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Essays on Argentina's growth cycle and the world economy

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Conclusions

In this work we have discussed Argentina's business cycle around a trend that entails structural unemployment and increasing income distribution inequality in the period 1953-2004 in Chapter 4. The industrialised countries current account adjustment to the two oil shocks of 1973 and 1979-80, which contributed to the rise in international lending to developing countries was analysed in Chapter 1. The adjustment of the semi-industrialised economies to their rising foreign debt burden after such oil shocks was discussed in Chapter 2. In Chapter 3 the empirical work was focused on the estimation of the income elasticity of Argentina's demand for imports because of its importance in this country's growth cycle and also because the available estimates were out-of date. The value above three obtained by us for this elasticity is even larger than the relatively large values of the previous estimates.

The oil shocks have been discussed with a simple model that integrates Kalecki's, Wood's and Modigliani's theories of the firm with the macro-economics of the industrialised economies as a group (the 'centre') engaged in trade and finance with the developing countries (the 'periphery'). Following such theories it has been argued that the firm's concern about its long term control over its resources provides stability to the liabilities to assets ratio. This prevented firms at the centre from borrowing the large OPEC savings after the shocks. This caused a recessive drop in overall demand. In addition, assuming no significant structural change, profits at the centre were squeezed by the imported oil price increase because real unit labour costs were rigid. Industrialised countries' firms marked up part of the oil price increase onto their export prices and thus passed on some of the adjustment to the developing countries. The credit worthy non-oil semi-industrialised countries whose government expenditure is of the balance of payments constrained type, heavily borrowed OPEC's savings that were available at the international banks. Thus, after the two oil shocks the industrialised countries current account rapidly returned to the typical post World War II balance through the three fold mechanism: recession, mark-up pricing and lending to high absorption semi-industrialised non-oil developing countries such as Argentina, Mexico and Brazil to mention a few.

The rising foreign debt to GDP ratio of the semi-industrialised economies eventually became too large. The boundaries of the price and quantity adjustments to such a 'debt burden' have been discussed with a simple theoretical model. The main argument has been the following. With currency devaluation (the 'price adjustment') consumption falls and savings rise. When saving agents perceive, in a 'Ricardian equivalence' calculation, that

the debt burden implies taxes that would exceed the benefits to be received from the government, the incentive for tax evasion and capital flight becomes too strong and additional taxation is unfeasible. Such capital flight triggers the recession: the 'quantity adjustment'. The price adjustment is less effective the smaller the values of the exchange rate elasticities of supply of exports and demand for imports respectively. The quantity adjustment is more effective the larger the income elasticity of demand for imports.

Beyond a certain debt burden both the price and quantity adjustments become insufficient and an adjustment based in a change in the values of assets and liabilities must operate. The mismatch between devalued domestic currency assets and revalued foreign currency liabilities triggers the default of the latter (mostly foreign public debt).

In the case of Argentina, the rising foreign debt enabled the cyclical balance of payments determined recessive adjustments to be postponed. The export sector in Argentina is private and such rising foreign public debt did not finance additional exports. Therefore, when the adjustments eventually occurred they were steeper than otherwise would have been the case.

To discuss the Argentinean case and focus on those variables that depend mostly on domestic agents' behaviour, we have abstracted from changes in international interest rates, in terms of trade, in world demand growth rates and in productivity growth rates.

The agriculture *versus* industry dual purchasing power parity equilibrium exchange rates in Argentina determine a cyclical fluctuation in the market exchange rate with an unpredictable timing and a large standard deviation. This produces uncertainty about the effect of current exchange rate variations on the long term expected exchange rate value that is estimated by economic agents with a large standard deviation which incorporates a high risk premium. Therefore, export investment responds sluggishly to short-medium term exchange rate variations. The exchange rate instability and uncertainty propagates to practically all prices and quantities in the economy because Argentina exports wage goods with low domestic price and income elasticities of demand relative to the corresponding price and income elasticities of demand for domestic manufactures. Hence both labour costs and also demand for domestic manufactures (employment) tend to change instantaneously with the exchange rate. Therefore, the large exchange rate standard deviation feeds conflict over the distribution of income that harms institutional quality that, in turn, depresses the long term growth trend below its potential equilibrium path.

