



## Does globalization influence protectionism? Empirical evidence from agricultural support



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### ABSTRACT

There are several motivations for domestic policy-makers to protect food markets in the course of globalization. On the other hand, there are also theoretical arguments for why globalization should lead to less assistance to domestic farmers. By using a large cross-country data set and a dynamic panel data analysis, I investigate the influence of globalization on protectionist policies in the agricultural sector empirically. I find that globalization induces countries to increase agricultural protection. This result is robust to dealing with the potential endogeneity of globalization via internal instruments generated by the system GMM model.

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### Introduction

Globalization is supposed to heavily influence the parameters under which policies are chosen. This is true in many economic sectors, and the food sector is no exception. Already in 1997, [Traill \(1997\)](#) has written that the food sector displays trends toward globalization and its consequences. For example, he observes the tendency of agricultural production to involve more stages, and that these stages increasingly take place in different countries. Food manufacturers assemble ingredients which are now sourced supra-nationally. Moreover, food trade is strongly growing and it is more often of an intra-industry type. This also suggests that another effect of globalization on the food sector could be a convergence in food consumption.

Globalization thus changes incentives for national policy-makers. In many sectors, the resulting import competition might put domestic industries under pressure, leading potentially to unemployment and income losses. In a recent contribution, [Autor et al. \(2013\)](#) provide compelling evidence that increasing import competition from China has indeed led to unemployment and lower wages in the United States. According to [Rodrik \(2011\)](#), people will demand compensation against risk that results from the exposure to international forces due to globalization, and re-election concerned politicians might thus be incentivized to strengthen protectionist policies in those sectors that have a comparative disadvantage (see [Hillman, 1982](#)). It is a stylized fact in

the food sector that there is a negative relationship between support given to the agricultural sector and the agricultural comparative advantage. Moreover, protection might be especially strong in the food sector because interest groups are often well-organized. As [Anderson et al. \(2013\)](#) note, import competition is thus the most articulated argument for the restriction of food trade.

For the field of food policy, there are additional motivations for protectionist policies than just to insulate domestic markets from import competition in the course of globalization. An often articulated argument for agricultural support given to domestic farmers is that it should ensure a high food quality. It is interesting to observe that the average export ratios of developing countries for milk and meat – two agricultural products that arguably are most subject to quality concerns – have only minimally increased over the last 50 years and are still on a relatively low level (see [von Braun and Díaz-Bonilla, 2008](#)). [Von Braun and Díaz-Bonilla \(2008\)](#) note that this is due to trade protection as well as sanitary measures which make these products behave like non-tradables. A further good example is that the European restrictions on imports of beef from the United States were justified by politicians on the ground of health risks from hormones given to US cattle (see [Hillman, 2003](#)).

Moreover, a motivation for domestic food market support could be to avoid importing of food price spikes and volatility from international markets (see [Gilbert and Morgan, 2010](#)).<sup>1</sup> Food price spikes

<sup>1</sup> On the other hand, if price volatility does not originate from the international, but from the domestic market (for example because of region-specific weather shocks), international trade could be a powerful engine to reduce price volatility (see [FAO et al., 2011](#)).

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and volatility could be seen as especially problematic in developing countries in which food is a major consumption item and thus expenditures on food often comprise a large amount of the citizen's budget. Tadesse et al. (2014) show that increased market linkages can contribute to higher food price volatility. Market integration via globalization could enforce the transmission of world prices to local markets. In this case, politicians might want to insulate domestic markets to prevent this transmission.<sup>2</sup>

As a last example for a potential motivation of increasing domestic food market support in the course of globalization, especially in developed countries it is often argued that agricultural support should allow to sustain traditional rural life and to avoid too extreme depopulation of the hinterland (see Bagwell and Staiger, 2001). To the extent to which globalization reinforces urbanization tendencies, policy-makers might also be motivated to support agriculture in the course of globalization to counteract such developments.

However, there are also theoretical arguments for less protection of the domestic food market in the course of globalization. The neo-classical literature shows that free trade can be globally efficient (see, e.g., Krugman et al., 2012). Moreover, agricultural support is often argued to be implemented because it secures a country's self-sufficiency and thus a stable national food supply. Globalization, however, might lower the necessity of self-sufficiency. Self-sufficiency has been mainly important in times in which countries were dependent on a few major trading routes and/or trading partners. In times of globalization characterized by improved transport possibilities, it seems hard to defend this argument. Transportation that is now to a significant degree realized via air clearly reduces the dependence on single trading routes or partners. Because there exist both arguments for more and less agricultural protection in the course of globalization, the effect of globalization on the protection of domestic food markets is an open empirical question.

