J–Curve

A country’s trade balance is defined as the difference between the amount it exports and the amount it imports. When the value of imports exceeds that of exports, the trade balance is said to be in a deficit position. One policy to improve a deficit situation is devaluation; that is, lowering the value of one currency in terms of another currency. By devaluing its currency, a country makes its exports cheaper in terms of foreign currency and its imports more expensive in terms of domestic currency, leading to an increase in export volume and a decrease in import volume. The expansion in exports and retardation of imports are expected to improve the trade deficit. However, for several reasons, after devaluation the trade balance often worsens before improving. Since this pattern of movement of the trade balance over time subsequent to devaluation resembles the letter \( J \), economists have termed it the J-Curve phenomenon.

Several factors contribute to the J-Curve effect. First, at the time of devaluation, commodities in transit are priced at the old exchange rate. If the trade balance had been deteriorating before devaluation, it will continue to deteriorate after devaluation. Only after the passage of some time when new prices begin to prevail at the new exchange rate will the trade balance improve. Second, at the time of devaluation a country could experience a rapid increase in its economic activity, leading to economic growth. Since a growing economy consumes more of not only domestically produced goods but also of imported goods, its imports could rise substantially. The increase in imports may offset any favorable effects of devaluation, resulting in a short-run deterioration of the trade balance. Finally, devaluation is expected to increase the volume of exports and reduce the volume of imports. However, the adjustment of export and import volumes to a change in the exchange rate may occur with some time delay or adjustment lags. For example, there may be lags in delivery time, lags in replacing inventories, and lags in adjusting the production process.

The J-Curve effect was first observed in 1973 by Stephen Magee when the U.S. trade balance deteriorated in 1972 despite devaluation of the dollar in 1971. One question researchers have raised is how long it takes for the trade balance to experience an improvement after devaluation. In an effort to provide an answer to this question, in 1985 Mohsen Bahmani-Oskooee was the first to introduce a method of testing the J-Curve phenomenon by directly relating the trade balance to the exchange rate in addition to other determinants. Early studies employed aggregate trade data (i.e., export and import data between one country and the rest of the world) to test the phenomenon. Generally, these studies provided mixed results and were criticized as suffering from aggregation bias. To overcome the problem, a second group of studies concentrated on the trade between one country and each of its major trading partners, a disaggregation at the bilateral level. This group was able to discover more evidence in support of the J-Curve. A few studies in the last decade have disaggregated the trade data further by investigating the response of trade flows to exchange rate changes at the commodity level. These studies show that the phenomenon could be commodity specific.

Recent advances in time-series analysis have helped researchers to modify the definition of the J-Curve as a short-run deterioration of the trade balance and a long-run improvement. This definition extends the original definition of the J-Curve and is in line with more recent advances in econometric modeling such as error-correction and cointegration techniques. Generally, the error-correction specification of any model tests the short-run dynamics while cointegration tests the
long-run effects. The modified definition and application of modern techniques generally provide strong support for the phenomenon.

**BIBLIOGRAPHY**


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