In Argentina, investment in domestic (importable and non-tradeable) goods responds to domestic demand. High uncertainty leads agents to adopt current demand as the best indicator about whether or not past investment decisions were correct. This produces the Keynesian multiplier-accelerator response, hence non-exportable GDP permanently diverges from its equilibrium level. With a relatively low export to GDP ratio, such output behaviour determines the fluctuations in the whole economy.

Argentina's economy is characterized by low exchange rate elasticities of supply of exports and of demand for imports and a high income elasticity of demand for imports and low domestic price and income elasticities of demand for exportable food relative to the corresponding price and income elasticities of demand for domestic manufactures. As a result GDP fluctuations are driven by the domestic accelerator-multiplier to find a ceiling and a bottom when the shortage (abundance) of international reserves determines a severe currency devaluation (appreciation).

Such a cyclical pattern would occur even without private capital flows in the balance of payments. If these are accounted for, the devaluation expectations of rational individual agents accelerate the cycle in a way similar to that in which GDP accelerates its divergence from equilibrium when competing and uncoordinated agents are highly uncertain about future prices and quantities. Although the cycle's precise pattern is uncertain, with time and experience agents' velocity of response increases and they can even anticipate the ceiling or the bottom; that is individual agents can in the aggregate set a ceiling or a bottom before it would have otherwise occurred. The 2001-2002 data suggests that such was then the case.

It follows that stable expectations about the long term exchange rate can have an important beneficial effect in the Argentinean economy. This is perceived by private agents and has induced several government administrations during in the 1953-2004 period to adopt administered ('dirty floating') or even fixed exchange rates. On the one hand this enabled relative price and institutional stability but, on the other hand, it has always produced, sooner or later, fierce resistance by those whose own purchasing power exchange rate lies far from the fixed one. Nevertheless, successful long-term implementation of a policy of a fixed exchange rate aimed at stabilizing the long term expected exchange rate at a value that would enable exports of manufactures of industrial origin to grow at the world demand growth rate, would hinge upon a) the government generating surpluses to accumulate sufficient reserves to prevent a currency depreciation; b) such surpluses to grow fast enough to purchase the short term capital inflow attracted by the very large

stock of reserves that would tend to appreciate the currency to its high agricultural equilibrium value; and c) such government accounts' rising disequilibrium not affecting the smooth functioning of the economy through too high taxes or too low supply of government services.

A critical aspect of the analysis of the Argentinean case is that small currency devaluations are ineffective because the foreign trade price elasticities are low, which results in turn from the structural characteristics of the economy. Namely, the exchange rate elasticity of demand for imports is low because most imports are capital and intermediate goods that cannot be substituted by domestic production. The exchange rate elasticity of supply of exports is low because of the uncertainty produced by the exchange rate instability resulting from the dual exchange rate equilibrium. Therefore, the balance of payments disequilibria are not corrected by small relative price changes. As a response to such disequilibria pressure builds up until a severe devaluation/appreciation occurs. Again, because of the structural characteristics of the economy (exports of wage goods with a low price elasticity and income elasticity of demand relative to the corresponding price and income elasticities of domestic manufacturing demand), a severe devaluation/appreciation has severe redistributive consequences affecting the level of income. An additional structural feature, the high income elasticity of demand for imports, generates the required supply/demand of foreign exchange that stabilises the balance of payments through changes in the level of income. In short, because of the structural characteristics of the economy reflected in the domestic and foreign trade elasticities, the adjustment operates mostly through quantities not prices. Interestingly, such 'quantity adjustment' requires a large and severe relative price variation, that of the exchange rate. This 'quantity adjustment' is in contrast with the often successful adjustment consequences of small exchange rate variations observed in many industrialised economies (e.g. Western Europe). This observed relative price effectiveness (the 'price adjustment') is at the core of mainstream economic theory as used, for example, by the International Monetary Fund in its adjustment programs. In Argentina's experience, however, the IMF short term stabilisation policy recommendations usually adopted at the start of the recessive devaluation when foreign reserves are depleted, deepen the recession. The alternative of postponing the adjustment by means of a rise in foreign debt, make the adjustment worse when it happens. Thus, policies are inevitably inconsistent unless they explicitly account for the dual equilibrium problem and the workings of its endogenous growth cycle.

