One is not enough! An economic history perspective on world trade collapses and deglobalization

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March 2017
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Abstract

This paper provides a comparative economic history perspective on two significant periods of deglobalization: the Great Depression in the 1930s and the period following the Financial Crisis of 2008/9. The paper discusses differences and similarities and provides empirical results regarding the correlates of deglobalization, including the political system (institutions), level of development (GDP per capita) and the share of manufacturing.

Keywords

Deglobalization, world trade collapse, economic history, value chains, politics and trade, 1930s, world trade slowdown.

* This is the English language version of an article appearing in Chinese in International Social Science Journal (Chinese edition) Vol. 34, No. 1, pp.17-30 March, 2017. The editors of ISSJ asked to translate an ISS working paper for their Special Issue on Deglobalization. I decided to change the research question and the empirical analysis to better fit the topic of the special issue so that it now deals with the trade to GDP ratio (a traditional measure of globalization, see Bergeijk 1997), but left the explanatory variable by and large unchanged. This paper is thus a mix of old (extension of earlier papers that appeared in the English language, including ideas eventually published in Van Bergeijk 2009, 2010, 2015, 2017 and Van Bergeijk et al 2017) and completely new material, in particular the discussion of deglobalization and the econometric analysis. The working paper is purely meant as a service to the reader who is unable to read the Chinese article and appears with approval of the editor of ISSJ. Bergeijk@iss.nl; International Institute of Social Studies, Erasmus University, PO Box 29776, NL 2500 LT, The Hague, The Netherlands
1 Introduction

In the last quarter of 2008 world trade collapsed by about twenty per cent time; it remains one of the most puzzling economic phenomena of the last decade. This was not the only surprise for trade economists, because after the recovery from the collapse world trade slowed down and deglobalization rather than deglobalization is characteristic of current economic developments. This paper studies the phenomenon of the occurrence of deglobalization as a consequence of a collapse of world trade. I have elsewhere defined a world trade collapse as ‘an event of negative annual real growth of international merchandise trade that occurs both in the aggregate for world trade and in the vast majority of countries for their individual imports and/or exports’ (van Bergeijk 2017). World trade collapses are relatively unique: in the period 1880-2010 only about 12 per cent of the real annual growth rates for world trade were negative and the overall trend - with the exception of the 1930s - has been positive. In the period 1951-2008 in less than seven per cent of the years a negative real annual growth rate for world trade was registered (namely in 1958, 1972, 1980 and 1982). (Van Bergeijk, 2010, pp. 6-12 provides a detailed discussion and also of some data series with different periodicity and/or level of aggregation.)

While the duration of the 2008/9 world trade downturn was shorter and the recovery to pre-collapse levels was much quicker than during the previous world trade collapse during the Great Depression of the 1930s, a comparable process of deglobalization was set in motion by the two world trade collapses. In this article I will use the share of imports in gross product to measure (de)globalization. This is a crude approximation because (de)globalization also refers to capital flows (including bank lending, portfolio investment, mergers and acquisitions, Foreign Direct Investment, remittances and development cooperation) and moreover to social and political forms of integration (including tourism, migration, cultural and personal exchanges, membership of international institutions, Treaties, peace keeping missions, etc.) (See Dreher 2006). The choice for crudeness rather than sophistication is simply a consequence of limited data availability. New databases, such as the RICardo project (Dedinger and Girard, 2016) and TRADHIST (Fouquin and Hugot, 2016) may in the near future allow to study earlier global trade collapses (so before the 1930s), increase the scope for (balanced) panels, the
inclusion of new explanatory variables (such as Free Trade Areas, Regional Economic Integration, and Monetary Arrangements) and the use of other methodologies such as the gravity model (van Bergeijk and Brakman 2010). Also from this perspective this paper should be seen as a first step for understanding causes and characteristics of deglobalization.

According to my definition, globalization occurs when the import share in gross product increases and deglobalization when the import share in gross product decreases. Trade collapse and trade slow down have led to a structural break in the upward trend in the trade to GPP ratio that the IMF for the foreseeable future forecasts to remain below its previous peak level (Figure 1).

