

**Special Interests and the Public Interest in Public Policy and Information:
Insights from Agricultural Policies and Food Standards**

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1. Introduction

Economies have been subject to government interventions throughout history and across the globe. Political considerations are crucial to understand these policies since almost all public policies have both efficiency and redistributive effects and are therefore subject to lobbying and pressure from special interests. They are also used by decision-makers to influence society for both economic and political reasons.

Gordon Rausser has made important contributions in a variety of topics in the political economy literature, several of which are integrated in his 2011 book *Political Power and Economic Policy*. Much of the political economy literature has studied how policy-makers are captured by vested interests by introducing public policies that distort the economy and reduce aggregate welfare, such as import tariffs or export taxes. An important common theme of Gordon Rausser's work on political economy has been the focus on the political economy of public policies that have positive welfare effects contributions of public policy, while at the same time affecting rent distribution and, thus, lobbying of special interests.¹

In this perspective, it is important to go beyond analyzing redistributive policies (such as import tariffs or subsidies to specific groups, e.g. agricultural protection or taxation) and to also analyze the political economy of public investments. In this integrated perspective, one should interpret redistributive policies (such as tariffs and subsidies) not as policies in isolation but as part of a policy package. In a policy package, the welfare effects of subsidies and tariffs may be quite different than analyzed in isolation, since what matters is the welfare effects of the policy package, not that of the different policies by themselves. Here his work on PERTS and PEST and his work on policy reform and compensation (see e.g. Rausser (1982, 1992) and de Gorter, Nielson and Rausser (1992)) made important contributions.

In this broader political economy framework GR's political economy work on the choice of policy instruments is relevant. Also on this question, GR and his co-authors showed that the efficiency and optimality of instruments is conditional upon the policy objectives that are assumed and the broader policy framework in which they are implemented/interpreted (see e.g. Foster and Rausser 1993).

In this paper I review these key contributions and the related literature. I then explain how this mix of public and private interests also applies to government regulations on information and identify key insights from the political economy of information and areas for future analyses.

¹ In this paper we focus mostly on the nature and the framework of the policies that are being analysed. In addition to this, the focus on positive contributions of regulations and public policies can also be reflected in the specification of the government's objective functions. Many political economy models specify the objective function of the government as being solely dependent on special interests. Broader specifications, such as those by Rausser and Zusman (1992) and Grossman-Helpman (1994) explicitly include the public interest, next to special interests' influence or contributions, in the governments objective function (see also Rausser and Freebairn 1974).

2. The Political Economy of Public Good Investments and Compensation

There is more research on the political economy of tariffs and subsidies benefiting specific industries than on the political economy of public goods and investments. GR made important contributions to this literature and in particular to the interaction between tariffs and subsidies (often referred to as PESTs in his writings) and investments in public goods, such as public research (referred to as PERTs).

In this section I provide a review of this literature and identify key political economy mechanisms. I start with PERTs, then PESTs and then their interaction.

2.1 PESTs: Agricultural subsidies, tariffs and taxes

In the second half of the 20th century, there were major differences in agricultural and food policies between poor countries, where farmers were taxed, and rich countries which subsidized farmers (and taxed consumers). This difference was not only huge, it was also counterintuitive (Krueger et al. 1991). In countries where farmers were the majority of the population, and thus had most of the votes (or more generally since many of these countries were not democracies, the political strength of numbers) they were losing out from agricultural policies which imposed a significant tax on them. In contrast, in countries where farmers were a small minority, farmers were subsidized, despite the fact that their numbers in the political arena had declined. This observation was referred to as “*The Development Paradox*”. This puzzle has triggered a large literature. Anderson, Rausser and Swinnen (2013) summarize the political economy mechanisms explaining the puzzle. These mechanisms explain how structural differences in agricultural policies between rich and poor countries captured in the development paradox are due to differences in political economy equilibria caused by the combination of structural economic differences, information costs, changes in governance structures, etc..

For example, structural changes during economic development alter the costs and benefits of political activities (see Anderson 1995; de Gorter, Nielson, Rausser 1992; Gardner 1987; Swinnen 1994); improvements in rural infrastructure with economic development affect farmers’ relative ability to organize for political action (see Olson 1965); changes in information systems with economic development cause a shift in the political economy equilibrium from supporting consumers to supporting farmers (see Olper and Swinnen, 2013); democratic reforms in poor and middle income countries have reduced taxation of agriculture, and especially those electoral reforms that enhanced the political representation of small farmers and rural workers (Olper *et al.* 2014; Swinnen et al 2001).

2.2 PERTs: The case of public agricultural research investments

Public investments in agricultural research are an important source of productivity growth (Alston and Pardey, 1996, 2013; Alston, 2017). Studies document high social rates of return to public agricultural research investments, but also that there is significant underinvestment in research in both poor and rich countries (Huffman and Evenson, 1992, Ruttan, 1982; Pardey et al, 2016).

One political economy explanation of the underinvestment by governments is spill-over effects (or externalities) in a policy environment where government research investments in one country affects other countries.² Research has both public and private good characteristics, as some of the benefits of research expenditures can be captured by specific groups while other results spill over to other groups or countries. This affects governments' incentives to invest in research. Spill-over effects can thus induce free riding behavior by governments. Governments in one country will invest less than optimal since they pay for all the costs while part of the benefits are reaped by other countries. Or, inversely, governments may think that they can reap (some of) the benefits from other countries investments without having to bear the (fill) costs of research investments (Huffman and Miranowski, 1981; Khanna, Huffman, and Sandler, 1994; Rose-Ackerman and Evenson, 1985).

A different political economy explanation draws on the distributional effects of public investments (Baland and Kotwal, 1998; de Gorter, Nielson and Rausser, 1992; de Gorter and Zilberman, 1990; Rausser, 1992). While society as a whole may gain from public investments, different groups in society are affected differently, which will create different policy preferences. They will prefer the government to choose their private optimum level of research, and will negatively react to the government's choice if this diverges from their (private) optimum. If some groups oppose public investments because of income distribution effects, governments will underinvest in public goods as they balance the political costs and benefits of diverging from the social optimum.

More specifically concerning public investments in agriculture research: such research has contributed to the dramatic increase in productivity of agriculture during the 20th century, but it affected different parts of society unevenly (Alston, 2017; Gardner, 2002). Figure 1 illustrates the welfare and distributional impacts of public research in a closed economy.³ D and S_0 represent the demand and supply curve, respectively. A market clearing price P_0 is paid by consumers and received by producers. Domestic consumption and production are at q on the horizontal axis. Research increases agricultural productivity and shifts the supply curve to S_τ . The market price falls to P_τ . Consumers benefit since they can consume more ($q_\tau > q_0$) and at a lower price ($P_\tau < P_0$). The increase in consumer surplus is area $A + B$. It is obvious from figure 1 that consumers always benefit from PARI in a closed economy. The effect on producers is less obvious because they are affected by two (opposing) effects: they benefit from lower costs due to increased productivity but they lose from declining prices. In Figure 1 the net effect on producer surplus is area $D - A$ (as the pre-research producer surplus was $A+B$ and their post-research surplus is $C+D$). Whether $D-A$ is positive or negative depends on the elasticity of the supply and demand functions.

² Studies have also argued that benefits of public investments in agricultural research are overestimated because of deadweight costs of taxation (Fox, 1985), terms of trade effects (Edwards and Freebairn, 1984), the effects on unemployment (Schmitz and Seckler, 1970), the increase in the deadweight costs of existing commodity policies (Alston, Edwards and Freebairn, 1988; Murphy, Furtan and Schmitz, 1993), or because they ignore private research and lags in the effects of research (Alston and Pardey, 1996).

