Economics

Trade and transformations

by Nikolaus Nützel

"It is still easier to ship a container from Mombasa (Kenya) to Rotterdam than it is to send that same container by road from Mombasa to the Kenyan capital Nairobi." Source: Fotolia/ Foto: eyetronic

International trade agreements promise to promote prosperity and economic growth. LMU economist Gabriel Felbermayr uses highly complex mathematical models to study who profits from these deals – and who doesn't.

There are some assertions he would prefer not to have made, says LMU economist Professor Gabriel Felbermayr. It's not that he doesn't stand by what he has written. The problem is that a single number or statement in a research paper can take on a life of its own. "Many figures are either overinterpreted or their significance is exaggerated in public debate," he sighs.

Take for example the article on the prospective impact of the Transatlantic Trade and Investment Partnership (TTIP) that Felbermayr, who is also the Ifo Institute's leading expert on external trade, co-authored. In June 2013, the *Financial Times* summarized its content in the headline: "Trade deal would benefit US more than EU, Ifo study finds". This provoked a prompt reaction from the German Federal Ministry of Economics. TTIP negotiators on the European side of the table let it be known that the agreement could be put at risk if the public were to get the impression that the Americans would profit more from its provisions.

Felbermayr's initial modeling studies had in fact led him to precisely that conclusion: Both sides were likely to gain from the agreement, he found – but the US would reap more of the rewards than the EU. Later analyses with updated data suggested a much more nuanced picture. However, for many of those who are skeptical of the agreement, the earlier result is the only one that counts. Felbermayr is confident that the discordance in the results is explained by the data, and is not due to analytical errors – though he may have misjudged how opinion-forming processes operate in the public sphere.

"Each model must be run 1000 times or more to check and calibrate it"

For Felbermayr, assessing the reliability of data and models, and revising conclusions in the light of new evidence, are skills that are at the core of what every researcher and analyst should do. The fact that, in April 2015, the German Minister of Economics Sigmar Gabriel referred to apparently conflicting studies of TTIP as "voodoo economics" still annoys him. But that hasn't deterred him from continuing to give interviews to reporters, and not only financial journalists. However, he makes no secret of the fact that he often wishes that economic reporting were a little more discriminating than much of it actually is.

Take the issue of whether or not it makes sense to protect European steelmakers against cheap steel imports from China. This is a question that cannot be answered on the basis of the figures alone, he says. At first sight, the data suggest that China is forcing European steelmakers out of the market, with the consequent loss of jobs, by exporting state-subsidized steel. The EU therefore imposed punitive tariffs on these imports. "But the possible effects of such anti-dumping measures must be carefully considered in advance," Felbermayr says. For it is by no means obvious that the benefits of reducing imports will outweigh the damage caused by the confrontation with an important trading partner like China. "In matters of trade," he says, "the interdependencies are not at all trivial. In fact, they can be very subtle and, for this reason, researchers have an important role to play in teasing out the manifold linkages."

To uncover these interactions, Felbermayr devotes a lot of time to developing quantitative models that describe, as accurately as possible, the contexts and effects of the current frameworks governing trade relations between different countries. Modern computer-based simulations make it possible to determine whether these models faithfully represent the real situation. The computer then tests whether a given model is capable of explaining the changes in trading flows depicted by the actual data. Economic modelling is highly complex. "Each model must be run 1000 times or more to check and calibrate it," Felbermayr explains. "When properly calibrated, however, models allow us to forecast the future development of trade relations. There is no voodoo involved."

Felbermayr and his colleagues are currently analyzing the potential repercussions of a free-trade deal between the EU and India. Specifically they want to know to determine the combined effects of reductions in India's current tariffs on agricultural imports and the EU's duties on Indian textiles or leather. Furthermore, they wish to probe the impact of giving Indian companies easier access to the European market for IT services. The results suggest that these measures would raise Indian GDP by 0.7 - 1.5%. This rather large spread refers to the so-called 95% confidence interval, and indicates that there is a 95% chance that the real value will fall within this span. The most probable value in this case is a 1.3% rise in the level of economic prosperity.

Felbermayr notes that, where controversial topics like TTIP are concerned, very few economists cite evidence-based evaluations like this in the public sphere. This is because those who do so, he says, run the risk of being confronted with the unjustified charge that they trim their models in the interests of a certain, politically favored free-trade ideology. At all events, Felbermayer himself has been at the receiving end of such an allegation. A report published in *ZEIT Online*, which discussed several academic studies including some written by Felbermayr and his colleagues, was headed: TTIP-Triggered Growth is a Myth (*"Mehr Wachstum durch TTIP ist ein Märchen"*). As a researcher, Felbermayr can only shake his head in disbelief when he reads statements like this, for his data clearly support the contention that TTIP *would* increase growth. His results point to a rise in German GDP of between 1.5 and 2.5%. – And in spite of his dismay, he will continue to contribute to the public discussion.

The data clearly support the contention that TTIP *would* increase growth

He also points that his studies do not suggest that the effects of trading partnerships like TTIP are all or always positive. Free-trade deals often lead initially to job losses in certain sectors. But, as a rule, he says, these losses are more than compensated for by new job creation as a consequence of freer trade. And the ensuing increase in prosperity can be quantified – although the overall gains from such pacts conceal the fact that particular firms and/or employees may lose out.

