

State Capacity and Economic Growth: Cautionary Tales from History

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Abstract: This paper uses economic history to probe the relationship between state capacity and economic growth during the Great and Little Divergence (c.1500 – c.1850). It identifies flaws in the dominant measure of state capacity, fiscal capacity, and advocates instead analyzing state expenditures. It investigates five key activities on which states historically spent resources: waging war; providing law and administration; building infrastructure; pursuing industrial policy; and fostering a national culture. The lesson of history, it concludes, is not to build a capacious state. Rather, we need a state that uses its capacity to help (or at least not hinder) market activity.

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1. Introduction: State Capacity and Growth

Does state capacity cause economic growth? The ability of the state to implement its aims is viewed by a large literature as exerting a positive effect on economic performance. This literature assumes that the state has a beneficial role to play in the economy, and focusses on the state's *ability* to perform that role. It takes the historical association between state capacity and economic growth in rich economies over the past half-millennium to imply that state capacity had a causal effect on that growth, though disagreements remain about the precise mechanisms. Modern poor economies are advised to expand their state capacity in order to follow the historical path marked out by rich economies.

This article uses economic history to probe the relationship between state capacity and economic growth between 1500 and 1850, the period of the 'Great Divergence' when European economies pulled ahead of other continents and the 'Little Divergence' when the north Atlantic economies outpaced the rest of Europe.

It begins by scrutinizing fiscal capacity, the main measure of state capacity. It asks whether fiscal capacity is a good measure of state capacity, how closely it was associated with economic growth, and whether we can be sure that any association was causal.

Yet state fiscal capacity is a cost to the economy. Any economic benefits come from state expenditures. What does the historical development of state expenditures tell us about how state capacity might have benefited the economy? States, it turns out, devoted the lion's share of expenditures to waging war and servicing military debts, allocating only a tiny portion to civilian purposes.

The article continues by investigating five crucial state activities with the potential to affect the economy: waging war; providing law and administration; building infrastructure;

pursuing industrial policy; and fostering a national culture. Did these state activities promote economic growth?

The article concludes by considering what economic history tells us about state capacity and economic performance. Does having a lot of capacity imply that the state uses it to improve economic performance? What other characteristics does a state need in order to play a positive role in economic growth?

