66 | Effects of nominal price deflation under a financial trap (Argentina 1998-2001)

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Fiscal austerity measures and price deflation are still seen by many analysts and politicians as the way out to the critical situation of several economies in the periphery of the Eurozone. Fiscal austerity is seen as way of granting debt sustainability in economies facing heavy financial obligations, particularly of their public sectors. Price deflation, on the other hand, could help correct the problem of lack of international competitiveness that is at the roots of the present economic troubles.

Is fiscal austerity and deflation the medicine that troubled Eurozone countries need to recover from their crises? A good starting point to shed some light on this question is to look at other historical experiences of austerity and deflation programs. There are not too many. One interesting and recent experience is that of Argentina during the last years of the currency board between mid-1998 and the end of 2001.

Argentina got stuck in a financial trap in 1998. This happened for two reasons. First, Argentina presented a fragile macroeconomic configuration, especially regarding the sustainability of its external accounts. The peso was highly appreciated in international terms, trade and current account balances were in deficit and the foreign debt had increased significantly relative to exports. The second element was the wave of international financial distress caused by the crises of five economies in South East Asia (1997-1998), and the Russian and Brazilian crises of 1998 and 1999. This sequence of events triggered a flight to quality in global financial markets, which reduced the supply of funds to emerging markets, especially to those that presented signs of fragility like Argentina. As a result, Argentina's sovereign risk premium jumped sharply, and with it, the foreign interest rates faced by all local borrowers. Domestic interest rates, both in US dollars and pesos, followed a similar trajectory. One effect of these financial events was, as expected, a recession.

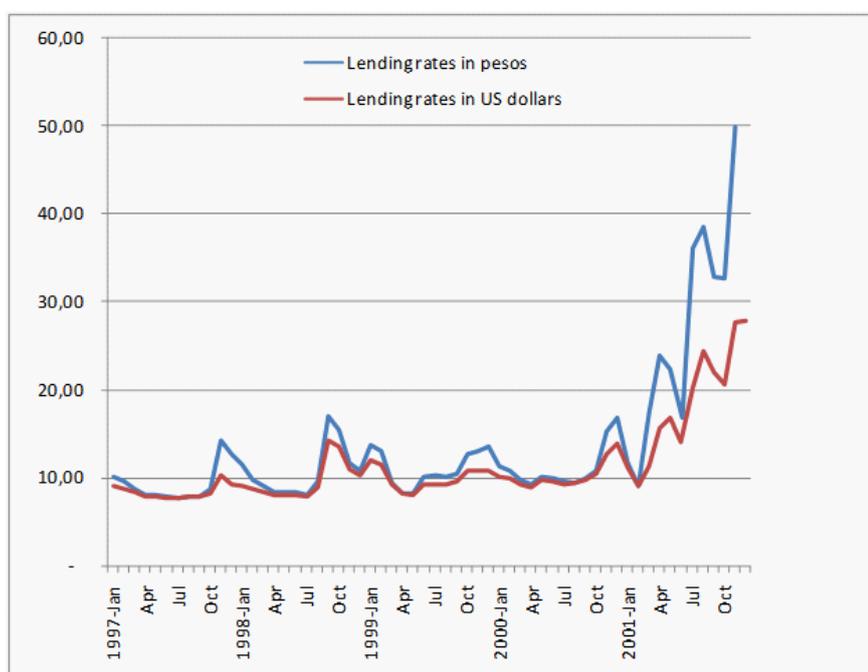Interest rates and financial fragility

Figure 1 shows the rising trend of domestic banking interest rates from 1997 onwards. The series are prime rates for credits in pesos of 30-days maturity or credits in US-dollar of 90-days maturity. The short-maturities of credit operations

reflect the strong concentration of credit operations in the very short run. This was characteristic in the period of high inflation in Argentina, which was only marginally modified during the 1990s, a decade of price stability. This is an example of financial hysteresis.

Figure 1
Lending interest rates in the domestic banking system (% nominal per year)

Source: Central Bank.

Both the recession and the higher interest rates contribute to deteriorate the financial position of debtors, both public and private. As a result, the financial fragility of the economy increases.