Figure 1 Openness of the world economy
(trade to GPP* ratio in percent, 1960-2022)

Note: GPP is Gross Planet Product (see van Bergeijk 2013)
Sources World Bank, World Development Indicators and IMF World Economic Outlook Database

The mainstream economic analysis of these events only covers the most recent Great Trade Collapse (Baldwin 2009) and the ensuing Global Trade Slowdown (Hoekman, 2015, World Bank 2015. Constantinescu et al 2016, Haugh et al. 2016, IMF 2016, van Marrewijk 2017). Researchers in the field of economic history that studied the world trade collapse in the 1930s, the policy responses and its impact on economic science, for
long by necessity have studied that case as a single and unique event. The studies on the world trade collapse of 2008-9 have by choice dealt with post Second World War data only, even when they claimed a 'historical perspective' (e.g. Freund 2009 and Hong, Lee and Tang 2010). As illustrated in Table 1, recent studies on world trade collapses (and their associated phase of deglobalization) are typically based on empirical analyses of post Second World War data only. Treating the world trade collapses as isolated events neglects the possibilities for examining natural experiments such as provided by the trade collapses. Studying trade collapses and trade slowdowns and phases of deglobalization as unique events is a barrier to drawing learning general lessons.

The mainstream analysis ignores world trade collapse of the 1930s and also offers limited perspectives only studying cases, single countries (in particular studies on the US dominate) while the analyses are partial in nature or highly aggregated. An exception is the descriptive study of both trade collapses by Eichengreen and O'Rourke (2009 and updates). Campbell et al (2009) also study both collapses but indicate that their data are 'very preliminary' Eaton et al (2011) deal with only a few bilateral trade relations during the Great Depression. As observed elsewhere, the vast majority of studies do not attempt to cover the 1930s and essentially compare the usual fluctuations in international trade (as observed in the post Second World War period) to the exceptional trade collapse in 2008-9 and derive stylized facts from the recent past only. The literature that deals with the trade collapse in the 1930s has also generally speaking not taken earlier episodes of declining global trade volumes into account. The literature in the past of course could not (yet) consider the trade collapse of 2008-9, but even so a detailed analysis of earlier episodes is not available Recent studies that include the 1930s also by choice appear to neglect the 2008-9 episode (e.g., Jacks et al. 2011).
The key methodological point of this paper is that the economic literature thus studies only one event and “One is not enough” for useful generalization. Economics can learn a lot from natural experiments, but much more from repeated natural experiments. In order to address this methodological weakness this paper studies the correlates of deglobalization in the wane of two world trade collapses. In particular this article fills a gap in the mainstream literature by providing the first comprehensive review of these developments from a comparative perspective as it includes

a) the world trade collapse,

b) the ensuing world trade slowdown and

c) their combined impact on the pace and direction of globalization in
d) the 1930s and
e) the 2000s.

My empirical analysis explores the substantial amount of cross-country variations in deglobalization by means of an unbalanced panel that covers 31 economies in the 1930s and 111 to 143 economies in the 2000s (depending on the specifications; data for 160 countries were collected). Since I want to cover two periods in time that are very distinct, I do not have much choice of comparable data and thus use a simple parsimonious model. The empirical investigation relates to the extent of deglobalization during the period of import collapse of individual countries (the peak to trough movement). I investigate the impact of the political system (institutions), level of development (per capita GDP) and the share of manufacturing trade in imports.

GDP per capita and an additive shift dummy for the 1930s are not significant. The manufacturing import share is significantly associated with stronger deglobalization (this effect is strongest in the 1930s). The political system is highly significant in both 1930s and 2000s but the impact is opposite. In the 1930s autocratic rule and dictatorship are associated with stronger deglobalization; in the 2000s democracy is associate with stronger deglobalization.

