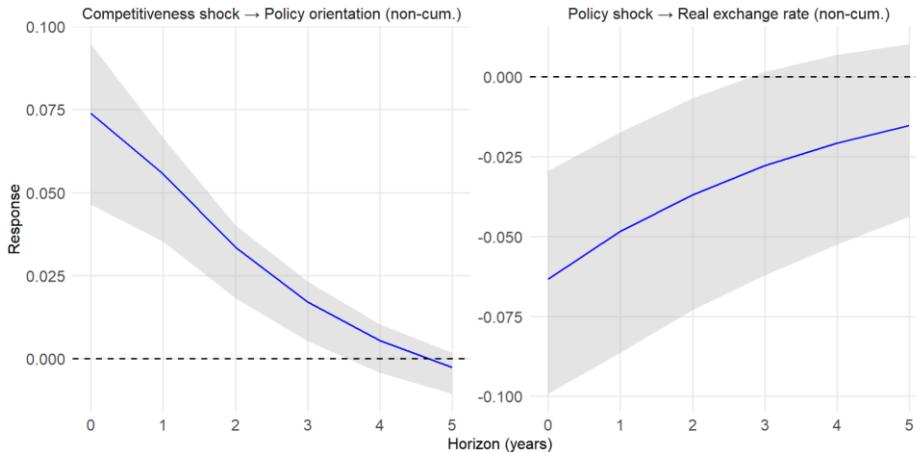
Figure 1: Real exchange rate–real wage feedback mechanism



Source: own elaboration

Moreover, external competitiveness and economic policy interact through a vicious cyclical dynamic. A depreciation triggers a liberalizing policy response for up to four years, while a liberalizing policy shock is followed by RER appreciation for three years (Figure 2). This pattern mirrors the recessionary stabilization plans described by Diamond (1983) and Vitelli (2010), in which initial devaluations are followed by the use of the exchange rate as an inflation anchor and by capital inflows associated with liberalization, jointly generating real appreciation.

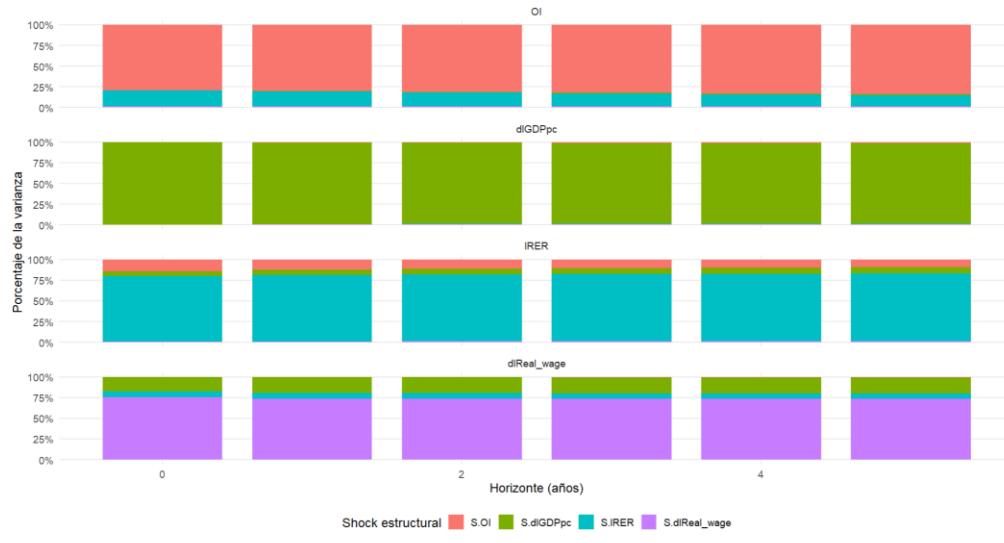
Figure 2: Real exchange rate–policy feedback mechanism



Source: own elaboration

Additionally, the variance decomposition indicates what proportion of the variance of each variable is explained by each structural shock. Here, it reveals a strong two-way interaction between policy orientation and exchange rate dynamics. Shocks to external competitiveness account for around 20% of the variability in the policy orientation index in the first year after the shock, while policy orientation shocks explain 14% of real exchange rate variability (Figure 3).

Figure 3: Structural forecast error variance decomposition (1890-2020)



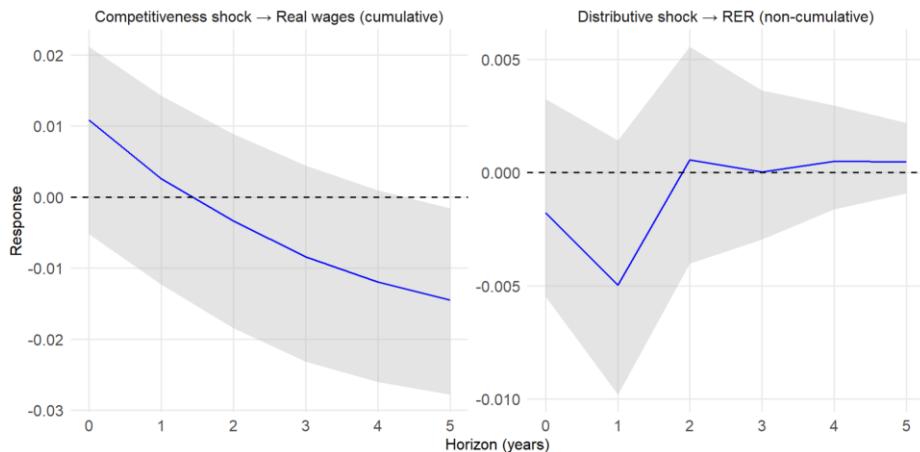
Source: own elaboration

Overall, the short-run macroeconomic dynamics observed for Argentina are consistent with the mechanisms of structural distributive conflict that increase volatility, with economic policy playing an amplifying role in this process. The following section examines how this dynamic evolves across historical periods.

