A Theory of Economic Unions: A Comment

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Abstract: *Gino Gancia, Giacomo Ponzetto and Jaume Ventura, have written an extremely interesting paper on a topic that is very timely for the global economy. In this comment, I will first argue that GPV have succeeded in formalizing their hypothesis, and that while providing very suggestive analytical results, additional work can and should be done with the model, especially with regards to relative changes in the relative weights of incumbent countries. Second, I will comment on the potential insights if the rest of the world is modeled more realistically. Third, I will call for extending the baseline model to incorporate additional aspects beyond trade, such as investment and immigration flows, which appear to be relevant for the story of the European Union and its discontents. Four, I will add my non-European perspective on using the model to understand the story of the European Union.*

I.   Introduction

Gino Gancia, Giacomo Ponzetto and Jaume Ventura (hereafter GPV), have written an extremely interesting paper on a topic that is very timely for the global economy: What determines the political support for the different multilateral institutions that have governed, and to a large extent promoted, the international trade of goods and factors (capital and labor) and the diffusion of technology? GPV focus on the European Union, but their analysis can and should also be applied to other contexts, such as NAFTA (recently renamed USMCA) and many other integration agreements that in the last few years have been under intense scrutiny to the point of seeing their existence under threat.

To be sure, global institutions regulating the international trade of goods and factors and the integration of regulation and other social norms have always had skeptics and dissenters. However, what we have witnessed in the last few years is that these institutions are no longer being attacked from the far fringes of the left or right of the political spectrum, from particular vested interests, or from some rogue countries, but instead from much larger and even dominant coalitions. As noted by GPV, the skepticism towards global trade and integration has gained

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[1] The views expressed in this article are my own and do not necessarily represent the views of the Federal Reserve Bank of St Louis, the Federal Reserve System or the Board of Governors.

political momentum, and while based on narrow electoral victories, some separatist movements have been successful, most notably BREXIT. Paradoxically, anti-globalization attitudes have been disseminated from global platforms, as exemplified by the current president of the United States of America who recently declared in the United Nations that: *"The future does not belong to globalists. The future belongs to patriots. The future belongs to sovereign and independent nations who protect their citizens, respect their neighbors, and honor the differences that make each country special and unique."* [2]

I provide this background just to argue that much more than a timely and intellectually interesting topic --or hardly plausible policy counterfactuals-- the issues that GPV are dealing with in this paper are of actual urgency for the global economy, since, as I fear, BREXIT may just be the canary in the mine. Moreover, despite the intellectual merits of the alternative anti-trade movements, the strength of their political support must be understood from the actual economic well-being of the distinct groups of the society. Herein lays a main contribution of GPV, who carefully construct a model of economic unions that incorporate heterogeneity within and between countries, and then use it to study the effects on trade, income distribution and welfare. Gains from trade in the model arise from love-of-variety and the distributional impacts arises from factor specificity. These two elements combined with a simple setting for the world economy allow the authors to analytically explore the impact on the welfare of the different agents within different countries in an economic union. GPV use the implications of their model to argue that the rise in skepticism towards the European Union is driven by an enlargement of the Union that led to more asymmetry among their members. A very clean implication of their model is that asymmetries between countries inside the union lead to asymmetries in the welfare within a country. Then, they apply their analysis to the European Union, combining survey data with import exposures. Their overall message is that a growing disagreement within countries about the benefits of the EU arose at the time the EU expanded by incorporating poorer countries.

My comments are few and simple and mostly relevant for subsequent papers. First, I will argue that GPV have succeeded in formalizing their hypothesis, and that while providing very suggestive analytical results, additional work can and should be done with the model. Second, I will comment on the potential insights if the rest of the world is modeled more realistically. Third, I will call for extending the baseline model to incorporate additional aspects beyond trade, such as investment and immigration flows, which appear to be relevant for the story of the European Union and its discontents. Four, I will add my non-European perspective on using the model to understand the story of the European Union.