The remainder of this article is organized as follows. The next section introduces and discusses some aspects of deglobalization during the period of trade collapse and motivates the selection of explanatory variables that will later be used in a quasi-postulated reduced form equation. Section 3 provides the detailed multivariate regression analysis that tests inter alia for differences in the impact of the variables in the 1930s vs. the 2000s. The final section draws conclusions and discusses some implications.
The study of world trade collapse in relation to deglobalization has merit on its own account. A better understanding of the causes and impact of collapsing world trade and deglobalization is relevant for science because this unique “real world experiment” provides a useful (yet extreme) testing ground for theories. It could, moreover, provide the information that is necessary for the design of institutions that can prevent or reduce this manner of trade disruption. It is also highly relevant from a policy perspective since the concurrence of declining imports and deglobalization in a great many countries during and after the two world trade collapses implies a reduction of global import demand so that an export led recovery as argued in Van Bergeijk (2009) in this context is difficult for individual countries and for the world as a whole.

The goal of this paper is not to compare two identical events, but to compare two events that relate to the same phenomenon and have differences and similarities. It is, indeed, very important that the events themselves are not identical because that allows us to learn more about deglobalization in the wake of world trade collapses. Figure 2 compares the two events for a set of 22 countries where all data on explanatory and explanatory variables are available. While the correlation coefficient is low ($R^2 = 0.18$) so that country experiences may be quite different in the 1930s and the 2000s Figure 2 clearly illustrates that deglobalization was a significant and wide-spread phenomenon in the 1930s and 2000s. An important difference between the 1930s and the 2000s is the comparative difference in the strength of the deglobalization process, in the first three years of the Great Depression of the 1930s the import to GDP ratio decreases on average by 17%, while this is 31% in the 2000s.
**Figure 2 Deglobalization in the 1930s and 2000s for 22 countries**
*(constant prices, per cent change in the import to GDP ratio)*

Notes:
Country coverage: Argentina, Australia, Austria, Brazil, Canada, Chile, Denmark, Finland, France, Germany, India, Indonesia, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, South Africa, Sweden, Switzerland, United Kingdom and United States
*Japan is not included although all data are available because it does not deglobalize according to our measure: Japan’s GDP contracts stronger than Japanese imports.

It is important to note that I am considering the first three years of the trade collapse and deglobalization phenomenon and do not take a longer time perspective although the data allow the study of a somewhat longer period. The reason to keep the analysis limited to the peak to trough distance over a 3-year period only is that the trade destruction during the Great Depression came in later years of the world trade collapse and mainly as a result of protectionism and inappropriate monetary policies (Kindleberger 1973). Figure 3 provides more details on the dynamics and patterns in the 1930s (left hand side; 4 stacked bars) and the 2000s (right hand side; 4 stacked bars). The figure reports the duration of the peak to trough movement of nominal exports and imports (the number of available observations is largest for current prices values) and real constant prices exports and imports.
Figure 3 allows us to make two important observations. The first observation is that the trade collapse in the 2000s is characterized by a very quick collapse. This stylized fact is confirmed for all 4 indicators (both real and nominal; exports and imports): country imports and exports hit bottom within one year in more than 80% of the available observations. This speed contrasts with the 1930s where the mode and median are three years. The second observation is the homogeneity or agreement across indicators in the 2000s that contrast with the heterogeneity or disagreement of the 1930s especially regarding nominal and real developments thus indicating that price movement (in particular deflation) were more important in the 1930s than in the 2000s.

**The drivers of trade collapse and deglobalization**

The scientific narratives for the 1930s and 2000s produced a long list of factors that were shown or assumed to have caused or aggravated the world trade collapse (see Estevadoreal 2003, Freund 2009, Baldwin and Evenett 2009, WTO 2009). These narratives agree on a key driver that will also be a variable of special interest in this paper: the value chain (and related composition) effect. An important aspect of manufacturing

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1 This section is based on Van Bergeijk 2017
trade is the international division of labour, in particular the organization of production in international value chains. This issue was especially topical in the mainstream analysis of the recent world trade collapse as it was argued from the start that the existence of a network of international value chains could explain both the propagation of shocks (and thus the simultaneity of the trade collapse in many countries) and the severity of the trade shock (the fact that the percentage reduction of trade was a manifold of the percentage reduction in GDP). This value chain argument mainly rests on the observation that the share of intermediate products in international trade and the elasticity of world trade to GDP increased significantly over recent decades. Therefore observers such as Freund (2009) and Cheun and Guichard (2009) have assumed and proposed a causal relationship between the two. Fragmentation of production is thus seen as a driver of the world trade collapse.

