

The political economy of fiscal dominance: Evidence from the Chilean government of Salvador Allende

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Abstract

This article examines the political economy of fiscal dominance during the Chilean government (1970-73) of Salvador Allende. Fiscal dominance appears when the monetary authority complies with the fiscal authority's demand to buy treasury bonds and monetise the deficit. It is argued that persistent fiscal dominance is inflationary, especially without robust fiscal and monetary rules. The Allende government financed the deficit with present taxes, debt (future taxes) and monetary issuance (inflation tax), causing the crowding-out effect and, together with other policies such as expropriation and price controls, collapsed the demand for money, triggering hyperinflation. The lessons of Chile clarify the fiscal trigger of the inflation, stagnation, and widespread poverty that has affected Latin American countries in recent decades.

KEYWORDS

Chile, fiscal deficit, fiscal dominance, inflation; political economy, price control

JEL CLASSIFICATION B25, E64, O23, P24

1 | INTRODUCTION

The government of Salvador Allende (1970–73) is one of the most controversial episodes in Latin American economic history (Edwards, 2023; Sater & Collier, 2022). Hyperinflation and

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social crisis marked the ending of the world's first democratically elected Marxist government, feasibly due to its mismanagement of economic policies (Espinosa, 2021; Gabriele & Jabbour, 2022). The Allende government abused fiscal dominance by subjecting the monetary authority to the fiscal authority and financing a growing deficit with monetary issuance and cheap credit. The government ran persistent deficits with seigniorage and produced inflation, and fiscal deficits and inflation were dynamically correlated. In episodes of high inflation, a social crisis collapses money demand by reducing average holdings of real money and the stock of transactional money, so the increasing monetisation of the deficit resulted in hyperinflation (Barro, 1970; Bordo & Levy, 2021). Although the theoretical view shows the inflationary effect of deficit financing, fiscal dominance in Latin America is subject to severe misunderstandings.

What economic and political events led to the 1973 hyperinflation in Chile, and what lessons can Latin American countries learn? This article examines the political economy of fiscal dominance during the Allende government. However, it is necessary to go back in time and understand the economic context after the 1940s to understand the hyperinflation of 1973 properly. Fiscal dominance began in the 1940s, and the Allende government expanded the scope of this dominance with the aim of increasing economic growth and income redistribution. Discussion of the Chilean economy and politics between the 1940s and 1973 informs those interested in Latin American economic history and explains how and why the persistence of fiscal dominance is inflationary, especially without robust fiscal and monetary rules such as those implemented in Chile during the 1980s and 1990s to end the deficit and inflation.

The structure of the article is as follows. Section 2 analyses the literature on fiscal dominance and inflation. Section 3 is divided into three parts to explore and discuss fiscal dominance during the Salvador Allende government. First, strong fiscal dominance emerged before the Allende government between 1940 and 1969, which the Economic Commission for Latin America and the Caribbean (ECLAC) promoted through the import substitution industrialisation (ISI) model. Even without the ECLAC advice, Chile had changed its market economy for one of heavy intervention as a response to the ravages of the Great Depression (1929–33), preserving a growing deficit and a two-digit average annual inflation rate.

Second, the economy of Salvador Allende's government between 1970 and 1973 was mainly characterised by aggressive fiscal dominance by combining a short-term Keynesian policy with a long-term Marxist policy. After the boom of 1971, driven by an expansionary fiscal and mone-tary policy, the fiscal deficit went from one to two digits and inflation from two to three digits. The rapid transition from the boom to the 1973 recession resulted from Allende's macroeco-nomic policies and other anti-market policies, such as expropriation and price controls, which caused a sharp drop in the demand for money. Chile's economic problems resulted from inefficient self-imposed policies, not external factors, such as US intervention or a capitalist plot against the Allende government. Third, weak fiscal dominance occurred after the Allende government between 1973 and 1978 due to a shock stabilisation programme.¹ Fiscal dominance disappeared in the 1980s by accomplishing a fiscal surplus, and the central bank's autonomy started in 1989, reaching a single-digit inflation rate in 1995.

Section 4 presents an ordinary least squares (OLS) model to evaluate the causal relationship between Chile's fiscal deficit and inflation between 1940 and 1995. Then, following Harnecker (2015) and Edwards (2019a, 2019b), the case of Argentina is comparatively evaluated between 2003 and 2023, where there is also fiscal dominance because the governments have followed a similar economic policy to that of Salvador Allende. Venezuela is also suitable for study but has been excluded due to the obscurity of its data series. The results show that the correlation between the fiscal deficit and inflation is positive and significant in periods of fiscal dominance.

However, this relationship is insignificant in periods without fiscal dominance. Finally, section 5 concludes with policy advice to reduce inflation in Latin America and suggestions for further research avenues.

2 | LITERATURE REVIEW

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Fiscal dominance is the process in which the monetary authority (central bank) subordinates its monetary policy decision-making to the fiscal authority's needs (the government) (Alvarez et al., 2022; Sargent & Wallace, 1981). It implies that the central bank can increase or decrease the interest rate, bank reserves and open market operations, deviating from its objectives to support the public finances. Under a fiscal dominance regime, the fiscal authority autonomously sets the path of expenditures and taxes. If expenditures exceed revenues in present value, then debt (future taxes) and seigniorage (inflation tax) must be adjusted to the government's intertemporal budget constraint (Aisen & Veiga, 2008). However, the monetary authority cannot permanently refinance its debt and will eventually have to monetise the deficit, for example by purchasing treasury bonds. A sustained and growing deficit generates higher inflation in periods of fiscal dominance.