6.2. Tracing the Evolution of Distributive Conflict in Argentina

As anticipated by Rapetti and Gerchunoff (2016), there is no evidence of structural distributive conflict during the agro-export model, as the interaction between real wages and the RER is limited (Figure 4).

Figure 4: Absence of a real wage–exchange rate feedback during the agro-export model

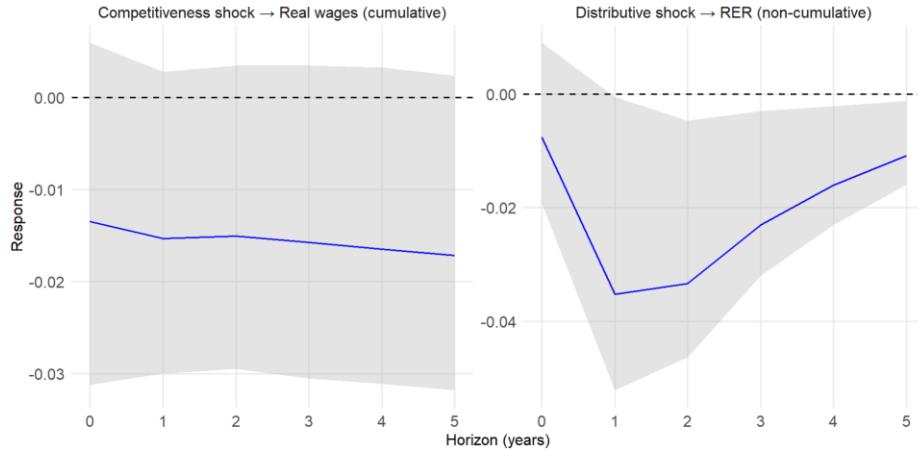


Source: own elaboration

During the SLI period, a dynamic consistent with distributive tensions emerges, as wage pressures generate macroeconomic imbalances under an external constraint. A distributive shock

leads to an appreciation of the RER from the first year onwards, and a negative (although not significant) response of the wages to competitiveness shock appears (Figure 5). During this stage, devaluation is contractive (Appendix-D Figure 14).

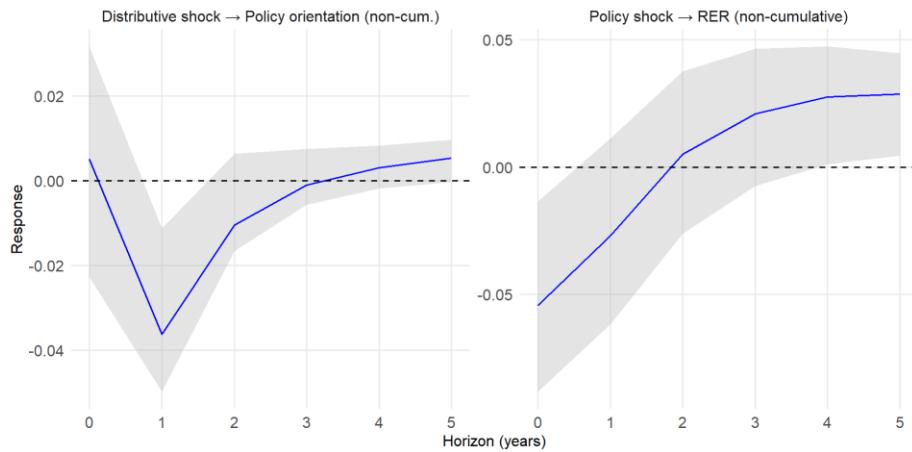
Figure 5: The emergence of distributive conflict during the SLI stage



Source: own elaboration

Economic policy intervenes as a short-run adjustment mechanism within this distributive dynamic. The distributive shock triggers an expansionary policy response one year after the shock that induces a contemporaneous depreciation of the RER, offsetting the appreciation generated by the wage shock. In this sense, policy temporarily buffers the exchange-rate impact of distributive pressures during the SLI period (Figure 6).