³ For a more complex model, with more inputs on consumer and producer effects, see Alston (2017).

Whether consumers (through lower prices) or producers (through higher productivity) benefited depends on the elasticity of supply and demand and the specific productivity effect of the R&D.

Economic development affects the distribution of the benefits from research investment. Rich countries typically have more elastic supply curves for agriculture, because they have less production factor market constraints, better institutions, etc. Rich countries also have less elastic demand for food than poor countries. In developing countries, the effects of public research will be different as supply is typically more inelastic and demand more elastic in developing countries. As consumer incomes grow with economic development and demand become less elastic, benefits shift increasingly to consumers. The induced agricultural productivity growth contributed to the long-term decline in agricultural prices. While this benefited food consumers, it also put pressure on farm incomes (Ruttan, 1982). In this perspective, Schultz (1953) distinguished between the “farm problem” in rich countries, where farmers benefit relatively less from technology with inelastic demand, from the “food problem” in developing countries with elastic demand. This implies that one would expect that in rich countries research favors consumers while in developing countries agricultural producers (farmers) benefit relatively more from research. de Gorter and Swinnen (1998) show that in general, with unequal income distributional effects a government maximizing political support will underinvest in public research, both in rich countries and in poor countries.⁴

Trade can also play an important role. Trade in innovations leads to international spillovers and thus to lower incentives to invest in R&D. However trade also affects the political economy in a different way. Opening the economy to free trade increases the demand elasticity, thereby reducing the price effect of research induced shifts in the supply function and reducing producer opposition to technological advances. Baland and Kotwal (1998) have used this argument to explain why trade liberalization in developing countries may induce an increase in public investment in agriculture as it makes the terms of trade invariant to public investment.

2.3 Policy Interactions (PERTs and PESTs)

The analysis above considers the political economy of various policies in isolation, meaning that the analysis is as if there were no other policies. However, in reality, many policies exist simultaneously. Figure 2 illustrates how during periods of economic development, both subsidies to agriculture (PESTs) and investments in public agricultural R&D (PERTs) increased significantly. In Belgium (Figure 2a) this occurred gradually over 1880-1980 period and especially during the 1950-1980 period. In China (Figure 2b), the strong growth of both agricultural R&D and subsidies occurred since 2000.

If these public policies exist simultaneously they may interact with each other. There are different types of interactions, and one should distinguish between “*economic*

⁴ Note that those groups who benefit most from PARI, and thus would be most likely to lobby the strongest are those who are politically the weakest. Urban consumers are relatively more politically influential in developing countries and farmers more so in rich countries in terms of agricultural subsidies and taxes. As those who stand to benefit most from PARI have less political influence both in rich and poor countries, one would therefore expect to observe underinvestment in both regions (de Gorter and Swinnen, 1998).

interaction effects” (EIEs) which arise if one policy affects the distributional and welfare effects of other policies and “*political* interaction effects” (PIEs) which occur when one policy affects the political incentives of governments to introduce or change other policies.

One form of (positive) EIE is when combined reforms reinforce the (beneficial) impacts of separate policy reforms. For example, in the reform strategies in China and Eastern Europe in the 1990s, land reforms and privatization strategies provided new opportunities and better incentives for farmers, while at the same time distortionary price and market policies were reduced or removed. In these cases, both policy reforms combined to improve efficiency. An example of (negative) EIEs is the interaction between public agricultural research and commodity policies that regulate agricultural prices or production. Agricultural research increases productivity and may cause an increase in distortions of existing regulations. Under some conditions the research benefits may be outweighed by increased distortions but this is less likely if the research enhances incomes of those benefiting from the commodity policies (Alston *et al.*, 1988; Murphy *et al.*, 1993; Swinnen and de Gorter, 1998).

An example of PIEs is the use of agricultural policies for compensation purposes. Compensation is an important element in the political economy of policy reform or public investment (Rausser *et al.* 2011).⁵ Reforms to a more efficient policy almost always implies gains for some groups and losses for other. Similarly, building a road may lead to major gains in rural development but may hurt those who have to move to allow the construction of the road. If the gains outweigh the losses, it is socially optimal to implement the reforms or make the investment since the gains of those who win are more than sufficient to compensate the losers. There are numerous empirical examples of “policy packages” which include compensation for certain groups. They are a traditional part of multi-annual agricultural policy decision-making both in the EU and the US.

An important problem with compensation however is the credible implementation of such schemes. Those who lose from reform may oppose the reforms if they expect that (full) compensation will not take place. The latter may be the case when governments lack the credibility to effectively provide compensation when the reform effects emerge (Acemoglu and Robinson, 2006; Swinnen and de Gorter, 2002), when governments only offer partial compensation to mitigate political opposition sufficient to get the reforms through (Foster and Rausser, 1993), when local institutions prevent the creation of effective compensation schemes (Swinnen 1997), or when there is uncertainty on the effect of the reforms – and thus on who will be the losers and gainers of the reforms (Fernandez and Rodrik 1991).

The inability of governments to credibly commit to compensate groups that are adversely affected is a prime cause of underinvestment in public goods or of failures to implement aggregate welfare improving policies more generally. An important question is therefore how to design mechanisms that constraint policy-makers, to bring the discretionary

⁵ Trade policy reform and compensation have a long history in the economics literature, going back to the early analyses of Adam Smith and David Ricardo. A crucial element in the arguments on the optimality of free trade are that the gains of the winners of trade liberalization are more than sufficient to compensate the losers of reform, an issue which has clearly become highly relevant again in recent years with discussions on the gainers and losers from globalization.

political equilibrium closer to the social optimum. The creation of institutions which make policy reversal more difficult enhance the credibility of policy-makers to commit to future compensation. Examples of such institutions are independent central banks for monetary policy or international trade agreements which impose constraints on government policies in agriculture and food. Another example is the role that the WTO has played in preventing the return to agricultural protectionism in recent years during periods of price fluctuations.

2.4 Instrument Choice and Compensation

The distortionary effects of compensation depend on the choice of the instrument. There is an extensive literature comparing the transfer efficiency and the distortions of various policy instruments in trade and agricultural policies (Alston and James, 2002; Gardner 1983). The differences in distortionary effects of policies plays an important role in policy discussions and trade negotiations.

While the standard argument in the literature is to use lump-sum payments (which are non-distortionary for compensation, Foster and Rausser (1993) identified a key reason why distortionary policies could be optimal choices in a compensation framework. The total transfers induced through distortionary policies (such as tariffs)—even with deadweight costs—may be lower than would be the case with direct (lump-sum) transfers when governments need to secure a minimum amount of political support. In turn, this could make policy reform or public good investments more likely since the opposition to compensation would be smaller.

While Foster and Rausser's argument is based on full information, it is related to other arguments based on imperfect information. For example, Mitchell and Moro (2006) explain that governments may prefer distortionary policies, such as tariffs, when they have imperfect information on their target group or the amount of transfer needed.

This argument is different from the so-called optimal obfuscation arguments where policy instruments are used because of their difference in "transparency," the information available concerning policies and their incidence. Magee et al (1989) argue that politicians have an incentive to use policies that hide their costs or use policies that obfuscate the transfer itself. This obfuscation perspective suggests another reason why non-budget methods of redistribution, such as tariffs, are politically preferable to direct subsidies.⁶

The relationship between public policies and information is complex and multiple. In the next section we discuss a different aspect of the political economy of this relationship.