The persistent deficit causes fiscal dominance because the fiscal authority limits the ability of the central bank to determine monetary policy based on the inflation target, reducing or eliminating the autonomy of the latter for the benefit of the former (Lucas, 1986; Mawejje & Odhiambo, 2020; Phelps, 1973). Interest rates are kept low to help fiscal policy and the cost of debt. Conversely, increasing the interest rate to contain inflation also increases the cost of gov-ernment debt. Although legal restrictions on financing the government can limit or prevent fiscal dominance, the political argument of not raising (or lowering) the interest rate because it would affect public spending through increased financial costs can introduce elements of fiscal dominance that would impede achieving monetary policy objectives.

On the fiscal policy side, the deficit can be financed by increasing present or future taxes. Present taxes are the taxes or payments that citizens must make to the government without the latter being obliged to provide them with direct compensation. A sustained tax increase has an arithmetic effect by increasing tax revenue in the short term. However, it also has a long-term economic effect by negatively impacting capital accumulation, production, employment, and, therefore, the tax base by providing incentives to reduce these activities; the opposite also applies (Laffer, 2004; Bradley et al., 2021; Braunerhjelm et al., 2021). In parallel or alternatively, the government can raise debt from non-independent central banks, private investments or other governments to finance the deficit by issuing financial assets (Treasury bills, bonds or debentures). A sustained increase in debt will require a tax increase in the future. The crowding-out effect emerges when debt diverts investment from the private sector, again harming the private sector by reducing access to the loanable funds market, the vital source of financing for firms (Bjørnskov & Foss, 2013; Bylund et al., 2023).

On the monetary policy side, the deficit can be financed by modifying the interest rate, cash ratios, and open market operations. In periods of fiscal dominance, governments influence monetary policy by reducing the cash ratio, increasing permanent facilities and loans to other agents to expand the means of financing the deficit and usually generating inflation. Inflation is a monetary phenomenon that always and everywhere appears when there is an excess of money supply (Friedman, 1977). The myth of the fiscal or multi-causal origin of inflation neglects the fact that there is no inflation in a barter economy. Inflation or deflation can appear only due to changes in money supply and demand (Espinosa et al., 2023; Bagus et al., 2014; Dornbusch & Fischer, 1986). When the money supply increases (the quantity of money increases) and/or the demand for money falls, relative prices tend to increase (the purchasing power of money decreases). Inflation imposes direct and indirect costs. While the former implies that inflation tends to undermine the coordination properties of the price system, the latter implies that agents tend to divert resources from satisfying needs to prevent or cope with increased uncertainty. Both costs make people marginally prefer rent-seeking through the political process (Horwitz, 2003).

The political economy of fiscal dominance presents four complementary points of view. First, Ricardian equivalence posits that fiscal dominance implies, other things being equal, the enactment of future taxes (Ricciuti, 2003; Seater, 1993). Second, Keynesianism promotes the idea that fiscal dominance can increase aggregate demand and employment in the short run by stimulating autonomous spending by households, firms and the government (Cogan et al., 2010). Third, monetarism presents fiscal dominance as an inflationary problem of intertemporal optimisation through increased consumption, an increase in interest rates, and a crowding out of private capital accumulation by depressing the ratio of capital to labour (Lee & Vedder, 1992; Stein, 1981). Fourth, the Austrians propose that fiscal dominance induces problems of distortion of relative prices and economic calculation and lack of coordination in the intertemporal production structure. Therefore, persistent deficits are detrimental to long-term economic growth and development (Espinosa et al., 2021).

Empirical studies of fiscal dominance show that persistent deficits are inflationary by providing a strong and significant connection between deficits and inflation across groups of countries (Lin & Chu, 2013; Mawejje & Odhiambo, 2020). First, aggressive fiscal dominance occurs when the country has double-digit deficit levels without fiscal responsibility or central bank autonomy. Second, strong fiscal dominance consists of an economy without fiscal or monetary rules but with persistent single-digit deficits. Third, weak fiscal dominance results from a deficit subject to robust fiscal responsibility rules and central bank autonomy with inflation targeting. Fourth, insignificant fiscal dominance implies a persistent surplus under robust fiscal and monetary rules.

The evidence indicates that developing countries tend to have strong or aggressive fiscal dominance by finding significant causality of the deficit on inflation in countries with persistent deficits and high inflation (Catao & Terrones, 2005; Ehrhart et al., 2014). The deficit–inflation causality is more significant in countries with lower tax collection efficiency, economic instability, and limited access to external loanable funds markets by reducing the relative cost of seigniorage and thus increasing tax inflation. Developed countries tend to have weak dominance or insignificant causality by not having conclusive results on the relationship between deficit and inflation in countries with low inflation and a tendency to fiscal equilibrium. If the deficit is persistent, governments in developed countries often replace seigniorage with debt (Ho et al., 2023). Other studies note a significant impact of the deficit on inflation in countries transitioning from a socialist to a capitalist economy during periods of low inflation in high-inflation countries (Fischer et al., 1996; Mishkin, 2000).

