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A SHORT-LIVED BACKLASH:
THE POLITICAL ECONOMY OF WHEAT PROTECTION IN
EUROPE IN THE FIRST HALF OF THE 19TH CENTURY

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ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES

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EUI Working Paper **RSCAS** 2009/61

Robert Schuman Centre for Advanced Studies

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Abstract

In the first half of the 19th century, the wheat trade policy in Western European countries followed a major political cycle, featuring a massive increase in protection in the late 1810s and early 1820s, and a slow process of liberalisation from the end of that decade until the 1850s. This paper aims at understanding the causes of this cycle in seven wheat-importing countries (the United Kingdom, France, Belgium, the Netherlands, Spain, Sweden and Piedmont). It discusses several causes, within the framework of a simple model of political economy. Ideas and political considerations may have played a role, but, at the end of the day, the single most important cause were changes in the expected income of the producers, mainly reflecting movements in wheat prices

Keywords

1. Introduction

The Repeal of British Corn Laws in 1846 is one of the most intensively researched issues in 19th century trade history. Its causes have always fascinated historians (Schonhardt-Bailey 2006). How effective was the propaganda of the Anti-Corn Law League? Why did Robert Peel, the Tory prime minister, support liberalisation, splitting his own party and condemning it to stay away from power for many years? Why did more than one hundred Tory MPs, the party of the landed interest, follow him? Whatever the cause of the Repeal was, it marked a watershed in British history: to quote the title of a recent book, England became a *Free Trade nation* (Trentmann 2007) and it was to remain as such for almost a century. But the Repeal allegedly had consequences also on the other side of the Channel. Several countries started to liberalise trade, at least partially, in the 1850s, and the process was accelerated with the signature of the 1860 trade treaty between France and the United Kingdom (known as Cobden-Chevalier), which was followed by many other commercial agreements. The conventional wisdom attributes this wave of liberalisation of the 1860s to the British example and to its diplomatic pressure (Bairoch 1976 and 1989). Findlay and O'Rourke, in their recent book *Power and Plenty* (2007), argue that "when Europe eventually moved towards freer trade in the late nineteenth century, this was largely as a result of Britain's example" p.372.

This conventional wisdom on both the Repeal and the treaty has been questioned as of late. Sharp (2006) frames the Repeal in a long-term liberalising trend which had started with the 1828 Corn Laws. Nye (2007) argues that the Repeal was less important than the Cobden-Chevalier treaty in shaping British policy. Pahre (2008) recalls that the treaty had been preceded by many other agreements in Continental Europe. Marsh (1999) and Nye (2007) stress that it was France, not the United Kingdom, which started the negotiations for the treaty and led the subsequent wave of treaties. Accominotti and Flandreau (2008), with a gravity model, find no impact whatsoever of the treaty on aggregate bilateral trade flows. However, Lampe (forthcoming) shows that the treaties did increase the exports of the products that they targeted.

This paper contributes to this revisionist movement by analysing the policies for trade in wheat in seven European wheat-importing countries (including the United Kingdom) from the end of Napoleonic wars to 1870. Previous work (Federico forthcoming) shows a massive process of convergence in wheat prices in Europe from the 1830s and tentatively attributes it to the liberalisation of trade. The first two sections confirm this hypothesis with a qualitative and quantitative analysis of the trade policy. All countries sharply increased duties on wheat after the end of the French war and progressively abolished them from the 1830s onwards – so that, by 1870, the wheat trade was practically free all over Europe. The political economy of the protectionist wave is fairly easy to explain, as, in all countries, landed interest still wielded most of the power. By the same token, the liberalisation is somewhat puzzling: Why did landowners accept a cut in duties on wheat? Section Four provides a theoretical framework, inspired by the theory of political support by Pahre (2008). In a nutshell, it attributes the leading role to policy-makers, rather than to lobbying by interest groups, as in the more traditional Olson (1971) framework. Section Five recalls the key features of policy-making in the seven countries. The rest of the paper discusses five (not mutually alternative) causes, which can induce a rational "politician" to change duties.

2. An outline of European wheat trade policy, 1815-1870

The political map of Europe after the Congress of Vienna featured five major powers (the United Kingdom, France, Russia, Austria-Hungary and Prussia), some middling countries (the Netherlands, Spain and Sweden) and dozens of statelets, in Germany and Italy. It would be plainly impossible to consider all of them. Thus, the paper focuses on countries which were both large enough to be economically relevant and potentially net importers of grain. This last principle rules out all the

German states and all the Italian states, bar the Kingdom of Sardinia (which, in spite of its name, consisted mainly of Piedmont and Liguria, in North-West Italy). Both unified Italy and unified Germany were to become major importers in the second half of the 19th century, but, until the 1880s, they were net exporters or self-sufficient in normal years, even without duties. The Habsburg empire was also basically self-sufficient, thanks to Hungarian wheat (Komlos 1983). Thus, the paper deals with seven countries, Belgium (independent from the Netherlands since 1830), France, the Netherlands, the Kingdom of Sardinia, Spain, Sweden and the United Kingdom.

Anecdotal sources for these seven countries are abundant enough to weave a narrative which shows some striking similarities. In the early modern period, many cities in Western Europe had set up regulations aiming at guaranteeing city dwellers a steady supply of wheat at affordable prices (Tilly 1971, Persson 1999). This policy clearly favoured urban consumer at the expense of producers and grain traders. Trade policies had to be consistent with this aim. Imports were left free, while exports were regulated, if not prohibited altogether. These pro-consumer policies had survived the formation of greater territorial states and also, by and large, the attempts of reform in the last decades of the 18th century. The French Revolution and the start of the war marked a notable discontinuity. In metropolitan France, the restrictions to inter-regional trade were abolished in 1789 and other regulations were progressively loosened, to be eventually shelved for good in the late 1810s (Miller 1999). The French conquest brought forward a similar process throughout Western Europe. During the Napoleonic wars, the trade in wheat remained comparatively free from restrictions, even between bitter enemies (Galpin 1925, Olson 1963, Davis and Engerman 2006). The British governments allowed imports under license, while France encouraged these exports in order to drain bullion away from the United Kingdom.

At the end of the war, European countries had to reconsider their trade policy.[1] A return to 18th century regulations was impossible, but producers feared that peace would cause the bonanza to end. For the first time, imports were viewed as a threat, even in the United Kingdom, which, in the previous thirty years, had became a net importer of wheat. Indeed, a committee of the House of Commons had already recommended the protection of domestic agriculture as early as 1813 (Barnes 1930), and the House duly approved a new set of Corn Laws two years later. They allowed foreign wheat to enter free of duty if the domestic price exceeded 80s/quarter and forbade imports if it was lower. This was tantamount to a prohibition on imports, as this price had never been attained before 1800 (Mitchell 1988). France imposed, for the first time in its history, a (very low) duty in 1816, changed it into a sliding scale in 1819, which was tightened two years later.[2] Spain imposed duties in 1818, raised them three times in the next two years, and prohibited imports altogether in 1820, except for exceptional circumstances with a special license. Sardinia and Sweden also increased their duties sharply in 1818-1820 as did Portugal (Andrade Martins 2005, de Couto Ferreira 1995). In the Kingdom of the Netherlands, trade policy was heavily influenced by the political cleavage between the Netherlands proper, and the newly-acquired Austrian Low countries - *i.e.*, modern Belgium (van Zanden-Riel 2004). The former had always been a bulwark of free-trade in wheat, while the landed interest in the Southern part of the kingdom requested protection. Eventually, the King Willem I bowed to their pressure in October 1824 and imposed a duty on wheat, making it the last country of the sample to join the protectionist wave.

The approval of the 1828 Corn Laws in the United Kingdom was the first step towards liberalisation, but the path was long and tortuous. France slightly reduced the rates of its sliding scale in 1832, and both the Netherlands and, somewhat surprisingly, Belgium reduced their duties after the division of the country in 1830. However, both countries adopted sliding scale duties in the mid-

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[1] All information on changes in trade policy in the seven countries are from Appendix I.

[2] A sliding-scale duty varied inversely to wheat prices, usually measured on the domestic market. They were quite popular in these years, having been adopted by five countries out of seven, the United Kingdom (1828-1846), France (1819-1852), Belgium (1834-1838), the Netherlands (1835-1844) and Sweden for few months in 1830-1831.

1830s. The trends towards liberalisation gained momentum in the 1840s. Belgium suspended its sliding scale in 1839 and replaced it with a very low fixed-duty, and the Netherlands imitated it in 1845. The United Kingdom reduced protection in 1842 and eventually repealed the Corn Laws in 1846, Piedmont progressively abolished its duties from 1847 to 1854, and Sweden steadily cut its duties in the 1840s and scrapped protection for good in 1856. France suspended its sliding scale in 1853 and abolished it definitively in 1861. The last bulwark of protectionism was Spain, where imports remained prohibited until 1869.

3. Measuring protection in the 19th century

The anecdotal evidence on trade policy may be misleading, as it depends on subjective assessments on the level of protection. What about the actual levels? Early 19th century wheat-growing used no industrial inputs, and thus nominal and effective protection coincided. The nominal protection in the i-th country in year t can be measured as:

$$NP_{it}=D_{it}/P_{it} \qquad 1)$$

where D refers to the duty and P to the price of wheat. In the case of sliding scale duties, D is proxied by the duty which would have been paid on the average yearly price, given the schedule. Prices can be measured in three different ways:

i) as domestic price P_D, inclusive of duties

$$NP_{it}(1)=D_{it}/P_{D\,it} \,\ldots\ldots\ldots\, 2)$$

ii) as the same price, net of duty

$$NP(2)_{it}=D_{it}/(P_{Dit}- D_{it})\ldots3)$$

iii) as "world" prices P_{Wt}

$$NP(3)_{it}=D_{it}/P_{Wt}\ldots\ldots\ldots\ldots4)$$

Each of these definitions of nominal protection serves a different analytical purpose. NP(2) is the closest to the standard practice of using import prices as the denominator (alas, unavailable for most countries). NP(3) is the most comparable across countries. Last, but not least, NP(1) is the measure which a 19th century agent could compute most easily. Indeed, all the sliding scale systems used domestic, rather than import, prices to compute the duty.

The actual level of protection is important for many issues, such as the analysis of market integration, but, from the point of view of policy-making, the relevant parameter is the *expected* level – *i.e.*, the protection which agents expected to receive from the duty that they were going to impose. By definition, the level depends on expectations about prices, which we cannot know. It will thus be assumed, somewhat arbitrarily, that agents deemed prices were going to remain constant at the level of the three previous years. It will also be assumed that they neglected the consequences of their own decisions on "world" wheat prices (*i.e.*, that they reckoned they were living in a small country).[3] Thus, expected protection (ENP) is defined as:

$$ENP(1)_{it}=D_{it}/[(\Sigma P_{it-m})/3] \text{ in where m=1}\ldots3\ldots\ldots.5)$$

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[3] This assumption is less controversial than it might seem. In the late 1860s, the United Kingdom imported slightly less than 2 million tons of wheat, and the five other countries an additional half million. Western Europe produced about 11-12 million tons, Austria and Balkans about 5 and Russia about 10 (Mitchell 2003) – *i.e.*, British imports accounted for about 8% of European supply.

while the expected effect of a change in duty is computed as:

$\Delta \text{ENP}(1) = (D_{it} - D_{it}*)/[(\Sigma P_{it-m})/3]$………………6)

where $D_{it}*$ is the existing duty and D_{it} is the duty after the planned change.

Table 1 reports the results.[4] The figures in bold are estimates of the levels of expected protection (*i.e.*, ENP (1)). The symbol ∞ marks prohibitive duties, the letter S, a temporary suspension of the duty. The other figures refer to increases (+) or decreases (-) in expected protection (*i.e.*, Δ ENP(1)). The figures in italics refer to sliding scale duties. Cumulating the protection in 1814 with changes from 1814 to 1870 does not yield the duty in 1870 because each figure is computed with a different denominator.