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[2] https://www.whitehouse.gov/briefings-statements/remarks-president-trump-74th-session-united-nations-general-assembly/

II.   The Main Hypothesis: From Cross-Country Asymmetries to Within-Countries Asymmetries

To formalize the hypothesis that asymmetric country sizes and productivities lead to within-countries gains from trade explains the loss of support for the European Union, GPV construct a tractable framework that very cleanly delivers predictions about who wins and who loses from an economic union. They allow for N countries of different sizes and productivities, a continuum of industries and many possible producers (varieties) within each industry. Across industries, the preferences have unit elasticities, and within each industry, preferences exhibit love of variety, a key source of gains from trade in the model environment. Workers in each country have skills that are specific to each industry, and the number of varieties of each industry inside a country is determined by a fixed entry cost. This is a Krugman model with specific factors, which transparently delivers the welfare implications of the different workers in terms of their income and the prices of their consumption basket. In general, freer trade has a positive effect on the latter but an ambiguous effect on the former, depending on whether a worker is in an exporting industry or an import-competing one.

Adopting a highly stylized structure of bilateral trade costs, trade for some industries is either free or impossible. GPV model economic unions as shifting some of the industries from non-traded to freely-traded for member countries. The assumption of log-preferences at the industry level, allows them to study the effect on welfare of agents in countries inside a unions for different configurations of unions without having to solve for the general equilibrium of the world economy, an aspect to which I will come back later.

Consider first an economic union with homogeneous countries. As they show, it is always the case that deeper integration (more industries) and broader unions (more countries) are uniformly desirable by everyone inside all countries. However, when examining economic unions with heterogeneous countries, they find that within countries, workers in exporting industries benefit beyond their benefits as consumers, because their earnings increase, while workers in import-competing sectors may gain less or even lose if their income loss is large enough. Hence, the model delivers a neat result whereby the heterogeneity between the member countries is directly responsible for heterogeneity in gains or loses within a country.

My first comment is that I would have liked to see at least some back-of-the envelope numerical exercises just to gauge the quantitative relevance of the gains. Simple numbers would complement the neat analytical results of the paper. As it is, the model should be very easy to put in a computer and play around with the welfare numbers under alternative configurations of

unions, where, perhaps, rich and large countries such as Germany and France, are put together with small rich countries, e.g. Belgium, and some poorer countries, e.g. Romania, and see what are the numbers for workers of different industries and countries. Back-of-the enveloped calculations with calibrated love-of-variety parameters and country size and income levels could be helpful in pushing their hypothesis that trade asymmetries are the key to understand the challenges of the European Union.

A second comment originates from focusing the paper entirely on the consequences of the expansion of the EU with newer members. As emphasized by their Figure 4, on average the per capita GDP of the newer members are below those of the founding countries. Using simple income ratios can overstate the actual impact on the heterogeneity implied by the expansions on the EU, precisely because the new members are mostly of small size. In Table 1, I compute the expansions, in percentage terms, on the total GDP, population and area (km^2), for each of the waves of ascensions on the European Economic Community (EEC) and its successor, the EU. Using 2017 values of GDP (PPP) and population in each of the expansions, I compute the addition brought by the new members relative to the value of the existing members at the time.

During the expansions of 1973 (Denmark, Ireland, UK) and in 1995 (Austria, Finland and Sweden), the union incorporated countries that, on average, were richer than the current members at the time. This is shown by total GDP expansions higher than population expansions. The same comparison shows that all other expansions have been with countries that are poorer than the current members, most markedly for the last three expansions. On the whole, countries that were ascended between 2014 and 2013 added just 8.7% of the GDP, 25.5% of the population and 34% of the land. As emphasized by GPV, the much higher addition of people than GDP highlights that the expansion is with poorer countries. But here, I want to make two remarks. First, albeit less asymmetric, a similar expansion, both in population size and mismatch of incomes was experienced by the EEC in the 1980s, as Greece, Spain and Portugal were significantly poorer than the existing members. In hindsight, this asymmetric expansion did not seem to deter the subsequent deepening and broadening of the union. Second, although the per-capita income differences between the ascending countries during 2004-2013 waves are much lower than those of the existing members, they are only 25% of the total population. Once the country sizes are factored in, the on average pre-existing members have 15% higher income than the overall average with the expanded income. Can the magnitude and distribution of loses from trade be so sensitive to expansions of such magnitudes? That is why I think that having at least some back of the envelope computations would be useful.