3 | FISCAL DOMINANCE IN THE GOVERNMENT OF SALVADOR ALLENDE

3.1 | Before Allende (1940–1969)

The severe effects of the Great Depression of 1929–32 served as political justification for changing the economic order from a market economy to more significant government intervention in

the Chilean economy (Gil, 2022; Sater & Collier, 2022). This change was more of a reaction to the crisis rather than a policy response guided by a systematic economic theory. However, the triumph of the left-wing Radical governments (1938–52) and the populism of Carlos Ibáñez del Campo (1952–58) were decisive for the execution of the import substitution industrialisation model (ISI), thus consolidating a highly interventionist economy. On the one hand, international trade was restricted by establishing import tariffs of up to 50 per cent according to political criteria. On the other hand, the government directly assumed an entrepreneurial role through the Production Promotion Corporation (CORFO). CORFO promoted the creation of public firms and association with private entrepreneurs to develop certain productive areas.

Although it is not relevant here to analyse the deep causes of the loss of efficiency and wellbeing resulting from the trade barriers and loss-making monopolistic firms, it is worth noting that fiscal dominance emerged due to a lack of fiscal responsibility and the growing loss of autonomy that affected the Central Bank. In December 1946, Law No. 8,707 was enacted, which modified the composition of the Central Bank's board of directors by including two representatives from the Chamber of Deputies and two from the Senate, so introducing political considerations into the institution's decisions (Carrasco, 2009). Government pressures to finance the deficit and their development plans led to increased inflation, from 1 per cent in 1938 to an average annual rate of around 20 per cent in the 1940s and 40 per cent in the 1950s. The issuance of money, in the form of direct and indirect credits, was used by governments to capitalise on the deficit of between 2 and 4 per cent annual average of public entities, which would become the main problem of the ISI model (Braun et al., 2000).

The Central Bank of Chile reports that the price increases were due to the general rise in domestic prices and the excessive wage increase, all exacerbated by the impact on international prices as a result of World War II (Carrasco, 2009). Amid fiscal and monetary imbalances, price controls appeared to preserve fiscal dominance to increase aggregate demand and employment. The conservative government of Jorge Alessandri (1958–64) proposed modernising Chilean industry, providing facilities for importing capital goods and thus increasing competitiveness in foreign markets. Inflation fell rapidly due to a change in the monetary unit: "The escudo (E°) replaced the peso (\$), becoming practically on par with the dollar, which was interpreted by some as a reflection of the good economic situation from Chile" (Bernedo, 2013, p. 35). However, the plan of trade opening with a modernised industry failed because monopolistic Chilean entrepreneurs preferred not to compete in a scenario of fiscal dominance, but instead lobbied the government to maintain trade barriers to maximise their profits with forced demand.

Alessandri's failure brought the approaches of structuralist economists to the fore, which were expressed through the Economic Commission for Latin America and the Caribbean (ECLAC), an organisation created by the United Nations (UN). ECLAC considered that the centre–periphery phenomenon occurred both inside and outside each country. The industrial development centres of developed countries and large cities were enriched at the expense of developing countries and rural areas (Arndt, 1985). ECLAC proposed global transformations to raise barriers to international trade hand in hand with achieving a balance in the country between agriculture and industry. The ECLAC thesis was taken up by the Christian Democrat government of Eduardo Frei (1964–70) to create 'communitarianism' as a middle way between laissez-faire capitalism and Marxist socialism (Sater & Collier, 2022), increasing social spending, especially in housing, education, and infrastructure. This economic policy faced severe difficulties after a few years. The external debt increased from 11 to 33 per cent of GDP between 1960 and 1969, and the central bank's international reserves were negative for most of the decade (Braun et al., 2000). Industry's decapitalisation and political instability conspired against Frei's

3.2 | The Allende government, 1970–1973

In the 1970 election, Popular Unity (UP), the leftist political coalition led by the socialist Salvador Allende, triumphed with 36.3 per cent of the votes as a radical alternative to overcome the economic problems caused by the governments of previous decades. Allende's position was radicalised by accepting Leninist methods in the 1960s, the apparent lessons of the Cuban Revolution in 1959.² The UP economic project consisted of fiscal dominance to achieve aggressive income redistribution and abolish private property rights by expropriating strategic industries and the agricultural area to develop Chilean socialism (for the main macroeconomic variables, see Espinosa, 2021; Sater & Collier, 2022). Private property would be replaced by the social property area (or socialist sector), which would be integrated through the expropriation of all those activities that the UP considered conditioned the economic and social development of the country.

On 21 May 1971 President Allende explained in the Chilean Congress that his democratic coming to power differentiated the Chilean from the Soviet road to socialism. However, the two roads shared the same objectives and challenges.

The circumstances of Russia in 1917 and Chile in the present are very different. However, the historical challenge is very similar ... There, the challenge was accepted, and one of the forms of construction was built of the socialist society that this dictatorship of the proletariat ... Chile is today the first country on earth called to form a second [democratic] model of transition to socialist society.