The notion of financial fragility brings us to Minsky's view of the financial process in modern economies. The revitalization of his ideas since the recent international financial crisis has made some Minskyan concepts relatively popular. For instance, this author characterized the financial position of a debtor, let's say, a firm, considering its expected flows of financial payments (debt amortization plus interests) and comparing them with its expected cash flow. To keep the approach simple, we can define an indicator of financial fragility, F, as:

$F_t = D_{t-1}.(a_t+i_t)/G_t$,

where G_t is the expected cash flow of the firm in the current (or "relevant", see footnote 2) period t, i_t is current nominal interest rate, D_{t-1} the stock of outstanding debt, and a_t the proportion of debt amortization due in the current period.

If $F \leq 1$, the firm is classified as a "hedge financing" unit: its expected cash flows are

larger than its financial commitments.

If $F > 1$ the firm is classified as either a speculative or Ponzi financing unit. In a Ponzi situation, G doesn't even match the flow of interest payments ($i_t.D_{t-1}$), so that the firm needs access to an increasing amount of credit, thus becoming more exposed to the circumstances in the credit market.[2]

As indicated above, the interest rate i rises as a consequence of the change in the financial environment that brings the economy to a financial trap, while G tends to fall as a result of the ensuing recession. Both movements increase F so that the financial fragility of the firm rises. Extending this taxonomy to all units in the economy, some hedge borrowers change to speculative and speculative units may become Ponzi. As each individual unit increases its degree of financial fragility, the economy becomes financially more vulnerable. Notice, however, that the macroeconomic implications are stronger than just the sum of microeconomic effects. Because units are connected to each other, the passage from individual fragility to aggregate fragility operates with increasing returns; in other words, the increase of the degree of financial fragility of the economy as whole is higher than the average increase of the individual units. Then, second round effects take place. Inasmuch as everybody realizes that the financial vulnerability of the economy is higher, expectations deteriorate, preferences for portfolio flexibility become more common, and the demand for foreign currency also rises when the public try to switch to safer financial positions. All these factors weaken the aggregate demand and contribute to tighten the nods of the financial trap. Negative expectations are confirmed by the path of the economic variables thus giving another turn to the key.
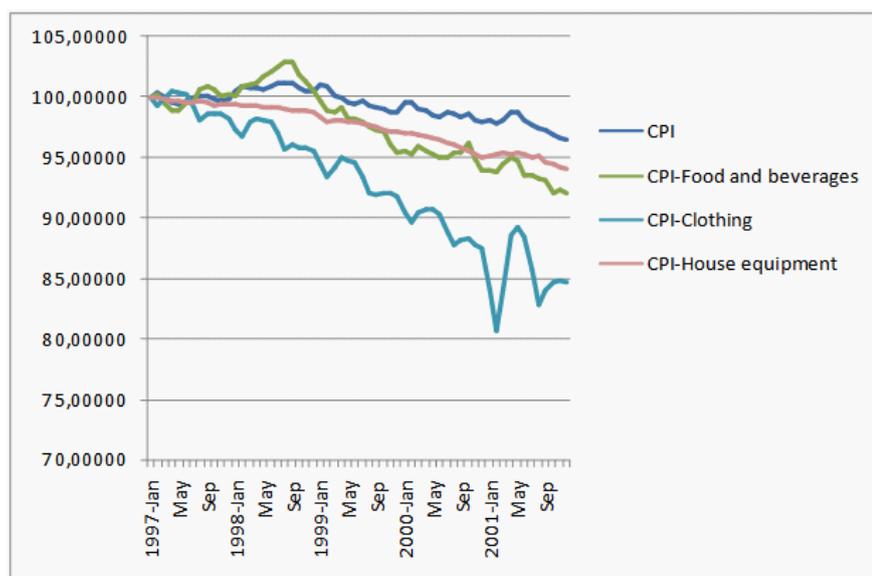
Price deflation

At this point, price deflation enters into the picture.

The stabilization program based on a currency board scheme, launched on April 1991, had been very successful at bringing price stability. By mid nineties the Argentine economy had stable inflation rates around zero. During the second half of the decade, and particularly during the recession started in mid 1998, aggregate prices tended to decline. The fall was quite moderate at the aggregate level, but it was considerable in several sectors. Price deflation combined with rising nominal interest rates brought real interest rates to levels close to 12 per cent yearly as from 1997, on average, and of course quite higher for some sectors.