Potentially counterbalancing effects, however, are also likely. Bénassy-Quéré et al. (2009) relate the overshooting of trade to omitted variables. Van Marrewijk (2009) finds in his equations for the decline and steepness of the trade collapse that a little bit more than half the coefficients for intra-industry trade are negative and significant at the usual confidence level of 90 per cent and better and speculates that this is because value chains spread the trade shocks over many countries providing a cushion. Other examples of such effects would be the larger trust among repeat buyers and the use of non-bank-intermediated trade credit (van Bergeijk 2010). The upshot is that the direction of the impact of global value chains on trade during a global crisis is not a priori clear and essentially an empirical matter. Empirical studies that analyze the relationship between value chain activities on the one hand and world trade and/or openness on the other hand are, however, contradictory (see for a critical review Van Bergeijk 2012). These studies use quite different approaches including partial analyses (such as Tanaka 2009 and van Marrewijk 2009), single country analyses (such as Levchenko et al. 2010, Robertson 2009 and Eaton et al 2011 with respect to the 1930s), calibrated simulation models (for example, Bénassy-Quéré et al. 2009, Bems et al. 2011 and Eaton et al. 2011) micro data (for example, Altomonte et al. (2012) Wagner and Gelübecke (2014) Behrens et al. (2013) van den Berg and Jaarsma 2017 and Tamminen 2017. Van Bergeijk et al (2017) conclude that “the current debate on value chains is inconclusive or needs at least more nuance” (see also Gawande et al 2015). Methodological differences could perhaps explain contradictions. One important contribution of this paper is that it provides a new data
set that uses a multi-country multi-event perspective and the first test of this hypothesis (by including *Manufacturing import share* as an explanatory variable) in a cross-country setting for the 1930s and the 2000s trade collapses and deglobalization phases.

Institutions can be an important determinant of international trade (see Nunn and Trefler, 2014, for an overview of the literature on the relation between institutions and international specialization). Democratic countries tend to have more liberal trade policies (Milner and Kubota (2005), which may reflect the voting power of labour in a democracy (O’Rourke 2006) but could possibly also reflect that ‘trade is less threatening to individuals who have confidence in their country’s political institutions’ (Mayda and Rodrik 2005, p. 1410). Several authors have pointed out that autocratic, centrally-planned economies, due to their centralized decision-making processes, will respond quicker and sharper to (potential) trade problems. Van Marrewijk and van Bergeijk (1990 and 1993) point out a coordination failure in decentralized economies. Aidt and Gassebner (2007) develop an argument in which the possibility of a dictatorial ruler to extract rents by imposing trade distortions is the driving mechanism (and additionally they argue that control and monitoring of trade policies are less well developed in autocracies). Discussing the choice of instrumental variables in their study on the drivers behind the tariff escalation in the 1930s, Eichengreen and Irwin (2009, p. 26 footnote 39) note:

> One might plausibly think that countries with authoritarian political regimes would be more likely to resort to exchange controls; restrictions on political freedom tended to go together in this as in other periods

Finally it is important to consider the level of development as illustrated by different patterns of the trade cycle for the advanced economies and the emerging markets, respectively. On the one hand, one might expect that trade at low levels of development consists of essential goods with low elasticity so that reductions of imports would be comparatively speaking more limited. On the other hand, financial leeway is often limited for developing countries so that they have to act more quickly and reduce imports if the prospects for export turn sour. All in all it is important to include *per capita GDP* as a control variable.
3 Research design and econometric findings

I analyse an unbalanced panel analysis of the percentage change of the import to GDP ratio measured between 1928 and 1932 in 31 economies and between 2008 and 2012 for 111 to 143 economies. The construction of the data sets is discussed in detail in Van Bergeijk (2017).