Figure 6: Policy as a transmission mechanism

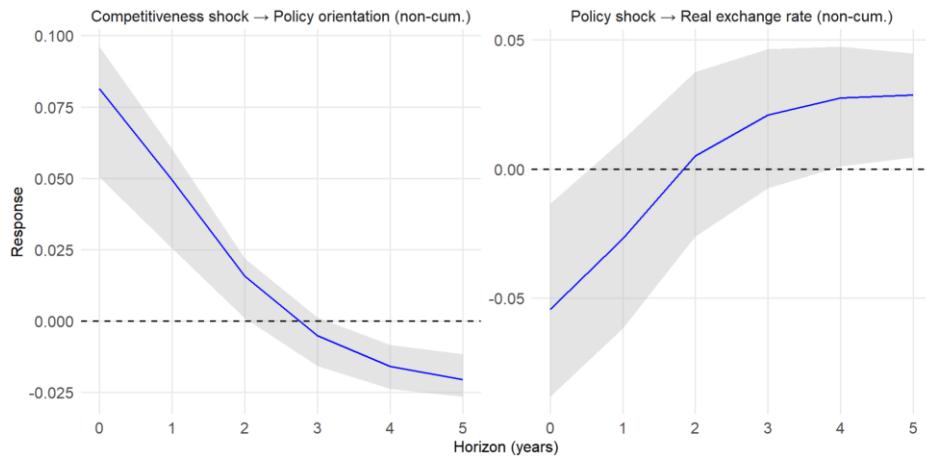


Source: own elaboration

However, this compensatory role is not sustained once the interaction between policy orientation and external competitiveness is considered. In line with Braun and Joy (1968) and Diamond (1972, 1983), the SLI period exhibits a vicious RER–policy dynamic: a competitiveness shock triggers an initial liberalizing response, followed by an expansionary/interventionist shift, which first induces appreciation and then renewed depreciation of the RER (Figure 7). Consistently, SLI

features the highest volatility of policy orientation and a marked increase in RER volatility relative to the agro-export model (Appendix-D Figure 10).

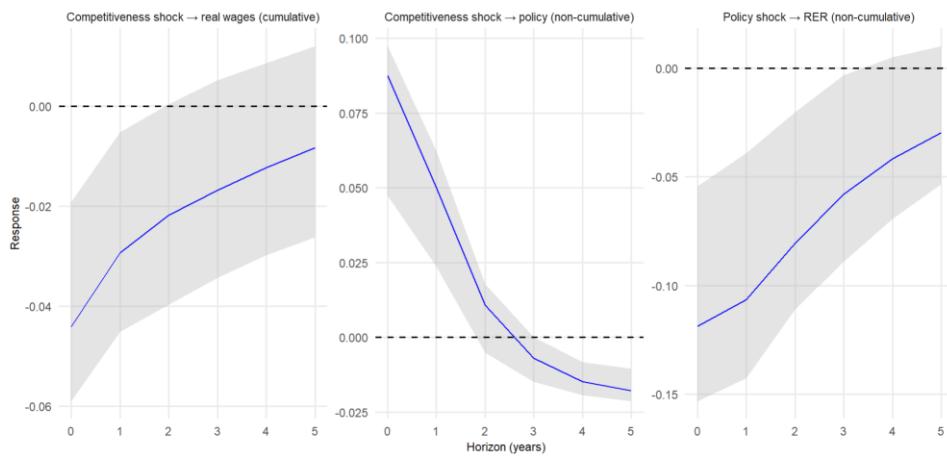
Figure 7: RER-policy interaction as a source of instability



Source: own elaboration

The impulse responses suggest that the structural distributive conflict operates through similar channels across the SLI and the second globalization (Figure 8). Nevertheless, the adjustment pattern changes (Appendix-D Figure 16): the negative response of real wages to a competitiveness shock becomes statistically significant, while the response of the RER to a distributive shock loses significance. This shift is consistent with lower real wage rigidity and stronger market-based disciplinary mechanisms (in line with the labour and macroeconomic policies implemented during both the military dictatorship and the Menem administration) as well as with RER operating in a markedly more open economy. In addition, during this stage, an external competitiveness shock no longer has a contractionary effect.

Figure 8: Distributive conflict during the second globalization

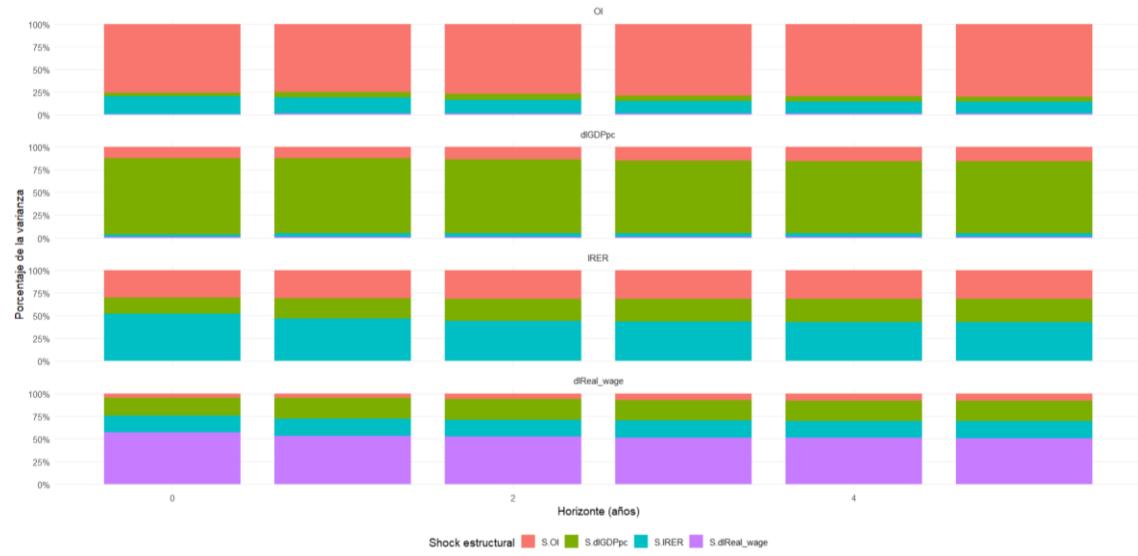


Source: own elaboration

The variance decompositions reveal a fundamental shift in the conflict dynamics between the SLI and the second globalization (Figure 9). In the later period, in which growth is much more volatile than the previous one (Nicolini and Catelén, 2025), the variance share of the RER, the real wages,

and the policy orientation index explained by the other three variables in the system increases, indicating a more endogenous and volatile macroeconomic conflict. Moreover, this period displays the highest exchange-rate volatility (Figure 10), around 30% of which is explained by policy movements (compared with less than 7% during the SLI period).