Figure 2 presents some data on price deflation. Nominal prices show a clear declining trend. In the period 1997-2001, the aggregate CPI experienced an accumulated fall of 3.5%, but some components of the index showed significantly higher declines, like a 15.3% in the case of Clothing, 8.0% for Food and Beverages, and 6% for House equipment. The Wholesale Price Index for Manufactured Products and Electricity (basic prices, national products) also declined by about 6% (INDEC).

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[2] Being interested in the description of a historical process, more than in the development of a formal model, Minsky keeps the definition of the "relevant" period quite loose, and here we follow him in this respect, concentrating in the near term and ignoring future periods. For instance, to define a "speculative" financing unit, Minsky wrote: "A speculative financing unit has cash flow payments over some periods –typically near term- which exceed the cash flows that are expected over this period". Or, focusing on a "hedge financing unit": "If unit's cash flow commitments on debts are such that over each significant period the cash receipts are expected to exceed the cash payments by a significant "margin" the unit will be said to be engaged in "hedge financing"" (Minsky, H.P. "A theory of financial fragility", in: Altman, E. and Sametz, A. Financial crises: institutions and markets in a fragile environment, 1977, New York, J. Willey). Here we also include as "hedge financing" a unit whose expected cash flow equals its financial cost in the relevant period.

Figure 2.
Evolution of CPI and components (Jan.1997=100)

Source: INDEC.

Let us now come back to the value of F in the financial fragility formula. Like it happens with the recession, nominal price deflation increases financial fragility. It can be assessed by saying either that G falls with the nominal deflation (everything else constant), or that the outstanding liabilities increase when measured in real terms if the price level falls. Therefore, once again, hedge financing units may become speculative or Ponzi as a result of price deflation. Thus, financial fragility increases at both the individual and aggregate level.

The worsening of the financial position of debtors may force them to change their expenditure plans, cutting investment, or may induce them to liquidate stocks to reduce their otherwise increased financial fragility. These individual responses cannot be successful at the aggregate level. A reduction of investment means an even weaker aggregate demand, so that these reactions tend to deepen the recession. And the sell-off of assets may aggravate asset price deflation causing patrimonial losses to the asset owners including the banking system. All these events also contribute to tighten the financial trap.

The negative effect of price deflation on aggregate spending resulting from the response of debtors to the increase in the real value of their outstanding debts is called "Fisher-effect" in honor to Irving Fisher, who first developed the idea. Translating the Fisher-effect in a Minskyan language, it can be described as the negative effect of debtors' increased financial fragility on aggregate demand. In a

context of downward price flexibility, this effect could bring the economy to an unstable path of cumulative deflation, increasing debt burdens and financial crisis.

Wage deflation
In Argentina, there was also wage deflation during the period considered here. The Argentine Bureau of Statistics (INDEC) publishes data from a sample of large firms (ENGE-Encuesta Nacional de Grandes Empresas). The official figures show, for instance, that average real wage in this sample fell by 11.6% during the deflationary period between 1998 and 2001. Considering that the CPI registered a fall in the same period of about 3.5%, the decline in the average nominal wage of these firms can be estimated in around 15%, a quite unusual phenomenon.

The reduction in wage costs compensates at least partially the impact of the decline of prices on profits. However, it does not change the fact that the real value of outstanding liabilities increased with price deflation.

In the discussions about macroeconomic policies in Argentina during this period, the view of the Government regarding the deflationary process was that it was a self-correcting mechanism that would make possible a progressive reversion of the real appreciation of the peso. This would slowly restore the international competitiveness of the economy -considerably weakened at the time- and that would facilitate the recovery of aggregate demand, output and employment.

But for these longer-term beneficial effects to develop, the economy had to go through short-run negative financial effects associated with the increasing degree of financial fragility. As it usually happens, and the Argentine experience of the nineties confirms it, these short-run negative financial effects are not only dominant, but also disruptive, so that the longer-term beneficial effects do not materialize before a crisis changes radically the economic scenario.