In this article, I examine the effect of globalization on agricultural protection empirically. Although globalization is heavily studied (see, e.g., Nissanke and Thorbecke, 2006; Dreher et al., 2008; Arribas et al., 2009; Bergh and Nilsson, 2010),<sup>3</sup> this is the first paper that investigates whether globalization, which is a process that has also been reinforced by less trade restrictions (but also by technological improvements), does on the other hand again lead to more protection.<sup>4</sup>

The focus on food policy can be motivated by several considerations. First, as already mentioned above, the agricultural sector is influenced by the process of globalization. Second, a new data set compiled by the World Bank (see Anderson and Valenzuela, 2008; Anderson and Nelgen, 2013) allows a very accurate measurement of agricultural protection that moreover is available for a wide range of countries and years. Third, agricultural policy is a very important policy field. Approximately 75% of the world's poorest people depend at least indirectly on agriculture as their main source of income (World Bank, 2007). The Common Agricultural Policy of the European Union accounts for more than 40% of its budget. The political importance of agricultural policy can also be gauged by the fact that the Doha round could until now not come to a definitive agreement because the participants resisted

to liberalize the agricultural market. Fourth, the agricultural sector is subject to heavy-handed government interventions not only in single regions, but throughout the world. Not only high-income, but also developing countries have an incentive to insulate their domestic food markets in the course of globalization due to agricultural overproduction and export dumping of the developed countries (see Watkins, 2008).<sup>5</sup> Despite significant market-opening reforms in several sectors, strong anti-trade policies in the agricultural sector persist. Olper and Raimondi (2013) thus call the agricultural sector "an ideal case for studying the political economy of public policies".

To study the effects of globalization on agricultural protection, I use a large cross-country data set and the KOF-index as a proxy for globalization. The KOF-index is widely employed in empirical studies because it has the advantage of taking all possible dimensions of globalization into account. I will estimate a system GMM model that does not only allow for persistence in agricultural support over time, but also holds the promise that it is – if well specified – able to generate internal instruments for globalization that can help to overcome identification issues in the form of endogeneity and measurement error even when external time-varying instruments are not available. As it is reasonable to believe that not only globalization influences trade restrictions as for example domestic food market protection, but that also trade restrictions can influence the globalization process, endogeneity is an important issue that must be addressed.<sup>6</sup> I find that globalization significantly increases agricultural protection. Considering different aspects of globalization, my results show that not only economic globalization, but that also political and social globalization increase agricultural support.

My results are not only important for the specific area of domestic industry protection, but might also shed light on the effects of globalization on other institutions. For example, the theoretical literature has argued that due to growing international competition, globalization should lead to more deregulated labor markets, causing deterioration in the working conditions of unskilled workers (see, e.g., Wood, 1998; Stiglitz, 2002; Heine and Thakur, 2011). However, the empirical evidence is far from supportive for this argument (see, e.g., Algan and Cahuc, 2006; Fischer and Somogyi, 2009; Potrafke, 2013). An explanation for this discrepancy would be that governments do not have to deregulate labor markets in the course of globalization because they increasingly tend to insulate their domestic markets.

The remainder of this article is structured as follows. In Section 'Data', I discuss the KOF-index of globalization and the data set on agricultural protection. In Section 'Empirical strategy', I present my empirical strategy, while in Section 'Results', the results are presented. Finally, Section 'Conclusion' concludes the study.

## Data

### Agricultural protection

To measure agricultural protection, I use a new database that has recently been developed by the World Bank (see Anderson and Valenzuela, 2008; Anderson and Nelgen, 2013). It contains annual data on agricultural price distortions for 82 countries over an average number of 45 years per country. This data set thus

<sup>2</sup> It should be noted that if a sufficient number of countries act in this way, such a policy may exacerbate volatility in the residual world market (see Gilbert and Morgan, 2010).

<sup>3</sup> See Potrafke (forthcoming) for a recent survey of the literature.

<sup>4</sup> Aidt and Gassebner (2010) investigate the effect of autocracy on trade flows. In some specifications, they also include the KOF-index of globalization. However, in contrast to my paper, they are interested in explaining realized trade flows rather than trade restrictions set up by the government such as for example agricultural support. Moreover, also in contrast to my paper, they do not deal with the potential endogeneity of globalization.

<sup>5</sup> Historically, developing countries have taxed rather than subsidized agriculture. However, since the beginning of the 1990s, many developing countries have begun to subsidize the agricultural sector (see Anderson et al., 2013).

<sup>6</sup> As Potrafke (forthcoming) writes, the problem of endogeneity was so far not taken too seriously in the existing globalization literature. This might explain why credible external instrumental variables that vary in the time dimension do not exist so far.

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