DOES BILATERALISM PROMOTE TRADE?
NINETEENTH CENTURY LIBERALIZATION REVISITED

Olivier Accominotti & Marc Flandreau[♣]

Sciences Po, Paris
November 2005

Textbook accounts of the Anglo-French trade agreement of 1860 argue that it heralded the beginning of a liberal trading order. This alleged success has much interest from a policy point of view: unlike modern GATT/WTO multilateral agreements, it rested on bilateral negotiations. But, in reality, how great were its effects? With the help of new data on international trade we provide empirical evidence. We find that the Anglo-French treaty and subsequent network of Most Favored Nation trade agreements coincided with the end of a period of unilateral liberalization across the world, and that it did not contribute to expand trade at all. This is contrary to a deeply rooted belief among economists and economic historians. We conclude that, contrary to a popular wisdom, bilateralism did not promote trade in the 19th century.

♣ . Marc Flandreau is Professor of economics, and Olivier Accominotti, PhD candidate, at Sciences Po, Paris. Address for correspondence: *Chaire Finances Internationales*,Institut d'Etudes Politiques de Paris, 27 rue Saint-Guillaume, 75007 Paris, France. Email: marc.flandreau@sciences-po.fr. We thank colleagues and students and in particular Béatrice Dedinger, Jérôme Destombes, Clemens Jobst and Guillaume Daudin for their research assistance and suggestions in collecting the database. We are grateful to Andy Rose for his comments on an earlier draft. Financial support from the Bank of France research grant on "Trade, finance, and globalization" is gratefully acknowledged.

The Anglo-French trade agreement of 1860 is generally treated as a milestone in histories of globalization. Paul Bairoch's work of reference argues that the signature of the "Cobden-Chevalier" treaty (as it is commonly known after its British and French negotiators) and subsequent creation of a "network" of Most Favored Nation bilateral treaties opened the "phase of European free trade" (Bairoch 1989, p. 36). Similarly, Douglas Irwin wrote that the treaty "heralded the beginning of a liberal trading order" (Irwin 1993, p. 95). This view has been more recently endorsed by Jeffrey Williamson and Kevin O'Rourke:

> "Continental trade policy and attitudes toward globalization may have changed only very slowly, but when they did change, they did so in a rush. The Cobden Chevalier treaty between France and the United Kingdom was not signed until January 23, 1860, but, though delayed, the signature heralded a decisive shift toward European free trade" (O'Rourke and Williamson 1999, p. 38)

The alleged success of the Cobden-Chevalier network in shifting attitudes towards free trade is very interesting from a policy point of view. For unlike modern GATT/WTO multilateral agreements, it rested on bilateral negotiations. Thus bilateralism can be an effective instrument of liberalization (Irwin 1993). Yet nobody has ever cared to explore the matter empirically. Is it true that the 1860 treaty was a turning-point for policymaking? And more importantly, how real were its effects?

This paper provides answers. We do this by vastly extending existing material with the help of a database we assembled for the occasion. RICardo (a new database for early 19th century international trade data which we gathered for this research) documents bilateral trade flows in the early and mid-19th century. This enables us to provide the first measurement of the effects of 19th century bilateralism. The remainder of the paper is organized as follows. Section I offers a benchmark account of 19th century trade liberalization. Section II gives numerical evidence on the expansion of international trade in the middle of the 19th century. Section III focuses on the time series behavior of protectionist measures. Section IV provides empirical tests of the effects of bilateral treaties; in it we examine whether the Anglo-French

and subsequent Most Favored Nation agreements increased trade. We close with our conclusions.

Section I. The Conventional Account

Traditional histories of international trade in the 19th century identify the era between the Congress of Vienna (1815) and Britain's repeal of the Corn Laws (1846) as a period of generalized protectionism. There was some agitation in favor of free trade, and it was nowhere as effervescent as in England where Richard Cobden and his Anti-Corn Laws League waged their famous campaign against protection. Cobden had British administration support from the Board of Trade (Brown 1958). He also had friends and admirers on the Continent. But despite all his efforts, *laissez-faire* was postponed, avoided, eschewed. In England, the Tories defended the old landowning oligarchic order. International treaties were negotiated in vain. The few that were signed included the "concession principle" – also known as the "American clause" – under which new advantages were extended only in return for further concessions, in contrast to the provisions of Most Favored Nation clauses.

Then came Sir Robert Peel and his remarkable political skills, social unrest, troubles in Ireland, and of course very bad weather. The Corn Laws were repealed in 1846. That date, we are told, opened an interregnum of "unilateral" liberalization. Britain, having dismantled its duties on industrial goods in 1842 and annihilated the protection on wheat, stood alone on the side of trade liberalism, sole guardian of the Temple of sound economic principles, when protection was rampant on the Continent. Not having much to trade in the way of further concessions, British leaders were left to place their hopes in pedagogy and a bit of evangelization: other countries would have to discover for themselves the benefits of free trade and follow Britain's example.

But people on the Continent were slow learners, and when they spoke free trade they stammered. Not much happened during the late 1840s and 1850s. According to Irwin: "Some trade liberalization occurred in the United States, which passed its most liberal tariff of the ante-bellum period (timed clearly in conjunction with the Corn Law repeal) in 1846, and in Holland, Switzerland and Portugal, where tariffs were eased significantly in the early 1850s. But the movement toward free trade did not overtake the rest of Europe until the Anglo-French commercial treaty of 1860" (1993, p. 95).

Thus the Treaty of 1860 was an awakening. Negotiated secretly by Michel Chevalier and Richard Cobden in late 1859, its advent was announced in a letter by Napoléon III, published in the French official newspaper, *Le Moniteur*, on January 5 1860. On the French side, it lowered duties on steam engines, boats, acids, leather goods, etc. On the British side, it reduced protection on wine, and also on "*articles de Paris et de Lyon*", i.e. high-skilled, labor-intensive fashion items British people were fond of. Most importantly, the treaty contained the famous Most Favored Nation clause, which insured each partner against the risks of losing out if new concessions were granted to third parties in the future.

Historians are still divided on the proximate causes of the treaty. Kindleberger (1975) has emphasized the role of ideology. Napoleon III, a resident of England when the Corn Laws were repealed, had been won to the merits of *laissez-faire*. He was willing to reverse France's heavy protectionism, and so made sure that special provisions regarding authority over trade policy were included in the French "constitution" of 1851. This is what enabled him to impose a "trade coup" on reluctant elites. On why the move did not occur until 1860, authors often emphasize the tension that surrounded France's sponsoring of Italian reunification, and the need for the French ruler to give England some indication [token?] of goodwill. Irwin echoes this widespread view when he writes (Irwin 1995, p. 95-96), "Both

governments saw a commercial treaty as a way of defusing tension and improving diplomatic relations, and an agreement was quickly reached".

Figure 1 here

Most importantly, France and Britain's initial move triggered reactions from other countries, mostly in Europe. Economists (Irwin 1993) and political scientists (Lazer 1999) have suggested that fear of trade diversion *à la* Viner explains why other countries rushed to sign treaties with France and England, and then with one another. This generated a process of "contagion" summarized in Figure 1. As seen, the Anglo-French arrangement was followed by a multiplication of bilateral treaties, with the law of propagation following an S-shaped pattern, typical of epidemics. Expressions such as "free trade epidemic" have been commonly used to describe the spread of bilateral treaties-cum-MFN clauses in the 1860s.

In the end, because of the inclusion of MFN clauses, further concessions, granted to newcomers via new treaties, were systematically granted to older members of the network. This reinforced trade links, and was a powerful engine of trade expansion. 19th century-style international commercial integration was born, and its vehicle had been bilateralism.

This story is widely accepted. Debate has focused on two side aspects only. One is the duration of the liberal trading order created by the Anglo-French Treaty. Bairoch (1993) claimed that the episode was short-lived, with protectionism taking over again on the Continent after 1879. By contrast, Irwin (1993) sees the 1860 treaty as creating a "liberal trading order which lasted until the outbreak of World War I in 1914" (Irwin, 1993, p. 95). We won't go into this debate. John Nye (1991, 1993, 2006) raised another issue that is relevant to this paper. In particular, Nye questioned whether the conventional contrast between protectionist France and laissez-faire Britain is an adequate characterization of the situation prevailing during the first three quarters of the 19th century. He found that British *laissez-faire* was restricted to the industrial sectors where Britain held a lead. Moreover, the

Corn Laws did not repeal the heavy duties that Britain kept on wine, a key export good for France. But even Nye did not challenge the notion that the Cobden-Chevalier Treaty heralded an extension of *laissez-faire*.

Section II. Did trade increase after 1860?

How do we know that the 1860 Treaty ushered in an era of trade expansion? The simplest way is to look at numbers. This can be readily done from secondary sources. The evolution of international trade in the 19th century has been studied by Arthur Lewis (1981) and Paul Bairoch (1976) respectively. Bairoch focused on Europe and Lewis on the world. They both relied on official custom returns when available and provided estimates for countries when not. Lewis gave annual series for 1850 onwards for a number of countries and areas. Bairoch reported decennial numbers only, but they started in 1830. Each author used a different price index to deflate trade values, but the two indices were not very different. Table 1 below summarizes their evidence for 10-year periods circa 1860. We also give trade growth rates for Europe and the USA that we reconstructed ourselves from our database and deflated using alternatively Lewis' and Bairoch's price series.