Figure 9: Structural forecast error variance decomposition – Second globalization



Source: own elaboration

7. Conclusions

Summarizing, the paper makes three main contributions. First, it documents a short-run macroeconomic dynamic consistent with structural distributive conflict. Second, it shows that economic policy plays a key intermediation role as an amplifier of vicious cyclical dynamics. Third, it traces the historical evolution of this joint dynamic across development regimes, from its emergence during the SLI stage to its transformation under the second globalization into a more endogenous, volatility-driven macroeconomic conflict.

In doing so, the paper speaks to three strands of debate. First, it advances the literature on Argentina's short-run fluctuations by providing a historically grounded analysis of cyclical dynamics and the sources of excessive volatility. In turn, this helps explain Argentina's puzzling long-run divergence by showing how the interaction between external competitiveness, distributive shocks, and economic policy shapes the growth trajectory through the emergence of vicious cycles that can undermine long-run performance through excessive volatility. Second, it contributes to the structuralist literature on distributive conflict by providing empirical support from a theory-consistent model that disentangles causal mechanisms. Finally, it engages with a broader discussion, beyond the Argentine case, on the role of policies in economic performance, by highlighting their importance in shaping short-run macroeconomic dynamics.

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9. Appendix

9.1. Appendix A

Figure 10. Variables



* Dashed lines mark 1929 and 1975. Labels report period standard deviations.

Table 3: ADF test results and variables transformation

Variable	ADF (intercept)	ADF (trend)	Diagnosis	Transformation applied
GDP per capita (GDPpc)	Does not reject	Rejects unit root (1%)	I (1) with trend	First difference of log ($\Delta \log \text{GDPpc}$)
Real wages	Does not reject	Does not reject	I(1)	First difference of log ($\Delta \log \text{Real wages}$)
Real exchange rate (RER)	Rejects unit root (1%)	Rejects unit root (1%)	I(0)	Level of log (log RER)
Policy Orientation Index (OI)	Rejects unit root (1%)	Rejects unit root (1%)	I(0)	Level (OI)

9.2. Appendix B: A sample of the meta-narrative

The following is a sample of the meta-narrative, focusing on a segment of Minister Roberto Lavagna's tenure during Eduardo Duhalde's transitional presidency, from May 2002 to June 2003, when Néstor Kirchner took office. This brief period represents the final phase of the *Corralito* crisis, the longest and most severe in Argentine history. It was chosen for its pragmatic value, as it effectively illustrates all the methodological changes in classification criteria relative to Arza and Brau (2021), within a short timeframe.

Objectives

Lavagna's administration was aimed at normalizing the legal and economic order, while at the same time seeking to comply with certain IMF requirements. In addition, the short- and medium-term objectives were to be aligned: stabilize the exchange rate and the price level, strengthen the

State's coffers, find a way out of the "*corralito*", and obtain the refinancing of capital from international organizations (Rapoport, 2010, p.469).

Policies

Dimension	Policy	Classification
Fiscal	Extension of the Check Tax, reduction of the percentage of employer contributions that could be computed on account of VAT, and elimination of the exemption in the payment of the Minimum Presumptive Income Tax by companies registered in the Competitiveness Plans. In addition, the adjustment for inflation in the balance sheets was not accepted, and a reduction in the agricultural VAT was established (Rapoport, 2006, pp. 949; Gerchunoff and Llach, 2018, p. 532)	The fall in current expenditures would lead to a classification of Aligned. However, this is combined with strong heterodox elements, such as the increase in tax collection by raising tax rates and introducing extraordinary taxes. Therefore, it is classified as Mixed [0.5].
	Current expenditures were reduced. The wage freeze for state workers contributed to this objective (Rapoport, 2006, p. 947).	
	Export withholding taxes (Gerchunoff & Llach, 2018, p. 532; Rapoport, 2006, p. 947)	
Monetary	Tight control over monetary expansion (Rapoport, 2006, p. 947). Issuance of short-term securities ("Lebacs") (Rapoport, 2006, pp. 947) In April 2003, a reorganization of the financial system was decreed, and rescheduled deposits began to be returned, with a schedule that included increasingly higher amounts (Rapoport, 2006, pp. 948)	Since the main objective was to control inflation by reducing monetary issuance, monetary policy is classified as Aligned [1].
Exchange rate	In July 2002, following the previous month's foreign exchange run, control measures on the foreign exchange market were tightened to curb exchange rate increases and their impact on the price level. The maximum amounts of net foreign currency position that financial entities could hold in their retail market operations on behalf of the Central Bank were also reduced, as well as the dollar holdings of exchange houses. In addition, a maximum term was established for companies to use dollars acquired in the local market to pay debts abroad (Rapoport, 2010, pp. 470)	Major ER controls are classified as Not Aligned [0].
	After the transition agreement with the IMF in January 2003, the foreign exchange market began to be deregulated to prevent the appreciation of the peso: direct access to the free and single foreign exchange market was granted for capital transfers of less than US\$ 1.000.000 per month, and financial payments abroad of less than US\$ 5.000.000 per month. In addition, prepayments were authorized for foreign exchange transactions of less than 180 days, and the restriction on financial institutions' holdings of foreign assets was relaxed (Rapoport, 2006, pp. 950; Gerchunoff and Llach, 2018, p. 539)	Liberalization measures are classified as Aligned [1].
Trade	Export withholding taxes (Rapoport, 2006, pp. 947; Gerchunoff and Llach, 2018, p. 532)	Measures that tax and therefore discourage exports are classified as Not Aligned [0].
Capital mobility	In January 2003, a transition agreement was signed with the IMF. A long process of debt renegotiation with the agency began (Rapoport, 2006, pp. 950)	The expressed intentions of agreements with IFIs are classified as Aligned [1].