(Allende, 1971, pp. 28–9; authors' translation)

Fiscal dominance during the government of Salvador Allende had two phases marked by the absence of fiscal responsibility and the treatment of the central bank as an automated teller machine to monetise the deficit. The first consisted of Allende following the Keynesian premise that by increasing the income of the population through deficit spending, aggregate demand would increase in the short term, which in turn would allow the use of the idle capacity of the Chilean productive apparatus and generate a climate of prosperity (Bylund, 2023; Corvalán et al., 1969; Newman, 2020). Between 1970 and 1971, Allende sought to expand aggregate demand driven by an increase in spending of 66 per cent and wages of 55 per cent, moving from a surplus of 2 per cent of GDP to a deficit of minus 2 per cent financed with a 174 per cent increase in monetary issuance (Braun et al., 2000). The short-term achievements of fiscal dominance were as follows: the annual GDP growth rate increased from 2.1 to 9 per cent (the highest rate in the previous 15 years), the unemployment rate fell from 7.1 to 5.5 per cent (3.9 per cent in December 1972), inflation fell from 36.1 to 28.2 per cent per annum, and the share of wages in national income reached 59 per cent (Braun et al., 2000). At first glance, the short-term outcomes of strong fiscal dominance were spectacular for Popular Unity: Keynesian economic stimulus and income redistribution worked.

Second, the Allende government promoted a long-term Marxist policy based on expropriating private property and its concentration in the socialist sector. Allende expropriated 100 per cent of large mining in 1971 with zero compensation, with the support of all political parties in one of the few agreements achieved in this period. The agrarian reform involved the expropriation of 60 per cent of the total agricultural area, where violent occupations became frequent with the support of the UP (Meller, 2000). Expropriating many industries and the banking system was considered strategic for the national economy, radicalising the movements and parties in opposition to the government. The tendency of the holders of shares to sell them to the government is explained by their fear that the government could finally be able to pass a law expropriating 85 per cent of the banking system and 40 per cent of industry with zero compensation or less than the price that CORFO was offering for them. The value of those shares on the stock market fell rapidly, increasing the sense of economic loss due to union pressures that paralysed the firms' production.³ Accordingly, the socialist sector controlled 60 per cent of the economy in 1972 (Bernedo, 2013; Gazmuri, 2012).

Allende's long-term Marxist policy also consisted of price controls on more than 3,000 goods in production and distribution associated with the basic basket. Price controls caused production costs to exceed revenue. Production became unviable, and widespread shortages emerged with an underground market with prices more than ten times higher by mid-1972, which became uncontrollable. Faced with shortages, Allende implemented the Juntas de Abastecimiento y Control de Precios (JAP, Supply and Price Control Boards) cards that controlled prices and rationed the delivery of food to the poor. Tariffs reached effective rates that averaged 111 per cent (Balassa, 1984). The exchange rate and capital flows were controlled, generating a shortage of US dollars and reducing trade while causing multiple exchange rates to rise up to 41 times higher. Idle productive capacity was exhausted, exports collapsed, and food imports grew overwhelmingly. Regarding the tax structure, the imposition of multiple corporate tax rates from 17 to 40 per cent depending on the type of industry stands out, in addition to income tax rates of up to 65 per cent depending on workers' professions, and a complementary global tax of up to 60 per cent was also paid annually by naturalised citizens with domicile or residence in Chile (Cheyre, 1985).

The economic boom ended abruptly in 1971, and 1972 began with poor prospects. Fiscal dominance became aggressive in 1972 due to a 50 per cent drop in tax revenue, raising the deficit to minus 8 per cent of GDP financed by monetary issuance that grew by 151.8 per cent, and a 300 per cent increase in the internal debt with the expropriated banking system (Braun et al., 2000). The reason was that Allende's policies induced the collapse of money demand by increasing the velocity of money circulation (or spending) nine times per year between 1970 and 1972. The result was an inflationary spiral accelerating up to 255 per cent in 1972, the devaluation of the Chilean peso by 70 per cent against the US dollar, and annual GDP growth of minus 1.2 per cent (Edwards, 2023).

Although some attempts were made to moderate the expropriation process and balance the macroeconomic accounts, fiscal dominance only worsened in 1973 amid political polarisation and growing disaffection with the democratic system, which would culminate in the military coup of 11 September.⁴ The deficit reached minus 12.7 per cent of GDP to maintain an artificial unemployment rate of 4.8 per cent in a bankrupt socialist sector, financed with a 362 per cent increase in monetary issuance and an increase in government credit from 9 per cent of GDP in 1970 to 55 per cent in 1973. The velocity of money circulation increased 18 times, triggering a hyperinflation of 606 per cent (1.208 per cent in the first six months annualised) and a recession that implied GDP growth of minus 5.57 per cent, a drop of 43 per cent in real wages and a poverty rate of 50 per cent (Braun et al., 2000).

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3.3 | Post-Allende, 1973–1995

Fiscal dominance, based on the central bank's agreement to finance the deficit, has been one of the cornerstones of Chile's poor economic performance since the 1940s, with its peak in the recession of 1973. The political causes of the military coup are not discussed here. However, the economic and social crisis and the corruption of institutions during the Allende government can shed some light (Edwards, 2023; Gazmuri, 2012; Pareto & Guerrero, 1973; Vial, 2005). The important thing here is that the dictatorship of Augusto Pinochet (1973–90) implemented a shock stabilisation programme led by the 'Chicago Boys' to reduce fiscal dominance and, thus, return inflation to the path of long-term economic growth and development (Espinosa, 2023).