Table 1 here

The message from Table 1 is straightforward. Differences across sources may be ignored. Trade growth was substantial in the 1840s, and it accelerated in the 1850s. After this the increase stalled. The slowdown was quite noticeable for the MFN treaties-intensive area, namely Europe.

Therefore, the chronology of trade expansion does not tally with traditional histories. Accounts identifying 1860 with the beginnings of a new trading order imply a take-off after that date. But this is not at all what happened, as Bairoch (1976) recognized. Intriguingly, he admitted being troubled by the "relative lack of correlation between the liberal period and

expansion of international trade" (1976, p. 65), but did not suggest changing the conventional story.[1]

III. Did protection decline after 1860?

Was 1860 followed by a sharp decline in protection? To answer this question Figure 2 depicts the behavior of two alternative indicators of protection Π_t and Ω_t. Π_t is cross country mean rate of protection (π_{it}), measured as the ratio of custom revenues to total imports for a given country and time (this is known as the "apparent protection"). Such a measure is not flawless; we shall return to this issue later in this section. For the time being, we shall content ourselves with supplementing Π_t with Ω_t, the mean degree of openness (ω_{it}), measured as the ratio of imports to GDP. Formally:

$$\Pi_t = \frac{\sum_i (\pi_{it})}{n} \text{ and: } \Omega_t = \frac{\sum_i (\omega_{it})}{n}$$

The sample includes almost all the important trading powers of the time.[2] Figure 2 also shows the expansion of the MFN network of treaties. As can be seen, one must abandon the view that something special happened in 1860. A definite trend in protection and openness was already well under way when the Cobden-Chevalier Treaty was signed, and the Treaty did not lead to any accelaration of trade liberalization. In fact, if anything, 1860 heralded a slowdown in the growth of openness and the reduction of protection.

Figure 2 here

[1] Bairoch (1976, p. 67): "Of course, the liberalization policy adopted by the United Kingdom was a key factor for this strong acceleration of trade. And it was especially so because, as we have seen, following Britain's success (British trade doubled between 1846 and 1856), almost all European nations, after France, liberalized their custom policy after 1860".

[2] Bairoch (1973, p. 3) gives the following list of European trading powers circa 1860, in descending order: United Kingdom, France, Germany, Austria-Hungary, Russia, Italy, Belgium, Switzerland, Spain, Sweden. . He excludes Holland from the list because of "uncertainty in trade statistics", adding that in 1860 it would have occupied the 9th or 10th place. Note also that Bairoch's definition of "Germany" is unclear. Since systematic annual data for "Germany" is not available, we have excluded it from the sample. Our index thus covers 9 of the 10 major European trading nations of the time, plus the USA.

Of course, one objection against the evidence in Figure 2 is that it is it does not count upon rigorous measures of protection. On the other hand, obtaining such measures for a significant number of countries in the mid-19th century is exceedingly difficult.[3] This problem was the focal point of an earlier scholarly debate on protection in the 19th century. In a provocative paper, John Nye relied on the rate of "apparent protection" to perform pair-wise comparison between British and French trade policies in the 19th century. He found French protection inferior to that of the British during the first three-quarters of the century: e.g. in the 1830s, the rate for France was 21.45% and that for Britain was 50.15%. France was much less protectionist than Britain (Nye 1993). Nye was heavily criticized by Douglas Irwin who pointed out that France had many prohibitions, so that apparent protection underestimates true protection. Irwin argued that using "openness" (the ratio of imports to GDP) instead of apparent protection reversed conclusions: during the 1830s, Britain's ratio of imports to GDP stood at 13.1% against 5.1% for France – Britain was *laissez-faire* (Irwin 1993).

But as we shall show, simple panel econometrics tell us that relying on two countries only is misleading. More generally, one should distinguish carefully between the cross-section and the time series aspects of the debate. Crude indicators of protection may include biases, but provided that these biases are stable over time, such indicators can perform well to detect trends and in effect be very consistent with one another. To show this, Equation (1) measures the cross-section incidence of mean (log) apparent protection, $\overline{\pi}_i$ on mean (log) openness, $\overline{\omega}_i$, for a given country during a given period (α is a constant). Parameter γ is the cross country elasticity of openness to protection. A negative and significant estimate of γ in equation (1) indicates that countries that had on average lower rates of protection were also more open:

$$\overline{\omega}_i = \alpha + \gamma \cdot \overline{\pi}_i + \varepsilon_i \qquad (1)$$

[3] . Notable attempts for individual countries include McCloskey [1980], Irwin [2003], [2005].

Irwin's criticism is that France protected less than Britain but was less open as well, so that γ is positive. If this is true in general, the two alternative measures of trade policy are inconsistent with one another. But this argument is based on just two points. What happens when n>2? The first part of Table 2 answers this question by fitting the regression line in equation 1 with a sample of ten countries over the period 1850-1870. As seen, the elasticity of openness with respect to protection is large, significant, and has the correct sign (γ <0). This shows that Irwin's inference from Britain and France has limited reach, for in broad terms openness and protection are indeed negatively correlated.

Table 2 here

The alternative way to look at the relation between protection and openness is to focus on their time series relation. To do this we introduce a constant, or "fixed effect", for each country (α_i). Formally:

$$\omega_{it} = \alpha_i + \gamma \cdot \pi_{it} + \varepsilon_{it} \qquad (2)$$

This specification is superior to the previous one because its takes care of time-invariant country-specific effects. For instance, during the early 19th century, France may have had (so Irwin argues) a number of prohibitions that would lead apparent protection to underestimate true protection. Or Britain's links with its colonies may have fostered specialization so that its "openness" might have appeared larger than it truly was (as we argue). Since equation (2) controls for such effects, it measures the "dynamic" correlation between protection and openness. The bottom part of Table 2 reports the estimate for γ. It is again large, significant, and with the correct negative sign. But more importantly, estimation of γ is considerably more precise in equation (2) than in equation (1) (standard errors are about five times smaller). The conclusion is that the dynamic relation between openness and protection is much stronger than the static relation.

Figure 3 illustrates what is going on. The lozenges correspond to individual countries' averages, that is, to the mean apparent rate of protection (x-axis) and mean openness (y-axis), for a given country over the period 1850-70, and from which the sample's average has been subtracted. These are the background data for equation 1. As seen, the relation between openness and protection is perceptible if not conclusive: Britain's openness, given its apparent protection, was somewhat larger than the sample average. The converse is true for Austria-Hungary. But that does not prevent the conclusion that apparent protection and openness carry generally consistent messages and are therefore substitutes.[4]

The small circles in Figure 3 map the background data for equation 2. Each circle corresponds to protection and openness for a given country and year, from which countries' averages have been subtracted. As seen, the dispersion of observations is much smaller, implying that protection and openness correlate very well with each other during the period under study. The conclusion is that Irwin's concerns are valid, but only to the extent that they warn against excessive inference from cross-sectional evidence. They are unfounded, however, from a time series point of view. Looking at protection or looking at openness conveys very similar messages when dealing with historical evolutions. This explains the consistency between the two indices of liberalization depicted in Figure 2.

Figure 3 here

In fine, the empirical evidence is inconsistent with the conventional view of an upward leap in trade liberalization and openness after 1860. Trade liberalization was already well under way when the Anglo-French treaty was signed, and it actually slowed down afterwards. So all is not well with the conventional narrative.

If liberalization progressed before the advent of bilateral agreements, it may have resulted from unilateral moves. We examine this hypothesis by regarding the evolution of

[4] . Incidentally, Figure 3 also shows that the conventional opposition between Britain and France, as Nye had argued, is inexact. A more relevant one would be between "*laissez-faire*" Holland, Switzerland, or Belgium and

France's trade policy over the period 1830-1870. Our source is Levasseur's two-volume history of French trade (Levasseur 1912). Table 3 organizes the information on trade liberalization events according to whether they are "unilateral" or "bilateral".[5] It conveys a striking message: there were many moves towards liberalization beginning in 1840. The Table also shows that the big change after 1860 was a transformation not from a policy of protection to one of *laissez-faire*, but rather from a policy of unilateral concessions to a policy of bilateral MFN agreements. The implication is that 1860 heralded a transformation of trade policy instruments, not of the policy positions. It remains to be decided whether these new instruments were superior to the ones used previously.

Such evidence may be completed by looking at Figures 4 to 7, which display the long-run evolution of the rate of apparent protection for alternative groups of nations against Britain. As can be seen, Britain's record was fairly typical of other large Continental traders (Figure 4), and so was that of the USA until the Civil War ushered in a reversal (Figure 5). Britain was by no means the leading free trader (Figure 6). But more importantly, given the earlier evidence, it was not even a leader in terms of trend (Figures 4 and 7). To resume: the trend towards liberalization had begun all over the trading world well before 1860. The conventional account of a laid-back Continent, unconvinced by Britain's efforts at "unilateral" liberalization and waiting for the Cobden-Chevalier treaty to reverse its protectionist stance, is a myth. The true story is that at some point in the 1840s, many nations began to liberalize unilaterally. In that respect, Britain was just another country, and its experience should be described as typical rather than isolated. These findings shed a new light on the reasons why we failed to identify any acceleration in either trade or openness after 1860. After all bilateral concessions are discriminatory, even if their adverse impact can be limited by the existence of the MFN clause. For a genuine supporter of free trade, the

---

"fortresses" USA, Spain, or Russia. In between the two, France, Italy, or Britain, are not dissimilar.

evidence that the wave of bilateral treaties after 1860 did not herald an acceleration in global trade should therefore not come as a surprise.