Privatization	May 2002. <i>Yacimientos Carboníferos de Río Turbio</i> returns to the hands of the national government due to the non-payment of subsidies that were committed in the contract (Argentina, 2002, Decree No. 1034/2002)	Not Aligned [0]
Regulation	Public tariffs are frozen under the Economic Emergency Law. However, an attempt was made to adjust tariffs in some sectors starting in August, which was resisted and several times stopped by consumer associations (Rapoport, 2006, pp. 947). Successive decrees to increase salaries in the private sector. In June 2002, an agreement was reached between employers and union members establishing a non-remunerative salary increase in the private sector. In addition, the payment of double indemnity for dismissals without cause was decreed. At the same time, public sector salaries remained frozen (Rapoport, 2010, pp. 472; Gerchunoff and Llach, 2018, p. 538).	The freezing of tariffs would indicate a Not Aligned policy. However, the contradictory wage policies (increases in the private sector and freezing in the public sector to contain inflationary pressure) lead to classifying it as Mixed [0,5]

Results

The implemented policies, which contributed to increasing the Central Bank's reserves and limiting the margin for exchange rate speculation, together with the low levels of interest rates in international markets and a higher balance of foreign exchange resulting from trade, put a brake on the peso's depreciation. This generated a change in trend, increasing the utilization of idle installed capacity and improving the overall situation after the crisis (Rapoport, 2006, p.947). The favourable results obtained during this stage led Kirchner to keep Lavagna as Minister of Economy once he assumed the presidency.

9.3. Appendix C: SVAR with long-run restrictions

A SVAR with long-run restrictions starts from the structural representation of the model:

$$A_0 X_t = A_1 X_{t-1} + \cdots + A_p X_{t-p} + \varepsilon_t$$

where X_t is an $m \times 1$ vector of variables, A_0 is the contemporaneous matrix of structural coefficients, A_i are matrices of lagged structural coefficients for $i = 1, \dots, p$, and ε_t is a vector of mutually orthogonal structural shocks.

Premultiplying by A_0^{-1} yields the reduced-form:

$$X_t = \Phi_1 X_{t-1} + \cdots + \Phi_p X_{t-p} + u_t$$

where $u_t = A_0^{-1} \varepsilon_t$ with variance-covariance matrix $\Sigma_u = A_0^{-1} \Sigma_\varepsilon (A_0^{-1})'$. Recovering structural shocks from the reduced form requires imposing $m(m - 1)/2$ additional identifying restrictions. Following Blanchard and Quah (1989), identification relies on long-run restrictions whereby some variables have no permanent response to specific shocks.

These restrictions are implemented by imposing zeros on the long-run impact matrix:

$$C(\infty) = \sum_{i=0}^{\infty} \Psi_i = A_0^{-1} \left(\sum_{i=0}^{\infty} A_i \right)$$

where Ψ_i are the coefficients of the VAR's MA representation. Zeros in $C(\infty)$ indicate the absence of permanent effects of some shocks on variables, allowing theory-based structural identification (Kilian & Lutkepohl, 2017).

9.4. Appendix D

Table 4: Diagnostic tests

Model	Lag order selection criteria		Stability	Autocorrelation tests		Jarque-Bera normality test (multivariate)**	ARCH Heteroskedasticity test ***
	HQ	AIC		Breusch-Godfrey test*	Portmanteau Test*		
Full sample	1	1	Yes	p = 0.171	p = 0.101	p < 0.001	p = 0.029
1890-1929	3	1	Yes	p = 0.625	p = 0.052	p = 0.105	p = 0.987
1930-1975	1	1	Yes	p = 0.121	p = 0.479	p = 0.681	p = 0.491
1976-2020	1	1	Yes	p = 0.160	p = 0.138	p < 0.001	p = 0.630