Between 1974 and 1979, private property rights were restored, price and wage controls were abolished, money was devalued by 500 per cent to stabilise the exchange rate, and trade was opened with 10 per cent tariffs. Furthermore, public spending was sharply reduced to achieve an average annual fiscal deficit of minus 0.5 per cent of GDP. Inflation decreased from 504 per cent in 1974 to 30 per cent in 1979 under weak fiscal dominance (the money issuance fell by 80 per cent in the period). As a result, GDP growth averaged 3.3 per cent annually, and poverty fell to 44 per cent (World Bank, 2023).

The Constitution of 1980 consolidated the liberal economic order of the Chicago Boys (Büchi, 2008; Larroulet, 2003). Ending secular inflation explains why it was possible to incorporate the principle of the government's fiscal responsibility and the central bank's autonomy in the Constitution of 1980 and the Organic Law of the Bank that came into force on 9 December 1989 (Naudon & Álvarez, 2016). The central bank of Chile aimed to enforce a robust monetary rule based on an inflation targeting of 3 per cent annually. Fiscal dominance went from being weak in the 1970s to disappearing in the 1980s to the extent that, on the one hand, the deficit tended to zero by 1979 and even went on to average an annual fiscal surplus of 1.6 per cent of GDP between 1980 and 1995 and, on the other hand, the central bank went from being dependent on the government to being an autonomous and technical body (Braun et al., 2000). Corporate tax was reduced to 10 per cent on withdrawn profits (zero per cent tax on reinvested profits), and income tax and complementary global tax were reduced to a maximum rate of 45 per cent. Finally, the persistent surplus under robust fiscal and monetary rules resulted in a reduction of the inflation rate, which reached single digits in 1995 after 57 years of fiscal dominance. Meanwhile, average annual GDP growth was 7 per cent between 1984 and 1995, and poverty fell to 32 per cent (World Bank, 2023).

4 | EVALUATING FISCAL DOMINANCE AND INFLATION

4.1 | Model and data

This section examines the political economy of fiscal dominance during the government of Salvador Allende and evaluates how the persistence of the deficit led to hyperinflation. Public Deficit (Tax Revenue minus Tax Spending as a percentage of GDP) and inflation (percentage change in the consumer price index) data were collected annually from 1940 to 1995 by Braun et al. (2000). The data are divided into four periods. The first is the period prior to Allende, from 1940 to 1969. It consists of strong fiscal dominance because no specific laws prohibited the central bank from financing the deficit. The second period, encompassing the Allende government from 1970 to 1973, was one of aggressive fiscal dominance due to the indiscriminate use of the central

bank as if it was an automated teller machine to finance the deficit through monetary issuance. The third period was from 1974 to 1979, with weak fiscal dominance bringing the deficit close to zero and thus reducing the need to subjugate the central bank. The fourth period ran from 1980 to 1995 with insignificant fiscal dominance due to a persistent surplus under robust fiscal and monetary rules, namely constitutional fiscal responsibility and central bank autonomy. As a final point, the period from 1940 to 1979 is evaluated to augment the observations of fiscal dominance.

Because of data limitations and this article's objective, a simple linear regression with Ordinary Least Squares (OLS) was used to estimate the public deficit coefficient. The model does not include more variables because that would reduce the already few degrees of freedom and affect confidence in the estimates. The estimates seek only to illustrate how the magnitude and statistical significance of the deficit on inflation varies for different periods, emphasising the aggressive fiscal dominance of Allende's fiscal and monetary policy. For a more consistent and generalised demonstration of the heterogeneous impact of public deficits on inflation in developed and developing countries, see Lin and Chu (2013) and Mawejje and Odhiambo (2020). Table 1 presents the description, source and descriptive statistics of both variables considered in the model.

The econometric equation to be estimated is as follows:

$$inf_t = \beta_1 def_{t-1} + \mu_t$$

where inf_t is inflation in the present year, def_{t-1} is the deficit in the previous year, the lag in this variable is considered because it's more feasible that most of the impact of monetary expansion to cover the public deficit in the present year will be felt in the following year, and finally, μ_t is the error term.

4.2 | Results and discussion

Table 2 shows the coefficient estimates for a period lagging the public deficit for each period described in the previous section. Figure A1 (see Appendix) indicates that the first period had

Variable	Description	Source	Periods 1940–95	Mean	SD	Min	Max
inf	<i>Inflation</i> : Percentage change in consumer price index.	Braun et al. (2000)	40 to 69	27.04	18.01	5.47	83.81
			70 to 73	231.40	271.04	28.21	606.10
			74 to 79	178.68	149.89	37.18	369.20
			80 to 95	18.44	7.08	8.20	31.24
			40 to 79	70.22	121.17	5.47	606.10
def	<i>Public Deficit</i> : Fiscal revenue minus fiscal expenditure as a percentage of GDP.	Braun et al. (2000)	40 to 69	-0.69	1.98	-4.31	2.65
			70 to 73	-5.34	6.16	-12.74	0.59
			74 to 79	-2.54	3.16	-7.32	-0.11
			80 to 95	1.61	2.79	-2.95	5.41
			40 to 79	-1.43	3.05	-12.74	2.65

TABLE 1 Summary details of the variables.