Table 1: Trade policy at a glance: expected protection and its changes

	Belgium	France	Netherlands	Sardinia	Spain	Sweden	UK
Initial (1814)	2.2*	0	2.1	0	0	4.1	1.1
1815						+0.1	∞
1816		1.5	+0.1			-1.7	
1817						-1.1	
1818				10.6	5.1		
1819		-0.8		+7.3	+13.5		
1820					∞	+13.3	
1821		∞				-0.8	
1822			+0.4	+17.2		-8.7	
1823							
1824							
1825			+9.3				
1826							
1827							
1828		10.1§					42.2
1829	**7.5***						
1830	-4.7	S	-7.3			-20.7	
1831						-32.2	
1832		-0.1				-17.3	
1833						+20.4	
1834	+16.1					+7.0	
1835			+5.3			-22.1	
1836							
1837							
1838							
1839	S					-13.7	
1840	S					+4.2	
1841	S						
1842	S					-10.6	-15.8

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[4] The information on changes refers to the year of approval rather of actual implementation. Temporary measures are listed only if they were in force for more than six months over the year. When duty differed e.g. according to the provenance or flag, the figures usually refer to the lowest option. However, duties on British import refer to imports from the Continent, neglecting the preferential treatment of colonial wheat.

1843	S						
1844	S						
1845	-13.3°		-5.7				
1846		S					-24.2
1847		S	+0.2	-18	**S**		S
1848	+0.1						
1849						-6.8	-5.2
1850							
1851				-6.9			
1852				-2.5		-0.9	
1853	S	S		-7.6			
1854	S	S		0		S	
1855	S	S				S	
1856	S	S	-2.1		S	S	
1857	1.3°	S			S	S	
1858		S				0	
1859							
1860		S					
1861		-27.9°					
1862							
1863			+0.4				
1864							
1865	0						
1866							
1867					S		
1868							
1869					3.4		0
1870							
Final (1870)	0.0	2.2	0.5	0	3.4	0	0

* Dutch duty; °relative to the duty before the suspension; $ duty according to the 1821 law

Sources: prices Federico (forthcoming) except the United Kingdom, Gazette price (Mitchell 1988); duties Appendix I
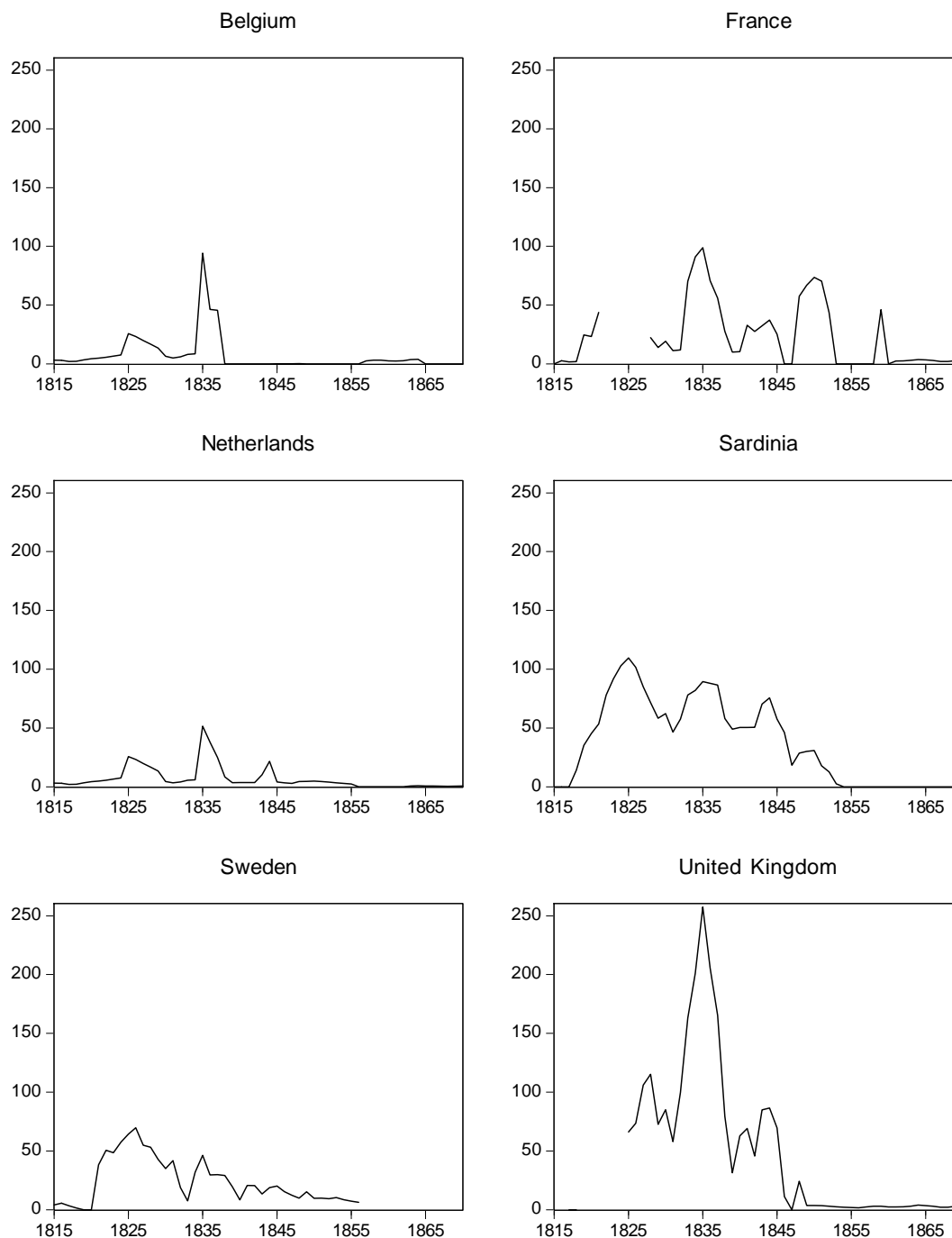
The interpretation is fairly straightforward. Let us consider, for instance, the case of France. Imports were free in 1814. They were subject, for the first time, to a fixed duty (Roman font) of 0.5 francs/quintal in 1816. This was roughly equivalent to 1.5% of the average domestic price in 1813-1815. Three years later, in 1819, the fixed duty was replaced by a sliding scale duty. Prices in 1816-1818 had been so high that the expected protection with the new sliding scale (in italic)declined by 0.8 percentage points relative to the level under the fixed duty. France adopted a new sliding scale in 1821, which prohibited imports at the very low prices prevailing since 1819. Prices rose enough to allow imports again only in 1828, when the duty was a comparatively modest 10.1%. In 1832, the sliding scale was changed again, but the effects on the expected protection were minimal – a decrease by 0.1 percentage points relative to the 1821 version with 1829-1831 prices. The duty was repeatedly suspended (allowing free imports) in the 1840s and 1850s, but remained officially operative until March 1861, to be substituted by a fixed duty of 0.6 fr/q.le. The latter was equivalent to about 2.5% of the domestic price in 1858-1860 (and 2.2% in 1870). In contrast, with 1858-1860 prices, the 1832 sliding scale would have yielded a 30.4% duty: the adoption of the fixed duty reduced protection by 27.9 points.

By and large, Table 1 confirms the narrative of Section 2. All countries imposed high, or even prohibitive, duties in the 1820s, kept them fairly high in the 1830s, and liberalised imports from the 1840s. However, the table adds an important piece of information. Trade policy changed very often:

measures affecting the wheat trade were adopted once every 11 years in the United Kingdom, once every seven years and seven months in Spain and the Netherlands, once every 6 years and 7 months in Sardinia, once every 3 years and 4 months in France, once every two years and 5 months in Belgium (during its independence) and once every 15 months in Sweden. These frequent changes contrast quite starkly with the strategy during the late 19th century backlash against the "grain invasion" (O'Rourke 1997). The three main countries of the European Continent, France, Germany and Italy changed duties only three times each from the return to protection in the mid-1880s to World War One.

To what extent did expected duties translate into actual protection? Graph 1 measures this as NP (3) - *i.e.*, as ratio of domestic prices to "Baltic" prices (an average of prices in Danzig and Konigsberg).

Graph 1: The actual protection (NP (3))

Source: Appendix Table I

The results confirm the main story – protection did rise to very high levels, but it was comparatively short-lived. From 1815 to 1870, imports were prohibited or duties exceeded 50% of the Baltic price in 119 country/years out of 377, but they were below 20% in 214 years. Just for a comparison, from the 1880s to 1913, nominal protection exceeded 50% of the Chicago price only in one year out of six, with a peak of only 64% in Germany in 1894 (Federico-Persson 2007). Graph 1 also highlights quite substantial differences among countries. Spain is in a class of its own, as it prohibited imports

altogether for most of the time (and it is consequently omitted from the graph, as is France in 1822-1827 and the United Kingdom in 1815-1816 and 1819-1824). At the other side of the range, in Belgium and the Netherlands, the backlash started late, and the period of high protection lasted only a few years.[5] In the other countries, wheat-growing enjoyed fairly high protection (over 20%) for about thirty years. Also the late 19th century protection lasted for about thirty years in all the three countries, but only because of the outbreak of World War One. Despite the active free-trade campaigns, the political situation offered very few chances of liberalisation in any of the three countries.

Before moving to the interpretation of results, it is necessary to warn that the assumption of constant reference prices for sliding scale duties might overvalue the estimated NP (3) (Sharp 2006). In contrast, the reference prices were set several times each year (every week in the United Kingdom) and the duty to be paid varied accordingly. Merchants had a clear incentive to play the system in order to pay the lowest possible duties, by storing wheat at the arrival in sealed warehouses and by releasing it to consumers when domestic prices were high and thus the duty low (Vamplew 1980). In France, thresholds for the sliding scale differed also by district, and thus rational traders could also choose the point of entry into the country. If successful, such a strategic behaviour would cause the reference price to be higher, and thus the duty to be lower than the all-year averages. One should measure protection by weighting period-specific NP(3) with the share of each period on total imports over the whole year. This latter information is not available but the result is computationally equivalent to the ratio of total revenue to total value of imports.

$$AVE_{it} = \Sigma R_{it} / \Sigma P_{Tt} Q_{Tt} \qquad\qquad 7)$$

where R refers to the amount of custom revenue, and P_T and Q_T to prices and quantities of imports. As expected, in France and the United Kingdom, the average duty (AVE) comes out to be lower than nominal protection, in all definitions. (Table 2)[6]

Table 2: Different measures of protection

	NP(1)	NP(2)	NP(3)	NP(3) *
France (1828-1852)				
Ratio NP/ AVE	1.093	1.423	1.926	1.176
Coefficient correlation with				0.909
AVE	0.875	0.909	0.845	
United Kingdom (1827-1848)				
Ratio NP/ AVE	3.164	5.512	7.361	4.232
Coefficient correlation with				0.901
AVE	0.905	0.098	0.900	

* AVE computed with Baltic prices

Source: France Tableau decennale, United Kingdom Sharp (2006) Table 3

The bias is fairly small for France but huge for the United Kingdom, especially in the 1830s. According to the price-adjusted AVE (last column on the right), the average duty at its peak 1834-1836 was "only" 108%, rather than 221%. The United Kingdom would no longer be an outlier, as it would seem to have been from Graph 1. On the other hand, the coefficients of correlation between nominal protection and average duties are rather high. Thus, even under sliding scale duties, nominal protection can trace the movements in protection fairly well, which matter most for this paper.

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[5] Belgian duties before 1830 were equal to the Dutch ones.

[6] Import prices are bound to differ from the Baltic ones, if any for the cost of transportation. Thus, in column NP(3)* of Table 2, the denominator is computed as the product of imported quantity and Baltic prices.

The quantitative analysis highlights three stylised facts to be explained in the next sections:

i) all countries followed a broadly similar pattern – a quick increase in protection just after the end of the French wars, followed by a process of liberalization;

ii) differences in level of protection and duration were substantial among countries;

iii) all countries changed fairly often their policy.