Table 3 here.

IV. Cobden-Chevalier, but with measure

There still remains the possibility that the treaties of the 1860s had an effect on the structure of international trade. Unlike the unilateral concessions that were granted earlier, these treaties might have contributed to the more modest post-1860 commercial expansion by promoting trade between signatories at the expense of trade with third parties. The implication would be that world trade continued to expand, but on a reduced geographical base. Note however that Table 1 displayed evidence that trade in Europe was not accelerating, and yet it was in Europe that trade treaties were more numerous. The suspicion already is that the Cobden-Chevalier network of treaties did not help.

To address this question seriously, bilateral trade data are needed. It was for this purpose that we constructed RICardo, a database for bilateral trade flows. It is the first large database that has ever been built concerning this early period.[6] For the time being, we have been able to finalize observations for about thirty countries at five dates surrounding the time when the treaty was signed (1850, 1855, 1860, 1865 and 1870). RICardo holds about 270 observations per cross-section, or 1 342 in all. This makes it a natural tool for testing the effects of bilateral trade agreements. As in recent work on the effects of multilateral agreements on trade (Rose 2004), we use the standard gravity equation, which explains bilateral trade flows using a number of standard controls plus variables incorporating the existence of trade treaties or frameworks.

---

[5] . Table 3 ignores a host of navigation treaties with Latin American nations and a few European ones as well, applying during the 1840s, for which our source provides no more than an enumeration. See note to Table 3.

[6] . To our knowledge, the only other pre-1870 bilateral trade database is the one used in Flandreau (2001), but its size is more limited.

The basic equation relates the log-imports from j to i at date t (x_{ijt}) to a number of controls plus a dummy variable covering the existence of bilateral MFN treaties. Formally (β and θ are parameters):

$$x_{ijt} = z_{ijt} \cdot \beta + MFN_{ijt} \cdot \theta + \varepsilon_{ijt} \qquad (3)$$

Our methodology is to settle on a benchmark regression where the variables in the matrix z_{ijt} are similar to related empirical work. We thus consider as in Rose (2004):

- log ratio of GDPs.
- log product of GDP per head
- log distance
- border (1 if common border)
- language (1 if common language)

To which we add three country group effects that may be relevant for the period, namely:

- Commonwealth for countries in the British Empire (this variable is equal to 1 when trade is between Britain and a member of the British Empire).
- Italian group for "countries" in pre-unification Italy (this variable is equal to one if both partners are future Italian States (as of 1861)).
- German group for pre-unification German entities, i.e. mostly Zollverein and Hanse towns (this variable is equal to one if both partners are future members of the 1871 Reich).

We register the effect of the Cobden-Chevalier network of bilateral treaties by considering both trade creation and trade diversion. Thus:

- MFN_{ijt}: A dummy set equal to 1 if there exists a MFN treaty between i and j at date t. To take into account implementation lags, the dummy is one if treaty was signed during first six months of year or earlier, 0 otherwise.

- MFN/out$_{ijt}$: We also consider the possibility of trade diversion *à la* Viner (following Eichengreen and Irwin (1995) and Maurel (1998)). This dummy is equal to 1 if at least one country in (i,j) has MFN treaty with k≠ (i,j) but not with some other one, 0 otherwise.

Finally, in order to control for unobservable effects that may be individual- or time-specific, we consider fuller specifications. These include:

- Time dummies to register possible trends.
- Country effects (CE) to capture time invariant, importer-specific resistance to trade.
- Country time effects (CTE) to capture time dependent, importer-specific resistance to trade. Note that CTE control for changes in overall (as opposed to bilateral) trade policy as well.[7]
- Standard fixed effects (FE). These are the genuine fixed effects of panel econometrics, i.e. dummy variables set equal to one when countries i and j are involved in that order and zero otherwise. Cheng and Wall (2005) have advocated their use since they help focus on the pure trade creation effects of a given institutional arrangement. Other authors have suggested that this removes many degrees of freedom. With 30 countries, for instance, there are 870 fixed effects. Since we have 1 342 observations, the number of degrees of freedom is halved.

Estimation techniques follow current best practice in this area. We start with straight OLS. Since these are known to deal inadequately with time series and cross-section heterogeneity, we report GLS estimates (random effects on individuals), and include time dummies. We also report alternative brands of country controls, as discussed above (country effects (CE), country time effects (CTE), and (FE) fixed effects).

Results for the impact of the Cobden-Chevalier network of treaties are reported in Table 4.a and b. The impact of standard controls is fully in line with related work: we find a

positive effect of GDP and GDP per head, a negative and significant effect of distance, a positive and significant effect of border, a positive and significant effect of language. The Commonwealth effect is positive but not significant, the Italian effect is interestingly negative, but only significant in OLS, and the German effect finally is both huge and significant in all regressions.

The key result however is the non-significance of the trade treaties. Despite all that has been written about them, they do not have any marked effect. Moreover, Viner-type trade diversion, which supposedly drove trade expansion by generating contagion, comes up with the wrong sign: trade with non-signatories was more substantial than with signatories. Interestingly, this effect disappears when we add time controls. Beyond the implication that the traditional view on trade liberalization is not supported by the data, our evidence suggests that the treaties may actually have been signed between countries that failed to expand their bilateral trade as much as their trade with the rest of the world.

These findings square quite well with the evidence reported so far. But we want to perform further robustness tests before pronouncing the conventional wisdom dead and buried. In particular, it could be that aggregating together all treaties is not an appropriate strategy. It could be, for instance, that the Anglo-French treaty was the only really significant agreement. Delving further into the matter, we also find evidence of discussions of differential effects of the Anglo-French treaty on either partners and also on third parties (e.g. Irwin 1993). It has often been said, for instance, that French concessions were limited in size and geographical scope, while British concessions were larger and also more generous in

[7] . We think that this takes care of the vexatious lack of control for trade policy, which is characteristic of gravity models. This formulation is also superior to that used in Flandreau and Maurel (2005) where trade policy is proxied by possibly endogenous apparent protection.

scope since they were extended to the rest of the world.[8] This can be assessed by distinguishing among alternative effects of the Cobden-Chevalier (CC) treaty.

Table 5.a. identifies standard symmetrical trade creation and diversion effects (columns I and II) and asymmetrical effects. We distinguish the effect of the treaty on France's imports from Britain, on France's imports from the rest of the world (RoW), on Britain's imports from France, and on Britain's import from the rest of the world. The idea here is that one would expect greater effects where concessions were bigger, and also an impact on RoW if concessions were generalized to third parties as we are told was the case with Britain. As we see in column I, it seems that the Cobden-Chevalier treaty boosted trade between Britain and France, but also between the two countries and third parties. These results, columns III and IV show, are driven by the rise in Britain's imports. French imports from Britain, and French imports from RoW did not react to the treaty. The results are not, however, at all robust – they crumble when both time and country heterogeneity is taken into account (column VI), as is confirmed by the breakdown of effects in column VIII. Further evidence is reported in Table 5.b. Controlling for dynamic effects, we can conclude that the only reason why there seemed to be a treaty effect on Britain's exports is that Britain tended to import more, and more from France, than the sample's average, throughout the entire period. But the Cobden-Chevalier treaty did not make any *dynamic* contribution to fostering trade between the two countries. Our conclusion is that the effects of the Cobden-Chevalier treaty were negligible.

Conclusions

This paper has produced a crop of fresh findings. It has suggested that the conventional narrative of a "turnabout" in European and international trade occurring in 1860 is inadequate. It has shown that trade liberalization accelerated markedly in a large number of European

[8] . It is not clear how this can be reconciled with the view that Britain was "laissez-faire". If it was so, how could its concessions be more generous? And if Britain extended its concessions to France, why did it sign four MFN

countries in the 1840s – except for those, such as the Netherlands, Belgium, or Switzerland, that were already very open. It has shown that Britain's trade liberalization after the repeal of the Corn Laws was typical rather than exceptional. The implication must be, at the very least, that the "pedagogy of free trade" worked extremely well, not only immediately but also, judging from a chronology of measures adopted in France, that it was actually prefigured by earlier decisions on the Continent, adopted before 1846! More seriously, we should conclude that there was a general movement among advanced and semi-developed economies towards trade liberalization. Much of the confusion has come from earlier writers trying to single out Britain.

Our findings also have important implications for the modern policy debate on the relative merits of bilateralism and multilateralism. Irwin (1993) famously argued that there could be good bilateralism, with the Cobden-Chevalier agreement and the subsequent network of MFN treaties as a case in point. Our findings suggest that this is exaggerated. As far as we know, bilateralism did not promote trade. This result has an obvious kinship with the work of Rose (2004) on the ineffectiveness of GATT/WTO. We conclude that the historical record suggests that bilateralism was just as ineffective as multilateralism. This should be the focus of future research.

