

Heterogeneity or homogeneity in the tariff-growth experience? Why history and institutions matter

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Abstract

The role of trade policy for economic growth is a constant cause for dispute in academic as well as in public policy discussions. While the institutions behind the so-called “Washington Consensus” recommend trade liberalization for modern developing countries, anti-globalization activists and political leaders in many developing countries argue that (selective) trade protection can be good for growth. Both political arguments can be backed by theories of international trade, depending on the underlying assumptions on economic structure and short- and long-term effects on growth and income. Empirical studies for recent periods from the 1990s (Sachs and Warner 1995 and others) seemed to strongly suggest that there is a positive link from more liberal trade policy to higher growth rates. More recent assessments have established that this relation might be spurious or not robust due to measurement issues of trade policy, inappropriate modeling in first-generation growth models and reverse causality running from growth to trade liberalization instead (Rodrik and Rodríguez 2000 and others). Economic history also provides troubling insights, since a positive relationship between tariffs and growth, the so-called “tariff-growth paradox” has been uncovered by various authors for the “first globalization” preceding World War I (O’Rourke 2000, Clemens and Williamson 2004, Jacks 2006, with roots in Bairoch 1972). Recent studies have tended to blur both the clear identification of a negative tariff-growth relationship after World War II (Yanikkaya 2003, DeJong and Ripoll 2006) and of a positive one before 1914 (Tena forthcoming, Schularick and Solomou 2009). Recent research has also shown that unclear results might be due to the heterogeneity of individual country experiences, e.g. according to income (DeJong and Ripoll 2006) or political and production factor distribution (Tena 2008).

We argue that the unclear empirical picture is due to two main phenomena: Heterogeneity of the experiences of individual countries and potential endogeneity, i.e. causality potentially running both ways, from trade policy formulation to economic performance and from economic performance to trade policy formulation. While the second can partially be dealt with using modern econometric techniques (instrumental variable estimation), the results of cross-section and panel regressions, the method of almost all contributions to the field, represent average relationships. These do not represent correct estimates for each individual country and hence cannot provide valid backing for individual policy recommendations. We therefore focus on time-series analysis for 22 individual countries in the long-run between ca. 1865 and 1993/2006,

divided into two overlapping subperiods (before 1939 and after 1920). We employ the Cointegrated Vector-Auto-Regression (VAR) model (Juselius 2006), which allows us to estimate long-run relationships between trade and economic performance as well as its sign, magnitude and the direction in which the causality runs (allowing for two-way causality). This method requires all variables in question to be non-stationary in order to establish a causal relationship. Performing the related unit-root tests we find that growth rates of real GDP per capita, the preferred measure for economic performance, are actually stationary, while the trade policy indicator, the “effective average tariff” (customs revenue divided by import values) is not. This means, that statistically there can be no causal relationship between tariff *levels* and income *growth rates*. In our empirical strategy we focus therefore on the relationship between *levels* of income per capita and *levels* of tariffs. This approach is also reasonable from a theoretical point of view, since it is more likely that a tariff reform leads to one time gains due to the reallocation of factors of production which lead to permanently higher income, but not to permanently higher income growth rates (see e.g. Srinivasan and Bhagwati 1999).

We estimate Cointegrated VAR models for 22 countries (Belgium, France, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, Canada, the United States, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Australia, India, Japan) and the World (as a GDP weighted sum of the aforementioned countries plus Germany and Sri Lanka) in the two aforementioned periods (c. 1865 to 1939 and 1920 to 1993 or later). For the World average we find an insignificant relationship before 1939 (with the sign indicating a positive relationship) and a negative relationship after 1920, in which causality runs both ways, i.e. higher income causes lower tariffs and lower tariffs cause higher income. Looking at individual countries, we find six positive relationships between tariffs and growth before World War II, and four negative. Of the positive relationships, however, half establish causality from tariffs to growth and half from growth to tariffs. For most countries the estimates are insignificant, which in most cases is likely because of too short time series due to later starting points (after 1880). For the second period we find a majority (15) of negative relationships between tariffs and income, of which most (9) run from politics to economic performance. In five cases the relationship between tariffs and income is positive, of which in three countries higher tariffs seem to have caused higher income. Only two estimates are insignificant for the second period.

The most important preliminary conclusion therefore is that the link between tariffs and economic performance is strongly heterogeneous: It has shown different signs, and causality has run both ways. The “homogeneity” suggested by the “average coefficients” reported from panel data analysis should therefore be interpreted with great care when judging individual countries’ experiences and outlooks.

References

- Bairoch, P. (1972). "Free trade and European economic development in the 19th century", *European Economic Review* 3, 211–45
- Clemens, M.A., and Williamson, J.G. (2004). "Why did the tariff-growth correlation change after 1950?", *Journal of Economic Growth* 9, 5–46.
- DeJong, D., and Ripoll, M. (2006). "Tariffs and growth: An empirical exploration of contingent relationships", *Review of Economics and Statistics* 88, 625–40.
- Jacks, D. (2006). "New results on the tariff-growth paradox", *European Review of Economic History* 10, 205–30.
- Juselius, K. (2006). *The cointegrated VAR model. Methodology and applications*. Oxford et. al.: Oxford University Press (Advanced Texts in Econometrics).
- O'Rourke, K.H. (2000). "Tariffs and growth in the late 19th century", *Economic Journal* 110, 456–83.
- Rodrik, D., and Rodríguez, F. (2000), "Trade policy and economic growth: a sceptic's guide to the cross-national evidence", *NBER Macroeconomics* 15, 261–338.
- Sachs, J., and Warner, A. (1995). "Economic reform and the process of global integration", *Brookings Papers on Economic Activity* 1995, 1–118.
- Schularick, M., and Solomou, S. (2009). "Trade and economic growth: Historical evidence", *Cambridge Working Papers in Economics* 0936.
- Srinivasan, T.N., and Bhagwati, J.N. (1999). "Outward-orientation and development: Are revisionists right?", *Yale University Economic Growth Center Discussion Paper* 806.
- Tena Junguito, A. (2008). "Bairoch revisited. Tariff structure and growth in the late 19th century", *Universidad Carlos III de Madrid Working Papers in Economic History* 08-04.
- Tena Junguito, A. (forthcoming). "Bairoch revisited: tariff structure and growth in the late nineteenth century", *European Review of Economic History* (forthcoming)
- Yanikkaya, H. (2003). "Trade openness and economic growth: a cross-country empirical investigation", *Journal of Development Economics* 72, 57–89.