⁶ Other political economy arguments why distortionary policies are used are that (a) import-competing sectors have lower comparative advantage than exporting sectors, thus returns to investment in lobbying activities dominate returns from market activities (Swinnen and de Gorter, 1993); (b) the so-called "revenue motive" of public policy -- tariff revenues and export taxes increase government revenues and improve their terms of trade; (c) deadweight costs and budgetary costs are higher in sectors with higher supply elasticities (typically exports) which will be subsidized less because it is more costly to do so (Becker, 1983; de Gorter et al 1992; Gardner, 1983,1987); (d) trade taxes (either import tariffs or export taxes) are easiest and least costly to implement in countries with weakly developed tax collection institutions (Dixit, 1996; Rodrik, 1995).

3. Special Interests and Public Interest in Public Information Provision

In his path breaking book *An Economic Theory of Democracy*, Anthony Downs (1957) explains the concept of the “*rationaly ignorant voter*.” According to Downs, it is rational for voters to be ignorant about certain policy issues, if the costs of information are higher than the expected benefit from being informed. This information mechanism has major implications for agricultural and food policies, one of them being that policies will be introduced that create concentrated benefits and dispersed costs (Anderson et al 2013). This rational ignorance not only applies to voters’ choices in political markets but also to consumers’ choices in commodity markets and in economic systems in general, as McCluskey and Swinnen (2004) have explained.

Asymmetric information is inherent in many economic markets and especially in agriculture and food. Governments have often intervened through regulations, such as the introduction of public standards, to reduce such problems. In fact, standards to prevent adulterations and frauds have existed as long as products have been exchanged and traded. The addition of water in wine or in milk to increase the volume has been documented throughout history and across the globe. However, in recent years, standards have increased rapidly, both geographically and in addressing new concerns. Production and trade are increasingly regulated through stringent public (and private) standards on quality, safety, nutritional, environmental, and ethical and social aspects. As an illustration of the growth of standards in agriculture and food markets, Figure 3 shows the rapid growth of SPS notifications to the WTO since the mid 1990s.

As with public research discussed in the previous section, standards can enhance aggregate welfare, but they can also be set at suboptimal levels, causing welfare losses. The introduction of a standard may create winners and losers as its effects will differ between e.g. consumers and producers, and even within consumer and producer groups.

3.1 Efficiency and Equity Effects

Figure 4 illustrates the equity and efficiency effect of standard⁷, which generates efficiency gains by solving (or reducing) asymmetric information problems, but also involves implementation costs.⁸ Such standard can create welfare gains but also involves rent redistribution between different interest groups. The standard yields (positive)

⁷ The literature has adopted different modeling assumptions depending on which product or production process characteristic (safety, quality, social and environmental effects,...) is regulated by the standard. See Swinnen et al (2015) for a review of model approaches.

⁸ In general, a standard can be interpreted as a prohibition to use a cheaper technology (Swinnen and Vandemoortele, 2011). Examples are the prohibition of an existing technology (e.g. child labor) or of a technology that has not yet been used but that could potentially lower costs (e.g. genetic modification (GM) technology). Most studies therefore assume that standards raise domestic production costs. In an open economy, the production costs of foreign producers (interested in) exporting to the standard-imposing country may also rise if the standard is also imposed and enforced on imported goods. The effect on prices depends on various factors such as demand and supply elasticities and trade.

efficiency gains, i.e. the value that consumers attach to the reduced informational asymmetries; and an increase in the equilibrium price due to increased demand and the cost of implementing the standard. The impact on producer profits is a combination of a (positive) increase in revenue, due to increased consumption, and a second (negative) producer's *cost of implementing* the standard. The net impact depends on the relative size of the increase in revenue and the implementation cost.

S_0 and D_0 represent the pre-standard supply and demand functions⁹ and p_0 and x_0 the equilibrium price and consumption (which equals production in this closed economy). The introduction of a standard s shifts supply and demand functions to S_1 and D_1 . The new equilibrium price and quantity are p_1 and x_1 . The total price effect ($p_1 - p_0$) is the result of rising prices due to the growth in demand ($p_D - p_0$) and a cost increase ($p_S - p_0 = p_1 - p_D$).

In the case illustrated by Figure 4 the effect of the growth in demand (represented by the vertical shift in the demand curve) is stronger than the increasing cost effect (represented by the vertical shift in the supply curve). As a consequence, consumption and production increase ($x_1 > x_0$) and both producers and consumers gain. Consumer surplus increases by area A_1 and producer surplus increases by area B_1 . Total welfare increases by area $A_1 + B_1$.

It is easy to illustrate that with different elasticities of supply and demand the size of the effects would be different. With different shifts in (or rotations of) the supply and demand curves the sign of the effects could be different – in particular if the cost effect is larger than the demand growth effect, the impact on welfare would be negative.

Producers gain (lose) if the price increase (due to higher demand with the standard) is higher than the cost increase. Consumers gain if the positive utility effect (from reduced uncertainty) is larger than the price effect from the standard, and vice versa. This simplified model may apply to various stages of the supply chain since the general terms 'producers' and 'consumers' may also point at different actors depending on which stage of the supply chain is under analysis. For example, at the processing stage, 'consumers' are retailers who source products from processors (the 'producers'). At the retail stage, the retailers are 'producers' who sell products to the final consumer.

3.2 Pro-&Anti-Standard, Pressures and Coalitions

Standards can thus enhance aggregate welfare by reducing asymmetric information or negative externalities but can also create rents for specific interest groups. Because of the distributional effects of standards, interest groups have a vested interest in influencing governments' decisions on standards. When interest groups have differing lobbying strengths, the political equilibrium will generally differ from the social optimum.

The political equilibrium standard may be either too high or too low from a social welfare point of view. Influential lobby groups may push for both more stringent or less stringent standards depending on the relative magnitude of the price (demand) effect

⁹ The figure can also be interpreted as a shift from a lower to a higher standard.

compared to the implementation cost (for producers) or the efficiency gain (for consumers) (Beghin *et al.*, 2015; Swinnen, 2016). For example, if producers are more influential than consumers over-standardization results when producers' profits increase with a higher standard and in under-standardization otherwise. Higher profits for producers are more likely when the standard's price (demand) effect is large and when the implementation cost is small.

This political economy can explain the empirically observed positive relationship between standards and economic development. First, and most obvious, higher income levels are typically associated with higher consumer preferences for quality and safety standards as reflected in higher efficiency gains. Second, the quality of institutions for enforcement of contracts and public regulations are positively correlated with development. Better institutions implies better enforcement and control of standards. Poor countries may have a cost advantage in the production of raw materials, better institutions of rich countries lower the marginal increase in production costs caused by standards. Third, higher education and skills of producers, better public infrastructure, easier access to finance, etc. also lower implementation costs. Fourth is the different organization and structure of the media in rich and poor countries. The cost of media information is higher and government control of the media is stronger in poor countries. Therefore, the media structure and information provision is likely to induce a more pro-standard attitude in rich countries than in poor, as increased access to media increases attention to risks and negative implications of low standards (Curtis *et al.*, 2008).

In combination these factors are likely to induce a shift of the political equilibrium from low standards to high standards with development. A pro-standard coalition of consumers and producers in rich countries results if consumers derive large efficiency gains from a standard, while producers incur only moderate increases in costs. In contrast, an anti-standard coalition may be present in poor countries if consumers are more concerned with low prices than with high quality (leading to small efficiency gains from a higher standard) while the implementation costs for producers may be large. Structural differences in information and media may reinforce the positive relationship between standards and development.