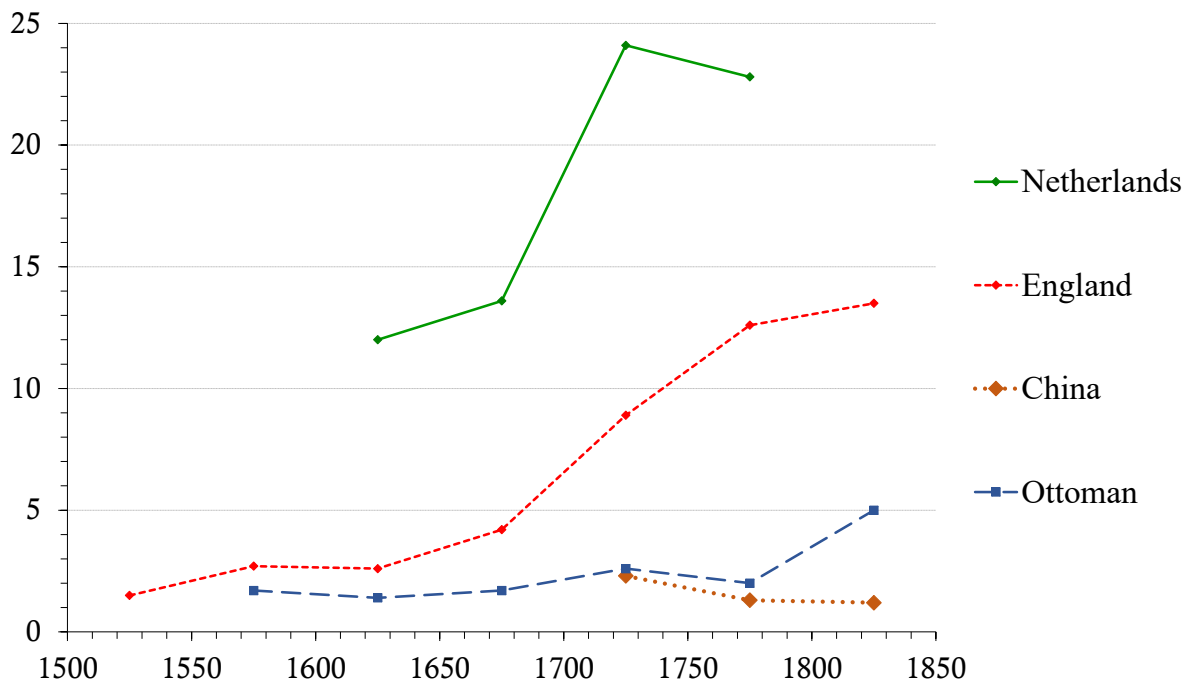
2. Measuring State Capacity

To assess the effects of state capacity, we need to measure it. Almost invariably, state capacity is measured in terms of *fiscal capacity*, which has left the best historical records. Fiscal capacity is defined as the money revenues collected by the central state. These central state revenues are typically expressed in terms of per capita day wages, grams of precious metal, share of GDP, or total revenue deflated by nominal GDP, but all display three salient features between 1500 and 1850. First, both rich and poor economies saw a *rise* in fiscal capacity. Second, fiscal capacity grew *earlier* on average in rich than poor economies. And third, fiscal capacity was *higher* on average in rich than poor economies. Taken together, these three features are held to show that fiscal capacity caused economic growth.

The stylized empirical association that underlies this conclusion can be seen in Figure 1, which shows the historical development of per capita tax revenues expressed as days' wages for urban unskilled workers in northwest Europe, China, and the Ottoman Empire. In the sixteenth and seventeenth centuries, England and the Ottoman Empire were not too far apart, with per capita fiscal capacity of 2-3 days' wages, though the Netherlands was much higher at around 12 days. But after 1650, fiscal capacity in northwest Europe increased, while it flatlined in the Ottoman Empire. After 1700, fiscal capacity in China came into view at the

same low level as the Ottoman lands, while northwest Europe continued its rapid rise. After 1800, fiscal capacity in the Ottoman lands ticked upwards but remained far below northwest Europe, while in China it actually declined.

Figure 1: Central State Revenues Per Capita in Days' Wages for Urban Unskilled Workers, Western Europe, China, and the Ottoman Empire, 1500-1850

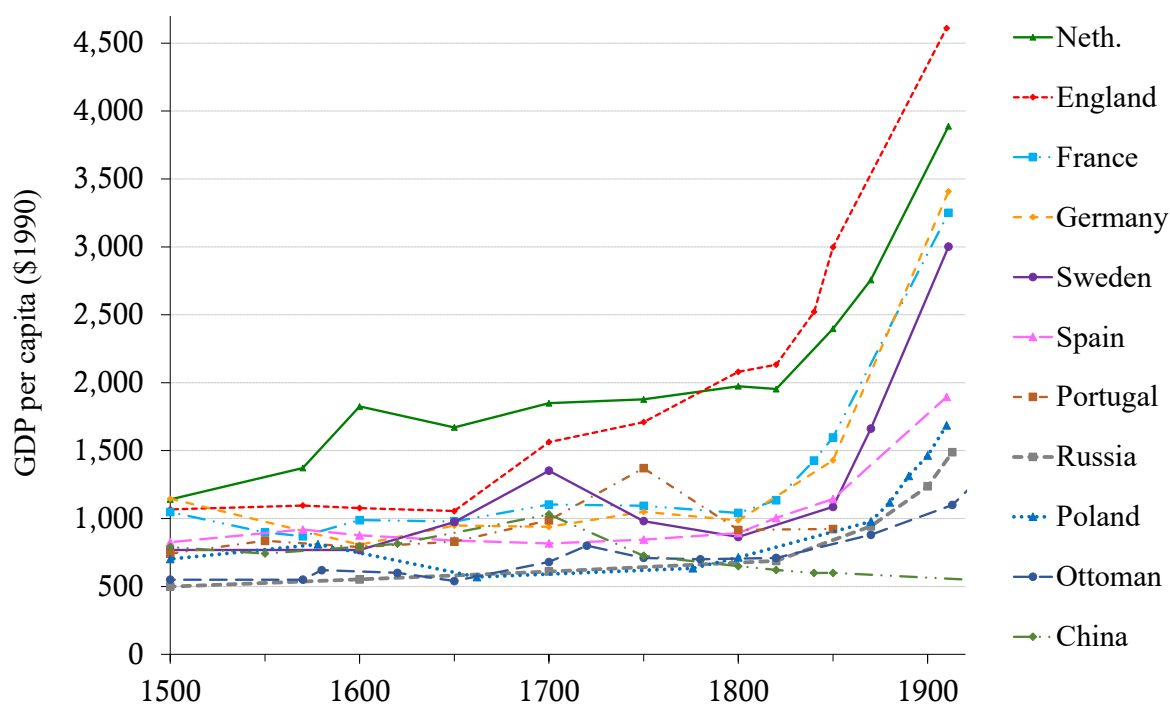


Source: Henriques et al. 2022, Table. 1.

