

HOW DUTCH WAS THE INDUSTRIAL REVOLUTION?

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Why did the Industrial Revolution take off in Britain, and could it have happened in the Dutch Republic? Through creative use of counterfactual models, Peter Nicolai Prebensen supplies us with one answer to these questions, and clearly identifies the key determinants of industrialisation in Britain.

Introduction

“To ask why an historical event that seems a priori feasible because it did happen elsewhere did not take place is useful analytically: why did Canada not have slavery? Why did the U.S. not have a successful socialist movement? Why did the Soviet Union fail to develop the microprocessor? These seem useful questions.” (Mokyr, 1999, p.1)

Allen’s argument for the economic determinants of the Industrial Revolution is watertight, and as Pat Hudson says in the opening sentence of his review, “This work is ground-breaking” (Hudson, 2009, p.242). With this being the seminal work on the determining economic factors, we take the findings as given. Lesser explored in this work are the international forces and particularly the events behind these economic factors. The focus of our argument will be the economic and political relationship between the British and the Dutch, and furthermore the role the Dutch played in the British Industrial Revolution. In approaching this argument, an outline and context of the economic determinants of the Industrial Revolution is given. When the primary differentiating factor for the Revolution occurring in Britain rather than the Dutch Republic is found to be coal, a counterfactual narrative is used to assess whether the Dutch could have harnessed the power of coal and thus, industrialized. This rather outlandish counterfactual, of whether Industrialization could have been Dutch, is then replaced with the more reasonable question of how much of the British Industrialization was owed to the Dutch. The counterfactual here focuses on the economic consequences of the political Glorious Revolution of 1688, when the Stadtholder of the Dutch Republic became the English monarch, replacing an absolutist system with one of representation.

Economic Determinants of the Industrial Revolution

The successful textile and manufacturing sectors of the of the Low Countries and Britain in the seventeenth-century, commonly known as the draperies, led to a high urbanization rate and high wages in commercial urban centres. Complexity was achieved in the early modern British economy, and England “became a net exporter of agricultural goods, making it capable of supporting a far-reaching division of labour” (Pincus, 2009, p.51). The Dutch had preceded them forming the first highly diversified spatial economy of “considerable complexity” in the early modern era (de Vries and van der Woude, 1997, p.433). There were positive externalities to these high wages. Although it was not found to be statistically significant in Allen’s model, the literacy rates were far higher in Britain (50%) and the Dutch Republic (70%) than in most other parts of Europe (Allen, 2009:107). The other, more significant, externality was the consumer revolution.

High wages are indicative of “purchasing power” above and beyond “basic needs”. There were a multitude of “ways to spend [this] surplus” and thus a consumer revolution occurred, a precursor to the Industrial Revolution (Allen, 2009, p.46). The consumer revolution is given “statistical evidence” by “the increased consumption of luxuries”, which also “included tropical foodstuffs and imported Asian manufactures”, and importantly for British industry, “British manufactures”. It is often overlooked that the consumer revolution “also characterized the Low Countries” (Allen, 2009, p.49). Trade and a greater focus on manufactures in Britain powered the continuing economic expansion in Britain after the seventeenth-century. This focus on manufactures was very nearly reversed by the foreign policies of James II in the period leading up to the Glorious Revolution of 1688, as we will see later.

The expected reaction to a high wage economy is the specialisation and division of labour, as occurred in both the Republic and Britain. Furthermore it is expected that industries will attempt to be more capital intensive or, in the case of Britain, fuel intensive. Incomes in the Dutch Republic in the late seventeenth-century were “30 to 40 percent” greater than those of the British, encouraging a move towards fuel. The most influential factor though is not the wage rate, it is the ratio of the wage rate to the cost of fuel, and nowhere was fuel cheaper than in the peripheral cities of the Western and Northern British Isles, giving them a far larger incentive to exploit and expand the coal industry of Britain. There can be no doubt when one sees the figures, coal was the engine of industrialization. “Between 1560 and 1800” British coal “output increased sixty-six-fold” (Allen, 2009, p.81). As coal seems to be the defining difference between the Republic and Britain, we look at a counterfactual in the next section where the Dutch do gain access to coal, and consequently whether this stimulates the Industrial Revolution to occur in the Republic.

