

Appendix 2. Protection and grain prices in Europe

This appendix links Continental grain prices explicitly to Continental tariffs. The strategy is to compare grain prices in protected markets with 'world' prices, taken to be grain prices in Britain or Denmark as appropriate; and to then compare those intra-European price gaps with tariff levels in protectionist economies. If tariffs were effective in raising prices (and grain markets were well-integrated internationally) then domestic prices should have equalled world prices plus the tariff.

There are good reasons to expect that my estimate of the Franco-British price gap for a particular grain, say, should not have precisely equalled the appropriate French tariff. There may have been problems of comparability between grain in different countries (see Appendix 1). Moreover, transport costs were not negligible even within Europe, and more importantly, were declining over time, implying that movements in Franco-British price gaps, say, cannot solely be explained by tariffs. Given these qualifications, the evidence presented below is fairly striking. Throughout, French and Bavarian prices are compared with British prices; while Prussian and Swedish prices are compared with Danish prices.

The link between tariffs and domestic prices appears most clearly in the case of wheat (Appendix Figure 2.1). Throughout this period, Swedish and Prussian wheat prices exceeded Danish prices by the amount of the two countries' tariffs, while Franco-British and Bavarian-British price gaps mirrored exactly the evolution of French and German tariffs.¹ It seems clear that wheat tariffs were binding; that is, domestic wheat prices in

¹ Tariffs were specific during this period. In the figures, they are converted into *ad valorem* rates by dividing them by the price in the *free trade* market (i.e. Denmark or Britain, as the case may be).

protected markets were raised above 'world' prices by the amount of the tariff.

The picture is not quite so straightforward in the case of other grains, but broadly speaking the same message emerges (Appendix Figures 2.2-2.4). Bavarian oat and barley prices were lower than British prices until the late 1880s or early 1890s; thereafter, Bavarian prices exceeded British prices by the amount of the German tariff. French oat prices exceeded British prices by the amount of the French tariff; however, the evidence linking French barley and rye prices with French tariffs is weaker. Swedish prices were consistently lower than Swedish tariffs suggest should have been the case, which raises the question of how comparable Jörberg's Swedish price series are with the official Danish prices used here.

Although this method simplifies, the moral is clear: generally speaking, grain tariffs seem to have been effective in increasing grain prices. Differing grain price evolutions in various European countries can thus to a large extent be explained by their tariff policies. It is reasonable, therefore, to conclude that the lack of market integration between Germany and the US, say, can be attributed to German protection. Protection *did* offset declining trans-Atlantic transport costs in the German case, and *did* mute their impact in Sweden and France.