Source: Own calculations.

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$\mathbf{prv}\sim \mathbf{def}$	Coefficient	Std. Err.	P > t	[95% conf	. Interval]	Obs.	Adj. R2
40 to 69	- 5.18 ***	1.41	0.001	-8.07	- 2.29	30	0.3008
70 to 73	- 42.44 **	8.22	0.036	-77.8	- 7.08	4	0.8954
74 to 79	- 42.71 **	10.25	0.014	-71.16	- 14.25	6	0.7660
80 to 95	- 0.29	0.67	0.669	-1.74	1.15	16	- 0.0570
40 to 79	- 32.43 ***	3.73	0.000	-39.97	- 24.88	40	0.6570

TABLE 2 Estimated coefficients.

*, **, *** denote statistical significance at 10%, 5% and 1% levels, respectively.

strong fiscal dominance, in which the public deficit of the previous year had a statistically significant negative impact on inflation. Inflation increased by 5.18 per cent on average for each additional percentage point of deficit. Figure A2 reveals that the Allende government period was one of aggressive fiscal dominance, explained by an average 42.44 per cent increase in the inflation rate of the following year for a 1 per cent increase in the deficit. Equally statistically significant is the impact of an average 42.71 per cent reduction in the inflation rate for a 1 per cent decrease in the deficit in the third period of weak fiscal dominance (see Figure A3). No statistically significant impact of the fiscal surplus on next year's inflation is observed in the last period of fiscal responsibility and central bank independence, illustrated in Figure A4, verifying the results obtained by Lin and Chu (2013) and Mawejje and Odhiambo (2020).

Figure A5 considers the entire period of Chile's fiscal dominance, where there was a persistent deficit and no legal independence of the central bank from political power. It implies that a 1 per cent increase in the deficit had an average impact of 32.43 per cent on the inflation rate of the following year. In short, the evidence presented in this article supports the thesis that a persistent deficit is inflationary and that a decrease in the deficit can make it easier for monetary policy to reduce inflation.

The results have interesting implications for economic policy analysis. The fiscal deficit plays a primary role in the inflationary process in countries that must be financed with monetary issuance. It is necessary to reduce the fiscal deficit to reduce inflation. However, Chile's case has shown that a reduction in the deficit will not always lead to a reduction in the inflation rate. It is also important to highlight that transitory changes in the inflation rate can have long-term effects, due to monetary policy lags that range between 12 and 24 months, that propagate and distort relative prices in the economy (Hagemann & Trautwein, 1998; Sieroń, 2019). A drastic fall in the deficit (for example, because of fiscal responsibility rules) can reduce the inflation rate in a proportion that puts the economy on a stable path of economic growth and development.

Reducing the deficit requires a stabilisation or adjustment programme, but whether implementation should be gradual or rapid is not a trivial issue. Evidence from Chile shows that shock therapy is superior to gradualism. With hyperinflation, it is essential to be decisive in adopting reforms as quickly as possible and maintaining them despite the short-term discomfort they may cause because "bitter medicine is easier to take in a single dose than in a long series" (Laar, 2008, p. 68). The shock adjustment will increase economic growth if the programme is consistent and credible, reversing the crowding-out effect (Lawson & Lawson, 2020).

Harnecker (2015) suggests that Argentina is a contemporary case of fiscal dominance, which follows the anti-market policies of Salvador Allende in the socialism of the twenty-first century. The central bank of Argentina is subject to government and non-fiscal responsibility (Cachanosky & Padilla, 2019). The socialist governments of Néstor Kirchner and Cristina

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ΤA	BLE	3	Estimated	coefficients	for	Argentina.
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$\mathbf{prv}\sim \mathbf{def}$	Coefficient	Std. Err.	P > t	[95% conf	. Interval]	Obs.	Adj. R2
2003 to 2023	- 7.71 ***	1.32	0.000	- 10.47	- 4.96	21	- 0.6245

Note: Inflation was represented by GDP deflator (annual %) collected from World Bank (2023), and public deficit was extracted from DatosMacro (2023).

*, **, *** denote statistical significance at 10%, 5% and 1% levels, respectively.

Fernández de Kirchner (2003–15) changed a fiscal surplus of 4 per cent of GDP in 2005 to a deficit of minus 4 per cent in 2015, increasing inflation from the 14 per cent annual average between 2003 and 2007 to 25 per cent between 2008 and 2015. Kirchnerism responded to the effects of inflation with price and exchange rate controls. These policies resulted in a shortage of goods and a collapsing demand for money (Milei & Giacomini, 2017). In response, exchange restrictions were imposed, inducing a foreign currency shortage and accumulating inflation of 63 per cent between 2003 and 2007, 122 per cent between 2008 and 2011, and 171 per cent between 2012 and 2015.

The conservative Argentinian government of Mauricio Macri (2015–19) applied gradualism to reduce the deficit and inflation by replacing monetary issuance with debt while reducing public spending. However, Macri did not reach any of his objectives due to the Kirchnerist opposition, a majority in Congress, but mainly due to opposition to the pro-market reforms within his political coalition. The deficit grew to minus 6 per cent, yielding a financial crisis that ended in an emergency programme with the International Monetary Fund. The inability to pay the debt and the interest led Macri to default, returning to seigniorage with an annual average inflation of 40 per cent, amounting to 295 per cent accumulated during his government (Cachanosky & Mazza, 2021).