3.3 Information, Standards and Trade

An important critique is that standards are (non-tariff) trade barriers. As trade agreements such as WTO have reduced tariffs, countries may use standards to shield their domestic markets from foreign competition (Anderson *et al.*, 2004; Brenton and Manchin, 2002; Fischer and Serra, 2000). Convergence (or not) of standards is at the heart of recent trade negotiations such as CEFTA, TTIP, etc.

Standards affect trade.¹⁰ However, the implicit comparison with tariffs in the trade debate is not entirely valid. In a small open economy, the socially optimal tariff level is zero. A positive tariff level constrains trade, is harmful to social welfare, and is

¹⁰ Only in very special circumstances do standards not affect trade: this is when the effect on domestic production exactly offsets the effect on consumption (Swinnen and Vandemoortele, 2011).

protectionist. However, this is not necessarily the case for standards since this ignores the potential benefits of standards. Standards may both stimulate trade (“catalysts”) or reduce trade (“barriers”). If the standard reduces asymmetric information or externalities there is no simple relationship between the trade effects of a standard and the social optimum (Beghin, 2013; Marette, 2014; Marette and Beghin, 2010; Sheldon, 2012; Van Tongeren *et al.*, 2009). This result, however, does not imply that there are no protectionist elements in standards setting.

3.4 Persistence of Standards: Dynamic Political Economics

Some of the most important political aspects of standards relate to their dynamic effects. Dynamic political economic aspects of standards can provide an explanation for different food standards in countries with similar levels of development, such as in the EU and the US, and why such differences may persist.¹¹

Once adopted, countries will tend to stick to the status quo in standards because implementation costs depend on existing standard because of past investments. Differences in standards between countries may persist because of this and trade may enforce this. The reason is that producer or consumer preferences may change in a dynamic way once the standard is introduced.¹² The standard will affect comparative advantages, and will thus induce producers to support maintaining the standard in order to protect them from (cheaper) non-standard imports. Hence, although standards may have been introduced because of consumer demands, their persistence in the long run results from (a coalition of consumer and) producer demands. Hence, hysteresis in standards can be driven by protectionist motives even if the initial standards were not introduced for protectionist reasons.

With these forces in play, standards and regulations often persist over long periods of time and their protectionist effects and inefficiencies may increase over time. Regulatory differences among countries may cause major conflicts over time as vested interests and industries which have invested in adhering to these standards, will lobby governments and international organizations to impose their own standards on foreign producers.

Several empirical case studies document that there can be strong persistence of standards over time, and that the protectionist or welfare reducing effects of standards may increase over time. For example, Meloni and Swinnen (2013) show how stringent standards in the wine industry which were first set in France in response to pressure on wine growers in the early 20th century further tightened over time in response to more “crises” in the wine sectors and later spread to the rest of Europe with integration of other

¹¹ See Swinnen *et al.* (2015) and Swinnen (2017) for more technical analysis and details.

¹² The case that producers have different preferences and consumers have the same is analogous. For example, Paarlberg (2008) and Graff, Hochman and Zilberman (2009) argue that consumers on both sides of the Atlantic tend to dislike GM technology, but agribusiness lobbying has been much more pro-GM in the US. In the longer run it may be that as consumers live in different GM-food environments in the US and the EU, they develop different preferences. Consumer attitudes with respect to biotechnology are likely to be endogenous. In countries where GM products are available consumer preferences may shift in favor of this technology, while inversely consumers may distrust GM technology more in countries where GM products have been banned.

wine producing countries in the EU. Meloni and Swinnen (2015) also document how the introduction of food standards in the mid 19th century in response to the discovery by new scientific means of massive fraud and adulterations in food production led to different regulatory approaches in different countries. These regulations and standards persisted for a long time and influenced production processes and consumer preferences in the domestic industries.

3.5 Shocks and Institutional Change: Crises and Economic Integration

Does this mean that reversals in standards are not possible? Not necessarily. Standards and regulations can change over time when their use – or their vested interests -- weakened. For example, Vogel (2003, p 557) documents important historical shifts in the difference between consumer and environmental protection policies in the EU and US : *“[f]rom the 1960s through the mid 1980s American regulatory standards tended to be more stringent, comprehensive and innovative than in ... the EU. However, since around 1990 ... many important EU consumer and environmental regulations are now more precautionary than their American counterparts.”*

However, significant “shocks” to the political economy system may be required for such changes, i.e. to move the political economy equilibrium to another equilibrium given the dynamic political and institutional constraints to overcome (Rausser *et al.*, 2011). Shocks may come from both internal or external sources.

An internal source is when domestic “crises” affect food standards. The first wave of modern public food safety and quality regulations were induced in the late 19th century by public outrages of consumers over the use of cheap and sometimes poisonous ingredients in food production (Meloni and Swinnen, 2015, 2017). In the early 21st century, major changes in public food standards in the EU followed food safety scandals in the late 1990s with consumers demanding better protection, and triggering new policies such as traceability through value chains, etc (McCluskey and Swinnen, 2011). Also the introduction of various public regulations in China in the late 2000s followed the “milk scandal” where people died from consuming milk products with poisonous ingredients (Mo *et al.*, 2012).

Another source of shocks is external. One example is the integration of countries with different standards through international agreements. This may either cause the removal of “inefficient standards” or the opposite: that inefficient standards are extended to other countries with international integration. In reality, both have been observed, often reflecting the bargaining power of the industries and countries where the (in)efficient regulations were in place before integration.

In summary, theory and historical evidence suggests that there is an important dynamic political economy component to the political economy of. Countries have introduced different standards to address consumer, producer or environmental concerns. However, once these standards have been introduced vested interests change after they made the investments. What was a cost for producers initially now becomes a potential instrument for market protection. International integration can both lead to the mitigation of inefficient standards or to a spread of such regulations, depending on the political equilibria.

Cases of public standards where efficiency enhancement and rent distribution are mixed and that have attracted wide attention in recent years, and continue to do so are the cases of GIs and “food definitions”. These cases represent interesting mixes of private and public interests and of changing political coalitions. I discuss each in turn.

3.7 Geographical Indications (GI)

GIs are increasingly important instruments of agricultural and food regulations and growing as contentious issues in trade negotiations and disputes. What makes the discussion complex is that GIs can have both equity and efficiency effects. GIs can reduce information asymmetries and improve efficiency but GIs can also be used as a protectionist instrument to protect vested interests.

Globalization and economic integration has increased the linkages between consumers and producers globally, but at the same time stimulated farmers to lobby for their “local products”, seeking a coalition with consumers interested in local foods. The issue has created significant tensions in trade negotiations as the number of GIs has grown rapidly over the past 20 years, initially especially in the EU but now growing worldwide, and are an increasingly important item in trade negotiations (Josling, 2006; Huysmans and Swinnen, 2019; Raimondi et al. 2019).

The EU has the most GIs in the world, but there is a remarkable geographic concentration of GIs in the south of the EU. One obvious reason for this is that wine GIs take up a significant share of the EU’s GIs. However, excluding wine there are seven times more food GIs per capita in the southern EU member states than in other EU member states. Huysmans and Swinnen (2019) discusses several factors which may explain the geographic concentration of GIs in the south of the EU.

Economic explanations for these differences are (a) that southern countries have more differentiated and higher quality food products, which would thus benefit more from reductions in asymmetric information, and (b) that there is “learning by doing” in GI applications and in understanding the impacts. The latter is consistent with the strong correlation between the GIs in wine, which were introduced first and concentrated for climatic reasons in the south, and food GIs at the regional level.

