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Original Articles

The J-Curve: a literature review

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Abstract

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Notes

According to the absorption approach, devaluation, through its impact on the terms of trade and domestic production, leads to a switch in spending from foreign to domestic goods, and hence, an improvement in the trade balance. Monetarists, in contrast, argue that devaluation reduces the real value of cash balances and/or changes the relative price of traded and non-traded goods, and thus improves the trade balance as well as the balance of payments.

For recent estimate of the ML condition see Rose (1990) and Bahmani-Oskooee and Niroomand (1998).

Intertemporal models imply that there are asymmetries between the current account effects of temporary changes in export and import prices. For example, Chen and Devereux (1994) show that for temporary import price changes, income and substitution effects work in opposite directions while for temporary export price changes, they reinforce. However, many authors often ignore these asymmetries and interpret

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Bacchetta and Gerlach (1994) show that a rapid pass-through of exchange rate changes to import prices is not necessary for J-Curves to arise. If import prices are sticky, consumers anticipate future import prices to rise after a devaluation and therefore reallocate their purchases over time. Thus, J-curves can also arise if imported goods are durable and import prices adjust slowly to exchange rate changes and quantities are adjusting freely.

Indeed, using quarterly data from 1973–1985, Bahmani-Oskooee (1989b) finds evidence of a W-Curve for the US current account. Subsequent to depreciation of the dollar, the current account deteriorates for two quarters and then starts improving for five quarters, again deteriorates, and finally improves.

For the price-elasticity of market shares, proportionate changes in market shares are related to proportionate changes in relative export prices; for the price-elasticity of exports, proportionate deviations of exports from a standard set by previously attained market shares are related to proportionate changes in export prices (for a given size of export markets).

Calculations made in volume terms generally confirm those in value terms: Almost 50% of the full effect appears to be realized within the first three years, and about 90% during the first five years.

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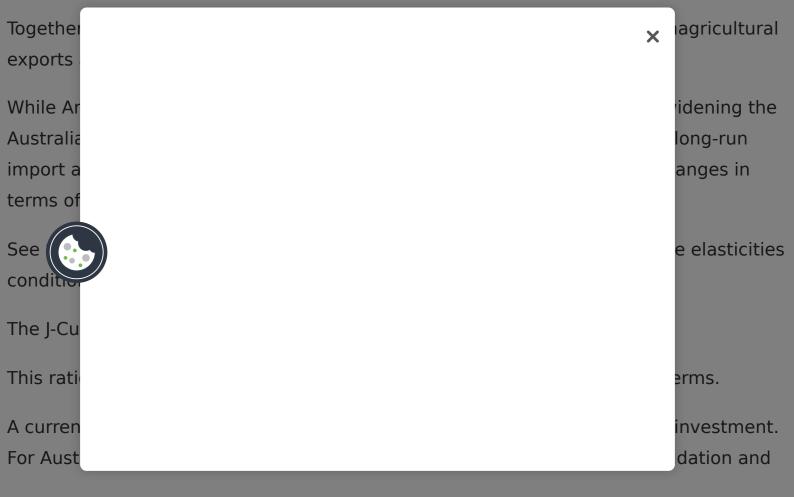
(real balances), and output.

Of the 41 countries, they could apply the cointegration technique to only 20 countries for which both the variables were found to be I (1).

The assumptions are: (i) import prices rise immediately, (ii) export prices remain stable, (iii) import volumes begin to decline after some lags, and (iv) export volumes begin to increase, again, after some lags.

The USA may be a special case: trade in primary products and capital assets is typically denominated in major vehicle currencies, such as the US dollar. This delays (or at least weakens) the underlying pass-through. Moreover, foreign exporters may cut profit margins to maintain their market shares in the USA. Also, invoicing and contracting practices themselves may delay an initially perverse J-Curve response in the US case.

Husted (1992) estimates the cointegrating regressions between several measures of US exports and imports and shows that (a) up to about the end of 1983, the US current account tended towards zero; and (b) since 1983, there has been an apparent structural shift in the relationship between the trade flows, resulting in a long run tendency for a deficit in excess of $100 billion.

For example, Rosensweig and Koch (1988) advocated a delayed J-Curve for the USA.

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a smaller current account deficit was severed by a surge in private sector investment – a substantial real depreciation of the Australian dollar would facilitate allocation of this investment between the traded and non-traded sector such as to stabilize the current account. Using vector error correction modelling (VECM) on US data covering the period 1960Q1 to 1994Q4, Dibooglu (1997) demonstrate that macroeconomic variables account for the variation in the current account reasonably well, and the budget surplus, terms of trade, and real interest rates seem to explain a sizable proportion of the variation in current account. Dibooglu's results differ from those of Boucher (1991) for the USA (1974Q1–1988Q2), and Fry (1991) for Korea (1961–1989).

It is assumed that each country faces an infinitely elastic supply of imports.

See Shiells (1985) for details on the estimation of gamma distributed lag functions.

TB_t = exports/imports, M_t = real domestic money supply, MW_t = world money supply in real terms, Y_t = domestic real output, YW_t = world real output, P_t = domestic price level, PW_t = world price level, and E_t = effective exchange rate.