Finally, the socialist Argentinian government of Alberto Fernández (2019–23) aimed at recrudescent Kirchnerism, where in 2023 the deficit reached 15 per cent, the inflation rate attained 211.4 per cent, and the inflation accumulated during the Fernández government 931 per cent. Meanwhile, public debt fell from 120 per cent in 2004 to 39 per cent in 2011 and then rose to 80 per cent in 2023; real GDP per capita has stagnated since 2008, with 45 per cent poverty and 10 per cent indigence.⁵ Figure A6 shows Argentina has predominant fiscal dominance between 2003 and 2023, with a statistically significant average impact of a 7.7 per cent increase in inflation of the following year (15 per cent between 2019 and 2023) for a 1 per cent increase in the deficit (Table 3).

5 | CONCLUSION

The economic history of Chile during the government of Salvador Allende confirms that fiscal dominance is inflationary in countries without robust fiscal and monetary rules. Persistent deficits without fiscal responsibility or central bank autonomy, an anti-market mentality founded on short-term Keynesian and long-term Marxist policies, and excessive concentration of the economy in the government's hands are all policies which Latin American countries should avoid in the future. A major challenge for Latin America is to rebuild political institutions and policymaking to avoid self-inflicted errors of fiscal dominance like those of the Allende government, errors that have contributed to multiple economic crises in recent decades, such as that of Argentina.

More generally, this article stresses that Latin American policymakers should avoid aggressive or strong fiscal dominance by reducing the deficit to reduce inflation. A deficit close to zero or a surplus is desirable to ensure weak or insignificant fiscal dominance. A consistent and credible stabilisation programme is also required to facilitate long-term economic growth and development. Future research should add more variables to the simple model used in this article to examine different events in economic history.

ENDNOTES

- ¹ The economic stabilisation plan under the Pinochet dictatorship was led by the 'Chicago Boys', a group of economists from the Pontifical Catholic University of Chile (PUC) who, during the 1960s, studied for postgraduate degrees at the University of Chicago. The Chicago Boys were close followers of Milton Friedman and Arnold Harberger. They held positions as professors at the PUC Institute of Economics and advised large firms and the failed presidential candidate Jorge Allesandri in 1970. During the period of the Allende government they wrote *El Ladrillo*, a collection of articles on economic policy which would form the theoretical basis of Chilean liberalism after 1974 (see Edwards, 2023).
- ² Popular Unity comprised Marxist-Leninist parties, such as the Communist Party and the Socialist Party, and non-Marxist socialist parties, such as the Radical Party, the Popular Unitary Action Movement (MAPU), the Social Democratic Party, and Independent Popular Action. Furthermore, the Revolutionary Left Movement and the Organized Vanguard of the People were paramilitary organisations related to the ruling coalition that carried out murders, kidnappings, robberies, and attacks against Allende's opponents (see Schiappacasse et al., 2012).
- ³ As Gazmuri (2012, p. 330; authors' translation) states: "In the absence of a law that the Parliament, dominated by the opposition, refused to approve, the mechanism of 'legal loopholes' arose to carry out expropriations. It consisted of taking advantage of old laws or decrees (many coming from the Ibáñez dictatorship of 1925–31 and subsequent governments, such as No. 520 of 1932) that had not been explicitly repeated. However, they had not been implemented. The procedure consisted of a takeover of the industry or company by its workers and a subsequent decree of resumption of work under an 'intervenor' appointed by Allende. Bad faith in the procedure contributed to hardening business opposition. Although from the Leninist point of view, it was validated: the end justified the means."
- ⁴ Alternative explanations of the 1973 recession include the intervention of the United States government or the destruction of the Cybersyn (cybernetic synergy) project (Espinosa, 2021; Kornbluh & Block, 2020). However, the Allende government had the primary responsibility for causing the 1973 recession by promoting aggressive fiscal dominance, disregarding the theoretical and practical problems of Keynesian and Marxist policies (see Moreno-Casas et al., 2022; Newman, 2020; Vial, 2005).
- ⁵ The 'Indigence Line' seeks to establish whether households have sufficient income to cover a food basket capable of satisfying a minimum threshold of energy and protein needs. Households that do not exceed that line are considered indigent. The 'Poverty Line' extends the threshold to include minimum food and other basic non-food consumption. For methodological details, see INDEC (2024).

