Comment on "Switzerland's gains from trade with Europe" by Christian Hepenstrick

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What are the gains from trade? This is a long-standing question in international economics. Switzerland is an open economy; the international exchange of goods and services is a cornerstone of the economic well-being in the country. To what extent does Switzerland benefit from the international exchange of goods and services?

In general, it is quite difficult to assess the magnitude of gains from trade in precise numbers or to estimate what gains can be achieved when, for example, a free trade agreement is reached. A sensible way to start is to use a broadly accepted benchmark model to get quantitative estimates. The article in this issue of *Aussenwirtschaft* by Christian Hepenstrick follows that procedure by applying the Eaton-Kortum (EK) model, to analyze this question. The EK model is a Ricardian trade model based on the assumption of perfect competition. Comparative advantages, and therefore trade flows, arise due to relative productive differences across sectors in different countries. As is well known, the EK model yields easily testable predictions on bilateral trade flows.

In a first step, Hepenstrick checks the importance of a bilateral trade relationship. To do so, he computes by how much per-capita income (i.e. the utility level after the appropriate normalization) changes when bilateral trade costs change. To understand the quantities involved, he estimates the welfare loss if trade costs go to infinity, that is, if bilateral trade is shut down completely. The numbers are remarkably small. If trade with Switzerland's most important trading partner, Germany, is halted altogether, welfare decreases by only 2.9%, according to the EK estimates. For all further bilateral trade pairs, welfare losses from removing the trade partner are far below 1% for each pair. Even if trade with the entire European Union stopped completely, per-capita incomes in Switzerland would decrease by only 6.8%.

The simple EK framework allows for other interesting thought experiments. If we consider more integration, the article considers a 20 percentage point trade cost reduction between European countries inclusive of Switzerland. This would be quite a strong integration step compared to average ad valorem trade costs which amount to 170% of the good's value according to Anderson and Van Wincoop (2004). In this scenario, Swiss welfare would rise by 11.4%. If this integration

only occurred within EU countries and Swiss trade costs stayed the same, Swiss welfare would instead decrease by 0.6% due to trade diversion.

The paper makes a very good point and provides a very insightful exercise. It is a neat idea to use the EK model to study bilateral trade relations and the possible benefits of free trade agreements. One reason for the small losses is the presence of trade diversion. If all German items had to be produced in Switzerland after trade with Germany has shut down, Swiss welfare would decrease by 4.2% (instead of 2.9%). However, Swiss firms and consumers would substitute Germany with other trade partners. This generates the smaller overall welfare loss.

This leaves us with the question of whether the values make sense quantitatively. We may try to answer this question from different angles. First, the values found are consistent with, for instance, the discussion by Evenett (2016) that the effect of free trade agreements on trade costs is limited. As Miroudot et al.. (2013) point out, even in a very integrated economic space like the EU, trade costs – as estimated using structural models like that of Eaton-Kortum – are still substantial.

Second, it is worthwhile to compare the result to sectoral studies of market opening. While Hepenstrick estimates welfare effects on the economy as a whole, microeconomic studies provide a sense of the magnitudes involved. For Switzerland, Fuest et al. (2015) found that exports increase around 10% (for IT sectors, up to 20%) when a given set of product market liberalization steps is achieved. Arkolakis et al. (2012) show that, in a structural model with homogeneous firms, the welfare gain equals approximately the change in the trade share times the trade elasticity. If we set the trade elasticity to the maximum value of 1/3 as in Hepenstrick's paper, we get possible welfare gains of 3%. This is consistent with his calculation, if the trade liberalization studied in Fuest et al. corresponds to trade costs decreases of around 10%, which seems reasonable.

My third and final comment concerns the question of whether the model structure is appropriate. Put differently, does the EK model measure the “right” welfare gains and – more minor – are trade costs correctly estimated? Recall that the EK model is a benchmark model, a competitive model with representative agents. There is no role for product or firm heterogeneity. In the model, international integration does not to have any spillover effects on innovation and growth. Clearly, spillovers working knowledge flows, and so on are relevant. Furthermore, distribution plays no role. Concerning firm heterogeneity, Melitz and Redding (2015) argue that the home market share is not a sufficient statistic to estimate trade gains if firms are heterogeneous in productivity (except for the special case where productivities are Pareto distributed with infinite support). Because there is a relative shift of productivity when trade costs fall as the least productive firms

exit the market, welfare gains from trade are underestimated when heterogeneity plays an important role.

Christian Hepenstrick's analysis brings real value-added to our understanding of the gains from trade in Switzerland's bilateral trade relationships. The numerical exercise yields an analytically rigorous guideline for trade policy. Nevertheless, it has to be applied with caution as there is "model uncertainty" when we translate the structural model into reality. The article does its best to discuss these possible limitations. Importantly, the analysis should help tone down alarmistic predictions if trade relations with some partners become strained, as trade diversion plays an important role and reduces the risk of inhibited access to a single market.

References

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