Fiscal capacity thus increased centuries earlier and reached much higher levels in rich Europe than in poor China or the Ottoman lands. Superficially this might seem to imply a positive association between fiscal capacity and economic growth. But did fiscal capacity and development move in lockstep? Did the most developed economies always have the highest fiscal capacity?

Looking at a wider range of countries helps answer this question. Figure 2 shows the historical development of per capita GDP in a much wider array of states.

Figure 2: GDP per capita (\$1990) in Europe, China, and Ottoman Empire, 1500-1914



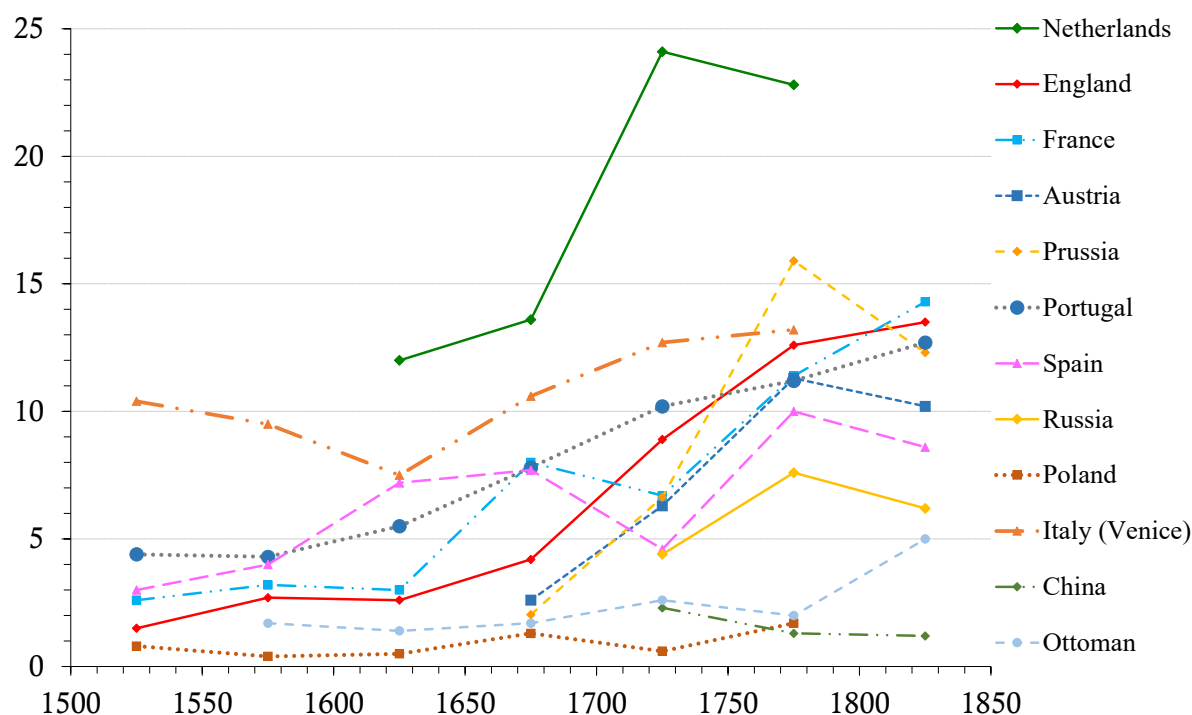
Sources: Netherlands, England, Spain: Broadberry et al. 2018; France: Ridolfi and Nuvolari 2021; Germany, Sweden: Broadberry 2016; Portugal: Palma and Reis 2019 (Broadberry 2016 for 1500); Russia: Maddison vertical file (F. USSR); Poland: Malinowski and Van Zanden 2017 (pre-1870), Korys and Tyminski 2021 (1870 onwards); Ottoman: Pamuk 2006; Pamuk and Shatzmiller 2014, Pamuk 2017; China: Broadberry et al. 2021, Pamuk 2019.