“A fixed point at last: Britain was first because Britain had coal – a fact of nature, not an artefact of History.”(Allen, 2009:81)

A Counterfactual Narrative: The Dutch Access Coal

The first counterfactual separates into two threads; first we entertain the possibility of the Dutch gaining autonomy over British coal, and following that the Dutch utilizing the Ruhr coalfields. The use of these narratives is to help explain why the Republic was never incentivised to take advantage of coal as a cheap fuel source in the way that Britain was. The first counterfactual is shown to be highly unlikely and can be quickly dismissed. More consideration is given to the second and more plausible notion of the Dutch exploiting the coalfields of the Ruhr; this notion is however also dismissed, in part due to peat being a backstop technology, and in part due to the limited colonial and domestic demand for Dutch goods.

The first thread looks at autonomy being gained over the coal deposits in the northeast of England. Political factors rule this out, as the Dutch could never have gained autonomy over the English state given their inward looking and complex republican system. Even if these factors hadn't ruled it out, the high transport costs would've resulted in coal prices similar to those of London, giving a similar price to peat for the end user in Amsterdam. Most buyers of coal required a '50 percent discount' to select coal over a cleaner burning alternative, for example peat (Allen, 2009, p.88). Coal could not have been brought in from England at this much of a discount, thus ruling out this first thread.

The second thread is concerned with the exploitation of the Ruhr coalfields, which became a large coal producer for the continent, but not until the nineteenth century and primarily for the Prussians. It is questionable that the Ruhr coalfields could have been accessed at the low cost of the British peripheries, and the political disputes there would have been heightened with a thriving coal industry. Even if they had been accessed at these low costs, there were further problems for the Dutch, a problem of domestic population and a problem of colonial export markets. The population of the Republic was between 0.9-2.0 million between 1561- 1732, whereas Britain had 5.7 million in 1688, giving them a far larger domestic market (Milanovic, Lindert and Williamson, 2011, p.261). And more important than the domestic market, the Republic did not have the colonial export markets. In Britain, these facilitated an increase in industrial output that increased demand for coal. In 1700 it was already the case that '15 percent of English exports' were bound for the New World, and it should be noted that these figures do not include re-exports of "colonial ... products to Europe" (Pincus, 2009, p.83) The importance of colonial export markets was only increased when Colbert, the French minister of finance, constructed 'barriers to English and Dutch imports,' thereby shutting off the large French market to the Dutch. The Republic did have a few small colonial possessions, these however "were comparatively self-sufficient economically" and thus vacant of demand for Dutch manufactures (Pincus, 2009, p.87).

A Counterfactual Narrative: The Glorious Revolution of 1688 Fails

The British coal deposits lay relatively unused until the early modern period; it has been found that the accelerant that elevated coal use from domestic to industrial ‘was Britain’s success in the world economy’ (Allen, 2009, p.4). It seems wise to ask what the factors or events were that lead to this international success. Some of the more traditional factors have already been discussed in the first two sections. The transition of economic primacy from the Republic to the British is worth addressing, if not just due to their being neighbours, then also for the lengthy and complex relationship between them. A most notable event in this transfer must be the Revolution of 1688, when the Dutch Stadtholder also became the King of England, William III.

The British textile industry sector in the seventeenth-century, or the “draperies”, were “of great importance for England’s success” (Allen, 2009, p. 127). The draperies that developed in Britain were by no means “autochthonous”; in fact, a “gradual evolution” of “English manufacturing” is a fiction. It has instead been found that immigrants, and for the larger part “immigrants from the Netherlands” were instrumental in “developing the new lighter clothing” (Pincus, 2009:55). Building on the evidence from the draperies, “England’s sugar revolution” was also “not a native growth but relied on Dutch expertise” (Pincus, 2009, p.58). These were all Dutch influences that occurred before the Glorious Revolution, trends that seemed to be reversing with the regime of James II.

Now we turn to the consequences of the Glorious Revolution, the impacts and effects of a Dutch king coming to the throne. First let us inspect the immediate impacts. The financial policy effects of 1688 were immediate and significant. The “financial [and banking] revolution” (Murphy, 2009, p.5) occurred in the remainder of William III’s reign, a key pillar of which was the “introduction of excise taxes to fund a public debt (de Vries and van der Woude, 1997, p.141). These same ‘excises’ were in fact ‘Dutch fiscal inventions,’ along with their fellow “stamp taxes” (de Vries and van der Woude, 1997, p.111). The excises were referred to as “gemene middelen” with their introduction in the Republic being in 1583. This highly effective tax was introduced in Britain only a year after the Dutch King gained power (de Vries and van der Woude, 1997, p.102). Another immediate impact was the capital inflows to British public debt and stock companies, with Dutch investors perceiving William III to be providing an increased creditworthiness over James II.