4. The political economy of trade policy

Trade policy can be interpreted as the outcome of an exchange between rational "politicians" and interest groups. The "politician" is whoever has the power to adopt a measure (*i.e.*, a duty) which affects the economic condition of the group. He can be an autocratic ruler who can change laws apparently at his whim, or a member of a democratically-elected parliament who is called to cast his vote on a trade issue. They both need political support, although the nature of this support varies. The autocrat needs the acquiescence of his subjects, and the support of an élite. The member of parliament seeks votes or financial contribution for re-election. The group is any number of people who can provide some support and has a common interest in trade policy. In some instances, it coincides with a whole productive sector (wheat-growing), in others with the owners of a production factor (*e.g.*, landlords). The same person can belong to different "groups". A landowner would act as a producer while pondering a duty on wheat, but as a consumer when considering protection to manufactures. Investors in state bonds can also be considered an interest group, to the extent that the payment of their rents depends on the conditions of the budget, which, in turn, depends on the revenue from protection. The support each group can provide depends on the number of its members, the amount of political resources that they command, individually or collectively, and the per-capita gain each member is going to obtain from the policy. Note that the exchange does not need active lobbying by interest groups. Such action can be helpful to the extent that it attracts the "politician"'s attention to a specific group and/or it raises the awareness of the consequences of his decisions among members of the group. Yet, lobbying is not strictly necessary, as the "politician" would act on the basis of his own information and judgement. It does not take a genius to realize that a duty on wheat would please the landed interest, even without a formal association of wheat-growers to ask for it. Thus, Olson's (1971) argument about free-riding being an obstacle to successful lobbying by large interest groups does not necessarily hold.

A "politician", aiming to maximise his political support, has to balance the interests of conflicting groups, which can change as result of exogenous shocks. An exogenous decrease in the prices of imports would reduce the income of import-competing industries and offer the "politician" an opportunity to elicit more support from them by imposing a duty on their product. He would choose the level of duties which equates the marginal increase in the support from winners with the marginal decrease of support by losers. The economic losers are the winners in the political market. In equilibrium, the "politician" would treat large and politically powerful groups, which can provide more support than smaller or weaker ones, better. This rule, however, does not hold in the case of external shocks – as a small group threatened with economic extinction would reward the politician with all the support it could. In theory, the "politician" should act after any exogenous change, but, in practice, he would refrain from changing policies if his potential political gains exceed the transaction costs of the change. By the same token, the "politician" would not react if he deemed the shocks to be temporary or if he did not trust the interest group to commit itself to support him.[7]

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[7] Members of parliament who are not professional politicians may behave differently. They might decide to vote against the will of their voters if they deemed the personal gains from a given measure large enough to outweigh the risk of not being re-elected.

The "politician" should react likewise also to institutional changes which alter the political power of different interest groups, or to any other changes which affect the groups' willingness to provide political support. For instance, an extension of the suffrage would increase the number of groups which the "politician" had to reckon with. Change in the electoral system also matters. If the parliament is elected with proportional rule in a national constituency, the optimal strategy for each member would be exactly the same as in the case of a single "politician". The parliament would approve (or reject) the proposal unanimously. In contrast, members elected by fully-specialised local constituency have to consider only the interest of these "groups" and have no incentive whatsoever to take other interests in account. In this case, the outcome of any decision would be pre-determined by the composition of constituencies.

This framework suggests that factors which determine the "politician"'s decisions can be collected in four categories:

i)   constraints to policy-making – such as trade treaties and, possibly, the conditions of the state budget, if revenue from custom duties was a major source of revenue;

ii)   economic factors, affecting the expected income of producers;

iii) political factors – affecting the distribution of power among interest groups and thus their attractiveness from the point of view of a "politician";

iv)   ideas – affecting the level of self-awareness of their own interests by producers and consumers.

5. The institutional setting: who decided the trade policy?

At the end of the French wars, the vast majority of citizens of the seven countries had no role in the formal process of policy-making. In four countries out of seven (including Belgium, then still a Dutch province), duties were decided by the king. In Sardinia, there was no parliament at all before 1848. In Sweden and the Netherlands, there was a parliament, but it had no influence on wheat duties. For Sweden, according to the 1809 Constitution, duties on grain were an exclusive preserve of the king, who used this power at least until 1841 (Montgomery, 1921). The Dutch parliament had to approve the budget only every ten years, and the king could autonomously decide changes in duty in the meantime. In France, Spain and the United Kingdom, duties were formally approved by the parliament, which was elected by a small minority of people, usually selected upon the basis of their wealth. For instance, the minimum requirement for being elected to the French parliament according to the 1820 electoral law was to pay at least 1,000 francs per year in income tax (Caramani, 2000 p. 293). Half of the members were elected directly by males over 30 years of age, who paid more than 300 francs per year in taxes (about 24,000 people in the whole country) and the other half were chosen by departmental councils elected by the upper fourth of the taxpayers, another 95,000 people. Unsurprisingly, it returned a far-right majority in the house (Todd, 2008).

In the next decades, all countries experienced some shift in decision-making towards the "people". Belgium had been a parliamentary democracy since its independence in 1830. The Kingdom of Piedmont became a parliamentary democracy in 1848, after the approval of a new constitution, the Statuto Albertino. The power to set duties was formally transferred from the king to the parliament in the Netherlands in 1847 and in Sweden in 1866 (at the latest). The requirements for suffrage were lowered in most countries. For instance, in France in 1830, the plural vote was abolished, the minimum age for voting was lowered to 25 years and the minimum yearly income was reduced to 200 francs/year. Furthermore, in all countries, the growth in income increased the number of people

meeting the existing wealth requirements. The joint effect of these changes caused the the share of voters on total population to grow (Table 3).[8]

Table 3: Franchise in European countries

	Ca 1815	Ca 1840	Ca 1850	Ca 1870
Belgium		1.8	3.0	3.7
France	0.4	1.0	42.0	43.0
Netherlands	NE	NE	4.6	5.0
Sardinia	NE	NE	3.5	3.5
Spain	30	3	1	2.5/25
Sweden				9.8
United Kingdom		6.8	7.0	15.0

Blank cell: no available data; NE no elections

Source: Spain Carreras and Tafunell (2005) Table 14.2 (shares on total population); others Flora 1983 (share on population aged 20 or more)

The increase fell well short of universal (male) suffrage in all countries except Spain, after the liberal revolution in 1868, and France, after 1848. But the French parliament lost its powers very soon, as, according to the 1852 constitution, Napoleon III had the exclusive power to introduce proposals for new legislation, including changes to duties, to the Chamber and the right to negotiate and sign commercial treaties (Plessis 1985).

One may surmise that democratisation fostered free-trade, but this conclusion is far from certain. Early 19th century autocrats were not Genghis Khan: they may have had a soft spot for some groups (e.g., King Willem I of the Netherlands for Dutch merchant élites or his contemporary, Vittorio Emanuele I, the king of Sardinia, for the landed aristocracy), but they had to take into account, at least to some extent, the interest of all, or most of, their subjects. In this role, they may have been more open to a free trade policy than a parliament elected by limited suffrage. The increase in franchise is usually assumed to foster free trade in wheat because it increases the relative power of labour, which, as the abundant factor, was interested in exports (Rogowski 1989, Taylor-O'Rourke 2007). This argument may not hold for the early 19th century. In most cases, the franchise did not extend to workers, and the effects of the partial extension of franchise are undetermined. They depend on the preferences of the additional voters, who may well support higher duties on wheat. But even the adoption of universal suffrage did not necessarily yield a free-trade majority. This was the case of Spain, where the 1869 elections returned a house of parliament with a clear free-trade majority which approved the Figuerola liberalisation (Montanes Primicia 2006). In contrast, the French parliament, after 1848, showed a permanent hostility to free-trade, voting down a very partial liberalisation measure in 1851 with a large majority, including all the representatives of industrial districts.

6. Trade policy and budget constraints

Anecdotal sources fairly often quote the need for revenue as a motive for protection. This argument was put forward by King Willem I to increase the Dutch duties in 1819 (van Zanden and Riel 2004 p.93) and by the Piedmontese government to oppose to the total liberalisation of imports in 1853 (Di

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[8] Spain had a particularly troubled political history from this point of view (Caramani 2000). It adopted universal suffrage for short periods, under the Cadiz constitution (1812-1814), the Trienio Constitutional (1820-1822) in the October elections in 1836 and the Sexenio Revolucionario (1868-1873). For most years, however, suffrage was limited, with percentages of voters ranging from 0.13-0.15% on total population in 1834 to about 4-5% of total population in the 1840s.

Gianfrancesco 1974). These statements are, however, suspicious, as "politicians" could use the poor conditions of the budget just as a rhetorical argument to foster their own agenda.

This sceptical view is supported by a short analysis the choice of instruments used to protect wheat-growing. Imports were totally free in 70 country/years out of a total of 377, and they were altogether prohibited in 60 additional cases. Thus, in about one third of the country/years, the public purse renounced *a priori* any revenue from wheat duties. The choice of sliding scale duties (further 67country/years) was also hardly consistent with concern for the conditions of the state budget. In fact, a sliding scale duty aimed at keeping domestic prices stable at a given level (e.g., 20 francs/hl in France). This goal could only be achieved if duties fully compensated the movements in "world" prices – i.e., if $P_D=(P_W+t)$, $dP_D=0$ only if $dP_W=-dt$. But, if domestic price remained stable, imports would also remain constant[9]. Thus, the change in unit duties would cause a parallel change in total revenues – hardly the recipe for a sound budget. In practice, no sliding scale ever achieved price stability, for a number of reasons, including the use of domestic, rather than import, prices as reference. Notwithstanding this, the revenues under sliding scales in France and the United Kingdom did fluctuate a lot: the coefficients of the variation of the unadjusted series are respectively 1.20 (over the period 1827-1852) and 0.91 (over the period 1828-1841).

The need for revenue seems a more plausible motive for protection if the country chose a specific duty (no country opted for an *ad valorem* duty). On the other hand, only in a few cases were the actual duties close to the revenue-maximising level. The latter, in a small country, is $\tau=-1/\eta_D$, where η_D is the price elasticity of imports. For a homogenous product such as wheat, the elasticity of imports is likely to have been fairly high – e.g. between 7 and 15. The corresponding revenue-maximising duties range from 6.5% to 14%. The expected protection (ENP(1)) falls in this interval in 5 out of 6 new fixed duties in the Netherlands and in three out of seven in Piedmont, but only in four out of 17 in Sweden, and in no case (out of three) in Belgium.

One could still argue that early 19th century policy-makers were unable to understand the economic effects of their decisions, and that they were genuinely convinced that they would receive a high and stable flow of revenues from the duties they were going to impose. However, the results must have caused them to change their mind very quickly (Table 4).

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[9] In contrast, a failure of domestic crop would increase imports but not affect prices, and thus duties, in a small country.

Table 4: Tariffs as a source of revenue

i)	Share tariffs/total revenue					
	Netherlands	UK	France	Spain	Sardinia	Belgium
1815-20	8.87	20.55	13.63	11.27		
1821-30	8.5	28.19	17.67	11.95	22.02c	
1831-40	7.57	40.31	18.18	6.22	22.03	7.25
1841-50	8.63a	40.88	18.13	12.03	22.13	10.19
1851-60	7.84	36.17	15.42	11.88	14.19	9.76
ii)	Share wheat tariffs/total revenue					
1815-20		0.06				
1821-30		1.89	0.19b		3.96c	
1831-40		1.03	0.17		4.97	
1841-50		1.78	0.36		4.58	
1851-60		0.87	0.06		0.58	

a 1845-1850; b1827-1830; c1826-1830

Sources: Netherlands, van Zanden-van Riel (forthcoming); United Kingdom, total revenue and tariff revenues, Mitchell 2003, Corn Laws revenue, Sharp 2006; France, total revenue ("resources") and tariff revenues, Fontveille 1976 tab. XXXV and XXXIX, revenue from wheat duties Tableau decennal (*ad annum*); Spain, Carreras and Tafunell (2005) cuadro 12.7; Sardinia total revenue and tariff revenues, Felloni (1959); revenue from wheat duties estimated as total imports (Romeo 1976) times the duty; Belgium, total revenue and tariff revenues, Mitchell 2003.

The share of total revenue from tariffs is, by definition, the upper bound for the percentage of revenues from the duty on wheat. Thus, Table 4 i) rules out a major role of protection as a source of revenues in Belgium, France, the Netherlands and Spain. Tariffs yielded a substantial share of revenues in the United Kingdom and Piedmont, but the contribution of wheat duties was, nevertheless, small (Table 4 ii). Wheat tariffs could also not have been a major source in Sweden, as direct taxes accounted for about 60-70% of total revenues until the 1840s (Schon forthcoming). The share of tariffs increased afterwards, but, by then, the duties on wheat were being cut (Table 1 and Graph 1). In the United Kingdom, at least, the possibility of increasing revenues was quoted as one of the main advantages of specific duties over the existing sliding scale one (Crosby 1977 p.116).