Table 1: Expansions of the EEC/EU

Year	Expansion (%) GDP	Population	Area (KM sq.)
1973	34.3	31.8	26.1
1981	1.7	3.4	7.7
1986	12.4	17.4	32.1
1995	8.1	6.4	35.6
2004	6.9	17.9	22.2
2007	1.4	5.6	8.6
2013	0.3	0.8	1.3
2004-13	8.7	25.5	34.4
1981-86	14.3	21.4	42.3

Source: Author's caclulations with data from PWT 9.0 and Eurostat.

A related observation: the model has clear implications for the support for the union when uneven growth within members of the union changes the heterogeneity therein. The current paper abstracts from this altogether. Changes in the support of the union that arise when some members outgrow the others can be even more important than marginal extensions, and these are issues that can be studied with the same model proposed by GPV.

Indeed, while not enormous, European countries have exhibited quite different performances. Using data from the Penn World Table 9.1,[3] Table 2 reports the cumulative rate of growth, between 1981 and 2015 for the total real GDP (rgdpna, chained PPP),[4] population and per-capita income for a handful of some of the key European countries, which I selected to include different sizes and income levels.

During the period, all countries in the EEC and EU have substantially increased their output while keeping their population relatively stable. In relative terms, however, there are important differences. For instance, Spain almost tripled its total output, while Greece only increased it by 89%. Germany has grown remarkably above the average, both in total and in per-capita terms. France, Greece and Italy have grown much less than Germany and Spain in per-capita terms. In fact, in 1990, per capita income (in PPP terms) Germany was 1.02 times the one in France, 1.12 the one in Belgium, 1.02 the one in Italy and 1.11 the one in the U.K. Fast forward to 2017, and all those numbers have gone up to 1.21, 1.24, 1.25 and 1.22. If anything, I think those changes are of higher importance for the asymmetries within the union than the ascension of small countries.

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[3] Feenstra et al. (2015).
[4] Using , rgdpo, chained PPP would lead to smaller cross-country gaps and reduce the asymmetries.

Table 2: European Countries: 2015-1981
Ratios

Country	Total Output	Population	Output per Capita
Belgium	2.18	1.14	1.91
France	2.07	1.20	1.73
Germany	2.43	1.05	2.32
Greece	1.89	1.15	1.64
Italy	1.91	1.05	1.81
Spain	2.96	1.22	2.43
U.K.	2.28	1.16	1.96

Source: Author's calculations with data from PWT 9.0.

Moreover, taken at face value, the model written by GPV would have clear implications on how these relative size/productivity differences would change the support for the EU within the different countries. My sense is that some of those implications may be counterfactual, as in the data the Germans seem to favor the EU more so than many of the other countries, while my understanding of the model constructed by GPV is that it would imply that opposition for the EU in Germany should be stronger.

III. Thinking on the Rest of the World.

The assumptions that allow GPV to study the welfare of union members without having to solve for the world economy are analytically useful and simplify the analysis quite a bit. Yet, by doing them the authors may be throwing the baby with the bathwater.

In their analysis, for a given agent, the support for the union is computed from comparing its welfare when the country is in the union vs. when it engages the world economy in which trade is free for some industries and impossible for others. In practice, of course, the alternative to the union is to engage the rest of the world with global, multilateral or bilateral policies. Allowing for more flexibility in the treatment of trade with the rest of the world unleashes the same forces that GPV emphasize for trade with the economic union, i.e. how much larger and/or productive the country is relative to the rest of the world. Needless to say, equilibrium and welfare calculations would be much more cumbersome but they would allow for at least two important issues. First, some of the resistance to the union may arise from the gains of trading with countries outside of it. This is consistent with the fact that some of the support for BREXIT

originated from the hopes of the potential freer trade with the U.S. and many other countries outside Europe. Similarly, Chile opted not to belong to Mercosur, precisely to remain unconstrained to pursue free trade policies with the rest of the world.[5] Second, it may be interesting to analyze the changing asymmetry of the country with respect to a set of prospect union members and compare it with the asymmetry with the rest of the world. In a world in which China and other emerging economies are rapidly changing the relative productivities of countries, comparing these asymmetries is relevant for the gains of trade of the different countries in the different union configurations.