* H_0 : no residual serial correlation

** H_0 : residuals are normally distributed

*** H_0 : the VAR residuals are homoscedastic and exhibit no ARCH-type conditional heteroskedasticity.

Table 5: Granger causality tests

Regressor / Period	Dependent variable in regression			
	OI	dlGDPpc	IRER	dlReal_wage
Full sample (1880–2018)				
OI	x	0.297	0.427	0.522
dlGDPpc	0.173	x	0.807	0.120
-	0.292	0.224	x	0.745
dlReal_wage	0.010	0.218	0.331	x
AEM (1890–1929)				
OI	x	0.365	0.007	0.159
dlGDPpc	0.448	x	0.187	0.621
IRER	0.778	0.036	x	0.558
dlReal_wage	0.370	0.013	0.885	x
SLI (1930–1975)				
OI	x	0.400	0.128	0.787
dlGDPpc	0.047	x	0.597	0.343
IRER	0.198	0.779	x	0.908
dlReal_wage	0.105	0.145	0.401	x
Second globalization (1976–2020)				
OI	x	0.238	0.929	0.425
dlGDPpc	0.335	x	0.329	0.094
IRER	0.329	0.222	x	0.165
dlReal_wage	0.289	0.576	0.481	x

* In bold are indicated P-values that allow rejecting the null hypothesis of the regressor not causing the dependent variable in Granger's sense.