The minor role of wheat duties as a source of revenue, with the possible exception of Sardinia, has an obvious implication for the analysis. "Politicians" could use duties to increase their political consensus without bothering too much about the conditions of their budget.

7. Trade policy and expected incomes

The theoretical framework suggests a negative relation between the expectations about future income and the willingness to support the "politician". Indeed, historical narratives quote declining prices as a major factor of mobilising the landowners and pushing duties on wheat at the forefront of the political debate in the Netherlands (Kramer 1940, Demoulin 1939, Wright 1955, Griffiths 1979), France (Ame 1876 p.111 and Levasseur 1912 p.118), Spain (Montanes Primicia 2005), Portugal (de Couto Ferreira 1995 p. 374). In the United Kingdom, the protectionist movement was strong when prices were low or falling, weak or non-existent when they were high or rising (see, for example, Barnes 1930, and Crosby 1977). Thus, one would expect rises in duties when prices were low and *vice-versa*.

Graph 2: Nominal prices of wheat (shilling/q.le)

Trends in nominal prices (Graph 2) confirm this hypothesis. They soared just after the end of the French wars because crops had failed all over the Northern Hemisphere after the explosion of the volcano Tamboro in Indonesia in 1815 (Post 1977). When the emergency ended, prices collapsed, in spite of the protection. In the mid-1820s, they were between a half and two thirds of the 1817 peak.[10] Since then, prices embarked on an upward path, which was to last until the 1870s[11]. However, the long-term increase was concealed by huge fluctuations, which tally well with the changes in protection. The recovery in the second half of the 1820s brought about the new Corn Laws in England, while the fall in prices in the early 1830s coincided with increases of duties in Belgium and the Netherlands. The "hungry forties" featured the Repeal, cuts in duties in Sweden, Belgium, Netherlands and Sardinia, and suspensions in France and Spain. The final push for liberalisation in the 1850s in France and Sweden coincided with another period of very high prices.
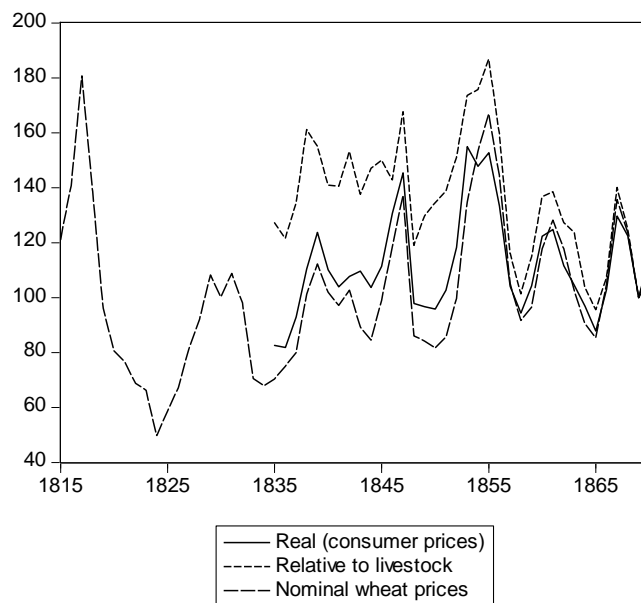
Although sources quote nominal prices, one can surmise that wheat-growers were smart enough to look at prices relative to other agricultural products, or to the purchasing power of wheat in terms of manufactures, or of all goods and services (or possibly of the sub-set of goods and services usually consumed by rich people). It is impossible to tell which sort of real prices wheat-growers were taken into account, and thus Graph 3 reports as many relative price indexes as possible, separately for each country.

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[10] The decline ranges from a minimum of 46% in Sweden (to 1828) to a maximum of 73% in the Netherlands (to 1824).

[11] The rate of increase, estimated with a log-linear trend, is positive and significant in all countries but France and the United Kingdom. Cumulated over a period of 45 years, the rates correspond to a 35-40% increase in Sardinia and Spain, a 60% in Belgium, a 75% in the Netherlands and to a 85% increase in Sweden.
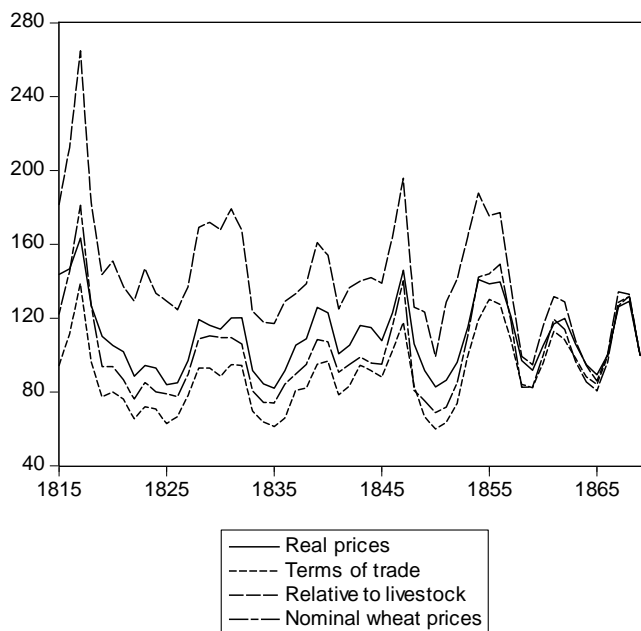
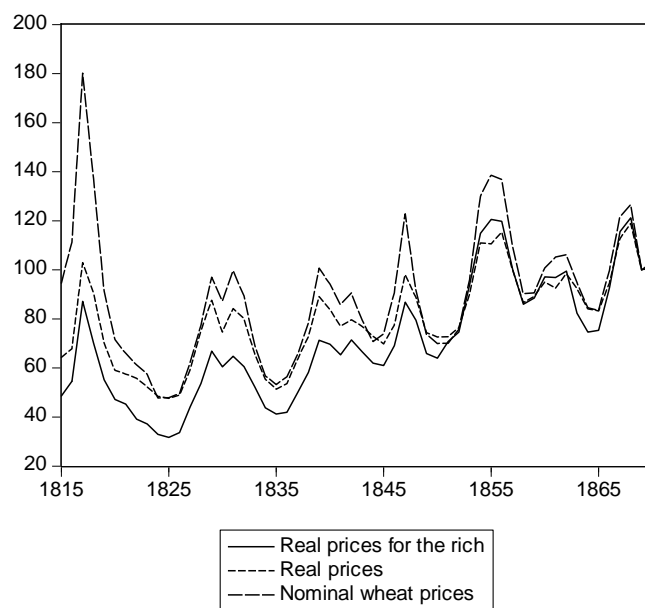**Graph 3: Real and nominal prices of wheat (1869=100)**

a) Belgium

Sources: average of wheat prices in domestic markets for the "early 19th century sample" (Federico forthcoming), deflated with the index of prices of livestock products from Peeters (1936) and with consumer price index from Michotte (1937).
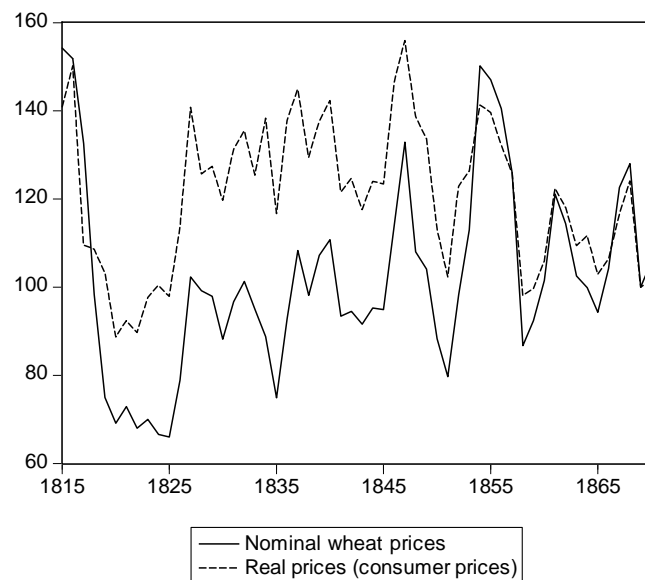
b) France

Sources: average of wheat prices in domestic markets for the "early 19th century sample" (Federico forthcoming), deflated with the index of prices of livestock products from Levy-Leboyer (1970) and implicit deflators for manufacturing and GDP deflator from Toutain (1997).
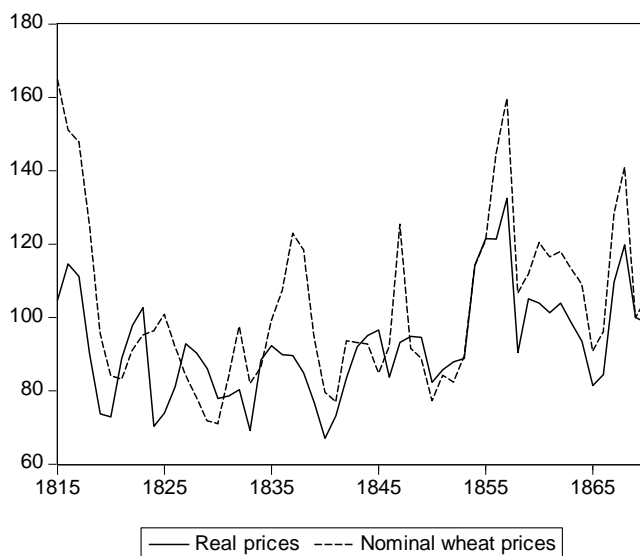
c) The Netherlands

Sources: average of wheat prices in domestic markets for the "early 19th century sample" (Federico forthcoming), deflated with consumer price index and "derived élite" (Smits *et al.* 2000)
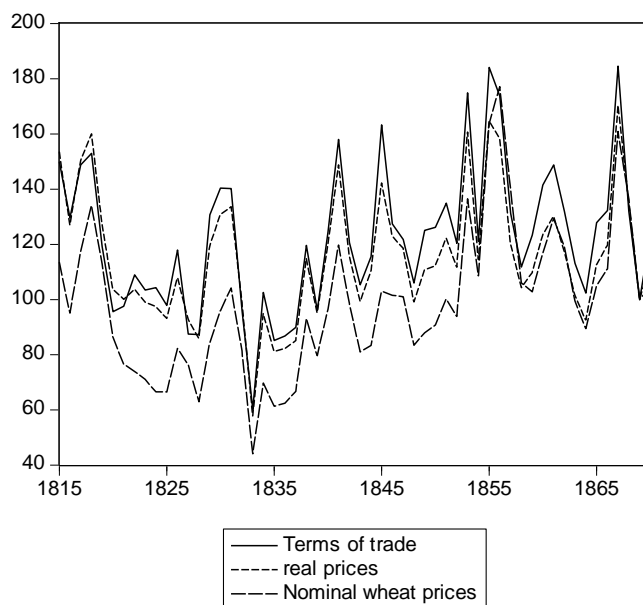
d) Piedmont

Sources: average of wheat prices in domestic markets for the "early 19th century sample" (Federico forthcoming), deflated with index of prices from Malanima (2006)
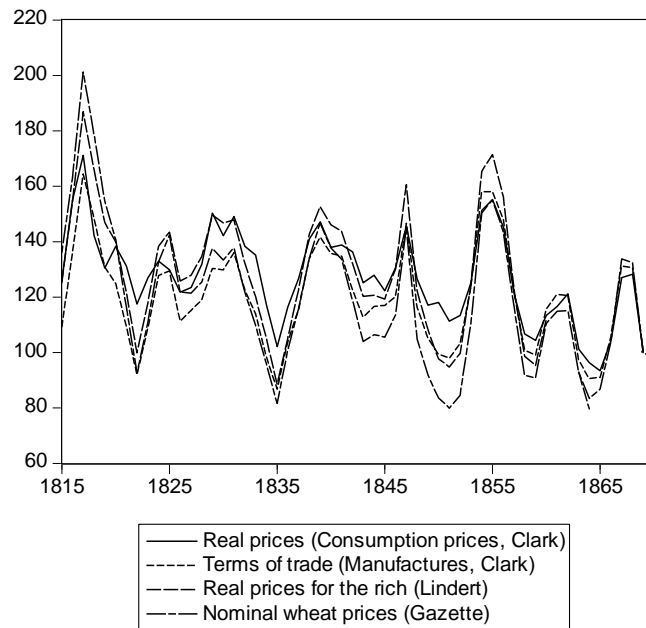
e) Spain