In the end it remains to be understood why the Cobden-Chevalier treaty has for so long retained the attention of a large public that extends well beyond the audience of scholars, as a brief search on the Internet shows. The French writer André Maurois once explained the fall of Robert Peel by saying that one cannot "excite durably the imagination of people with customs legislation" (Maurois, 1927, p. 197). That the Cobden-Chevalier treaty has so excited the imagination of contemporaries, and after them of so many economists and economic historians, shows the effects of adding the spice of diplomacy to the liberalization

---

treaties (with Zollverein, Austria-Hungary, Italy and Belgium) in the following years?

diet. On why it should be so, the dismal science has little to say: these important matters are for historians and political scientists to contemplate.

REFERENCES

Bairoch P., 1973, "European Foreign Trade in the XIXth Century: The Development of the Value and Volume of Exports (Preliminary Results)", *The Journal of European Economic History*, vol. 2, n°1, pp. 5-36.

Bairoch P., 1974, "Geographical Structure and Trade Balance of European Foreign Trade from 1800 to 1970", *The Journal of European Economic History*, vol. 3, n°3, pp. 557-608.

Bairoch P., 1976, *Commerce extérieur et développement économique de l'Europe au XIXe siècle*, Paris : Mouton.

Bairoch P., 1989, "European trade policy, 1815-1914", in Peter Mathias and Sidney Pollard, (eds), *The Cambridge Economic History of Europe*, Volume VIII: *The industrial economies: the development of economic and social policies*, pp. 1-160, Cambridge: Cambridge University Press.

Bairoch, Paul, 1993, *Economics and World History: Myths and Paradoxe*s, University of Chicago Press.

Brown L., 1958, *The Board of Trade and the free trade movement*, 1830-1842, Oxford: Clarendon Press.

Cheng I. H. and H. J. Wall, 2005, "Controlling for Heterogeneity in Gravity Models of Trade and Integration", *Federal Reserve Bank of St. Louis Review*, Vol. 87, n°1, pp. 49-63.

Dormois J. P., 2001, *La Défense du travail national ? L'incidence du protectionnisme sur l'industrie en Europe (1870-1914)*, Paris : Université Paris-X.

Eichengreen B. and D. A. Irwin, 1995, "Trade blocs, currency blocs and the reorientation of world trade in the 1930's", *Journal of International Economics*, vol. 38, n°1-2, pp. 1-24.

Flandreau M., 2000, "The economics and politics of monetary unions: a reassessment of the Latin Monetary Union, 1865-1871", *Financial History Review*, 7, pp.47-53.

Flandreau M and M. Maurel, 2005, "Monetary integration, trade integration and business cycles in 19th century Europe, *Open Economies Review*, vol. 16, n°2, pp. 135-152.

Glick R. and Rose A. K., 2001, "Does a currency union affect trade? The time-series evidence.", *European Economic Review*, vol. 46, n°6, pp. 1125-1151.

Irwin D. A., 1988, "Welfare Effects of British Free Trade: Debate and Evidence from the 1840's", *Journal of Political Economy*, vol. 96, n°6, pp. 1142-1164.

Irwin D. A., 1989, "Political economy and Peel repeal of the Corn Laws", *Economics and Politics*, vol. 1, n°1, pp. 41-59.

Irwin D. A., 1993, "Free Trade and Protection in Nineteenth Century Britain and France Revisited: A Comment on Nye", *Journal of Economic History*, vol. 53, n°1, pp.146-152.

Irwin D. A., 1993, "Multilateral and Bilateral Trade Policies in the World Trading System: An Historical Perspective," in Jaime de Melo and Arvind Panagariya (eds.), *New Dimensions in Regional Integration*, New York: Cambridge University Press.

Irwin D. A., 1995, " The GATT in Historical Perspective", *American Economic Review*, vol. 85, n°2, pp. 323-328.

Irwin D. A., 2003, "New Estimates of the Average Tariff of the United States, 1790-1820", *The Journal of Economic History*, vol. 63, n°2, pp. 506-513.

Irwin D. A., 2005, "The Incidence of Tariff Protection in the Late Nineteenth Century United States", draft.

Kindleberger C. P., 1975, "The Rise of Free Trade in Western Europe, 1820-1875", *The Journal of Economic History*, vol. 35, n°1, pp.20-55.

Lazer D. A., 1999, "The Free Trade Epidemic of the 1860's and other Outbreaks of Economic Discrimination", *World Politics*, vol.51, n°4, pp.447-483.

Levasseur E., 1912, *Histoire du commerce de la France, Deuxième partie: De 1789 à nos jours*, Paris : A. Rousseau.

Lewis A., 1981, "The rate of Growth of World Trade", in S. Grassman and E. Lundberg (eds.), *The World Economic Order: Past and Prospects*, London: Macmillan.

Lipsey, R.E., 1963, *Price and quantity trends in the foreign trade of the United States*, Princeton: Princeton University Press.

Marsh P. T., 1999, *Bargaining on Europe: Britain and the first Common Market, 1860-1892*, New Haven: Yale University Press.

Maurel M., 1998, *Régionalisme et désintégration en Europe centrale et orientale : une approche gravitationnelle*, Paris : Editions du CNRS.

Maurois, André, 1927, *La vie de Disraëli*, Paris : Gallimard.

Mc Closkey D. N., 1980, "Magnanimous Albion: Free Trade and British National Income, 1841-1881", *Explorations in Economic History*, vol. 17, n°3 , pp. 303-320.

Nye J. V., 1991, "The Myth of Free Trade Britain and Fortress France: Tariffs and Trade in the Nineteenth Century", *The Journal of Economic History*, vol. 51, n°1, pp. 23-46.

Nye J. V., 1993, "Reply to Irwin on Free Trade", *The Journal of Economic History*, vol.53, n°1, pp. 153-158.

Nye J. V., 2006, *War, Wines and Taxes*, forthcoming Princeton University Press.

O'Rourke K. H. and J. G. Williamson, 1999, *Globalization and History*, Cambridge: Cambridge University Press.

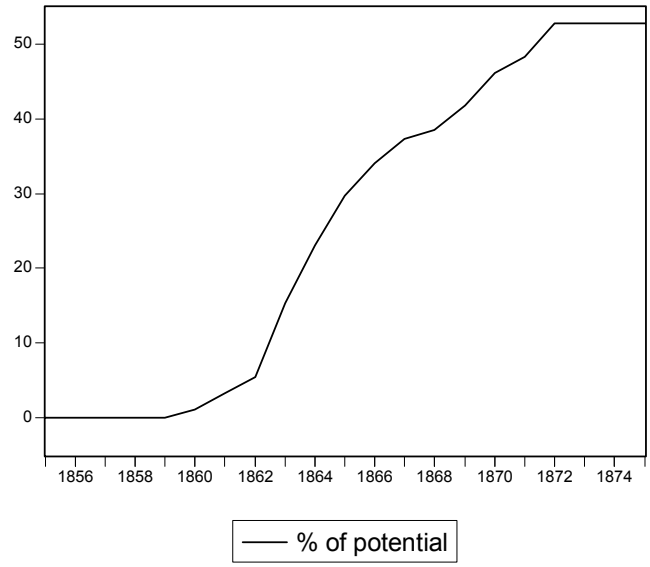
Pahre R., 2001, "Most-Favoured Nations Clauses and Clustered Negotiations", *International Organization*, vol. 55, n°4, pp. 859-890.

Pahre R., 2005, *Agreeable Customs: The Politics of Trade Cooperation, 1815-1913*, manuscript.

Rose A. K., 2004, "Do we really know that the WTO increases trade?", *American Economic Review*, vol. 94, n°1, pp. 98-114.

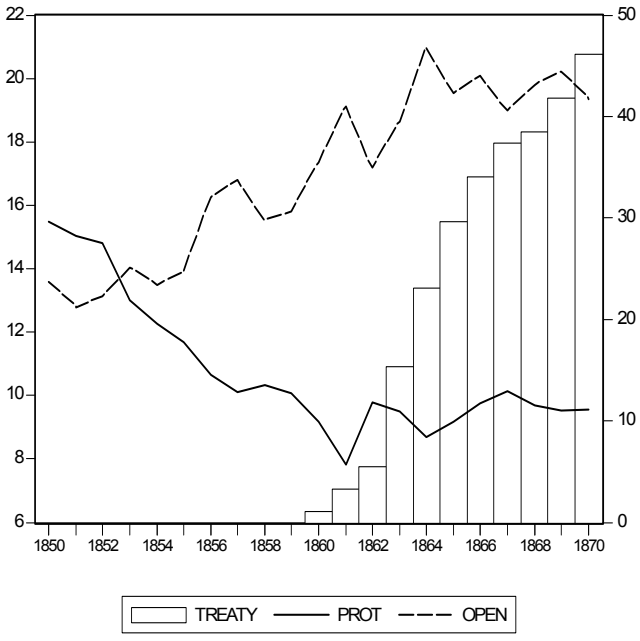
Williamson J. G., 1990, "The impact of the Corn Laws just prior to Repeal", *Explorations in Economic History*, vol. 27, n°2, pp. 123-156.