Political explanations are (a) that agriculture and the food industry in the southern EU countries is less productive and is therefore more inclined to use GIs as an instrument to protect their agriculture and food industry from intra-EU and global competition; (b) that the “learning by doing” factor also applies to the politics of GI applications and in lobbying, creating political institutional spillovers.

In summary, economic and political factors may be behind the observation that there are more GIs in the south– a conclusion which is consistent with historical studies pointing at a mix of economic and political determinants of food regulations (eg Meloni and Swinnen 2018). This also means that GIs are likely to remain a hotly disputed issue in trade negotiations. An interesting related issue is how organizations representing environmental interests will reinforce the “local products” coalition by pointing at the environmental costs of trade and global sourcing.

3.8 The Definition of Foods

Another case of how standards may reduce information asymmetries and transaction costs but also protect vested interests is regulations which define specific foods.

One of the oldest cases is the *definition of beer* in Germany – the so-called *Reinheitsgebot* -- which lasted as a public regulation for exactly 500 years: from 1497, when it was first introduced in the region around Munich, to 1997, when the European Court of Justice ordered its removal as a barrier to trade in the EU's single market. van Tongeren (2011) finds that these centuries old regulations (definition of beer) still today have a major impact on the different evolution of the German beer market. He shows how the 500 year old German Purity Law was the reason for trade disputes in the late 20th century.

The *definition of wine* was first introduced in France in the late 19th century to protect French wine growers against the production of cheap wine from imported raisins. This definition later became the official definition in the EU (Meloni and Swinnen, 2017).

The *definition of chocolate* also has its roots in the late 19th and early 20th centuries which had major implications for international trade in these food products a century ago, and continues to affect trade and consumption patterns today (Meloni and Swinnen 2015, 2017). In the case of the chocolate industry, differences in definitions caused major trade conflicts later as the chocolate industries lobbied their governments to impose their own definitions on foreign producers.

An interesting recent case is “*the definition of meat*” with technological advances and changing consumer preferences. As plant-based “meat” products have grown rapidly in recent years, US livestock farms have lobbied for regulation to prohibit companies from using words such as meat, burger, sausage, etc unless the product came from an animal. However, they face opposition from a coalition of new plant-based “meat” companies and large food companies that have invested in them.

4. Special Interests and the Public Interest in Private Information Markets

If we want to understand how information and public regulations on information affect welfare we should also take into account that people also have access to other sources of information and that these sources may have a significant impact on people's behavior, even in the presence of public information.

Information costs and communication technologies have changed dramatically over the past decades. Consumers and voters have constant and convenient access to information. One example is enhanced (rural) infrastructure, including communication infrastructure, that occurs either through public investments (as in many high-income countries earlier in the twentieth century) or through technological innovations and commercial distributions (as in the recent dramatic increase in mobile-phone use in developing countries). More recently, a key factor is the spread of commercial mass media and social media.

However, rational ignorance as Downs (1957) identified it may still play a role today despite the overwhelming presence of mass and social media in many countries for a number of reasons. The major one is the opportunity costs for people of processing information. The opportunity costs of time make it necessary to limit both the size and the choice set and consumption of information from within that choice set. Another reason is ideological, which may influence consumers and voters decisions (not) to follow/subscribe and process information provided by certain individuals and/or media sources.

Most voters and consumers today receive much of their information from commercial or social media. This is in contrast to past generations, especially outside the United States, who got the bulk of their information from state-controlled media, which, of course, had their own biases. Commercial and social media have their own objectives and constraints.

Mass and social media can affect risk perceptions, consumer behavior and policy making by creating a bias in the provision of information (Baron 2006; Groseclose and Milyo 2005). Media bias can result from preferences of owners, editors, journalists, consumer preferences, or social media entrepreneurs. For example, the media's incentives to appeal to a larger audience and to attract advertisers may affect political messages. Biased information can also result from incentives to exaggerate messages (Rausser et al 2015).

4.1 Consumer Risk Perceptions and Food Consumption

There is often a divergence in risk perceptions between the scientific community and the general public (Huffman and McCluskey, 2014). The effectiveness and use of new technologies in agriculture and food production is dependent on consumers' risk perceptions. McCluskey and Swinnen (2010, 2011) argue that it is not cost effective for consumers to research the details about many food risks. Consumers have to decide how much information to "consume" or process. While consumers constantly update and adjust their risk perceptions in the face of new information, studies suggest that consumers are willing to pay only modest amounts to reduce currently perceived food risks. One possible explanation is that the cost of risk avoidance is quite low because close substitutes are often available.

The nature of information matters as well. The "bad news hypothesis" argues that media consumers in general tend to be more interested in negative news items than in positive news items, *ceteris paribus* (McCluskey and Swinnen, 2004). This demand effect of the media market drives mass media to pay more attention to "bad news" (McCluskey et al. 2015).¹³

¹³ For example, Heinz and Swinnen (2015) find that job market losses are reported twenty times more likely than job market gains in the media. Other empirical studies find that there is a bias towards "negative coverage" in mass media in a variety of policy and public interest areas, such as trade policy, globalization and food safety (Swinnen et al, 2005). Marks et al (2006) find that reporting on globalization was positive early on but switched to more negative in recent years. As a result, the potential risks (real or imagined) are reported much more often than the benefits.

Another concern is that the media is “dumbing down” news, and that this trend is leading to decreased quality and quantity of coverage of complex topics, such as science and technology, which need in-depth explanations. This is caused by competitive pressures associated with cutbacks in reporting and editorial quality (Alterman 2008).

Consumers (and citizens in general) may anticipate that information from media may be biased. Then they can take that into account in evaluating the information. The conclusion from several behavioral studies is that even when viewers know that the media sources are biased, they insufficiently discount the information to fully take into account the bias. Exposure to media can thus systematically alter beliefs and consumer behavior.

Hence, the impact of bias in mass media reporting on consumer attitudes is substantial, but also bi-directional and complex. Consumer bias in personal preferences and beliefs affect the media’s reporting strategies to convince these consumers to buy their media products. Similar complex interactions occur between media and politicians and between media and business.

Social media also plays a role in food choice but the impact is more subtle than often suggested (Greibitus, Roosen and Seitz, 2014; Matin and Goddard, 2014). With so many social media choices available, consumers must limit who they follow. The choice of whom to follow results in a customized information flow. Thus in their use of social media, consumers often follow like-minded people and companies (Moe and Schweidel, 2014). This leads to reinforced opinions and the lack of diversity of perspectives.

4.2 Information, Mass Media and Political Economy of Policies

Studies have found that media bias can have important impacts on agricultural and food policy (Marks, Kalaitzandonakes, and Zakharova 2003). Mass media affect public policy making through several mechanisms (McCluskey and Swinnen 2010). Access to mass media empowers people politically, and a more informed and politically active electorate increases the incentives for a government to be responsive (Besley and Burgess 2001; Strömberg 2004). This influence has been found for various types of government programs, such as unemployment programs and disaster relief (Eisensee and Strömberg 2007; Francken, Minten, and Swinnen. 2012), better governance and less corruption in public food provision (Besley and Burgess 2002), and rural educational spending (Reinikka and Svensson 2005; Francken et al 2009). In addition, mass media tends to target large audiences because of scale economies. In essence, mass media can play an important role in agricultural policy by altering the political-economy mechanisms through which small special-interest groups influence policy. Group size (e.g., the number of farmers versus the number of food consumers in the economy) helps determine lobbying effectiveness because it affects collective-action costs as well as per capita costs and benefits of agricultural policy (Olson 1965; Swinnen 1994). Mass and social media can alter these political-economy mechanisms (Strömberg 2001; Kuzyk and McCluskey 2006). Competition leads mass media outlets to provide more news and information to large groups such as taxpayers and dispersed consumer interests, thus reducing the influence of special interest. Olper and Swinnen (2013) find that in developing countries, agricultural taxation is reduced when mass media grow in importance, while in rich countries, agricultural support is reduced, and thus that mass-media reduce distortions to agricultural and food prices.