An additional structural characteristic of the Argentinean economy, that of its relative closedness implies that firms' production is oriented mainly to the domestic (not foreign) market. Here again, the relative price changes resulting from the currency depreciations produce uncertainty about the economic future and investment responds largely to *current* domestic demand as an indicator of whether or not past investment decisions prove correct. This investment behaviour is at the core of the Keynesian multiplier-accelerator mechanism that leads output to permanently diverge from equilibrium. The structurally high income elasticity of demand for imports amplifies such disequilibria in the balance of payments. Therefore, not only small exchange rate variations are ineffective to bring about balance of payments equilibrium, but the quantity adjustment becomes effective 'in excess'. Meaning by this that whenever the severe exchange rate variation occurs, the quantity adjustment does not stop when the balance of trade reaches equilibrium because the multiplier-accelerator mechanism pulls the economy through the output equilibrium path. As a result, the high income elasticity of demand for imports drives the balance of trade to disequilibrium of the opposite sign. Thus, we have a cycle that is determined by a combination of structural features involving the domestic economy and the balance of payments. At the base of this cycle is Argentina's dual equilibrium determined by its economic structure. Namely, a) abundant and highly fertile land that generates land rent in the Ricardian sense and implies wage goods exports and low labour demand in agriculture; b) semi-industrialisation that implies high labour demand in manufacturing and high income elasticity and low price elasticity of demand for imports; c) relatively elastic labour supply as labour demand increases and relatively inelastic labour supply as labour demand diminishes, and d) demand for manufacturing exports growing noticeably faster than demand for agricultural exports because world demand is non-homothetic.

In Argentina techniques of production do not easily change as a response to labour abundance and relatively low wages. This implies that long run structural unemployment does not find a solution in changes in the relative price of labour. This occurs because most investment goods are produced in the industrialised economies where labour tends to be scarce. Therefore, we have assumed fixed production coefficients. The removal of this assumption would not change the main argument and would make the presentation less simple. We have argued that relative prices of labour and capital are of the essence; but not in the way assumed by Kydland in his neo-Classical approach to Argentina's real business cycle. We have also argued that the balance of payments adjustment operates through relative prices but not as in the conventional price adjustment approach. Following the Latin American Structuralists (e.g. Olivera, Ferrer and Braun), we have argued that a severe change in the relative price of foreign exchange triggers not an

increase in the quantities of exports supplied by Argentina or demanded by the rest of the world, but a sharp reduction in the relative price of labour and hence in consumption. Thus the ‘puzzling’ consumption volatility observed by Kydland (1997) which invalidates the real business cycle approach and leads him to conclude, both in his 1997 work and in his Noble Lecture (Kydland 2006), that something must be wrong with Argentina’s data. This change in the relative price of labour has a minor effect on production coefficients but a strong effect on the distribution of income not so much in favour of profits as in favour of landowners. Here is where the traditional Ricardian theory of distribution, understandably set aside for more than a hundred years in the analysis of industrialised economies, becomes relevant. To stay in business landowners need not reinvest their augmented revenues and the quantity adjustment begins with the currency devaluation. Price elasticities play a role in the business cycle, but these are not so much the foreign trade price elasticities but the domestic trade price elasticities of demand for food (low) relative to demand for manufactures (high). The long run growth trend is not determined by the growth rate of the labour force as in the work of Solow and Kydland. It is determined instead by both the availability of foreign exchange which is, in turn, determined by external demand for manufactures growing faster than that for food and also by expected profitability influenced, in turn, by the long term expected exchange rate. It is the distinction between three social classes: workers, land owners and entrepreneurs each one with its own characteristic expenditure function; between two sectors: agriculture and industry, each one with its own supply and demand pattern; between two types of trade: domestic and foreign, each one with its own price and quantity elasticities and, finally between two different type of investment behaviour: one related to the external market and the other one to the domestic market that need to be taken into account for in the analysis Argentina’s growth cycle. Kydland’s use of an aggregate production function of the neo-classical type would seem, therefore, a misleading over-simplification.

A number of directions for future research can be derived from this work. For example, the econometric work on Argentina’s’ import demand function could be expanded to account for non-linearities. Moreover, valuable research could be undertaken to assess the impact of the dual equilibrium on Argentina’s’ institutional quality. Also, a comparative work could be undertaken to identify the determinants of the remarkably different performance between two apparently similar economies such as Australia and Argentina. Finally, it has been argued that the relative importance of the dual equilibrium is proportional to the size of land rent. Therefore, valuable empirical research could be undertaken to measure Argentina’s land rent as a share of the national income.