There was a longer-term financial and economic relationship between the Dutch and the British following the Glorious Revolution. Though the British clearly emerged as the more powerful partner of the two, the importance of the Republic as “entrepôt remained crucial to the functioning” of the British trade mechanism, the larger part of which was “the re-export of colonial goods” (de Vries and van der Woude, 1997, p.485). The strength of the relationship can also be seen in the “British trade surpluses” after 1688,

culminating from “re-exports of Virginia tobacco” and “New World drugs, dyestuffs” and “beverages”, with these re-exports reaching £200,000-400,000 in 1693-1695 (de Vries and van der Woude, 1997, p.485). The bullion flows in the longer term after 1688 were also very significant. The Republic ran a deficit, but this was paid in large part by its services and investment income. To give a scale of the bullion flows from Britain to the Republic in this period, and thus their interdependency, from 1706-80 ‘a total of £59 million’ flowed in, with this number being equivalent to ‘the total output of Dutch mints in this period’ (de Vries and van der Woude, 1997, p.486).

So ultimately a significant amount of positive economic effects may be extrapolated from the events of 1688. To take this assessment further, an interesting question is what would Britain’s trajectory have been under James II. Of course, we cannot know for sure, but estimates can be made based on his ideology, foreign policy and international allegiances. First, James II was ‘deeply influenced’ by his cousin the absolutist monarch, Louis XIV of France (Pincus, 2009, p.6). The revolutionaries, seeking to replace James, “looked to the Dutch Republic rather than to the French monarchy”, whom James sought to follow (Pincus, 2009, p.7). This placed James and the revolutionaries in opposing schools of thought, it should be noted that a key opponent to the King’s guiding principles was the exiled liberal thinker and Whig, John Locke.

The first of James II’s major policy errors was where his economic foreign policy was focused. It was obvious to the Whigs, and John Locke, that there was a comparative advantage to trading with the New World rather than the East Indies with their ‘very limited demand for English and European products’ (Pincus, 2009, p.87). James, with his advice and ideology stemming from Josiah Child¹ rather than John Locke, believed that land had a finite production value, and therefore the higher value raw products from the East should be the focus rather than the New World and trade with the colonies there. John Locke, and the revolutionaries that replaced the James II regime, believed in the infinite potential of human endeavour, through the means of manufacture, which led to their foreign policy focus being the colonial export markets (Pincus, 2009, p.372).

The second of James II’s major policy errors was his views on immigration; he did everything within his political power to “discourage” the Huguenot and protestant “French refugees” from relocating to England after the persecution they faced from Louis XIV (Pincus, 2009, p.178). Had these sorts of policy been allowed to continue it would have led to direct negative economic impacts, the loss of the new Huguenot immigrants and their advanced manufacturing techniques, as well as the long run effects, all of the

1. This is the same Josiah Child who was forced to resign his position as president of the East India Company after attempting to dump pepper on the market at below cost price, to increase market share on the Dutch VOC. The VOC had greater financial resources and won the attack whilst the stock of the East India Company fell from 600 to 250 (de Vries and van der Woude, 1997:433). This illustrates James selecting an adviser with a zero-sum view of the world economy.

protestant immigrants residing in the UK would have reassessed their position and considered emigrating, many of these families managed textile businesses in Britain, the backbone of the economy. Ultimately, if these key policy decisions had been allowed to continue they would have undermined the advantage Britain had in two key areas; their advanced manufacturing techniques would be lost through emigration, and detrimental East India spice market policies would have been selected at the expense of the colonial export market to the New World.

Conclusion

We found in the first and second sections that the Industrial Revolution could only be British and not Dutch. The coal deposits of the British Isles gave them primacy, and the counterproductive peat deposits and limited markets for Dutch goods, both at home and abroad, restricted them. What was then discovered was controversial, however. The British textile and sugar refining industries, key drivers of the High wage economy and of demand for coal, were found to be a consequence of Dutch ingenuity. The influence only increases with the Glorious Revolution of 1688 and transfer of the monarchy to a Dutch king, unlocking the financial revolution and establishing an Anglo-Dutch economic partnership that aided in stabilizing pre-industrial growth. The impacts are not limited to that which did occur. It was found that the foreign policy view and stance on immigration of James II were so poor, that their continuance would have led to a loss of many of Britain's skilled manufacturing labourers, and a trade policy that would have turned its back on its most important sector, colonial exports. Therefore, the conclusion is made here that the Industrial Revolution is thanks to the ecological accident of coal deposits, and the Dutch.

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