4.3 Mass Media, Fundraising and Policy Communication

Not only media but also organizations such as FAO, the World Bank, Oxfam, Greenpeace etc. Provide information. Policy communication of these development and aid organizations tries to influence policies but also to capture media attention and fundraising. Bias in their policy communication may draw in larger revenues through fundraising, but it may have negative welfare effects if it induces suboptimal behavior by decision-makers who use this advice for their decision-making. Swinnen et al. (2011) develop a model of “the market for policy communication” in which donors and development organizations interact. NGOs and development organizations need to invest in fundraising activities in an environment where they compete for attention and funding of donors (e.g. Andreoni and Payne, 2003; Rose-Ackermann, 1982). Communication on issues may fit in such strategy to secure and raise funds. A key result is that that “slanting” (communication bias) will almost always occur. When donors prefer donating to policy organizations that (claim to) address more severe problems, policy organizations will depict situations as being more negative than they actually are, even when donors’ beliefs are unbiased. Furthermore, when donors update their beliefs with the policy communications of the organizations, both donors’ beliefs and the policy organizations’ slanting converge to a biased equilibrium.

There are two distinct and social mechanisms at work. The first mechanism is the impact of stories that appear in the media on the communications of the organizations. Media may influence donors’ initial beliefs, and thus POs’ communication. Emotionally charged media coverage, typically concentrated around “events” or “shocks”, invokes public responses, which induce politicians and governments to act (Hawkins, 2002).¹⁴ The second mechanism is the desire of the organizations to appear in mass media in order to achieve their objectives (Cottle and Nolan, 2007). Sudden changes with dramatic effects, such as the 2008 food crisis, not only present important challenges to the international organizations in addressing these, but also important opportunities for development organizations to capture media attention and signal their relevance and importance to their donors and the public.¹⁵

In combination, these factors create a set of incentives for international organizations to emphasize the negative welfare implications in their analysis and policy communications, and to put less emphasis on the positive effects. This attracts media coverage and, is thus, more likely to reach a wide audience and to influence policy-makers.

4.4 Illustration: Information, Media and Policy-Making during the “Food Price Crisis”

¹⁴ A higher level of media attention to developing countries problems leads to more aid (Eisensee and Stromberg, 2007).

¹⁵ A related factor is that the public at large is more interested in media reports concentrating on negative (development) effects – according to the so-called “bad news hypothesis” (see above).

The early 21st century price spikes provide an interesting natural experiment on information, media and policy. Before the price spikes, the widely communicated view was that *low* food prices were a curse to developing countries and the poor. However, after the dramatic increase of food prices in 2006-2008, the vast majority of reports state that *high* food prices have a devastating effect on developing countries and the world's poor.¹⁶ (Swinnen, 2011; Swinnen and Squicciarini, 2012).

The 2007-2008 price spikes, and the ensuing urban consumer unrests, lead to urban protests and creating major “media events” As soon as urban protests reached the streets, local media reports were picked up by international mass media, paying a disproportionate amount of attention to the problems of urban consumers, compared to the long-run hunger and poverty problems among the rural population.

The price spikes triggered media coverage. Guariso et al. (2014) find that the correlation between food prices and media coverage between 2002 and 2012 is a staggering 83%. Not only media attention, but also the focus and budget allocations of policy makers moved in line with the food price movements and the media attention. For example, the falling share of aid going to agriculture was reversed and the World Bank doubled its lending for agriculture (and food).

Thus, while for many years experts pointed at the low level of investment in developing country agriculture as a source of poverty and food security, it was only after the “food crisis” that media attention increased and that policy-makers worldwide put rural poverty and underinvestment in agriculture on their priority list. Donor funding has followed.

What is remarkable is that, despite the fact that rural malnutrition and poverty of farmers and low agricultural productivity in developing countries has been a major problem for a long time, “urban (consumer) crisis”, somewhat paradoxically, helped to put poor farmers’ situation on top of the agenda. Hence, food price spikes may have succeeded where others have failed in the past: to put the problems of poor and hungry farmers on the policy agenda and to induce development policies and donor strategies to help them.

4.5 Fake News and Social Media

In the past decade there is a major shift in the supply and consumption of information from mass media to social media. By 2016, 62% of US adults get their news from social media and 40% from Facebook alone. In the final 3 months of the 2016 US presidential campaign, the top performing fake election news stories on Facebook attracted more views than top stories from major news outlets as the NY Times, Wash Post, NBC News,

¹⁶ See Swinnen (2011) for extensive documentation of this reversal in policy communication.

etc. More specifically, the 20 top-performing false election stories from fake news sites generated 8.7 million shares, reactions and comments on Facebook compared to 7.3 million from 19 major news websites (Allcott and Gentzkow (2017) and Kshetri and Voas (2017)).

How do social media differ from mass media ? According to the studies of Allcott and Gentzkow (2017) and Kshetri and Voas (2017) there are similarities and differences compared to mass media. From a conceptual perspective, social media entrepreneurs also have both profits and ideology as objectives. Both studies identified fake news providers on social media who did it for profits and others because of ideological reasons. Key differences are that investment and operating costs are considerably lower for social media and that the costs of biased (fake) reporting are lower, both in terms of economic costs (reputation) and political/legal costs.

This implies that access to information on social media is cheaper and is supplied by a wider variety of sources. This enhances information consumption but at the same time makes it more difficult for the consumer to evaluate the quality of the media source, and thus of the story. On the supply side there are less incentives to limit bias and fake news, for either ideological or profit reasons.

With the expansion of news sources and the supply of information and opportunity costs of processing info (leading to rational ignorance) the demand for “guides” and “leaders” has risen. Most major social media platforms have therefore accumulated editors or “curators” who choose, tone down, and fill in gaps in the content produced by users and media companies.

This creates opportunities for “activists” / “influencers” to step in and “lead” their readers in a certain direction. For example in Canada “mommy bloggers” and in the USA “mothers of America” have become influential voices, often taking a “naturalist perspective” (Rausser et al 2019) and using social media to influence their readers.

A key issue is who readers chose as their “guide” -- and more generally who they follow on social media. In their use of social media, consumers often follow like-minded people and information suppliers. This leads to reinforced opinions, in other words, to *an echo chamber* (Moe and Schweidel, 2014). This in turn leads to *polarization of minds* (Allcott and Gentzkow, 2017).

This has major implications for politics and economics. For example, in a representative study of US adults, Fernbach et al (2019) find that as opposition to and concern about GM foods increases, perceived understanding of GM increases, but objective knowledge about science and genetics decreases. Extreme opponents know the least but think they know the most.

5. Conclusions

Political considerations are crucial to understand economic policies. Gordon Rausser has made important contributions in a variety of topics in the political economy literature. An important theme of Gordon Rausser’s work on political economy has been the political economy of public policies that have positive welfare effects, while at the same time affecting rent distribution. This include his work on PERTS and PEST and on policy

reform and compensation. A key focus in this literature was on public funding of agricultural research and how a mix of public and private interests determines government investments.