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APPENDIX

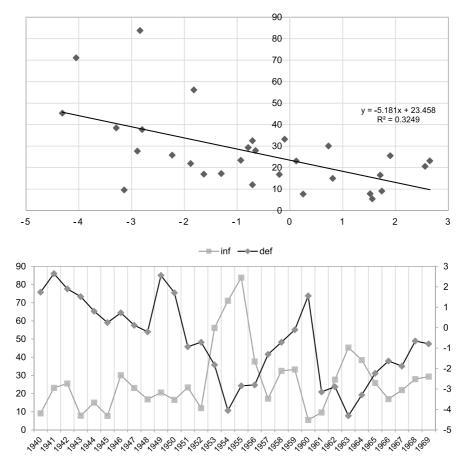


FIGURE A1 Strong fiscal dominance, 1940–1969. *Source*: Own elaboration from Braun et al. (2000). [Colour figure can be viewed at wileyonlinelibrary.com]

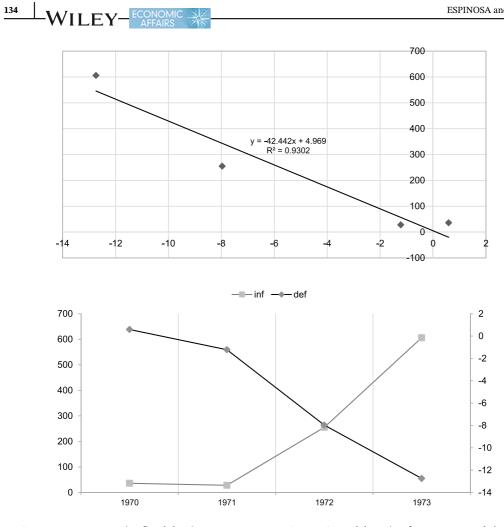


FIGURE A2 Aggressive fiscal dominance, 1970–1973. Source: Own elaboration from Braun et al. (2000). [Colour figure can be viewed at wileyonlinelibrary.com]

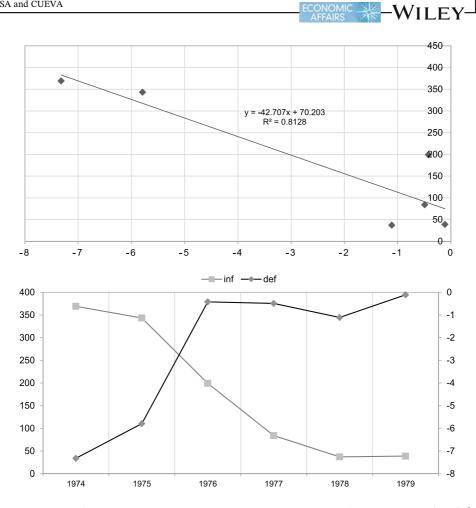


FIGURE A3 Weak fiscal dominance, 1974–1979. *Source*: Own elaboration from Braun et al. (2000). [Colour figure can be viewed at wileyonlinelibrary.com]

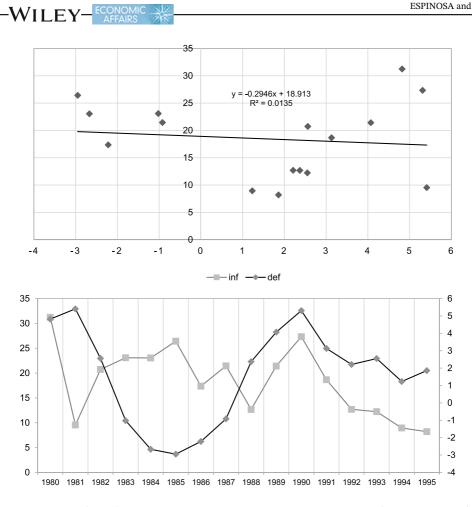


FIGURE A4 Insignificant fiscal dominance, 1980–1995. Source: Own elaboration from Braun et al. (2000). [Colour figure can be viewed at wileyonlinelibrary.com]

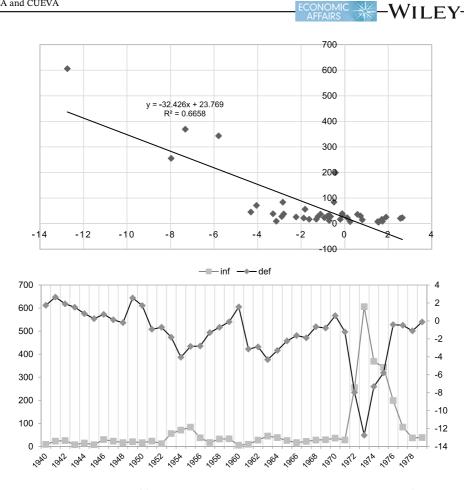


FIGURE A5 Thirty-nine years of fiscal dominance, 1940–1979. *Source*: Own elaboration from Braun et al. (2000). [Colour figure can be viewed at wileyonlinelibrary.com]



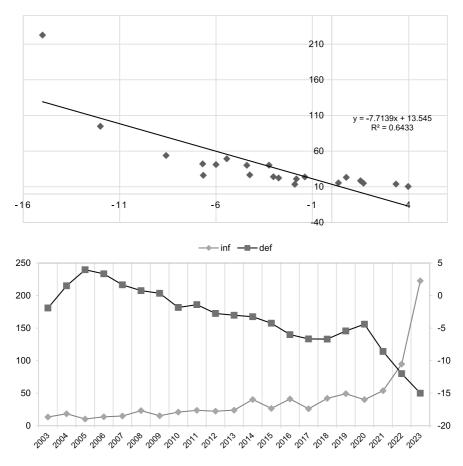


FIGURE A6 Twenty years of fiscal dominance in Argentina. *Source*: Own elaboration from World Bank (2023) and DatosMacro (2023). [Colour figure can be viewed at wileyonlinelibrary.com]