IV.   Extensions of the Model and Robustness with Other Relevant Factors for the EU

I am of the opinion that the elegant model of GPV can be fruitfully extended to incorporate other aspects beyond trade, namely international investment and migration, both of which are among the main pillars of the EU. In this way, a more comprehensive evaluation of the welfare gains or losses of the EU can be provided as it would not be restricted entirely to trade in goods. To be sure, the key component of the distributional analysis is that the skills of workers (and possibly the productivity of firms), are specific to an industry. GPV follow a tradition in trade which abstracts from factor movements, and hence, using their notation, industry specificity becomes i/n specificity. Instead, in a world such as that in Burstein and Monge (2009), we can think that inside each industry there is a country-fixed component while another component is mobile as workers or firms move across countries. An economic union such as the EU, with cross-border investments and worker mobility as its key pillars, would lead to a reallocation of workers and firms across countries, including in non-tradable industries such as personal services and other non-tradable goods.[6] Obviously, explicitly allowing for FDI (as in Burstein and Monge (2009) or as in Ramondo and Rodriguez (2015)) or for migration (as in Kennan (2017)) is out of bounds for the current paper, but I wish GPV had at least discussed further how robust their results would be when the EU is evaluated considering these additional forms of exchange among the EU members.

I wish to close this section off by arguing that by adopting their simple production structure, GPV do not give much of a chance for countries to gain from asymmetries. While it is true that love-of-variety explains gains from trade for homogeneous countries, abstracting from other sources of gains may inadvertently rule out other gains accrued precisely because of

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[5] At least, that was the dominant narrative in the 1990s when I was a student there.
[6] The relevance of international worker flows for non-tradable industries was exemplified by the French resistance to "Polish plumbers." For example see https://www.nytimes.com/2005/06/26/world/europe/unlikely-hero-in-europes-spat-the-polish-plumber.html

asymmetries. Doing so might unfairly and counterfactually link any skepticism towards the EU to losses from trade and not to other potential discontents.

V.　　The Story of the European Union

There is much to learn from the final exercise of the paper, where GPV use their model to interpret the process of European integration and the current discontents. My first comment here is that they omit using their model to interpret the original debate and discontent during the early 1950s, when the founder countries had to iron quite a few asymmetries for the integration of coal and steel markets.

The focus of the authors is on the discontent for the last years, from the early 2000s onwards. The data show that the share of employment exposed to import competition from the EU (Tables 1 and 2) is a significant factor for the negative views inside a country, which they use to confirm the implications of their model. An aspect that is missing is confronting additional or even alternative explanations, for example plain macroeconomic performance. Indeed, unemployment is a significant factor in the regressions. Moreover, Figure 2 shows that the surge of discontent was observed during the Eurozone debt crisis, pointing out that the crisis and poor performance across different countries were partly blamed on the EU. Learning models for the evolution of beliefs on current economic policies, e.g. Piketty (1995) and Buera et al. (2011), might be adapted to examine the evolution in the support for the EU as the different agents update their beliefs with the observed performance of the different countries and sectors. A multi-country learning model with heterogeneous effects across countries could explain why the support for the EU may increase when a country does well and decrease when it doesn't. In such an endeavor, the asymmetries highlighted and formalized by GPV in this paper would be crucial to understand the asymmetries in the perceptions across the different EU members.

References

Buera, Francisco J., Alexander Monge-Naranjo and Giorgio E. Primiceri. 2011. "Learning the Wealth of Nations." Econometrica 79(1):1–45.

Burstein, Ariel and Alexander Monge-Naranjo. 2009. "Foreign Know-How, Firm Control, and the Income of Developing Countries." *The Quarterly Journal of Economics*, Volume 124, Issue 1, February 2009, Pages 149–195,

Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer. 2015. "The Next Generation of the Penn World Table." American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt

Kennan, John. 2017. "Open Borders in the European Union and Beyond: Migration Flows and Labor Market Implications." National Bureau of Economic Research Working Paper Series No. 23048

Piketty, Thomas. 1995. "Social Mobility and Redistributive Politics." *The Quarterly Journal of Economics*, Volume 110, Issue 3, Pages 551–584

Ramondo, Natalia and Rodriguez-Clare, Andres. 2013, Trade, Multinational Production, and the Gains from Openness, *Journal of Political Economy*, 121, issue 2, p. 273 - 322.