Sources: average of wheat prices in domestic markets for the "early 19th century sample" (Federico forthcoming), deflated with the consumer price index by Reher-Ballestreros (Carreras Tafunell 2005).

f) Sweden

Sources: average of wheat prices in domestic markets for the "early 19th century sample" (Federico forthcoming), deflated with implicit deflators for total private consumption and consumption of manufactures from Krantz and Schon (2007).
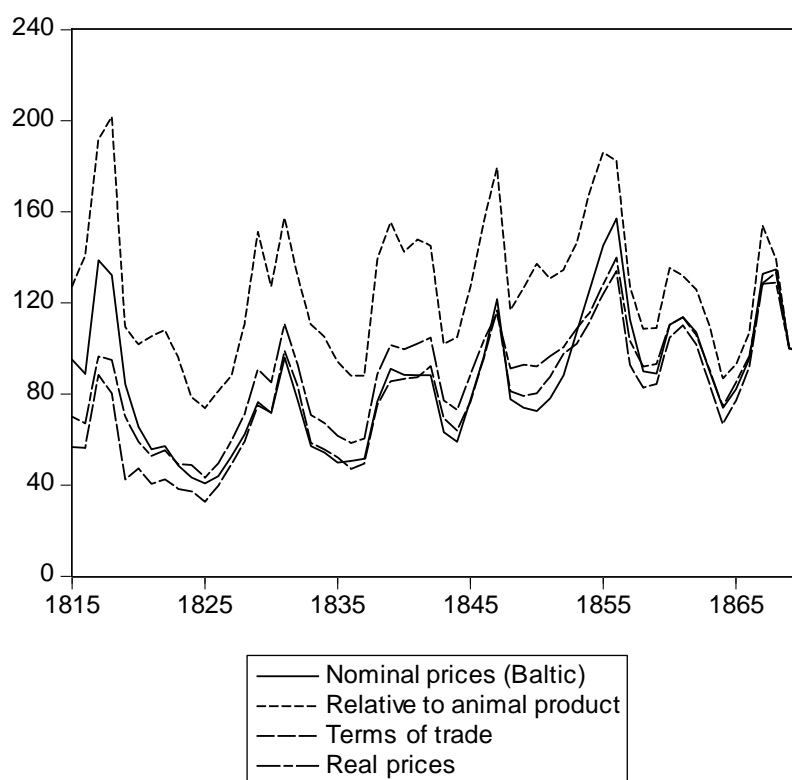
g) The United Kingdom

Sources: wheat prices ("Gazette" series) Mitchell(1988), deflated with index of consumer prices, total and manufactures from Clark (personal communication), or with consumer prices for the rich Hoffmann *et al*. (2002) –series "top 5% not paying rent"

Real prices grew less than nominal ones in all countries, but short-term movements were fairly similar. The coefficient of correlation of nominal prices with (different series of) real prices, in first differences, exceeds 0.7 in thirteen cases out of fourteen.

One could reckon that producers were even smarter, and that they considered "world" prices rather than domestic ones. Nominal "world" prices can be proxied by Baltic ones, which, in Graph 4, are deflated with three different price indexes for Germany.

Graph 4: Real and nominal prices of wheat in Germany (1869=100)

Source: Nominal prices in Baltic markets (average Danzig and Konigsberg) Federico (forthcoming), prices of animal products, prices of manufactures and overall price index in Germany Jacobs-Richter (1935)
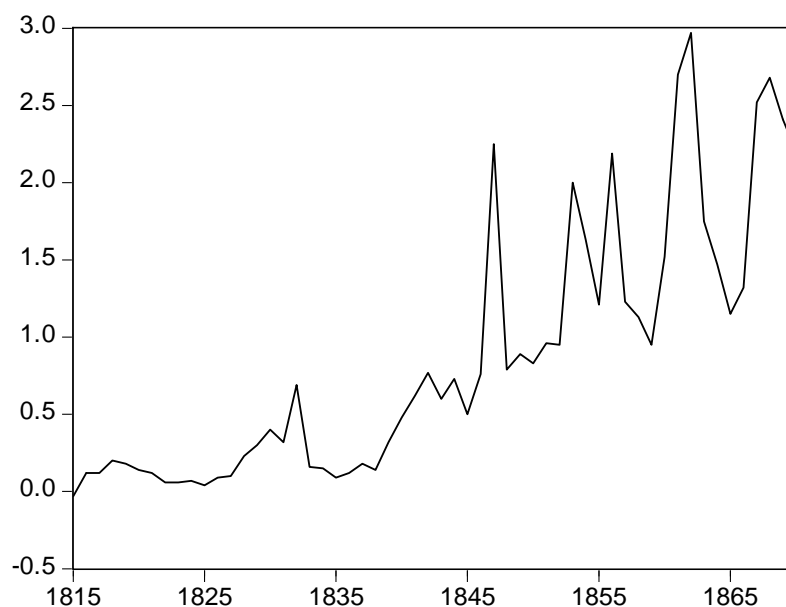
The difference between nominal and real prices is fairly small in all cases but one, the relative prices with livestock products. In the long run, however, the medium-term fluctuations are quite similar to those in importing countries.[12] A smart politician (or landowner) would have drawn broadly similar conclusions from German and domestic prices.

Last, but not least, one could argue that agents formed their expectations on the basis of fundamentals, rather than of current prices. The demand side looked fairly re-assuring. Population was growing, there was no alternative to bread as staple food for Europeans, and overseas competition was still very weak or non-existent. Technical progress was slow, albeit steady, and agricultural production was increasing throughout Europe (Federico 2004). Thus, any threat, if any, could come from a supply-side shock such as the "grain invasion". In the 1880s, protectionists admitted that a duty on wheat was to harm consumers, but they argued that it to was indispensable because the United States and other overseas countries could supply unlimited quantities of wheat at very low prices. In the first half of the 19th century, the new frontier was Southern Russia. Odessa had been opened to Western traders in 1803, and it had been declared a free port in 1817 (De Hageimeister 1836). According to Wheatcroft (1980 p.170), exports of cereals from Russia had been negligible until the mid-18th century and had started to increase in the 1770s, up to some 135,000 tons in the early 1810s. In the

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12   For instance, the co-efficient of correlation among first differences between the United Kingdom and Germany is 0.73 for nominal wheat prices and 0.48 for real prices.

period 1816-1820, imports doubled to 285,000 tons, and then they to 1.25 millions in the late 1860s.[13] It is impossible to assess whether Russia substituted or supplemented other traditional suppliers, as data on exports from other Baltic ports are too incomplete to be of any use.[14] As an alternative, it is possible to estimate total trade by summing up net imports (Graph 5).[15]

Graph 5: Imports of wheat into Western Europe (millions of tons)

Sources Belgium (1830-1870) Degreve (1982); France 1815-1826 Commercial regulations France (1842) and 1827-1870 Tableau decennale (ad annum); Netherlands (1815-1850) Horlings (1995); Sardinia 1816-1860 Romeo (1976), Italy 1863-1870 Movimento Commerciale (ad annum); Sweden (1815-1870) Historik Statistik (1972) tab 2.1 and 3.1; United Kingdom (1815-1870) Parliamentary Papers 1898.[16]

According to these data, the total imports of wheat increased in the long run from 0.1 million in 1820-1822, to 1.03 in 1846-1850, and to 2.5 millions in 1868-1870.[17] This figure exceeds the late 18th

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[13] The data, at least officially, exclude Finland and Poland. In all likelihood, imports peaked in 1817-1818, but, unfortunately, the author does not provide yearly data.

[14] The available data refer to exports from Denmark (Johansen 1985) and from Danzig. The latter may not be representative, as the Prussian government tried to shift exports to other ports (Cieslak-Bernat 1995).

[15] Spain is omitted by definition as imports were forbidden. The territorial coverage is not homogeneous, because of data problems (the Dutch series stops in 1850) and of territorial changes – most notably the Belgian independence in 1830 and the Italian Unification in 1861. The former is likely to have increased the recorded trade, by shifting flows from domestic to international. The effect of the Italian Unification is undetermined, as the re-classification as domestic of Piedmontese imports from other Italian states could be compensated by the addition of net imports into other regions.

[16] The series includes flour, which has been deducted by assuming that it accounted for the same share as in 1827-1830, separately for exports and imports.

[17] Total imports into the six countries remain inferior to exports from Russia only according to Wheatcroft, until the 1840s, and the gap is rather large, up to more than double in the early 1820s. It seems implausible that other importers, such as Portugal (de Couto Ferreira 1995), can account for such a wide gap. The figures for exports from the Black Sea (De Hagemeister 1836) are even higher.

century trade by far, although it is still a tenth of the 1913 level.[18] The massive increase in imports after liberalisation suggests a fairly elastic "world" supply.

In theory, the elasticity of "world" supply should have worried producers a lot. Indeed, the prospect of Russian exports flooding the European markets was often mentioned in the political discourse. For instance, in the 1819 debate in the French parliament, Decazes quoted the possibility of prices as low as 12-13 fr/hl, about half the current level (Levasseur 1912 p.118; cf also Rougier sd p.339). The massive increase of imports from Russia in the late 1810s was a shock in Sardinia (Di Gianfrancesco 1974) and Andalusia as well (Montanes Primicia 2005 p. 209). Yet, ultimately, the Russian threat did not prevent liberalisation. Producers seemed not to be sufficiently scared, at least *ex-ante*, or, it would seem, "politicians" did not believe that they were. Their attitude may reflect the available information about agriculture in Eastern Europe. At least one source, the highly influential reports commissioned by the House of Commons to William Jacob before the approval of the 1828 Corn Laws (Jacob 1826 and 1828), downplayed the threat. He argued that agriculture in Eastern Europe was too backward to increase supply to match a massive rise in British demand:

> "if a great portion of our necessary supply should be wanted from foreign countries, there is no probability that it could be furnished without such an advance of prices as would be enormously heavy" (Jacob 1828 p. 98).

Polish peasants were "generally ignorant, superstitious and fanatical" and thus "labour is performed in the most negligent and slovenly manner possible" (1826 p.66). His rhetoric contrasts starkly with the image of the hard-working, energetic American farmer, which prevailed in the 1880s.

To sum up, The underlying upward trend in prices (in most countries) was consistent with the liberalisation, but it was swamped by huge short-term fluctuations. These latter especially on the down side, can explain a lot of the timing of the changes in duties.

8. Trade policy and the political power: i) the insiders

Most interpretations of the Repeal frame it in a long-term process of change which ultimately adjusted British political institutions to its new status of industrial country. The industrial revolution created a conflict between the interests of landowners and industrialists and the number of the latter who qualified for voting. These new voters had been under-represented until the 1832 Reform Bill, which re-drafted constituencies to take into account the growth of the new industrial cities. In reality, the Bill did not change the social composition of the House of Commons very much. Landlords still accounted for 80% of the MPs who voted for the Repeal fourteen years later (Schonhardt-Bailey 2006).[19] Voters trusted them to represent their wishes, even if it was in contrast with their own personal interests as landlords. By and large, the voters were right. The Tory MPs who voted for the Repeal (the so-called Peelites) represented constituencies in which the share of the financial and industrial assets on the estates of the voters was higher (Schonhardt-Bailey 2006). In other words, they acted as the rational "politician" in the model.

This interpretation of liberalisation would hold for countries on the Continent as well, if they met two conditions. First, modern economic growth had to cause a shift in the relative power of different interests groups, and thus in their attractiveness for the "politician". In all six countries, the GDP *per*

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[18] Total Dutch imports from the Baltic, the mother of all trades (van Tielhof 2002) totalled some 135,000 tons in the 1760s (Ormord 2003), while world exports of trade in 1913 about 19 million tons (Stern 1960).