The dependent variable is the percent change of import to GDP ratio that is calculated on the basis of peak to trough movement of volume of imports and GDP (for the 1930s UN Statistical Office, 1962, Maddison, 1995 and 2006, and Birnberg and Resnick, 1975 and for the 2000s IMF World Economic Outlook Database (April 2015).

The set of explanatory variables consist of country-specific variables. These are all measured in the year before the start of the world trade collapse that initiated the phase of deglobalization. Manufacturing import share is derived and estimated from and League of Nations (1931, Table 95, pp.: 168-170), UN Statistical Office, 1962 and United Nations (2010). The political variables are taken from Polity IV dataset (Marshall 2011, see http://www.systemicpeace.org/polity/polity4.htm) and Vanhanen, 2011, see http://www.prio.org/Data/Governance/Vanhanens-index-of-democracy/. Per capita GDP is derived from Maddison 2006 which is updated by the Groningen Growth and Development Centre (http://www.ggdc.net).

The research question aims at uncovering, first, some political and economic correlates of deglobalization and, second, to test for differences between the two event of import collapse and deglobalization. Table 2 reports the results.
| Table 2 | Correlates of per cent change in globalization (import to GDP ratio) 1929-1932 and 2008-10 (White heteroskedasticity-consistent standard errors and covariance) |
|---------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
|         | (1) (2) (3) (4)                                                                 | (1) (2) (3) (4)                                                                                                   | (1) (2) (3) (4)                                   |
| Number of observations | 172 142 142 159                                                                  | Source for political variable  polity polity polity vanhanen                                                      |                                                 |
| Political variable pre crisis | -0.57** (-2.4) -0.36 (-1.4) -0.66** (-2.4) -0.31*** (-2.8) | Political variable*dummy 1930s 1.8*** (3.1) 0.75** (2.1)                                                          |                                                 |
| GDP per capita pre crisis | -0.011** (-2.4) -0.001 (1.5) -0.001 (-1.6) -0.000 (-1.0)                          | GDP per capita * dummy 1930s -0.006 (-0.2) 0.000 (0.0)                                                            |                                                 |
| Manufacturing import share pre crisis | -0.32*** (-3.4) -0.18* (-1.7) -0.11 (-1.2)                                           | Manufacturing import share * dummy 1930s -0.34** (-2.0) 0.38** (-2.2)                                             |                                                 |
| Dummy 1930s | -24.8*** (-5.8) -26.8*** (-6.6) -14.9 (1.1) -16.4 (1.3)                          | Constant -2.4 (-1.1) 15.9** (2.4) 8.5 (1.1) 5.4 (0.9)                                                           |                                                 |
| R² | 0.24 0.26 0.31 0.29                                                             | Adjusted R² | 0.23 0.24 0.28 0.25                                                   |                                                 |
| F | 18.1*** 11.9** 8.7*** 8.6***                                                      | Notes: (t-values in brackets) * 90% ** 95% *** 99% significance levels                                              |                                                 |

Columns 1 and 2 report specifications for the following quasi reduced form equation

\[ \text{Change in globalization} = \alpha \text{Political variable} + \theta \text{Per capita GDP} + \gamma \text{Manufacturing share} + \delta_{1930s} + C + \varepsilon \quad (1) \]

\( \delta_{1930s} \) is an (additive) shift dummy that assumes the value 1 for observations regarding the 1930s and else zero, C is the constant term and \( \varepsilon \) is the error term. Column (1) of Table 2 reports a specification without manufacturing import share which allows me to analyze more countries (for 30 countries data were not available). Column (2) includes the manufacturing import share. Columns (3) and (4) report specifications for the following quasi reduced form that includes both additive and multiplicative (slope) dummies.

\[ \text{Change in globalization} = (\alpha + \delta_{1930s} \beta) \text{Political variable} + (\theta + \delta_{1930s} \lambda) \text{Per capita GDP} + (\gamma + \delta_{1930s} \xi) \text{Manufacturing share} + \delta_{1930s} + C + \varepsilon \quad (2) \]
The difference between column (3) and (4) is that column (3) uses the Polity data set and column (4) uses the Vanhanen data set. These data sets measure distinct concepts and slightly different country samples. I provide the different specifications especially in order to establish one of the major findings of this article that is the impact of political institutions.