A similar framework can also be applied to understand government regulations on information : the political economy of information, with important implications for economics and politics.

In economics, asymmetric information is a characteristic of many economic activities, especially in agriculture and food. To reduce such problems governments have intervened through regulations, such as the introduction of public standards. Such public regulations can enhance aggregate welfare (by reducing asymmetric information), but the introduction of a standard may create winners and losers. These mix of effects will trigger lobbying by special interests and may lead to suboptimal regulations.

In politics, it is rational for voters to be ignorant about certain policy issues, if the costs of information are higher than the expected benefit from being informed. This rational ignorance is still relevant in today's world where information supplies have multiplied. Mass media and, increasingly, social media play a very important role in providing information about food, agriculture, health, technologies and environmental issues to consumers, producers and other interest groups. The interactions between mass and social media, risk perceptions and consumer behavior are complex. Long-term effects of biased media reporting comes directly from imperfect discounting of bias by consumers and voters and indirectly via its influence on changes in public policy.

The past decade has witnessed a dramatic increase in information supply from social media. Social media entrepreneurs, like mass media, have both profits and ideology as objectives. However investment and operating costs are lower for social media as are the costs of biased (fake) reporting. The quantity of information has increased (and is cheaper) but the quality is more difficult to evaluate. This creates opportunities for activists to influence information consumers, and can lead to a polarization of minds and societies.

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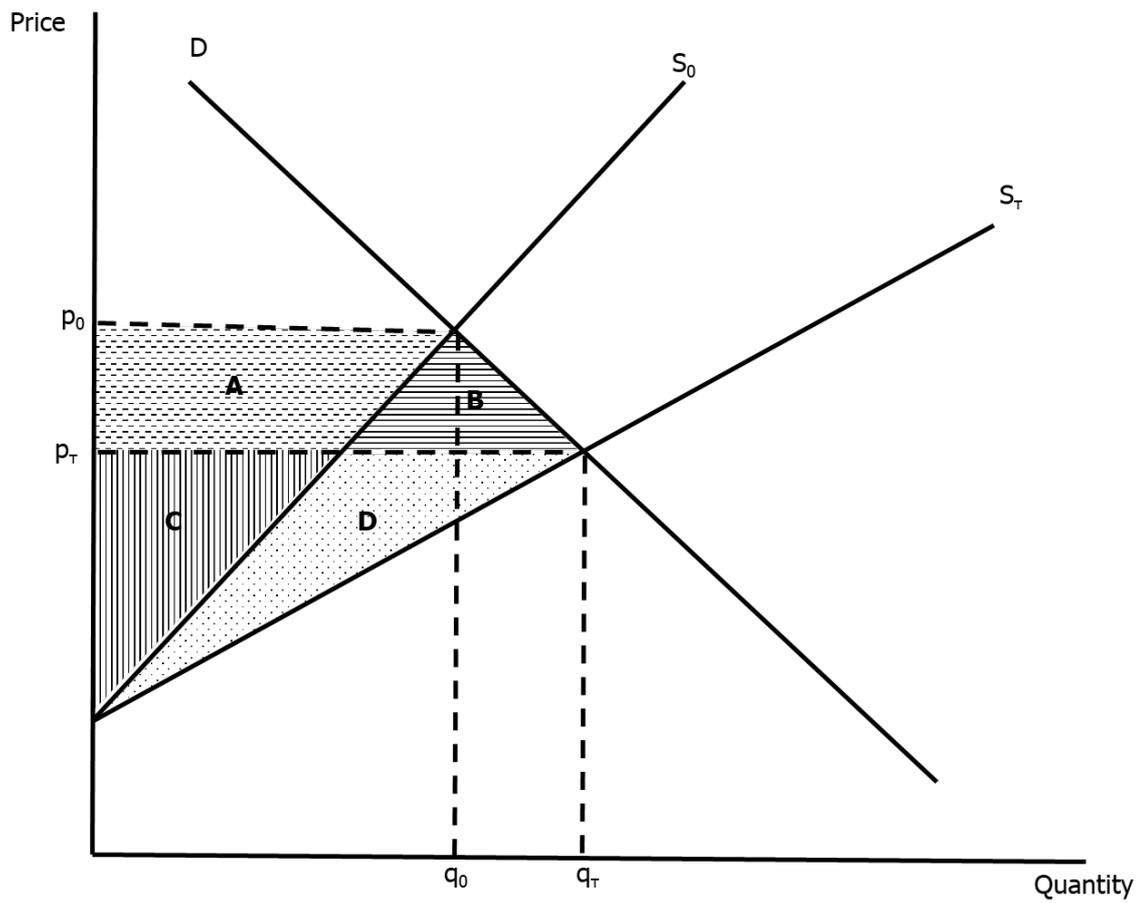
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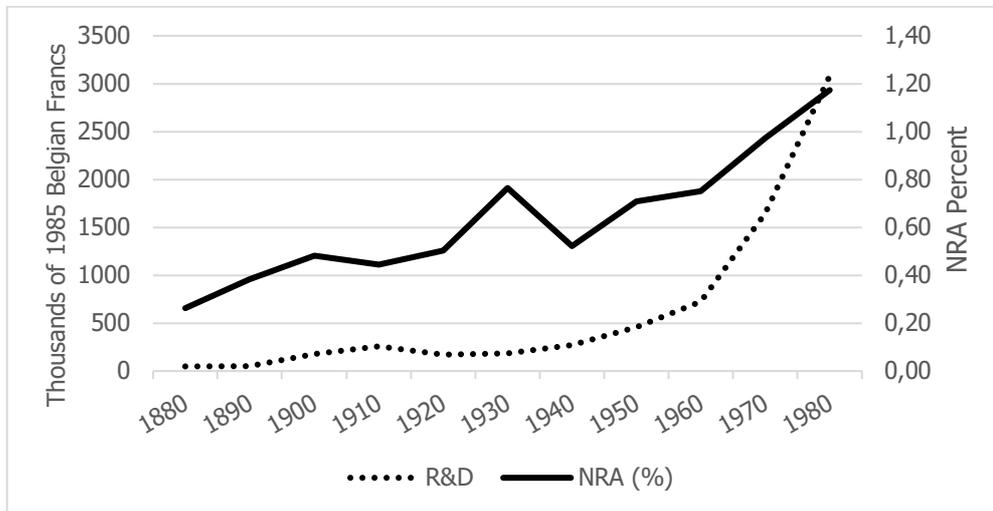
Fig 1. Welfare and Distributional Effects of Public Research in a Closed Economy