[19] Interestingly, the share of landowners was substantially lower in the French Corps legislative of the Second Empire – e.g., 97 out of 260 members in 1852 and 87 out of 267 in 1857 (Anceau 2000, p.298). In all likelihood, however, many members registered under other categories owned some land.

capita was growing, although more slowly than in the United Kingdom, but only in Belgium did this growth bring about a substantial decline in the share of agriculture (Table 5, i and ii). [20]

Table 5

i) GDP *per capita* (1990 $)

	Belgium	France	Italy	Netherlands	Spain	Sweden	UK
1820	1319	1135	1117	1838	1008	1090	1706
1830	1354	1191		2013		1170	1749
1850	1847	1597	1350	2371	1079	1289	2330
1870	2692	1876	1499	2757	1207	1662	3190
Change	+104%	+65%	+34%	+50%	+20%	+52%	+86%

ii) Shares on GDP

	Belgium		Netherlands		France		Spain		Sweden		UK	
	Agr.	Man	Agr.	Man.	Agr.	Man	Agr	Man	Agr.	Man.	Man.	Man.
Ca 1815	30	29	25	30	43.4	33.3			41.3	22.6	26.1	32.0
Ca 1830	20	37	22	32	40.5	37.8			40.5	23.0	23.4	34.4
Ca 1850	21	38	26	26	32.4	44	36.5	14.6	39.2	26.3	20.4	34.3
Ca 1870	14	49	30	24	38.9	35.6	39.5	16.2	40.8	26.4	14.2	38.1

Sources: total GDP Maddison (2009); shares on GDP Belgium (1808-12, 1836, 1850, 1870) Van Zanden-Van Riel 2004 tab. 6.3, Netherlands (1815-17. 1829-31, 1849-51, 1869-1871) Smits et al. 2000; France (1815-1817, 1829-1831, 1849-1851 and 1869-71) Toutain 1997; Spain (1850-52, 1869-1871) Prados de la Escosura 2004 tab. A.2.6; Sweden (1815-1817, 1829-1831, 1849-1851 and 1869-71) Kranz and Schon 2007; United Kingdom (1821, 1831, 1851, 1871) Mitchell 1988.

Thus, *prima facie*, there was no economic reason for a shift in political power away from landowners as in the United Kingdom.

Second, industrialists had to perceive protection as being harmful to their interests. The duty forced them to pay higher nominal wages for the same real wage. This was a major problem for exporting industries, while import-competing ones could be compensated by a duty on their own products.[21] Spain exported very little manufactures (Tena 2007 tab. 5), and, thus, it comes as no surprise that Spanish industrialists were unwilling to press for the liberalisation of the wheat trade. Actually, they staunchly defended the prohibition of imports until the 1860s: if anything, they would have liked to have it extended to their own wares (Montanes Primicia 2005 and 2006). Sardinia (Romeo 1976 tab IV) and the Netherlands (Lindblad-Van Zanden 1989 tab.5) also exported few manufactures. Only Belgium (Horlings 2002) and France (Annuaire statistique 1951 p.189*) were net exporters of manufactures. French exports were heavily concentrated in few sectors (most notably silkwares and other luxury products), which did favour free trade. The overwhelming majority of French industrialists were ready to make a collusive agreement with the landlords. Indeed, manufacturers opposed several proposals to abolish the sliding scale on wheat, as late as 1858, and sometimes they seemed even keener than the landowners to maintain the protection on wheat (Ame 1876 p.370,

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[20] Maddison's data refer to the whole Italy. His optimistic assessment conflicts with the recent estimates by Malanima (2006), who argues that Italian GDP *per capita* decreased steadily until 1850 and increased afterwards, without recovering the 1820 level. The anecdotal evidence suggests that the kingdom of Sardinia outperformed the rest of the peninsula, but by how much is anybody's guess. There are no data on regional composition of GDP: as late as 1891, its agriculture accounted for 32.2% of the GDP in Sardinia (Felice 2005).

[21] If wheat accounted for a share π of total consumption, an increase in duty by Δp (normalised at 1) would reduce the purchasing power of nominal wages by $(1-\Delta p*\varepsilon)* \Delta p * \pi$ in where ε is the elasticity of demand for wheat. In the extreme case of fixed coefficients, the offsetting increase in wages would augment production costs by $[(1-\Delta p*\varepsilon)* \Delta p * \pi] * s$, where s is the (fixed) share of wages. For instance, if $\Delta p=0.5$, $\varepsilon =0.3$, $\pi =0.3$ and s=0.5, a 50% duty on wheat would increase production costs by 4% If coefficient were flexible, the effect would be correspondingly reduced.

Rougier sd p.370, Charlety 1921a p.271-280, Charlety 1921b p.177-183). Manufacturers suddenly discovered the damaging effect of wheat duties only when the Cobden-Chevalier treaty stripped them of protection on their own products (Levasseur 1912 p.300).

Summing up, the sluggish pace of structural change and the possibility of collusion between industrialists and landowners rule out modern economic growth as an explanation of the liberalisation in all Continental countries except, perhaps, Belgium.

9. Trade policy and political power: ii) the outsiders

In all likelihood, the fear of food riots by "outsiders", urban workers and peasants, had shaped the traditional policy for wheat markets more than any other economic policy (Tilly 1971). Urban workers used to riot when wheat (or bread) prices were too high. High wheat prices benefited farmers, as long as they had some surplus beyond subsistence to sell. The rural riots (or "entrave") were, instead, caused by the fear that urban demand would scoop the local supply out, leaving landless peasants without enough food. Thus, urban workers and peasants had conflicting interests. The British tried to maintain a balance between them (Barnes 1930 p.141), but in France and probably also in other Continental countries the market regulation clearly favoured urban consumers (Root 1994). The French Revolution, even if not directly caused by high prices as argued by Labrousse (1933), must have re-kindled the fear of riots. As late as 1812, Napoleon reacted to a harvest failure by re-introducing the traditional market regulations in Paris (Miller 1999).

How much did the traditional fear of riots shape the policy after 1815, at the beginning of the "rebellious century" (Tilly *et al*. 1975)? The answer differs between the cities and the countryside. In theory, the likelihood of a rural riot was, *ceteris paribus*, positively related to the share of wheat-purchasing people (non-agricultural workers, landless labourers, producers specialised in other goods, such as the French vignerons) on total rural population, and negatively related to the average surplus over subsistence needs for wheat producers. In the early 19th century, the crisis of proto-industry reduced the number of non-agricultural workers, while wheat production per worker was increasing. Thus, the probability of rural riots was declining in the long-run. In contrast, the likelihood of urban riots is likely to have increased. One would expect it to have been positively related to the size of the urban population and negatively to wages. Since 1800, cities were growing, both in size and as share of the total population in all the countries of the sample, with the exception of Spain (Table 6).

Table 6: Urbanisation in Europe

| | >10000 | | >30000 | |
	000s	share	000s	Share
Belgium				
1800	482	16.6	262	9.0
1870	1225	25.0	722	14.7
France				
1800	2592	8.9	1473	5.1
1870	6881	18.1	5027	13.2
Netherlands				
1800	604	28.8	371	17.7
1870	885	29.5	685	23.0
Sardinia				
1800	328	11.7	137	4.9
1860	648	18.3	309	8.7
Spain				
1800	1542	14.0	831	7.6
1870	2649	16.4	1213	7.5

Sweden				
1800	100	4.0	75	3.0
1870	301	7.2	189	4.5
England and Wales				
1800	2065	22.3	1422	15.4
1870	9891	43.0	8698	37.8

Source: data-base underlying Malanima (Forthcoming)

The urban population increased by 2.9 times and the population of large cities by 3.7 times. This increase was not balanced by a substantial improvement in the standard of living of the urban masses, at least until the 1850s. Trends in nominal wages for labourers differ among cities and periods, but, in the crucial years of liberalization they do not show any upward trend, with the remarkable exception of Paris (Table 7)

Table 7: Nominal urban wages

		1815-1870	1815-1850	1825-1850
Belgium	Antwerp	-0.02	0.03	-0.06
France	Paris	0.86***	1.25**	1.95**
Netherlands	Amsterdam	0.12	-0.07*	-0.10**
Sardinia	Milan	1.53	-0.34	-0.44***
Spain	Madrid	0.36***	0.10	0.16
Sweden	Stockholm	0.85*	0.55*	0.19
United Kingdom	London	0.57	-0.02	0.01

Significant at *10%, **5%, *** 1%

Source: Sweden Jorberg (1972 p.588) , all others data-base from Allen (2001), available on line at www.nuffield.oc.ac.uk (downloaded 30 April 2009)

Furthermore, other measures, most notably heights, point to a marked worsening of the welfare of the urban population in those years (Komlos 1998, Cinnirella 2008).

The actual policy choices did confirm that "politicians" still harboured fears of riots after 1815. First, as stated, the governments widely resorted to sliding scale duties. They were more difficult to manage than fixed ones, although, in principle, they should keep prices stable, avoiding both price spikes, which might cause a revolt in cities, and collapses, which could hit rural producers. Second, several governments rushed to cut or suspend duties when prices rose too much – most notably in 1846-1847 (Table 1).

There is some evidence that prudence (and the growth in income) paid off. In the first half of the 19th century, the number and intensity of food riots declined throughout Europe, while popular protest adopted "modern" forms (the rally, the petition, *etc*.) in order to influence political decisions ("parliamentarisation"). The United Kingdom pioneered this change (Tilly 1995). The traditional food riots had been disappearing from the 1780s, to be substituted by political "events". From the 1820s, the timing of popular protest ceased to be influenced by wheat prices, and started to follow its own political cycle. The Continent followed a similar path, with a considerable delay. France still witnessed major waves of food riots in 1816 (Tilly 1971), 1830 (Price 1971), 1838-1840 (Levy-Leboyer 1964) and 1846-1847 (Gossez 1956, Tilly et al 1975 Tilly 1986). However, this last wave widely mixed economic requests with political slogans (Bourguinat 2002, Vivier 2007). The 1851 peasant revolt against Napoleon III was not caused by economic distress (Margadant 1979). Berger and Spoerer (2001) show that high wheat prices Granger-caused the 1848 revolutions all over Europe. They, however, argue that the effect was indirect: the high bread prices forced consumers to cut consumption of other goods, causing a sharp rise in unemployment among urban industrial workers.

The "parliamentarisation" to a certain degree changed the role of "outsiders" in the formation of trade policy. The fear of the mob acted as a sort of preventive check against any measure which could increase prices to the level which could trigger a riot. The "parliamentarisation" had "outsiders" to put forward specific requests. From this point of view, too, the United Kingdom led other countries. The 1815 Corn Laws met with strong opposition, with a flurry of petitions from cities and merchants, but also with some violent protests (Barnes 1930, Longmate 1984). In the 1840s, the Anti-Corn Law league tried to gather support from workers, albeit with very modest results because of the hostility of the Chartists, who were pursuing a different political agenda (McCord 1958, Barnes 1930, Bairoch 1989). There were some instances of direct intervention also on the Continent. In Belgium, after independence, the provisional government had to backtrack from its initial decision to forbid imports of wheat and flour because of popular protest (Suetens 1955). Popular protest was instrumental in the sharp reduction of Dutch duties in 1845 (Kramer 1940, Wintle 2000) and in the suspension of the ban on imports in Spain in the following year (Montanes Primicia 2006, Diaz Marino 2007).

Is it thus possible that the fear of the mob contributed to liberalisation, even if this tradition was disappearing. In the long run, the parliamentarisation of grievances, while reducing the likelihood of traditional riots, did increase the role of "outsiders" in determining the trade policy. Part of the effect may, however, have been an indirect one. The suspension of duties showed that wheat-growing could survive without protection.