Figure 1. The Free Trade Epidemic :
Number of European MFN Clause Treaties as % of potential 1855-75



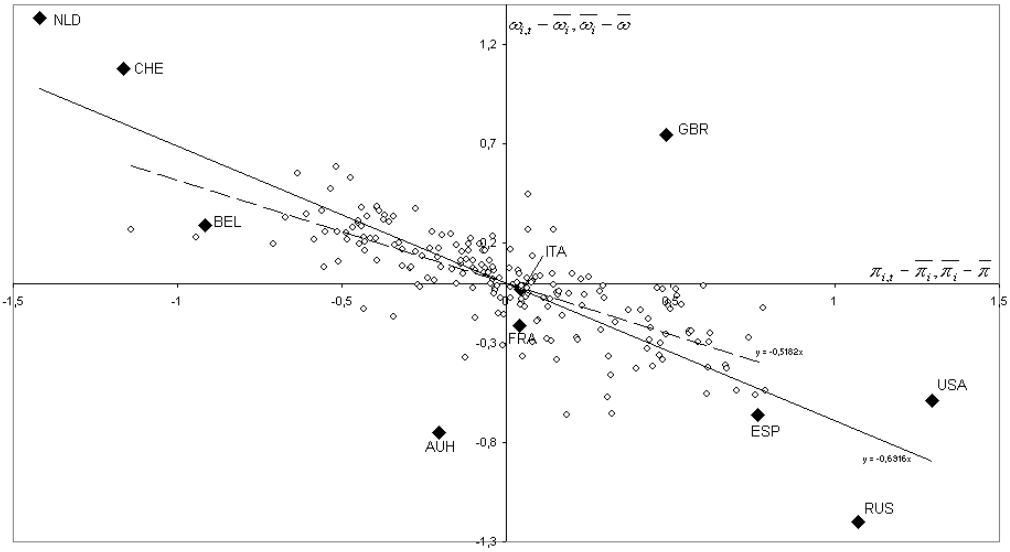
Source: Authors' computations from list of MFN treaties provided in appendix. There are 14 countries/91 potential bilateral treaties.

Figure 2. Average Openness (%, left scale), Protection (%, left scale) and number of treaties (% of potential, right scale), 1850-1870



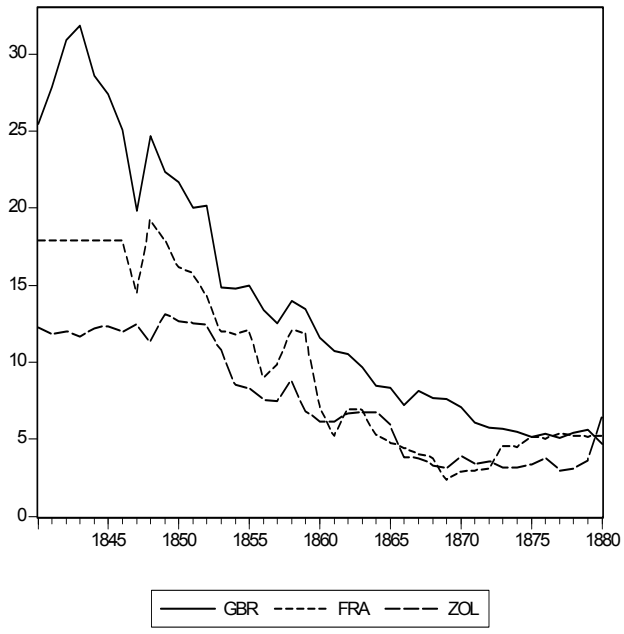
Source: Authors'database (see text and Appendix). Countries are the same as in Table 2.

Figure 3. Are protection and openness consistent with one another?



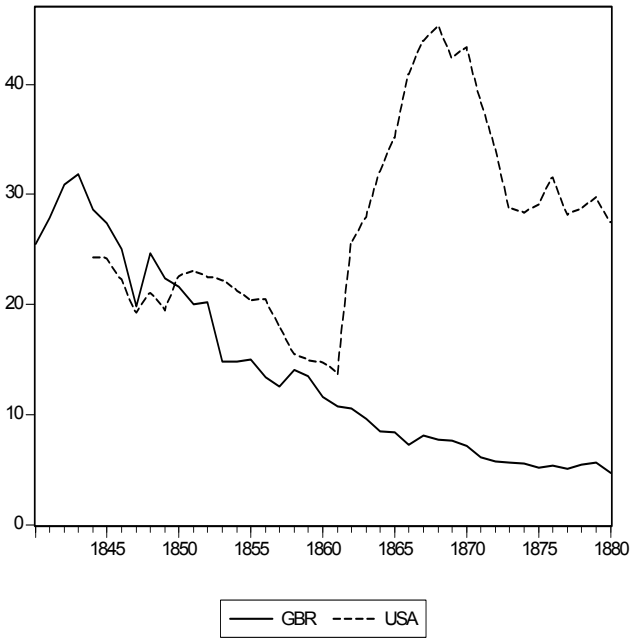
Source : See the text. Countries' list is the same as in Table 2. The diamonds correspond to average measures of trade policy in country i over the period 1850-1870. Their coordinates are $\overline{\pi}_i - \overline{\pi}$ and $\overline{\omega}_i - \overline{\omega}$, where $\overline{\pi}$ and $\overline{\omega}$ are the sample's average (adjustment is continuous line). The circles correspond to instantaneous measures of trade policy over the period 1850-1870. Their coordinates are $\pi_{it} - \overline{\pi}_i$ and $\omega_{it} - \overline{\omega}_i$ (adjustment is dotted line).

Figure 4. Protection. Britain vs. France and Zollverein/Germany, 1840-1880



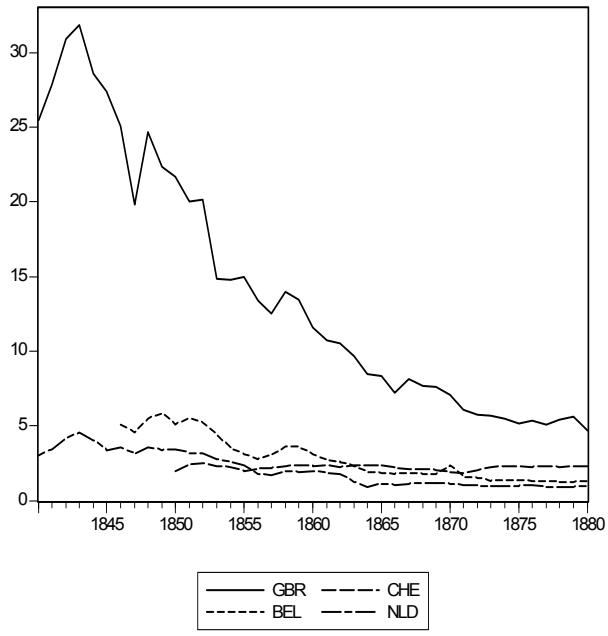
Source : Authors' database (see Appendix). GBR, FRA, ZOL correspond respectively to United Kingdom, France and Zollverein.

Figure 5. Protection. Britain vs. USA, 1840-1880



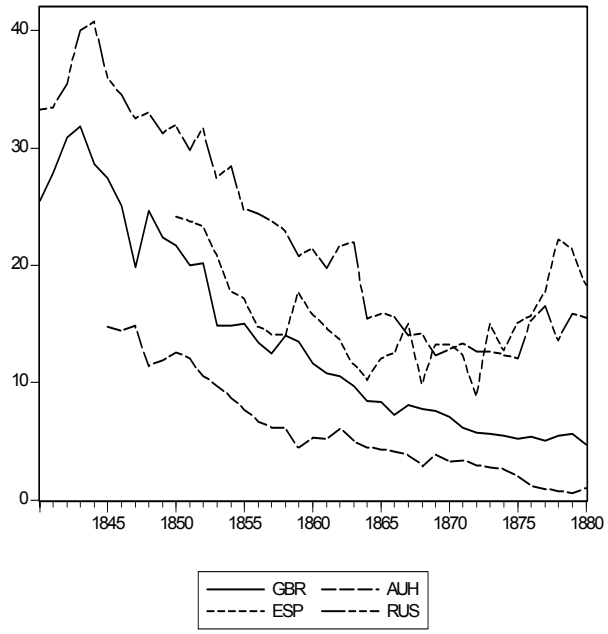
Source: Authors' database (see Appendix). GBR and USA correspond respectively to United Kingdom and United States of America.

Figure 6. Protection Britain vs. Belgium, Switzerland and Netherlands, 1840-1880



Source: Authors' database (see Appendix). GBR, BEL, CHE and NLD correspond respectively to United Kingdom, Belgium, Switzerland and Netherlands.

Figure 7. Protection Britain vs. Austria-Hungary, Spain and Russia, 1840-1855



Source: Authors' database (see Appendix). GBR, AUH, ESP, RUS correspond respectively to United Kingdom, Austria-Hungary, Spain and Russia.

Table 1. Annual growth rates of the volume of world trade, 10-year periods.