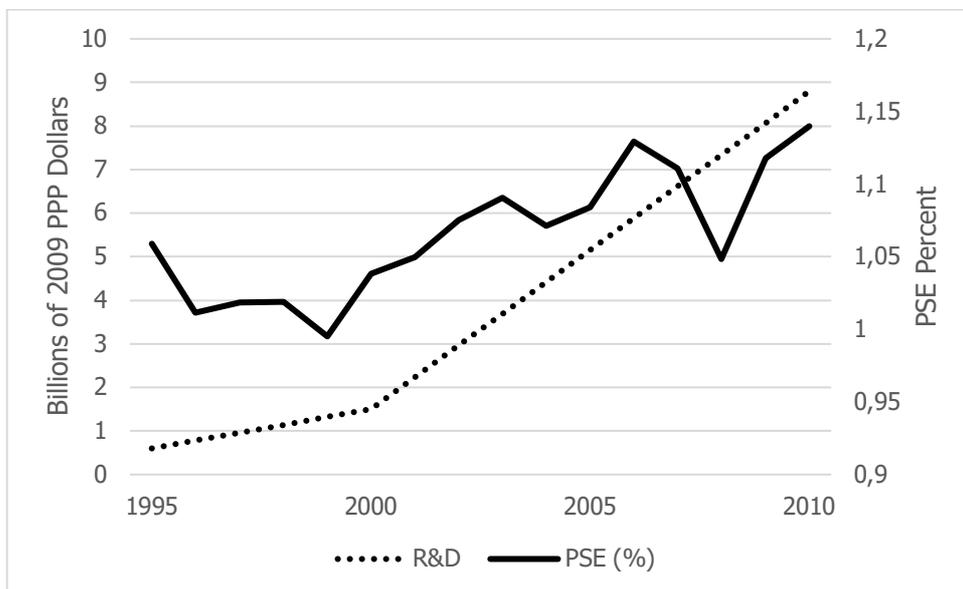
Source: Swinnen 2018, Chapter 13

Figure 2. Agricultural Subsidies (NRA%, PSE%) and Public Agricultural R&D Expenditures with Economic Development

a. Belgium, 1880 - 1980

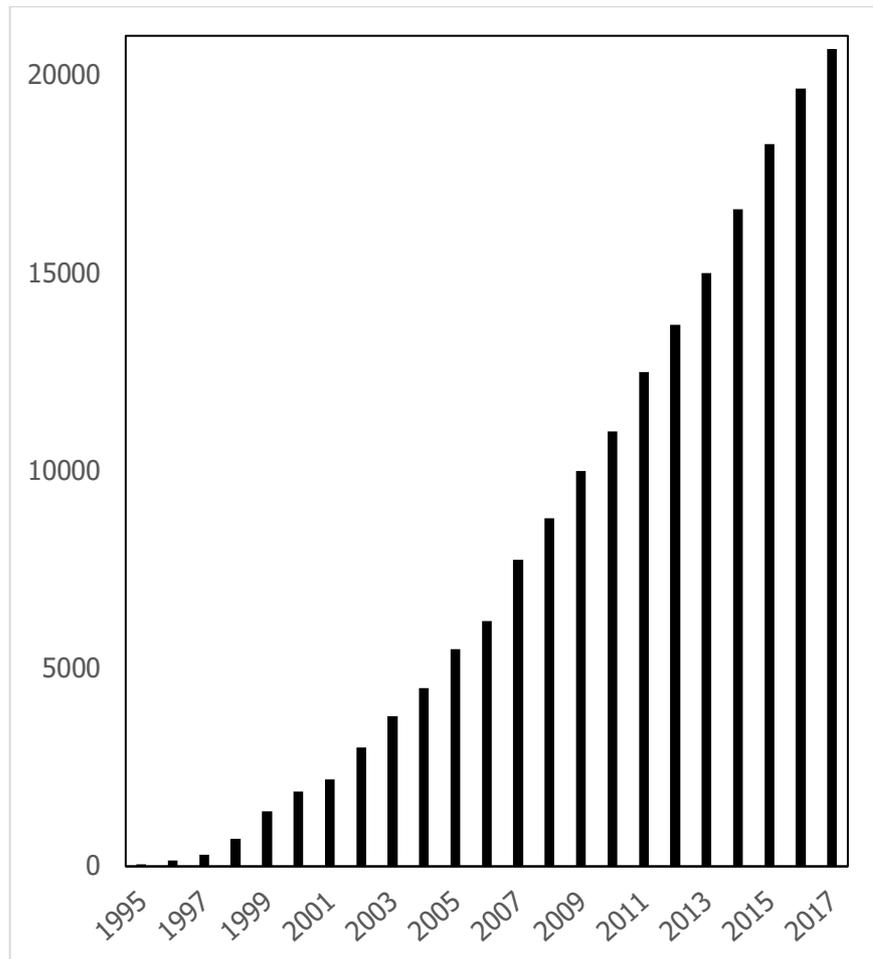


b. China, 1960 - 2010



Source: Swinnen 2018, Chapter 4, with original data from OECD (2017), Pardey et al (2016) and Swinnen (2009, 2017)

Figure 3 The Growth of Food Standards: SPS Notifications to WTO (Total Number)



Source: Own calculations based on data from WTO

Figure 4: Impact of Standards in a Closed Economy

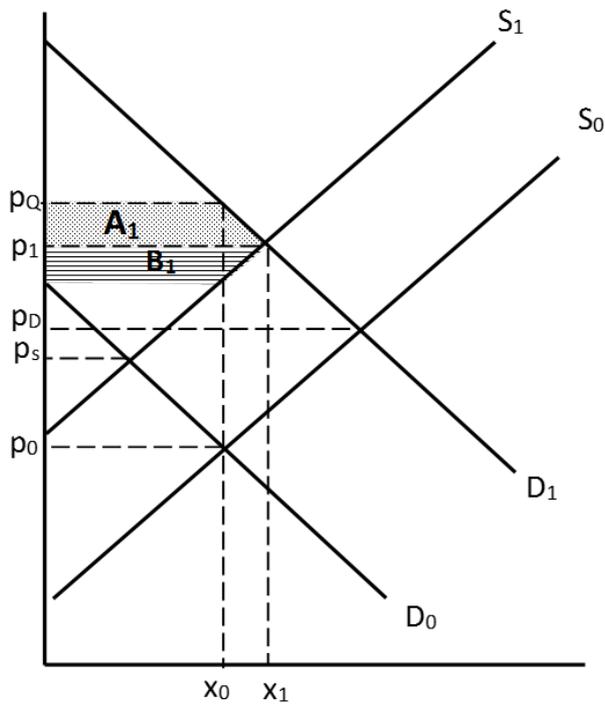


Table 1. Regional distribution of GIs (in absolute numbers, percentages, and per capita)

	1996			2017		
	Food	Wine	Total	Food	Wine	Total
Number of GIs						
Old MS (EU 15)	329	736	1065	1196	1510	2706
North	23	0	23	103	22	125
Middle	11	40	51	123	80	203
South	295	696	991	970	1408	2378
EU28 Total	329	736	1065	1337	1760	3097
% of EU Total						
Old MS (EU 15)	100,0%	100,0%	100,0%	89,5%	85,8%	87,4%
North	7,0%	0,0%	2,2%	7,7%	1,3%	4,0%
Middle	3,3%	5,4%	4,8%	9,2%	4,5%	6,6%
South	89,7%	94,6%	93,1%	72,6%	80,0%	76,8%
EU28 Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Per capita						
Old MS (EU 15)	1,41	1,51	2,92	3,52	3,14	6,65
North	0,15	0,00	0,15	1,03	0,26	1,29
Middle	1,42	1,15	2,57	2,73	1,59	4,32
South	2,92	3,60	6,52	7,14	7,83	14,97
EU28 Total	0,76	0,81	1,56	2,97	3,66	6,62

OMS North: Denmark, Finland, Ireland, Netherlands, Sweden, United Kingdom

OMS Middle: Austria, Belgium, Germany, Luxembourg

OMS South: France, Greece, Italy, Portugal, Spain

NMS North: Estonia, Latvia, Lithuania, Poland

NMS Middle: Czech Republic, Hungary, Slovakia

NMS South: Bulgaria, Croatia, Cyprus, Malta, Romania, Slovenia

Source: based on Huysmans and Swinnen (2019)