In the discussion of the empirical results I will focus on equation (2), so columns (3) and (4) of Table 2 since these equations perform better in terms F-test and adjusted-$R^2$. The regressions show that the phases of deglobalization are to a large extent comparable because the shift dummy for the 1930s is insignificant. More the results for GDP per capita (not significant) and Manufacturing import share (significantly negative implying that a larger share is associated with stronger deglobalization) are comparable. The findings agree that political variables are a highly significant correlate of deglobalization, but here an important difference between the two events is observed: In the 1930s the coefficient is significantly positive so that more democratic countries are associated with lower deglobalization; in the 2000s the coefficient significantly negative so that more democratic countries are associated with stronger deglobalization.
Conclusions and implications

This paper first of all showed the usefulness of doubling the number of events regarding the phenomenon of deglobalization in the wake of import trade collapse during periods of global trade disruption.

The statistical association of international value chain and our measure of (de)globalization requires to be interpreted with a caution. This is especially true in view of the fact that the coefficient for Manufacturing import share is larger (in absolute terms) in the 1930s. In the literature fragmentation of production in the literature often has been associated with an increase in the world’s trade-to-GPP-ratio. The driver of this process is probably not mechanistic although several authors have related changes in trade to GPP directly to mismeasurement of international trade (namely as gross trade and not as trade in value added). Value chain interaction may be a consequence, however, of behavior. Trust may be enhanced amongst firms that have a long-lasting trading relationship in international value chains (due to the repeated-buy character of the transactions). International value chain cooperation also generates demonstration effects and other external effects including, learning and network effects which all may support internationalization and strengthen globalization. Therefore no reason exists why this role should be asymmetrical (positive in upswings and negative in downturns) as often assumed in the literature on the global trade collapse and its aftermath; in particular this means that insourcing and import substitution run the risk of destabilizing rather than stabilizing the global economy.

Also the significant impact of political variables is a new, robust and exiting result. However, while politics is a significant correlate for the 1930s as well as for the 2000s the impact of politics is opposite in the two periods. In the 1930s democracies appear to reduce deglobalization pressures. In the 2000s deglobalization pressures especially arise in democracies. Recent examples include the Trumpism in the USA and Brexit in the UK reflect the strength of the popular vote against globalization. In Europe two cases reflect this trend: the Netherlands referendum against the Treaty with Ukraine and the Belgium opposition against the trade agreement between EU and Canada.

One of the key lessons from the 1930s on which all economists pretty much agree is that protectionism was one of the ugly aspects of economic policies in the
interbellum. The narrative that is in the back of each economist’s mind is that tariffs and non-tariff barriers helped to turn the Wall Street crisis from a financial crisis into the Great Depression. It is essentially this lesson that beggar-thy-neighbourism was disastrous in the 1930s which is behind all pledges against protectionism in the wake of recent G20 meetings. At the same time, however, one has to note that concrete actions to strengthen the open multilateral trading system apparently were too difficult. After all the world leaders were unable to reach agreement on the completion of the Doha trade round. From the start of the trade collapse there has been growing fear amongst international trade analysts that protectionism would sneak in and grow in the wake of the crisis. The sector-specific bailout packages targeted at crisis-hit companies, such as support for individual automobile firms, could trigger countervailing measures. More in general politicians could be expected to be under pressure to protect jobs at home. ‘Buy local’ pleas and laws are often seen. Are these only local incidents? Or is this the start of a new wave of protectionism and the prelude to a long period of deglobalization?
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