It is, however, apparent that Felbermayr's findings do not always fit neatly into the binary mold that dominates public debate on the topic. On the one hand, he has been called "a proponent of TTIP", which rather amuses him (the phrase was not meant as a compliment!). Conversely, one of his studies (on the potential impact of TTIP on poor countries) has actually been used by the Attac network – a trenchant critic of globalization – to bolster its own arguments.

In the latter case, the results published by Felbermayr's team are pretty clear-cut: They show that in many countries, in Africa and elsewhere, the effects of TTIP will be decidedly negative. He therefore argues that the EU and the USA should frame the agreement so as to minimize, as far as possible, its adverse impact on, for example, African states. "Here trade policy can also limit migration flows – provided we dispense with all measures that would cause living conditions in certain regions to deteriorate."

Moreover, he remains convinced that academic researchers can have an impact on the form of the final deal. In his view, the fact that TTIP negotiators have modified their controversial provisions for the settlement of disputes arising from the agreement – which envisaged the use of private arbitration courts – is not solely attributable to the public protests provoked by the original proposals. He maintains that the objections that he and other economists had raised against them have also had an effect.

Many critics of globalization apply the label 'neoliberal' to researchers like Felbermayr, but that doesn't trouble him unduly, because he regards such attributions as irrelevant. He sees his primary task as identifying where the responsibility for specific trade barriers lies and in precisely defining their effects. In a significant proportion of cases where rich and poor partners are concerned, this is not that difficult. For example, in many instances, the EU waives duties on imports only if those goods have not been processed. "That's why most of the coffee we import from South America or Africa arrives in the form of the harvested beans, which are then roasted here," he explains. From a developmental perspective, this is the wrong way to go: "By facilitating the import of unprocessed agricultural products, we impede the development of a domestic food industry in these countries." That also means that there are no skilled jobs available for locals in the food sector." Here again, trade policy turns out to be linked to migratory pressures.

Research

However, he regards attempts to place all the blame for the problems faced by poor countries on the countries in the northern hemisphere as misguided. African political and economic elites have over many decades failed to create the conditions required for closer economic integration of the continent. "It is still easier to ship a container from Mombasa (Kenya) to Rotterdam than it is to send that same container by road from Mombasa to the Kenyan capital Nairobi," he says in a rather exasperated tone of voice.

Forecasting the effects of free-trade agreements is one of the most venerable building-blocks on which modern economic science is based. Among the many issues discussed nearly two centuries ago by David Ricardo, the pioneering British economist assessed the likely effect of the abolition of the tariffs on imports of grain from the European continent into Britain. But the world has become immeasurably more complex since then. "The significance of market access for services received little or no attention in the past," says Felbermayr, "and topics such as investment protection, intellectual property, regulation of competition, public procurement, which are now at the top of the agenda, were previously irrelevant."

When asked where he picked up his enthusiasm for the modeling of trade flows, he takes a moment to reflect on his biography. Felbermayr was born in Steyr in Austria, and that very fact may well have had an influence on his academic career, he says. "I grew up in a small country that could not have survived without trade," he says (which is not to suggest that he believes big countries benefit less from close trading relations international trade than Austria). At any rate, he was soon intrigued enough to develop an interest in working out how the legal structures governing trade relations influence the balance of advantage between trading partners.

The models required to probe this question have meanwhile become so intricate that supercomputers can take several days to run them on a given set of inputs. Nevertheless, Felbermayr continues to develop ever more sophisticated models that capture more variables. Observing how some of his remarks on TTIP underwent a dynamic transformation in the public sphere seems to have stimulated him to intensify his efforts to incorporate into his models what he calls 'non-linearities' – such as the trajectories of people's attitudes, anxieties, hopes and fears during trade negotiations and when the final agreement subsequently comes into force.

To help him make progress in this area, Felbermayr has begun to collaborate with specialists in behavior. The aim here is to enable the reactions of individuals to existing trade deals to be taken into account when new negotiations are being planned. "But it certainly won't be easy to arrive at reliable conclusions," he muses.

Nevertheless, the challenge of developing a tool that is capable of performing this feat is one that Felbermayr is only too happy to accept. His list of publications clearly shows that a much broader array of issues can be linked to trade than anyone but an economist might suspect. For example, he has studied the impact of international trade agreements on the carbon emissions produced by the partners involved, and explored whether states that are part of large international trading networks are better able to cope with natural disasters. These investigations demonstrated that close trading links mitigate the economic consequences of earthquakes, and show that one country's efforts to reduce its carbon emissions can be counteracted if it imports more goods from countries that are less concerned with controlling their own. So he is unlikely to run out of ideas for future research into the ramifications of such an apparently simple phenomenon as – commercial exchanges. He has just turned 40.

Prof. Gabriel Felbermayr, PhD
CESifo Foundation Professor of Economics at LMU and Head of the Section on International Trade at the Ifo Institute for Economic Research in Munich. Felbermayr (b. 1976) studied Economics and Commercial Sciences at the University of Linz in Austria, obtained his PhD at the European University Institute in Florence and completed his *Habilitation* at Tübingen University. Before moving to LMU in 2011, he was Professor of Economics at the University of Hohenheim. Felbermayr has won several awards for his research. His name appears in the Handelsblatt Ranking, which lists the most influential contemporary economists and has won the Reinhard Selten Prize sponsored by the *Verein für Socialpolitik* (Association for Social Policy).

The original article appeared in "Einsichten – das Forschungsmagazin No. 1, 2016", *LMU's German-language research magazine.*
Translation: Paul Hardy,