	1840-50	1850-60	1860-70	1870-80
Arthur Lewis: World exports at 1913 prices				
Europe	--	5,06%	4,25%	3,70%
United Kingdom	--	5,66%	3,21%	2,84%
Northwest Europe[(a)]	--	4,60%	4,74%	4,18%
Other Europe[(b)]	--	5,09%	4,70%	3,80%
USA	--	8,98%	1,41%	9,78%
Temperate Settlements[(c)]	--	8,72%	3,08%	4,23%
Tropics[(d)]	--	1,87%	5,18%	1,29%
East Asia [(e)]		2,78%	4,28%	3,83%
Total World Exports	--	4,89%	4,07%	3,96%
Paul Bairoch: European exports at 1900 prices				
Europe	3,74%	5,38%	4,88%	3,04%
United Kingdom	5,70%	5,40%	3,80%	2,60%
Continent [(f)]	2,90%	5,40%	5,40%	3,20%
Authors, from RICardo:				
Exports at 1913 prices (using Lewis's price index)				
Europe	--	5,33%	4,38%	3,75%
United Kingdom	--	5,72%	3,24%	2,75%
Continent [(g)]	--	5,14%	4,92%	4,15%
USA	--	8,98%	1,25%	9,29%
Exports at 1900 prices (using Bairoch's price index)				
Europe	3,94%	5,42%	4,58%	3,77%
United Kingdom	4,39%	5,33%	4,68%	2,12%
Continent [(g)]	3,74%	5,46%	4,53%	4,46%
USA	2,88%	7,48%	2,48%	9,30%

Source: Authors' constructions from (1) Lewis, "Rate of growth", p. 62-4; (2) Bairoch, *Commerce extérieur*, Table 14, p. 64 and Table 15, p. 73. Table 17, p. 76 contains numbers for "Europe" and "United Kingdom" that are not fully consistent with those in Table 14 and 15. For "Europe" this may be due to differences in list of countries. We do not understand the reasons for UK's numbers discrepancies. Differences, while non-negligible do not change the basic message, however; and (3) Authors' computations deflated using alternatively Lewis' and Bairoch's export prices indices (see text). Lewis' index for our definition of Continental Europe has been reconstructed as the average of the indexes for "Northwestern Europe" and "Other Europe". Export values come from RICardo and other sources as explained in Appendix. For US nominal exports we used *Historical Statistics of the United States*. Note incidentally, that after 1868 these numbers do not match Lewis' figures (which are based on Lipsey 1963).

Notes: (a) France, Germany, Belgium, Sweden, Norway, Denmark, Switzerland, Netherlands; (b) Russia, Austria, Italy, Spain, Finland, Greece, Portugal, Romania, Turkey, Bulgaria, Serbia; (c) Canada, Australia, New Zealand, South Africa, Chile, Newfoundland, Argentine, Uruguay ; (d) India, Brazil, Colombia, Ceylon, Philippines, British West Indies, British Guyana, Cuba, Straits Settlements, Indonesia, Algeria, Siam, Nigeria, Gold Coast, Egypt, Mexico, Peru, Venezuela; (e) China, Japan; (f) Austria-Hungary, Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Romania, Russia, Serbia, Spain, Sweden, Switzerland; (g) Austria-Hungary, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Russia, Spain, Sweden, Switzerland.

Table 2. The relation between apparent protection and openness: Panel estimates, annual data 1850-1870

	γ (t-stat.)	α (t-stat.)	Adj.-R^2
Eq. (1) : $\bar{\omega}_i = \alpha + \gamma \cdot \bar{\pi}_i + \varepsilon_i$	-0.69 (-3.38)	3.81 (8.70)	0.58
Eq. (2) : $\omega_{it} = \alpha_i + \gamma \cdot \pi_{it} + \varepsilon_{it}$	-0.51 (-16.39)	_	0.59

Source : Authors' computations, see text. Countries are Austria-Hungary, Belgium, Britain, France, Netherlands, Russia, Spain, Switzerland, (1850-1870), Italy (1860-1870), United States of America (1850-1860 and 1862-1870)

Note : In the language of panel econometrics, the alternative estimates of γ corresponding to equations (1) and (2) are known as "between" and "within" estimators of the relation between protection and openness.

Table 3. Trade policy events in France, 1830-1870

Date	Unilateral Measures	Bilateral MFN Agreements
1832	• Transit of all commodities (inclusive of prohibited ones) authorized • Prohibitions on some cereals replaced by (high) duties	
1834	• Ordinances suppressing various prohibitions, including some cottons, cashmeres, clocks, etc. • Prohibition on potassium nitrite repealed by budget law.	
1835	• Ordinances suppressing more prohibitions (irons for ships, leathers, etc.)	
1836	• Ordinances of 1834 and 1835 incorporated in custom legislation. • Duties on wool lowered to 33%, duties on cast iron lowered to 25%. • Prohibition on cotton threads repealed. • Free temporary admissions of all commodities designated by executive.	
1841	• Prohibitions on wool threads repealed	
1845	• Prohibitions on silk from India repealed. Import of machinery extended	
1847	• Suspension of sliding scale for Corn Laws (transitory)	
1853	• Suspension of sliding scale for Corn Laws (transitory) • Decree lowering duties on cattle • Navigation tax on grain and flour abolished • Decree lowering tariff on cotton • Decree on coke and iron duties	
1855	• Further decrees on iron duties, machinery, etc. • 200 items removed from list of dutiable goods. • Decree on wool and skins • Prohibitions on imports of embarkations replaced by *ad valorem* 10% duty.	
1856	• All previous decrees become part of custom legislation	
1860	• Primary products imported by French ships free of charge	• Trade Treaty with UK
1861	• French Corn Laws: suppression of sliding scale on wheat.	• Trade Treaty with Belgium
1862		• Trade Treaty with Prussia and Zollverein (ratified 1865)
1863	• Phased out reductions of duties on cattle, wine, alcohol, oils, hemp, skins, construction goods, etc. Remaining prohibitions abolished.	• Trade Treaty with Italy
1864		• Trade Treaty with Switzerland
1865		• Trade Treaties with Hanse towns, Sweden, Netherlands, Spain
1866		• Trade Treaty with Austria-Hungary and Portugal

Source: Levasseur, 1912. We abstract from navigation treaties, which were sometimes accompanied by some pro-liberalization measures. Such conventions, says Levasseur were signed during the 1840s with Haïti, Mexico, Venezuela, New Grenada, Uruguay, Brazil, Chile, Ecuador, China, Mecklenburg, Denmark, Two Sicilies, Russia, and the Netherlands. We also abstract from some conventions such as the one of 1832 with the USA, 1842 with Belgium, and 1843 with Piedmont. An alternative approach would be to add a third column that would record these bilateral treaties sine MFN clause in a separate, third column. This approach, in line with Pahre's (2005) emphasis on the existence of pre-1860 non MFN treaties would not change the basic argument, as all non-MFN bilateral treaties were signed before 1860.

Table 4. a. Effects of the Cobden-Chevalier Network: OLS and Random-Effects

	OLS			RE (GLS)		
	I	II	III	IV	V	VI
Log Product GDPs	0.46	0.44	0.45	0.42	0.40	0.42
	(17.71)	(17.10)	(16.77)	(10.56)	(10.11)	(10.65)
Log Product GDP per head	0.40	0.29	0.28	0.62	0.43	0.34
	(4.57)	(3.23)	(2.95)	(6.30)	(3.95)	(2.59)
Log Distance	-0.31	-0.32	-0.31	-0.29	-0.29	-0.30
	(-5.98)	(-6.18)	(-5.85)	(-3.64)	(-3.64)	(-3.82)
Border	1.12	1.15	1.18	1.29	1.31	1.28
	(6.19)	(6.40)	(6.52)	(4.21)	(4.32)	(4.30)
Language	0.95	0.98	0.96	0.69	0.73	0.74
	(4.96)	(5.12)	(5.07)	(2.34)	(2.51)	(2.59)
Commonwealth	0.75	0.83	0.79	0.48	0.61	0.61
	(2.19)	(2.44)	(2.30)	(0.92)	(1.18)	(1.18)
Italian Group	-0.74	-0.60	(-0.61)	-0.55	-0.50	-0.50
	(-2.78)	(-2.23)	(-2.28)	(-1.51)	(-1.40)	(-1.41)
German Group	1.43	1.40	1.39	1.53	1.45	1.41
	(7.14)	(7.04)	(7.00)	(4.88)	(4.67)	(4.61)
MFN	-0.16	0.15	0.32	0.03	0.24	-0.06
	(-0.82)	(0.71)	(1.06)	(0.21)	(1.56)	(-0.26)
MFN / out		0.53	0.60		0.35	0.01
		(4.54)	(2.73)		(4.23)	(0.04)
Year 1855			0.07			0.05
			(0.42)			(0.42)
Year 1860			0.23			0.43
			(1.21)			(3.24)
Year 1865			0.23			0.65
			(0.89)			(3.49)
Year 1870			-0.34			0.30
			(-1.23)			(1.50)
Intercept	4.56	4.42	4.18	5.31	5.04	4.60
	(8.19)	(7.98)	(7.16)	(5.90)	(5.65)	(5.03)
N	1342	1342	1342	1342	1342	1342
Degrees of freedom (N-k)	1332	1331	1327	1332	1331	1327
Adjusted R^2	0.36	0.37	0.38	0.36	0.37	0.38

t- and z-statistics in parentheses

Table 4. b. Effects of the Cobden-Chevalier Network: Country effects, Country time effects, Fixed effects