10. And, to finish: any role for ideas?

The model assumes that ideas mattered to the extent that they increased the agents' awareness of their own interests and thus made them more willing to accept the "politician"'s offers. The classic example is the need to remind consumers how harmful wheat duties are. Since the 18th century, Adam Smith in England and the physiocrats in France had provided plenty of intellectual ammunitions against state intervention in the wheat market (Persson 1999). In the early 19th century, protection on grain and on the role of the land in economic growth were the subject of a long debate, most notably between Ricardo and Malthus (Irwin 1996 pp.93-97). In the long-run, this discussion was to yield path-breaking advances in economic theory, but it was deeply-rooted in current economic issues and had a strong impact on the political discourse. All the key arguments for free trade were widely used in the debate before the 1828 Corn Laws (Barnes 1930). From this point of view, the Anti-Corn Law League did not invent anything. It was just "the most advanced political machine this country had yet seen" (McCord 1958 p. 163) and therefore much more effective than the scattered efforts of the free-trade pamphleteers of the 1820s. Free traders on the continent tried to imitate the League, but their results were poor. A recent book by Todd (2008) argues that, in France, they were soundly defeated, after some successes in the early 1830s, because the protectionist propaganda deftly used nationalistic arguments. Modern industry was necessary to give France its rightful position in the European balance of power. The "Association pour la liberté des echanges", established in 1846, gathered mainly professional economists, but it was out-funded and out-organised by the protectionist "*Comitè pour la defense du travail national*", established four years before, to fight a project of a trade union with Belgium (Todd 2008 Dunham 1930, Smith 1980).

Assessing the contribution of free-trade propaganda to liberalisation is, by definition, difficult. Economic historians used to attribute the League a key role in fostering the Repeal (Bairoch 1989, Tracy 1989). However, the details of the history of the Repeal strongly downplay its direct role. In 1844-45, the League was still organising itself to have a free-trade majority elected in the forthcoming 1848 elections (McCord 1958 pp.136-163). Events precipitated after the outbreak of the Irish famine in the autumn of 1845, which induced Peel to press for the Repeal. His rhetoric was essential in fostering the Repeal (Schonhardt-Bailey 2006). In fact, most Peelites would not have voted for the Repeal without the justification provided by Peel's new interpretation of the concept of "territorial constitution" (the key role of the landed aristocracy as keeper of the British national identity) which was the cornerstone of the Tory ideology. Peel himself later described his conversion to free trade as a

gradual process which had been on-going since 1842 under the influence of free-trade arguments. He said that the Famine had just offered him the opportunity to declare himself (Gash 1986).

Peel's account of his conversion may or may not be true, but it raises an important question. How much could a "politician" be inspired by his personal opinion about the well-being of the population at large as opposed to his own political interest? Historians are often keen to stress the role of personality, especially in autocratic regimes. Kaplan (1975-1976) explains the 1764 liberalisation of the wheat trade in France as the outcome of the skillful propaganda of the Physiocrats, who succeeded in convincing Louis XV. The most important case in point in the period under consideration is that of Napoleon III. He forced the parliament, whose hostility to any liberalisation correctly reflected the prevailing opinion among voters (Todd 2008), to approve the Cobden-Chevalier treaty. Unfortunately, Napoleon III was not so kind as to leave an explanation of his motivation, and thus speculation abounds. Iliasu (1971) strongly argues that he used the treaty to win the British support for his Italian policy. Dunham (1930 contends that Napoleon had no personal opinion on trade policy. His alleged sympathy for the working classes might have inspired the liberalisation of the wheat trade, but not the treaty itself. In contrast, Milza (2004) and Price (2001) depict him as a closet free-trader, deeply influenced by his first-hand experience of British free-trade and surrounded by free-trade advisers.

11. Conclusions: what did drive trade policy?

This paper starts by stressing the similarities among the trade policies of a representative group of Western European wheat-importing countries in the first half of the 19th century. They all raised duties, sometimes up to prohibitive levels, in the 1810s and early 1820s and then slowly liberalised trade in the following decades. The increase in protection contributed to keep price dispersion high even after the end of the French wars, while the liberalisation accounted for a sizeable part of the integration of the market in the 1840s and 1850s (Federico forthcoming).

The rest of the paper interprets the causes of this cycle with a simple political economy model. It considers five causes – the need for revenue, changes in expected prices, modern economic growth, the fear of the mob, and the role of ideas. Some of these causes cannot be captured in a variable, while the data on others are missing, and even the measurement of protection, the potential dependent variable, is quite imprecise. For this reason, this paper has eschewed a formal econometric analysis for a more general discussion, which nonetheless yields some clear-cut conclusions. It can rule out certain factors as determinants. Some causes seem to have been hardly relevant. The choice of instruments, prohibition and sliding-scale duties, rather than (optimal) fixed ones, rules out the need for revenue as a major concern in the majority of cases. Modern economic growth *per se* does not seem to have been a major factor at least on the Continent. The fear of the mob and the development of theoretical arguments for free trade have helped liberalisation, although their exact role is difficult to assess. This leaves change in expectations about future prices, as determined by current trends in prices and possibly by information on potential supply, as the single most important cause of policy changes. The post-war collapse of prices caused the protectionist wave, while growth in nominal prices, the re-assuring information about the potential competition and the Hungry Forties brought about (most of) the liberalisation. Their legacy was to last for almost a century in the United Kingdom and for about forty years on the Continent.

BELGIUM
[Until 1830=Netherlands]

1830 Duty 1 fr/q.le [Commercial Regulations Belgium (AP 1842, XL, part 2) McGregor 1843-1850 I, p. 82] or imports prohibited Oct-Nov, Free Nov 1830 [Suetens 1955 p.7]

1834 Duty sliding scale:

Price	
>24 fr/hl	Free
20-24 fr/hl	Free
15-20	3.75 fr/qle
12-15	7.5 fr/qle
<12	Prohibited

[Commercial Regulations Belgium (PP 1842, XL, part 2) p.21; McGregor 1843-1850 I p.82 Suetens 1955 p.8]

1839-1844 suspension of sliding scale [Suetens 1955 p.61]

1845 (September) Duty 0.1 Fr/ton [Suetens 1955 p.61]

1848 (December) Duty 0.5 Fr/ton [Suetens 1955 p.61]

1853-1856 Duty suspended [Suetens 1955 p.61]

1857 (February) Duty 0.6 Fr/q.le [Suetens 1955 p.61 and personal communication by Markus Lampe]

1865 Duty abolished [personal communication by Markus Lampe]

FRANCE

1814 (September) import free [Ame 1876; Regulations 1826 p.366]

1816 (April) Duty 0.5 fr/q.le [Ame 1876 Regulations 1826 p.366; Levasseur 1912]

1819 (July) sliding scale: duties for imports on French vessels

Price	Import
$P<\pi$	Prohibited
$P=\pi/\pi+0.9999$	4.25 fr/hl
$P=\pi+1/\pi+1.999$	3.25
$P=\pi+2/\pi+2.999$	2.25
$P=\pi+3$	1.25
$P>\pi+3$	0.25

Where P market price in the i-th frontier department π=reference price for the i-th department (π = 20 fr/hl for 1° class markets, π=18 fr/hl. for 2° and π = 16 for 3°) [Arnaune 1911 p. 162 Ame 1876, Regulations 1826]

1820 Duties of the sliding scale applied only if imports from producing countries (Baltic etc.) while imports from other countries (including Amsterdam) to be added 1 fr/hl [Regulations 1826]

1821 (July) New sliding scale (imports on French ships, from producing countries)

	Import
$P<\pi$	Prohibited
$P=\pi/\pi+2$	2.25 fr/hl
$P>\pi+2$	1.25 fr/hl

π = 24 fr/hl 1st class markets, π=22 2nd class markets, π = 20 3rd class markets and π = 18 4th class markets

[Regulations 1826 Arnaune 1911 Ame 1876]

1829-30 Underline France M suspended 29 June 1829-30 October 1830 [Annuaire Statistique 1913 p. 80*]

1832 France: (April) changes in sliding scale

Prices	Duties
P<π	4.75+1.5 every 1 fr/hl price
P=π/π+0.9999	4.75
P=π+1/ π+1.999	3.25
P=π+2/π+2.999	2.25
P=π+3/ π+3.999	1.25
P=π+4/π+4.999	0.25
P=π+5/ π+5.999	0.25
P>π+6	0.25

π = 22 fr/hl 1st class markets, π=20 2nd class markets, π = 18 3rd class markets and π = 16 4th class markets

[Arnaune 1911; Ame 1876; Commercial regulations France (PP 1842, AP XL, 2)]

1846 temporary suspension of sliding scale [Ame 1876]

1847 Duty at the minimum of the scale [Alterations on foreign duties since 1844 (PP 1847-1848, AP LVIII)]; sliding scale suspended 28 Jan 1847-31 Jan 1848 [Rougier sd p 347 Annuaire Statistique 1913 p. 80*]

1853-1859 August 31 1853 to May 7, 1859 suspension of sliding scale [Ame 1876 Annuaire Statistique 1913 p. 80* Rougier sd p.383]

1859 sliding scale restored [Ame 1876 Rougier sd p.383]

1860 August suspension of sliding scale [Ame 1876, Annuaire Statistique 1913 p.80* Rougier sd p.442]

1861 (March or June) sliding scale eventually abolished and substituted with a

fixed duty 0.60 fr/q.le for imports under French flag [Arnaune 1911 Ame 1876 Rougier sd 442]

PIEDMONT

1818 (January) Duty 2.5 lit/q.le on sea and 0.10 on land [Di Gianfrancesco 1974]

1818 (June) Duty 2.5 all provenances [Di Gianfrancesco 1974]

1819 Duty 4 lit/q.le all provenances [Di Gianfrancesco 1974]

1822 Duty 6 lit/q.le [Di Gianfrancesco 1974]

1825 Duty 9 lit/q.le if imported under foreign flag [Di Gianfrancesco 1974]

1834 Reduction duty – on imports from Lombardy by land [Di Gianfrancesco 1974]

1847 Reduction duty to 3 lit/q.le and abolition privileges for national flag [Di Gianfrancesco 1974]

1847 "temporarily lowered to a nominal amount" [Alterations on foreign duties since 1844 (PP 1847-1848, AP LVIII)]

1851 (July) Cut duty to 2.5 lit/hl [Di Gianfrancesco 1974]

1852 Cut duty to 2 lit/hl [Di Gianfrancesco 1974]

1853 (October) Cut duty to 0.5 lit/hl [Di Gianfrancesco 1974]

1854 (July) Abolition duty [Di Gianfrancesco 1974]

NETHERLANDS

1816 (September) Duty 6.5 gulden/last [Regulations 1826 p.373]

1822 (August) Duty 7.5 gulden/last [Regulations 1826 p.373; Wright 1955 p. 228; Griffiths 1979 p.18]

1825 (January) Duty 24 gulden/last [Regulations 1826 p.373; Wright 1955; Griffiths 1979 p.18; Kramer 1940 p.42]

1830 (October) Duty 7.5 gulden/last [Horlings 1995 p. 137, Wright 1955 p. 207, Kramer 1940 pp.43-47]

1835 (December) Sliding scale duty

Price (gulden)/Mud	Duty
< 5 fl	3
5-5.5	2.5
5.5-6	2
6-7	1.5
7-8	1
8-9	0.5
>9 fl	0.25

[Commercial Regulations, Netherlands (AP 1843, LVIII p.100)

1845 (September) Duties 0.25 gulden/mud, extended to November 1, 1846 and then for further 11 months [Griffiths 1979 p.19 Kramer 1940 p.201]

1847 8 gulden/last [Griffiths 1979 p.19, Kramer 1940 p.207]

1855 (December) 0.1 gulden/last [personal communication by Markus Lampe]

1862 1.5 gulden/last [personal communication by Markus Lampe]

SPAIN

1818 Duty 6 reales/q.le if foreign ship, 4 reales and 17 maravedis if Spanish ship [Regulations 1826 p. 422]

1819 Duty 20 reales/q.le if foreign ship, 18 if Spanish ship [Regulations 1826 p. 422]

1820 (March) Duty 26 reales/q.le if foreign ship, 20 if Spanish ship [Regulations 1826 p. 422 Montanes Primicia 2005 p. 209]

1820 Import forbidden if price < 80 reales/fanega – and allowed with specific authorization if superior [Montanes Primicia 2005 p. 209 Gallego Martinez 2004 Sanchez Albornoz 1963 p. 15 Kondo 1990 p.109]

1825 Temporary admission grain in Andalusia during subsistence crisis [Sanchez Albornoz 1963 p. 15 Kondo 1990 p.110]

1834 Threshold for prohibition lowered to 70 reales/fanega and under authorization if superior. [Gallego Martinez 2004, Kondo 1990 p.110 Sanchez Albornoz 1963 p. 15]