Figure 11: Full set of structural impulse-response functions. 1890-2020

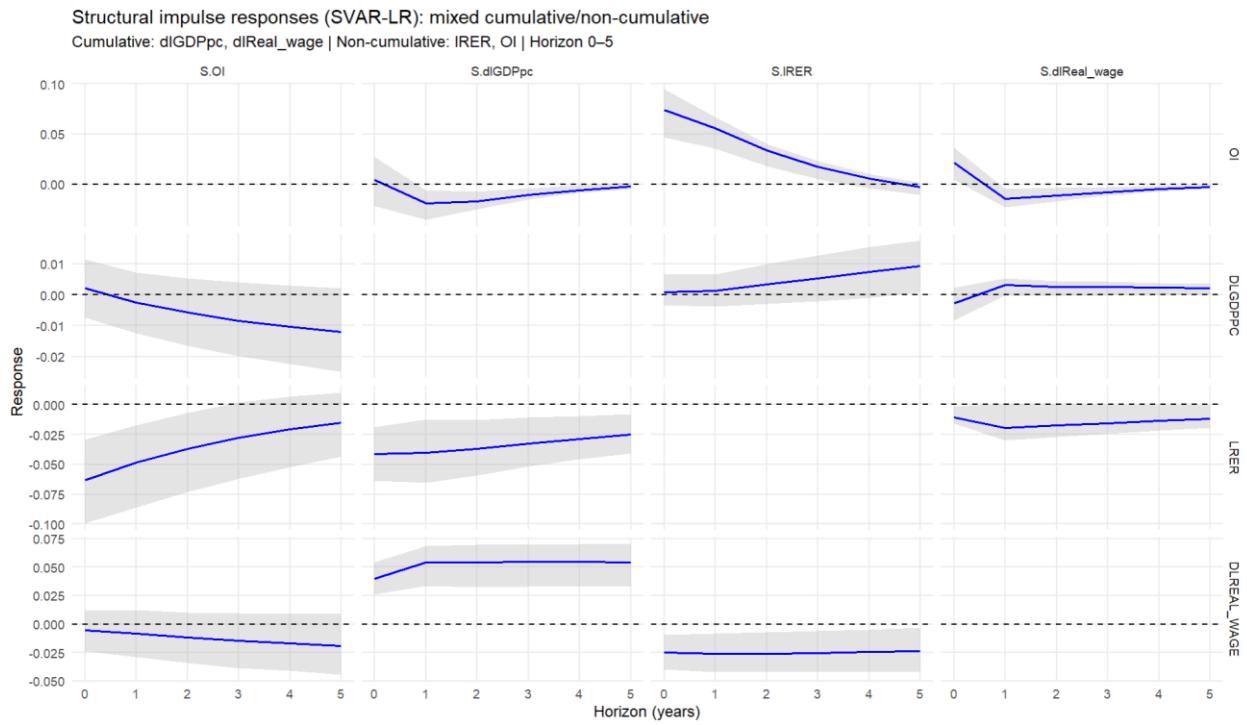


Figure 12: Full set of structural impulse-response functions. 1890-1929

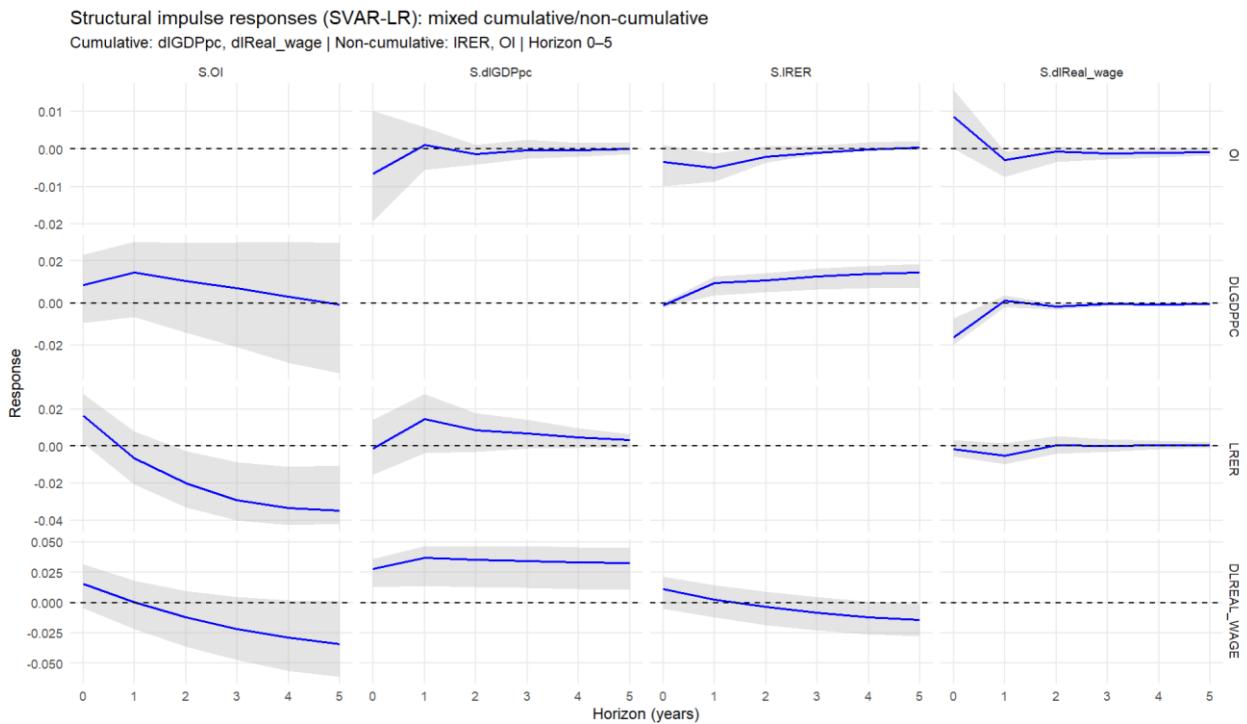


Figure 13: Structural variance decomposition. 1890-1929



Figure 14: Full set of structural impulse-response functions. 1930-1975