GDP per capita varied hugely in this period, with northwest Europe (basically just England and the Netherlands) rich and fast-growing, but central and southern Europe poorer and quite stagnant, and eastern Europe very poor and sometimes declining further. Even different parts of northwest Europe followed quite different growth paths. England saw uninterrupted growth in per capita GDP from 1650 onwards and after 1760 the first ever Industrial Revolution. The Netherlands grew rapidly in the Dutch Golden Age between 1500 and 1670 and became the ‘miracle economy’ of Europe. But after 1670 it stagnated at a high level, only resumed growth after 1820, and industrialized late by European standards. The rest of Europe also varied greatly. France, Germany and Spain experienced little net economic improvement between 1500 and 1800, and only began to grow in earnest after

1800. Sweden and Portugal followed the same pattern except for brief peaks in 1700 and 1750 respectively. Russia and Poland were the poorest economies in Europe, stagnated or even declined between 1500 and 1800, and achieved only slow growth up to 1914. China and the Ottoman lands resembled Russia and Poland in experiencing centuries of stagnation or decline, except for China's brief efflorescence around 1700.

How does fiscal capacity map onto these divergent growth patterns? Figure 3 shows tax revenues per capita as days' wages for an unskilled urban worker in a similar pool of European countries, plus China and the Ottoman lands.

Figure 3: Central State Revenues Per Capita in Days' Wages for Urban Unskilled Workers, Europe, China, and Ottoman Empire, 1500-1850



Sources: Henriques et al. 2022, Tab. 1 (all countries except Prussia); Karaman and Pamuk 2010, 615 (online data file) (Prussia).

Comparing Figures 2 and 3 does suggest a rough association between fiscal capacity and per capita GDP. But it only holds at the extremes. The Netherlands had the highest fiscal capacity in Figure 3 and also the highest per capita GDP in Figure 2, though it stagnated after

1670. Conversely, Poland, Russia, China and the Ottoman Empire had the lowest fiscal capacity in Figure 3 and also the lowest per capita GDP in Figure 2.

But away from the extremes, there is no clear association between fiscal capacity and economic growth. England had high and growing per capita GDP from 1650 onwards. But for 150 years its fiscal capacity resembled that of slow-growing France, Prussia, Spain and Portugal. England did not develop high fiscal capacity until nearly 1800, after 150 years of rapid economic growth and 40 years of industrialization. Even then, fast-growing and early industrializing England had much lower fiscal capacity than the slow-growing and late-industrializing Netherlands. By 1750, Prussia had nearly the highest fiscal capacity in Europe after the Netherlands, but its economy remained poor and stagnant and it industrialized late. Stagnant France and Portugal had very similar fiscal capacity to England in the first half of the nineteenth century.

Similar patterns emerge from other measures of fiscal capacity such as the absolute value of state revenues in silver or gold, state revenues as a share of GDP, and state revenues deflated by nominal GDP (Karaman and Pamuk 2010, 2013; Pamuk 2021; Henriques et al. 2022). Fiscal capacity and per capita GDP were roughly associated. On average, fiscal capacity was high in very rich economies and low in very poor ones. But poor and stagnant economies such as seventeenth-century France, eighteenth- and nineteenth-century Germany, and nineteenth-century Portugal and Russia had high fiscal capacity which did not appear to generate much economic growth. The Netherlands had by far the highest fiscal capacity, but experienced economic stagnation after 1670 and late industrialization. Only England had *both* economic growth (after c. 1650) *and* high fiscal capacity (by the later eighteenth century).

Moreover, as we know, association does not imply causation. Fiscal capacity might cause economic growth. But economic growth might cause fiscal capacity. Rich societies are

more likely to have big governments because they can afford it. Besides, fiscal capacity and economic growth are both influenced by underlying factors.

One study addresses these problems by analysing the relationship between fiscal capacity and per capita GDP across eleven European states between 1650 and 1913, controlling for other variables. It finds that higher per capita state revenues and fiscal centralization were associated with higher per capita GDP, from which it concludes that ‘state capacity is an important determinant of long-run economic growth’ (Dincecco and Katz 2016, 189).