		CE		CTE		FE	
	I	II	III	IV	V	VI	VII
Log Product GDPs	0.65	0.64	0.64	0.66	1.19	0.89	0.54
	(16.95)	(16.50)	(16.41)	(17.51)	(4.28)	(2.94)	(1.44)
Log Product GDP per head	0.30	0.22	0.24	0.21	-0.38	-0.20	-0.05
	(2.86)	(1.98)	(1.99)	(1.77)	(-0.94)	(-0.48)	(-0.11)
Log Distance	-0.24	-0.25	-0.25	-0.29			
	(-3.87)	(-4.05)	(-3.91)	(-4.72)			
Border	1.48	1.48	1.50	1.42			
	(8.30)	(8.34)	(8.39)	(8.08)			
Language	0.75	0.76	0.76	0.91			
	(3.92)	(3.99)	(4.02)	(4.84)			
Commonwealth	0.67	0.72	0.66	0.40			
	(2.05)	(2.20)	(2.02)	(1.23)			
Italian Group	-0.36	-0.30	-0.30	-0.23			
	(-1.44)	(-1.21)	(-1.21)	(-0.92)			
German Group	2.36	2.31	2.29	2.23			
	(10.37)	(10.11)	(10.02)	(9.93)			
MFN	0.02	0.20	0.29	-0.24	0.02	0.20	-0.08
	(0.11)	(0.99)	(0.99)	(-1.14)	(0.15)	(1.14)	(-0.34)
MFN / out		0.28	0.29			0.26	-0.06
		(2.48)	(1.38)			(2.50)	(-0.39)
Year 1855			-0.02				0.14
			(-0.13)				(0.84)
Year 1860			0.17				0.56
			(0.93)				(2.75)
Year 1865			0.21				0.78
			(0.84)				(2.69)
Year 1870			-0.28				0.55
			(-1.07)				(1.57)
Intercept	1.18	1.11	1.35	1.31	-10.18	-5.30	0.11
	(1.21)	(1.13)	(1.36)	(0.95)	(-2.02)	(-0.99)	(0.02)
N	1342	1342	1342	1342	1342	1342	1342
Degrees of freedom (N-k)	1304	1303	1299	1208	862	861	857
Adjusted R^2	0.47	0.47	0.48	0.51	0.17	0.18	0.20

t-statistics in parentheses

Note that by definition, it is not possible to include both a MFN and MFN/out clause when CTE are introduced.

Table 5.a. Effects of the Anglo-French Treaty of 1860: OLS and Random Effects

	OLS				Random Effects (GLS)			
	I	II	III	IV	V	VI	VII	VIII
Log Product GDPs	0.39	0.40	0.42	0.43	0.40	0.41	0.41	0.41
	(14.74)	(15.01)	(16.29)	(16.75)	(10.37)	(10.73)	(10.48)	(10.70)
Log Product GDP per head	0.24	0.21	0.32	0.23	0.53	0.33	0.57	0.32
	(2.85)	(2.22)	(3.75)	(2.43)	(5.25)	(2.53)	(5.82)	(2.49)
Log Distance	-0.23	-0.23	-0.25	-0.27	-0.28	-0.29	-0.28	-0.29
	(-4.54)	(-4.58)	(-5.08)	(-5.38)	(-3.55)	(-3.80)	(-3.60)	(-3.77)
Border	1.30	1.30	1.31	1.30	1.31	1.29	1.31	1.30
	(7.27)	(7.31)	(7.25)	(7.28)	(4.39)	(4.39)	(4.35)	(4.42)
Language	0.99	0.97	0.97	0.97	0.71	0.75	0.71	0.75
	(5.29)	(5.22)	(5.17)	(5.18)	(2.47)	(2.65)	(2.43)	(2.63)
Commonwealth	0.60	0.60	0.59	0.64	0.47	0.60	0.46	0.61
	(1.77)	(1.79)	(1.73)	(1.87)	(0.92)	(1.19)	(0.88)	(1.19)
Italian Group	-0.64	-0.61	-0.73	-0.64	-0.56	-0.51	-0.57	-0.51
	(-2.47)	(-2.30)	(-2.78)	(-2.42)	(-1.57)	(-1.44)	(-1.58)	(-1.44)
German Group	1.25	1.25	1.29	1.29	1.47	1.41	1.48	1.40
	(6.39)	(6.35)	(6.49)	(6.51)	(4.78)	(4.65)	(4.76)	(4.60)
Cobden-Chevalier	2.46	2.38			0.50	0.25		
	(3.22)	(3.11)			(0.76)	(0.38)		
Cobden-Chevalier / Out	1.13	1.07			0.33	0.05		
	(7.95)	(7.04)			(2.85)	(0.42)		
CC on French Imp. from UK			1.43	1.30			0.30	0.09
			(1.34)	(1.22)			(0.33)	(0.10)
CC on French Exp. to UK			2.62	2.49			0.59	0.39
			(2.45)	(2.34)			(0.64)	(0.43)
CC on French Imp. from ROW			-0.12	-0.26			0.14	-0.11
			(-0.50)	(-1.06)			(0.70)	(-0.54)
CC on British Imp. from ROW			1.66	1.54			0.50	0.26
			(6.67)	(6.13)			(2.37)	(1.24)
Year 1855		0.14		0.11		0.05		0.06
		(0.86)		(0.70)		(0.48		(0.51)
Year 1860		0.13		0.38		0.42		0.43
		(0.72)		(2.16)		(3.28)		(3.44)
Year 1865		0.50		0.69		0.63		0.64
		(2.93)		(4.05)		(4.80)		(4.94)
Year 1870		-0.02		0.14		0.29		0.30
		(-0.12)		(0.77)		(1.88)		(1.96)
Intercept	4.53	4.20	4.49	3.99	5.19	4.56	5.26	4.54
	(8.37)	(7.33)	(8.22)	(6.94)	(5.89)	(5.07)	(5.92)	(5.02)
N	1342	1342	1342	1342	1342	1342	1342	1342
Degrees of Freedom (N-k)	1331	1327	1329	1325	1331	1327	1329	1325
Adjusted R^2	0.39	0.40	0.39	0.40	0.38	0.38	0.38	0.39

t- and z-statistics in parentheses

Table 5. b. Effects of the Anglo-French Treaty of 1860: Country and Country Pair Fixed-Effects

	CTE				FE		
	I	II	III	IV	V	VI	VII
Log Product GDPs	0.65	0.65	1.19	1.20	0.45	1.20	0.56
	(17.29)	(17.29)	(4.28)	(4.31)	(1.21)	(4.31)	(1.52)
Log Product GDP per head	0.20	0.20	-0.38	-0.46	0.09	-0.44	-0.07
	(1.67)	(1.67)	(-0.95)	(-1.12)	(0.21)	(-1.10)	(-0.16)
Log Distance	-0.27	-0.27					
	(-4.36)	(-4.35)					
Border	1.44	1.44					
	(8.13)	(8.14)					
Language	0.93	0.93					
	(4.91)	(4.91)					
Commonwealth	0.40	0.40					
	(1.22)	(1.22)					
Italian Group	-0.22	-0.22					
	(-0.90)	(-0.90)					
German Group	2.23	2.23					
	(9.97)	(9.97)					
Cobden-Chevalier	0.80		0.18	0.22	-0.16		
	(1.14)		(0.26)	(0.31)	(-0.23)		
Cobden-Chevalier / Out				0.14	-0.19		
				(1.11)	(-1.37)		
CC on French Imp. from UK		1.12				0.16	-0.12
		(1.14)				(0.16)	(-0.12)
CC on French Exp. to UK		0.49				0.26	-0.01
		(0.50)				(0.27)	(-0.01)
CC on French Imp. from ROW						0.24	-0.03
						(1.08)	(-0.14)
CC on British Imp. from ROW						0.22	-0.01
						(0.96)	(-0.03)
Year 1855					0.12		0.14
					(0.76)		(0.84)
Year 1860					0.60		0.54
					(3.04)		(2.75)
Year 1865					0.79		0.72
					(3.22)		(2.97)
Year 1870					0.56		0.49
					(1.79)		(1.58)
Intercept	1.14	1.14	-10.22	-10.52	1.79	-10.48	-0.20
	(0.83)	(0.83)	(-2.03)	(-2.09)	(0.28)	(-2.08)	(-0.03)
N	1342	1342	1342	1342	1342	1342	1342
Degrees of freedom (N-k)	1208	1207	862	861	857	859	855
Adjusted R^2	0.51	0.50	0.17	0.17	0.20	0.17	0.20

t-statistics in parentheses

Note that by definition, it is not possible to include both a MFN and MFN/out clause when CTE are introduced.

DATA APPENDIX

Sample

Sample includes: Argentina, Australia, Austria-Hungary, Belgium, Brazil, Bremen, Canada, Denmark, France, Greece, Hamburg, Italy (1861-70), Japan, Lübeck (1850-68), Mexico, Netherlands, New Zealand, Norway, Portugal, Russia, Sardinia (1850-60), Spain, Sweden, Switzerland, Tuscany (1850-60), Two-Sicilies (1850-60), United Kingdom, United States, Zollverein.

Bilateral Trade Flows

Bilateral trade flows for years 1850, 1855, 1860, 1865 and 1870 have been taken from RICardo. RICardo relies on a mix of domestic source and French consular reports to document bilateral trade patterns. Given the large number of sources used, the full description of details cannot be provided here and is available from the authors.