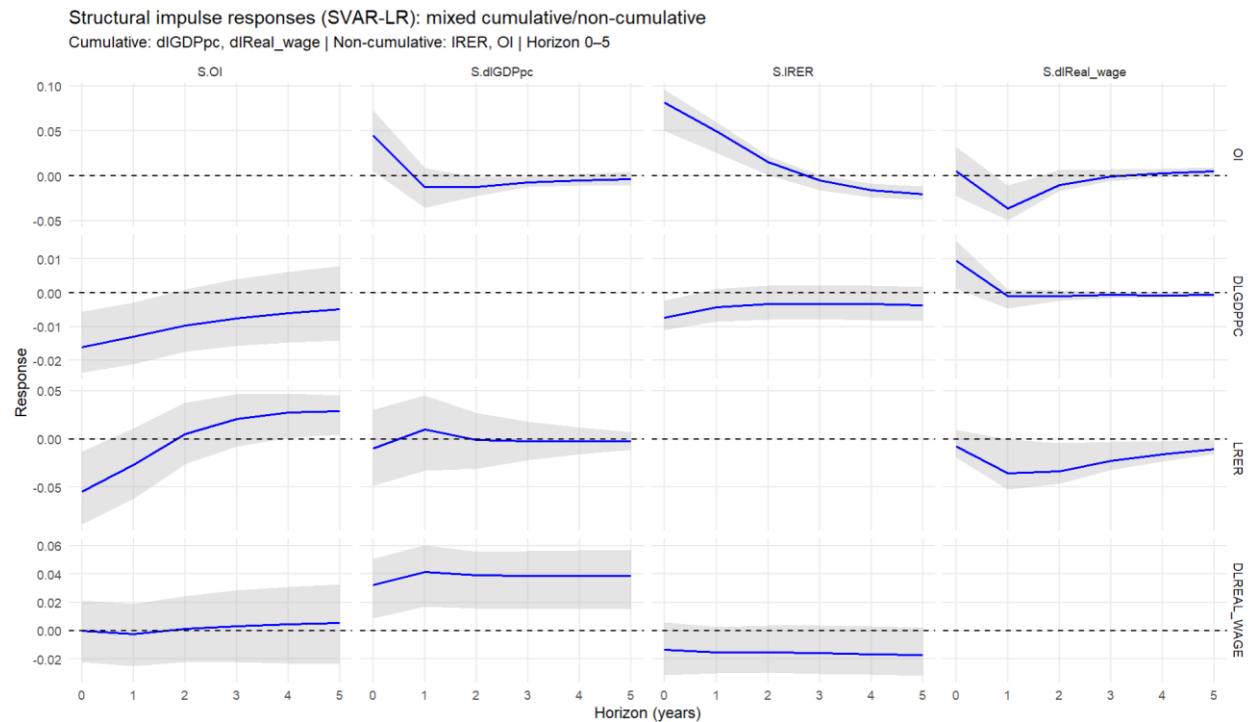


Figure 15: Structural variance decomposition. 1930-1975

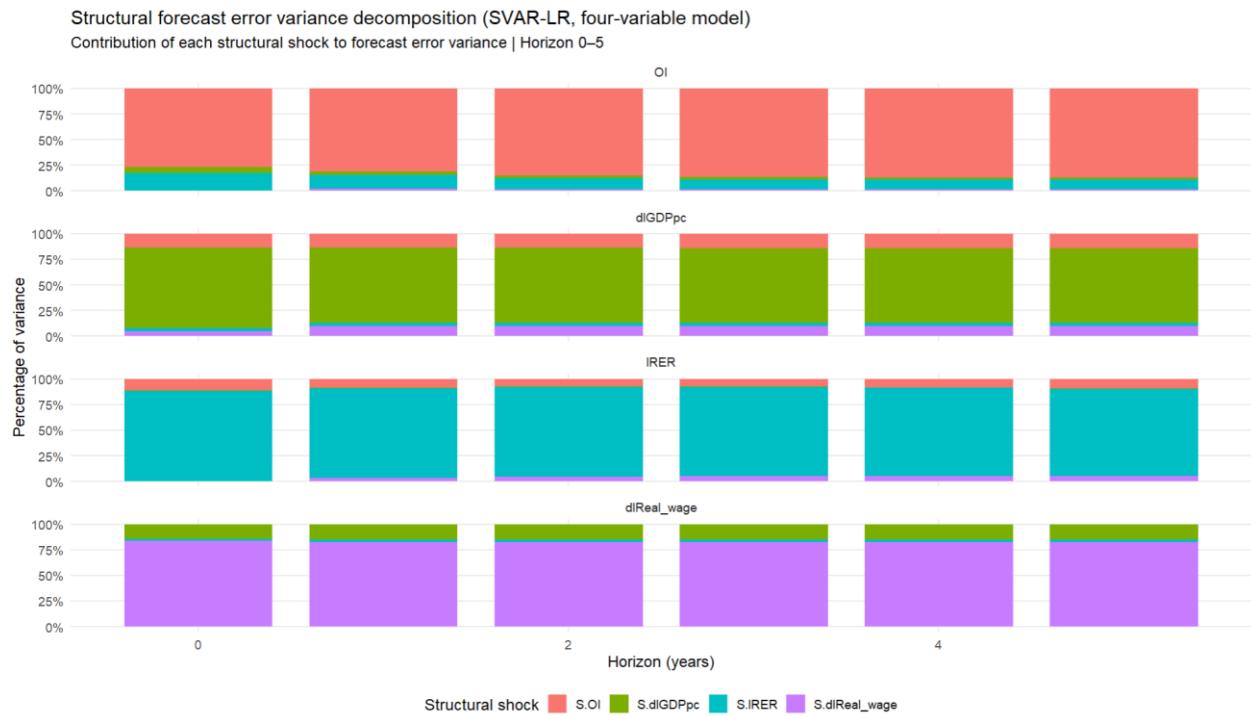


Figure 16: Full set of structural impulse-response functions. 1976-2020

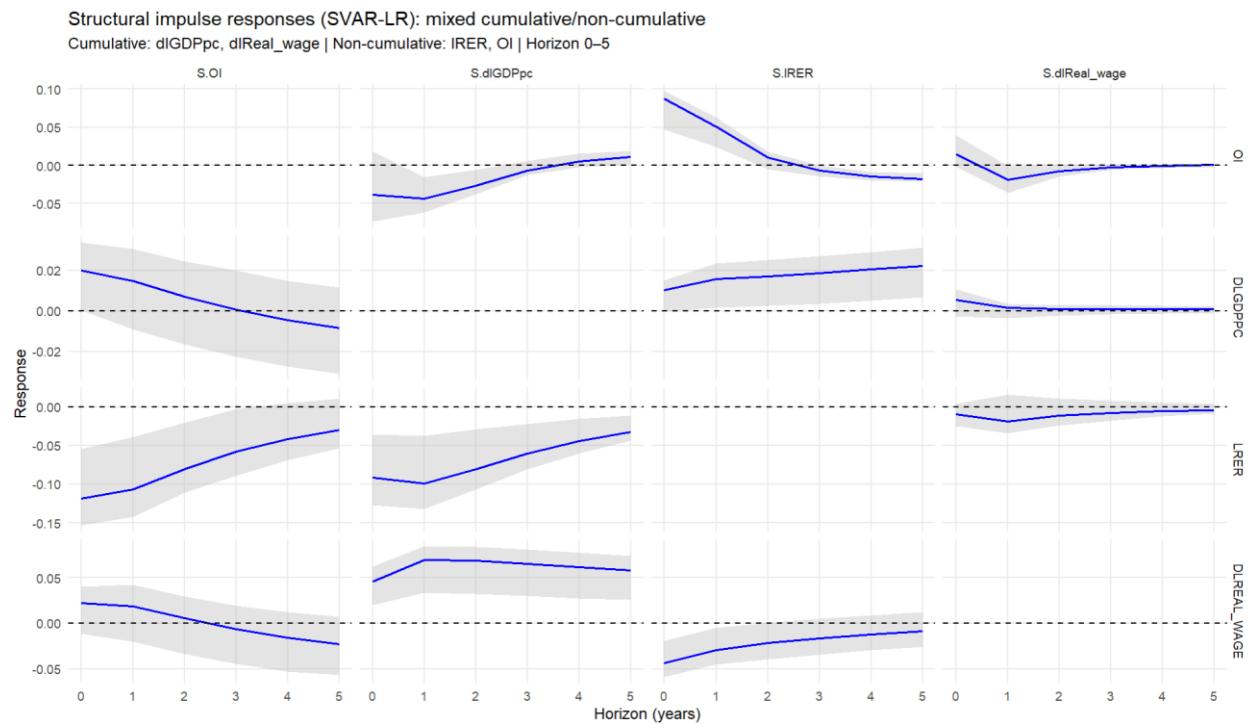


Figure 17: Structural variance decomposition. 1976-2020