1847 Temporary admission grain during subsistence crisis [Sanchez Albornoz 1963 p. 15 Kondo 1990 p.111, Montanes Primicia 2006 p.81]

1856-58 Temporary admission grain during subsistence crisis, [Sanchez Albornoz 1963 p. 15 Kondo 1990 p.112, Alterations to foreign duties (PP1857-1858, AP LIII)]]

1867 (September) Temporary admission grain during subsistence crisis, with duty [Kondo 1990 p.112]

1868 Temporary admission extended to 31 July 1869 (Kondo 1990 p.113)

1869 Prohibition abolished, and substitute by a uty 5 reales/fanega [Kondo 1990 p.113 Sanchez Albornoz 1963 p. 15 Montanes Primicia 2006 p.99]

SWEDEN

Date of ordinance	Entry into force	End of ordinance	Duty
1815-04-12	1815-05-01	..	Duty 32 sk per barrel
1815-12-12	1816-01-01	..	Duty 1 rdr per barrel
1816-03-20	1816-03-20	..	Duty 24 sk per barrel
1816-04-25	1816-04-25	..	Duty 24 sk per barrel
1816-10-17	1816-10-17	..	Duty 16 sk per barrel
1818-06-16	1818-06-16	1818-12-31	Duty free until the end of the year.
1819-08-13	1819-08-13	..	Duty 1 rdr per barrel
1819-11-19	1819-11-19	..	Duty 1 rdr 24 sk per barrel
1820-02-01	1820-02-01	..	Duty 2 rdr per barrel
1820-04-25	1820-04-25	..	Duty 4 rdr per barrel
1820-09-11	1820-09-11	..	Duty 4 rdr 24 sk per barrel
1826-03-16	1826-06-01	..	Duty 40 sk per barrel.
1826-10-16	1826-10-16	..	Duties on "damaged" grains imported: | Damage	M per barrel
---	---
<1/4	45 sk
3/8	37 sk 6 r
½	30 sk
5/8	22 sk 6 r
>3/4	15 sk	
1827-06-20	1827-07-16		Duty 4 rdr 24 sk per barrel
1830-02-20	1830-02-20	1830-12-31	Duty 5 rdr per barrel
1830-02-20	1831-01-01	1834-12-31	Duty based on "average price" of commodity, to be calculated and announced by the end of December for the coming year. | "Average price"	M
---	---
<10 rd per barrel	5:0:0 per barrel
10 – 10:16	4:36:0
10:16 – 10:32	4:24:0
10:32 – 11	4:12:0
11 – 11:16	4:0:0
11:16 – 11:32	3:36:0
11:32 – 12	3:24:0
12 – 12:16	3:12:0
12:16 – 12:32	3:0:0
12:32 – 13	2:36:0
13 – 13:16	2:24:0
13:16 – 13:32	2:12:0
13:32 – 14	2:0:0
14 – 14:16	1:36:0
14:16 – 14:32	1:24:0	

			14:32 – 15	1:12:0	
			>15	Duty free	
1830-08-14	1831-01-01	..	Duty 40 sk per barrel		
1831-10-01	1831-10-01	..	Duty 1 rdr per barrel		
1832-06-22	1832-08-01	..	Duty 5 rdr per barrel		
1835-01-24	1835-03-01	..	Duty 3 rdr per barrel		
1835-06-30	1836-01-01	..	Duty 40 sk per barrel		
1838-07-13	1838-07-13	1838-08-31	Half of the normal duty (of ordinance 1835-01-24)		
1838-08-31	1838-08-31	1838-12-31	Half of the normal duty prolonged		
1838-12-21	1838-12-21	1839-07-01	Half of the normal duty prolonged		
1841-10-11	1841-11-01	1844-12-31	Duty 2 rdr per barrel		
1841-10-23	1842-01-01	..	Duty 2 rdr per barrel		
1844-10-30	1845-01-01	1845-12-31	Duty 2 rdr per barrel		
1845-11-05	1846-01-01	..	Duty 2 rdr per barrel		
1847-06-11	1847-06-11	1847-08-01	Duty free		
1847-12-02	1848-01-01	1848-12-31	Duty 2 rdr per barrel		
1848-12-04	1849-01-01	..	Duty 1 rdr 24 sk per barrel		
1849-04-18	1849-04-18	..	Duty 12 %		
1851-11-21	1852-01-01	..	Duty 1 rdr 24 sk		
1854-04-04	1854-04-04	1854-07-31	Duty free for a limited period of time		
1854-12-04	1855-01-01	..	Duty 1 rdr 24 sk per barrel		
1855-09-26	1855-09-26	1856-05-31	Duty free for a limited period of time		
1856-04-11	1856-04-11	1856-12-31	Duty free prolonged until the end of the year		
1856-12-12	1857-01-01	1857-12-31	Duty free for one year		
1857-12-18	1858-01-01	..	Duty free		
1860-12-07	1861-01-01	..	Duty free		
1863-12-04	1864-01-01	..	Duty free		
1865-03-24	1865-04-15	..	Duty free		
1866-11-16	1867-01-01	..	Duty free		
1867-09-03	1868-01-01	..	Duty free		
1868-11-13	1869-01-01	..	Duty free		
1869-09-10	1870-01-01		Duty free		

Sources: Årstrycket and SFS, Svensk Författningssamling

Relevant ordinances have been identified using Quiding (1965) Quiding, Herman. 1865. *Svenskt allmänt författningsregister för tiden från år 1522 till och med år 1862.* Stockholm: Norstedts, along with the registers in the SFS-publications

UNITED KINGDOM

1815 (April) Imports prohibited if price below 80s (67s for British North America) free above [PP 1898 AP LXXXV]

1822 (June) new sliding scale

Price (sh/quarter)	Duty
<70 [<59*]	Prohibited
70-80 [59-67*]	12 s
80-85 [67-71*]	5s
> 85 [71 *]	1s

* British North America [PP 1898 AP LXXXV]

Barnes 1930 p.174 says that the first band not applied because a key provision of the 1815 Laws had not been abolished. Anyway, it did not matter, as domestic prices never rose above 70s. So the Corn Laws allowed imports from North America only

1825 (June-August) Imports temporarily allowed with duty 10s/quarter (5 for corn from British North America) [PP 1898 AP LXXXV]

1826 (June August) Imports temporarily free with duty 12s [PP 1898 AP LXXXV]

1827 (July) Temporary sliding scale [PP 1898 AP LXXXV]

1828 (July) New sliding scale (for imports not from British North America)

Price (sh/quarter)	Duty (sh/quarter)
< 66	20s 8d +1 s each 1s decrease price
66-67	20s8d
67-68	18s 8d
68-69	16s 8d
69-70	13s 8d
70-71	10s 8d
71-72	6s 8d
72-73	2s 8d
>73	1s 0d

[Sharp 2006 tab 1]

1842 (April) new sliding scale

Price (sh/quarter)	Duty (sh/quarter)
<55	20
55-56	19
56-57	18
57-58	17
58-59	16
59-60	15
60-61	14
61-62	13
62-63	12
63-64	11
64-65	10
65-66	9
66-67	8
67-68	7
68-69	6
69-70	5
70-71	4
71-72	3
72-73	2
> 73 s	1

[Sharp 2006 tab 1]

1846 (March) Abolition of Corn Laws. Sliding scale (until January 1849)

Price (sh/quarter)	Duty (sh/quarter)
<48 s	10
48-49	9
49-50	8
50-51	7
51-52	6
52-53	5
>53	4

Imports from British possessions 1 s/quarter

[Sharp 2006 tab 1]

1847 (January to March 1848) duty suspended [Sharp 2006]

1849 (February) duty 1shilling/quarter [Sharp 2006]

1869 (June) duty abolished [Sharp 2006]

Imports from British possessions 1 s/quarter

[Sharp 2006 tab 1]

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Appendix

Table I: Realized protection (NP 3)

	Netherlands	Piedmont	France	Belgium	United Kingdom	Spain	Sweden
1815	3.1	0.0	0.0	3.1	prohibited	0.0	4.1
1816	3.1	0.0	2.7	3.1	prohibited	0.0	5.7
1817	2.0	0.0	1.7	2.0	0.0	0.0	3.3
1818	2.2	14.1	1.8	2.2	0.0	4.2	1.6
1819	3.4	35.3	24.6	3.4	prohibited	25.5	0.0
1820	4.3	45.4	23.4	4.3	prohibited	prohibited	0.0
1821	4.9	53.4	43.7	4.9	prohibited	prohibited	38.2
1822	5.6	78.1	prohibited	5.6	prohibited	prohibited	50.7
1823	6.6	91.8	prohibited	6.6	prohibited	prohibited	48.4
1824	7.6	103.0	prohibited	7.6	prohibited	prohibited	57.4
1825	25.7	109.6	prohibited	25.7	66.1	prohibited	64.4
1826	23.3	101.6	prohibited	23.3	73.5	prohibited	69.7
1827	19.8	85.1	prohibited	19.8	106.1	prohibited	54.8
1828	16.7	71.6	22.3	16.7	115.1	prohibited	53.2
1829	13.5	58.3	14.0	13.5	72.7	prohibited	43.0
1830	4.5	62.3	19.2	6.5	85.1	prohibited	35.1
1831	3.4	46.5	11.2	4.9	58.0	prohibited	41.7
1832	4.2	57.7	11.8	6.0	99.8	prohibited	18.9
1833	5.7	78.1	70.3	8.1	163.2	prohibited	7.7
1834	6.0	82.1	91.1	8.6	201.3	prohibited	31.9
1835	51.5	89.6	98.9	94.2	257.4	prohibited	46.3
1836	38.0	88.1	70.7	46.4	205.5	prohibited	29.7
1837	24.9	86.6	55.9	45.6	165.3	prohibited	29.9
1838	8.4	58.1	27.7	0.0	79.4	prohibited	29.2
1839	3.5	49.0	10.1	0.0	31.5	prohibited	19.5
1840	3.6	50.5	10.4	0.0	62.9	prohibited	8.4
1841	3.6	50.5	32.9	0.0	69.1	prohibited	20.6
1842	3.6	50.5	27.5	0.0	45.7	prohibited	20.5
1843	10.1	70.5	32.3	0.0	85.0	prohibited	13.5
1844	21.7	75.5	37.3	0.0	86.6	prohibited	18.8
1845	4.1	57.7	25.3	0.1	69.6	prohibited	20.3
1846	3.3	46.3	0.0	0.0	11.2	prohibited	15.4
1847	2.8	18.3	1.2	0.0	0	0	12.3
1848	4.5	28.7	57.5	0.3	24.2	prohibited	9.9
1849	4.7	30.1	67.0	0.0	3.6	prohibited	15.3
1850	4.8	30.8	73.5	0.0	3.7	prohibited	9.7
1851	4.5	17.8	70.4	0.0	3.4	prohibited	10.0
1852	4.0	12.7	43.6	0.0	3.1	prohibited	9.4
1853	3.3	2.6	0.0	0.0	2.5	prohibited	10.3
1854	2.8	0.0	0.0	0.0	2.1	prohibited	8.6
1855	2.4	0.0	0.0	0.0	1.9	prohibited	7.4
1856	0.0	0.0	0.0	0.0	1.7	0	6.4
1857	0.0	0.0	0.0	2.5	2.4	0	0.0
1858	0.0	0.0	0.0	3.1	3.0	prohibited	0.0

1859	0.1	0.0	46.0	3.2	3.0	prohibited	0.0
1860	0.0	0.0	0.0	2.6	2.4	prohibited	0.0
1861	0.0	0.0	2.4	2.4	2.4	prohibited	0.0
1862	0.0	0.0	2.6	2.7	2.5	prohibited	0.0
1863	0.7	0.0	3.1	3.6	3.0	prohibited	0.0
1864	0.9	0.0	3.7	3.9	3.6	prohibited	0.0
1865	0.8	0.0	3.4	0.0	3.3	prohibited	0.0
1866	0.7	0.0	2.9	0.0	2.8	prohibited	0.0
1867	0.5	0.0	2.1	0.0	2.0	0.0	0.0
1868	0.5	0.0	2.1	0.0	2.0	0.0	0.0
1869	0.7	0.0	2.8	0.0	0	4.2	0.0
1870	0.7	0.0	2.8	0.0	0	4.2	0.0

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