Population

- Belgium, Brazil, Denmark, France, Italy, Norway, Russia, Sweden, United Kingdom, USA: Mitchell (1993)
- Spain, Switzerland: Maddison (2003)
- Netherlands: Smits et al. (2000)
- Portugal: Nunes et al. (1989)
- Austria-Hungary, Canada, Greece, Sardinia, Tuscany, Two-Sicilies: Derived from Mitchell (1993)
- Australia, New-Zealand: Derived from Mitchell (1983)
- Japan, Mexico: Derived from Maddison (2003)
- Argentina: Derived from Mitchell (1993) and Maddison (2003)
- Bremen, Hamburg, Lübeck, Zollverein: Derived from Statesman's yearbook (1864-70)

GDPs

- Denmark, France, Norway, United Kingdom, USA: Mitchell (1993)
- Argentina, Belgium, Japan, Sweden: Maddison (2003)
- Australia: Vamplew (1985)
- Greece: Kostelenos et al. (forthcoming)
- Italy: Fratianni and Spinelli (1997)
- Netherlands: Smits et al(2000)
- Portugal: Nunes et al. (1989)
- Spain: Prados de La Escosura (2003)
- Switzerland: Siegenthaler (1996)
- Austria-Hungary: Derived from Schulze (1997) and Maddison (2003)
- Brazil, Canada, New Zealand: Derived from Maddison (2003)
- Bremen, Hamburg, Lübeck, Zollverein: Derived from Mitchell (1993) and Statesman's Yearbook (1864-70)
- Mexico: Derived from Coatsworth (2003)
- Russia: Derived from Gregory (1982) and Crafts (1984)
- Sardinia, Tuscany, Two-Sicilies: Derived from Fratianni and Spinelli (1997)

Custom revenues

- Austria-Hungary, Belgium, Italy, Spain, Russia, USA: Mitchell (1993)
- France: Mitchell (1993), completed by Levy-Leboyer and Bourguignon (1985) for years 1840-49
- United Kingdom: Mitchell (1962)
- Switzerland: Siegenthaler (1996)
- Netherlands: Smits et al. (2000)
- Zollverein: *Statistisches Jahrbuch des Deutschen Reichs*

Total Imports

- Austria-Hungary, Belgium, Spain, France, United Kingdom, Italy, Russia, USA: Mitchell (1993)
- Switzerland: Derived from Siegenthaler (1996)
- Netherlands: Smits et al. (2000)
- USA: Mitchell (1993)
- Zollverein: Bondi (1958)

Total Exports (for Table I)

- Belgium, Denmark, France, Spain, United Kingdom: RICardo
- Greece, Russia: RICardo and Mitchell (1993)
- Netherlands: RICardo, Smits et al. (2000) and Mitchell (1993)
- Italy, Norway, Portugal, Sweden: RICardo and Lewis (1981)
- Austria-Hungary: Mitchell (1993)
- Finland: Lewis (1981)
- Switzerland: Derived from Siegenthaler (1996), and Lewis (1981)
- USA: *Historical Statistics of the United States*
- Zollverein: Bondi (1958) and Lewis (1981)

Extrapolations have been made for Denmark (1840, 1860, 1870), Greece (1840, 1850), Norway (1840), Portugal (1850) and Switzerland (1840).

Statistics from RICardo represent 52% of the export values, 37% are from the other sources indicated, and 11% have been extrapolated. Extrapolations cover 8% of the total current value of continental trade in 1840, 1% in 1850, 2% in 1860 and 1870, and 0% in 1880.

Geographical Distance

Calculated as in Flandreau and Jobst (2005).

Exchange Rates

Denzel (1999), Schneider (1991), Schneider (1992) and Schneider (1994).

MFN Treaties

Data for MFN bilateral treaties were kindly provided by David Lazer and served as background data for his 1999 article:

	UK	FRA	ZOL	AUH	ITA	ESP	NOR-SWE	BEL	DNK	RUS	USA	PRT	CHE	NLD
UK	.	1 23 1860	5 30 1865	12 16 1865	8 6 1863	.	.	7 23 1862	.	.	.	.	.	.
FRA	.	.	8 2 1862	12 11 1866	1 17 1863	6 18 1865	2 14 1865	5 1 1861	.	.	.	.	6 30 1864	7 7 1865
ZOL	.	.	.	4 11 1865	12 31 1865	3 30 1868	.	5 22 1865	.	.	.	3 2 1872	5 13 1869	.
AUH	.	.	.	.	4 23 1863	3 24 1870	.	2 23 1867	.	9 2 1860	.	1 13 1872	7 14 1868	3 26 1867
ITA	.	.	.	.	.	2 22 1870	6 14 1862	4 9 1863	5 1 1864	9 16 1863	2 26 1871	.	7 22 1868	11 24 1863
ESP	.	.	.	.	.	.	2 28 1871	2 12 1870	.	.	.	.	8 27 1869	.
NOR-SWE	.	.	.	.	.	.	.	6 26 1863	9 22 1871	.	.	.	.	.
BEL	.	.	.	.	.	.	.	.	8 17 1863	.	4 20 1863	6 8 1863	12 11 1862	12 7 1865
DNK	.	.	.	.	.	.	.	.	.	.	.	.	.	.
RUS	.	.	.	.	.	.	.	.	.	.	.	.	.	.
USA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PRT	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CHE	.	.	.	.	.	.	.	.	.	.	.	.	.	11 22 1863
NLD	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Source: Lazer D. A., 1999, “The Free Trade Epidemic of the 1860’s and other Outbreaks of Economic Discrimination”, *World Politics*, vol.51, n°4, pp.447-483.

References for database

Bairoch, Paul, 1993, *Economics and World History: Myths and Paradoxes*, University of Chicago Press.

Bondi G., 1958, *Deutschlands Aussenhandel 1815-1870*, Berlin: Akademie Verlag

Coatsworth J., 2003, "*Mexico*", *The Oxford Encyclopedia of Economic History*, New York: Oxford University Press, pp. 501-09.

Crafts N. F. R., 1984, "Patterns of development in nineteenth century Europe", *Oxford Economic Papers*, vol. 36, n°3, pp. 438-458.

Denzel M. A., 1999, *Währungen der Welt, Dänische und nordwestdeutsche Wechselkurse (1696-1914)*, Stuttgart: Kommission bei F. Steiner.

Flandreau M. and C. Jobst, 2005, "Clio and the economics of international currencies", draft.

Fratianni M. and F. Spinelli, 1997, *A monetary history of Italy*, New York: Cambridge University Press.

Gregory P., 1982, *Russian National Income 1885-1913*, New York: Cambridge University Press.

Kostelenos G., S. Petmezas, D. Vasiliou, E. Kounaris and MSfakianakis, forthcoming, "Gross Domestic Product 1830-1939" in *Sources of Economic History of Modern Greece: Quantitative data and statistical series 1830-1939*, Athens: Historical Archives of the National Bank of Greece.

Lazer D. A., 1999, "The Free Trade Epidemic of the 1860's and other Outbreaks of Economic Discrimination", *World Politics*, vol.51, n°4, pp.447-483.

Levy-Leboyer M. and F. Bourguignon, 1985, *L'Economie française au XIXe siècle : analyse macroéconomique*, Paris : Economica.

Maddison A., 2003, *L'Economie Mondiale : Statistiques historiques*, Paris : OCDE Etudes du Centre de Développement.

Mitchell B. R., 1962, *Abstract of British Historical Statistics*, Cambridge: Cambridge University Press.

Mitchell B. R., 1983, *International Historical Statistics. The Americas and Australasia*, New York : Stockton Press.

Mitchell B. R., 1993, *International Historical Statistics. Europe 1750-2000*, New York : Stockton Press.

Mitchell B. R., 1993, *International Historical Statistics. The Americas 1750-2000*, New York: Stockton Press.

Nunes A., E. Mata and NValerio, 1989, "Portuguese Economic Growth", *The Journal of European Economic History*, Vol. 18, n°2, pp. 291-330.

Prados de la Escosura L., 2003, *El progreso economico de Espana : 1850-2000*, Madrid : Fundacion BBVA.

Schneider J. et al., 1991, *Währungen der Welt, Europäische und Nordamerikanische Devisenkurse (1777-1914)*, Stuttgart: Kommission bei F. Steiner.

Schneider J. et al., 1992, *Währungen der Welt, Lateinamerikanische Devisenkurse im 19. und 20. Jahrhundert*, Stuttgart: Kommission bei F. Steiner.

Schneider J. et al., 1994, *Währungen der Welt, Afrikanische und Levantische Devisenkurse im 19. und 20. Jahrhundert*, Stuttgart: Kommission bei F. Steiner.

Schulze M-S., 2000, "Patterns of growth and stagnation in the late nineteenth century Habsburg economy", *European Review of Economic History*, Vol. 4., pp. 311-340.

Siegenthaler H. (dir.), 1996, *Historische Statistik der Schweiz*, Zürich : Chronos Verlag.

Smits J-P., E. Horlings and J-L. Van Zanden, 2000, *Dutch GNP and its Components, 1800-1913,* Groningen: Growth and Development Centre.

Statesman's Yearbook. Statistical and historical annual of the states of the world (1864-70), London: Macmillan.
Statistisches Jahrbuch des Deutschen Reichs, Statisches Reichsamt: Berlin.
U.S. Bureau of the Census, 1960, *Historical Statistics of the United States, Colonial Times to 1957*, Washington: U.S. Government Printing Office.
Vamplew W., 1985, *Australians, Historical Statistics*, Broadway: Fairfax, Syme&Weldon.