Note that Bahmani-Oskooee (1985) studies the impact of real effective exchange rates on the real trade balance defined as excess of exports over imports (measured in domestic currency) whereas Himarios (1985) measures the trade balance in terms of the US dollar and studies the impact of the nominal bilateral exchange rate on the trade ba

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disturbances.

The sample consists Austria (1964Q1–1990Q1), Canada (1955Q1–1990Q1), Finland (1975Q1–1990Q1), France (1970Q1–1990Q1), Germany (1968Q1–1990Q1), Italy (1970Q1–1990Q1), Japan (1955Q1–1990Q1), Switzerland (1970Q1–1990Q1), United Kingdom (1955Q1–1990Q1) and the United States (1950Q1–1990Q1).

Named after three authors (Harberger, Laursen and Metzler) who derived this negative correlation in a Keynesian framework.

He includes Brazil, Central African Rep., Chile, Cote d' Ivoire, Cameroon, Congo, Costa Rica, Ecuador, Gabon, Ghana, Greece, Guatemala, Guyana, Hong Kong, Indonesia, Israel, Kenya, Korea, Sri Lanka, Morocco, Mauritius, Malaysia, Nigeria, Peru, Philippines, Papua New Guinea, Portugal, Senegal, Singapore, Somalia, Thailand, Trinidad and Tobago, Tunisia, South Africa and Zambia.

See also Bahmani–Oskooee and Brooks (1999).

Note that it is only a partial equilibrium analysis. In a full general equilibrium model, the variables REX, Y, and Y* are all endogenous.

The current and four lags of both foreign and domestic income are included in all the regressions. Four alternatives are considered for the real exchange rate: including only the current rate, the current and four lags of the rate, current plus eight lags, and current plus 12 lags. The error term is modelled as both white noise and a MA(4) process.

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Except for Italy, all the G-7 countries are included.

They construct instruments for current GNP and unlagged export price; the lag structure is chosen according to both Akaike and Schwartz Information Criteria.
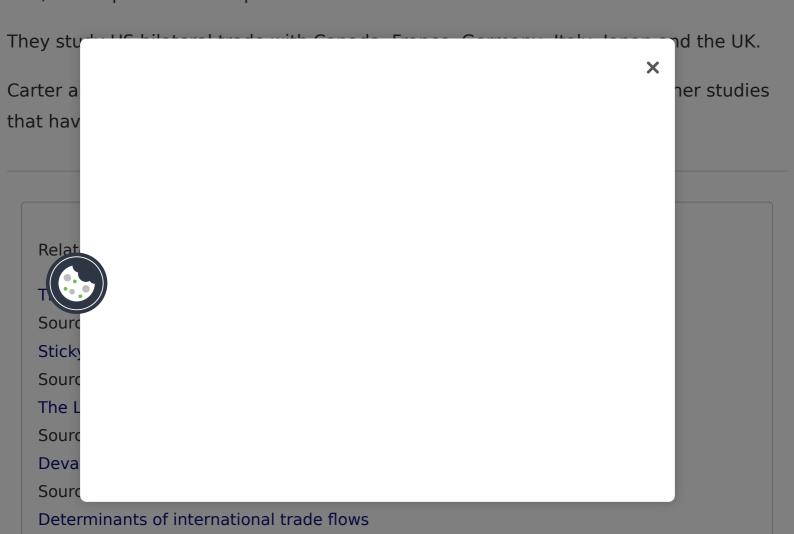
The average adjustment period

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The S-Curve describes the lead and lag correlation between terms of trade and net exports.

As a robustness check, they also add domestic and foreign money supplies to the right hand side and find no qualitative change in the end results.

Italy is an exception in that the impact of devaluation on the trade balance is significant over the 24 month period but not in the long run (longer than 24 months). Devaluation of the lira may cause domestic prices to rise, and thereby, reverse the long favourable impact of devaluation on the trade balance.

Normally, imports increase as a country's income rises. However, if this rise in income is due to increased production of import-substitutes, then the country would import less, and experience an improvement in the trade balance.

They study US bilateral trade with Canada, France, Germany, Italy, Japan and the UK.

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Determinants of international trade flows

Source: Journal of Development Economics

Intertemporal speculation, devaluation, and the 'J-curve'

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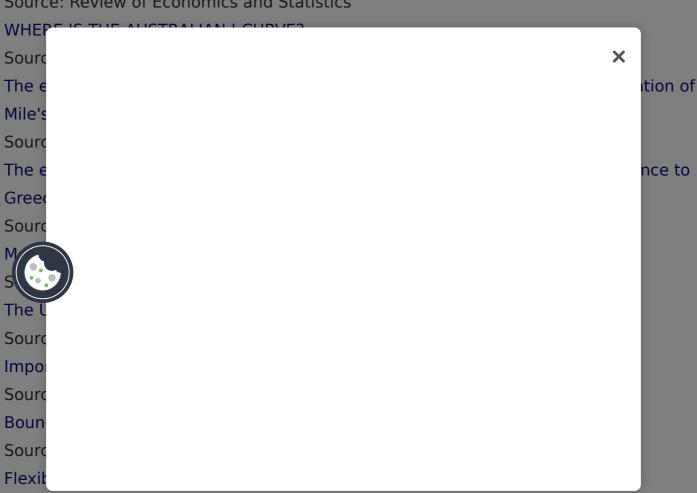
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Devaluation and the J-Curve: Some Evidence from LDCs

Source: Review of Economics and Statistics

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