But this analysis suffers from serious flaws. For one thing, its dating of fiscal centralization in England to 1066 and in all other states to post-1790 greatly exaggerates inter-state differences in establishing uniform national tax systems (see the very different dating for medieval England in Ormrod 1999). More seriously, the study only has per capita GDP measures for 1600, 1700, and 1820-1913, assigning values to the missing years using linear interpolation. There is no reason to believe that linear interpolation will provide accurate annual values, and other literature finds that annual per capita GDP 1270-1870 shows ‘a clear alternation of periods of positive and negative growth over periods of a decade or more’ (Broadberry and Wallis 2016, 8-9). Furthermore, the lack of actual GDP data for all but two years before 1820 vitiates the causal claim advanced in the study, which is based on per capita GDP rising in the decades after fiscal capacity changed. Of course, even if linear interpolations across periods of a century or more could reveal decadal responses, the fact that A happened *before* B does not show that A *caused* B. Indeed, the study itself admits that its estimates ‘are not causal in nature’ but merely highlight ‘novel data patterns’ (Dincecco and Katz 2016, 200). There is thus no evidence that fiscal capacity exercised a causal influence on economic growth.

3. A Flawed Measure

But are we even measuring fiscal capacity properly? Economists focus on fiscal capacity to measure the resources a state can spend on activities that might benefit the economy. This means we need to include *all* resources the state has at its disposal. But fiscal capacity focuses solely on money revenues raised by the central state. This measure leaves out key components such as money taxes levied by lower levels of government and non-monetary levies such as coerced labour and tributes in kind. It also ignores the composition of state revenues, especially the balance between tax and non-tax revenues.

Even in centralized states, let alone in composite or federal ones, the state levied taxes not just at the centre but also at the level of province, district, or locality. It might be argued that if we define state capacity as involving state centralization, the only revenues that matter are those of the centre. But there are several objections to this idea. First, when the state delegates taxation to lower levels of government, the entity engaged in those activities is still the state, and thus the revenues collected must be included in state resources. Second, if we are interested in state activities that affect economic performance, lower levels of the state may be more important because they are better informed, better scrutinized, and more responsive to citizens. Third, pre-modern central states often mandated that provincial or local governments carry out particular activities and raise the money to do so. Finally, can we be sure that centralized states have greater capacity than federal or devolved ones? Surely this is a hypothesis to test rather than an axiom to accept unquestioningly.

Non-central state revenues comprised a share of the total that varied greatly across states and time-periods but was never negligible. Ignoring it distorts our understanding of which states had high fiscal capacity at which dates. A recent analysis of Portuguese taxation between 1412 and 1844, for instance, found that municipalities raised revenues that averaged

about 10% of central state revenues but varied greatly across cities and time-periods, from a low of 3.6% to a high of 13.6% (Henriques et al. 2022, 15-19). In Britain, local taxes amounted to c. 10% the level of central taxes in 1750, 15.4% in the 1770s, 14.5% in 1830, and 30% in 1870-1900 (Mathias 2011, 117). In the USA, local and state-level taxes comprised 58% of the total in 1840, rising to 64% by 1900 (Wallis 2000, 64). In 1880, local government accounted for an estimated 25-27% of state expenditures even in highly centralized Britain and France, 30% in Japan, 51% in the USA, and 72% in Germany (Tanimoto 2019, 30; Mann 1986, II:363-4). Ignoring revenues collected by lower levels of the state ignores an important component of state resources. Moreover, since the share of state revenues collected away from the centre varied across time and space, central revenues are not a good proxy for total fiscal capacity.

Some taxes were levied by the central state and are thus included in measures of fiscal capacity, but were *collected* by local elites. This typically meant that the central state recorded them inaccurately or controlled them incompletely. In early modern China, for instance, many taxes were collected at the local level, but local administrators falsified fiscal reports to the centre, creating large and unobservable errors in central fiscal capacity (Lewis 2015, 293-4). In France in 1609, only 20% of direct taxes collected by the central state were transported to Paris; the other 80% were controlled by local elites (Hoffman 1994, 230-1). In Languedoc in 1677, 33% of central taxes passed directly to local notables and another 19% were allocated under their direction. Even inside France in 1609, provinces differed greatly, with Normandy delivering a high share of its tax revenues to Paris while Riom delivered just 0.7%. French fiscal capacity was high and rising in the seventeenth century, as Figure 3 shows, but a low and variable share of this capacity was actually controlled by the centre.

Fiscal capacity also excludes resources extracted in kind. Many European states did not pay money wages to soldiers or military auxiliaries, but instead extracted labour

coercively through conscription and *corvée* (Scott 2009, 47-8; Kiser and Levi 2015, 559). In early modern Russia, the central state had low fiscal capacity in monetary terms but fielded large armies of conscripts supported by the forced labour of serf auxiliaries to provide transport, repair roads, build camps, dig trenches, and position siege guns; in one case, coerced serf auxiliaries numbered 13,000 for an army of 35,000 soldiers (Scott 2009, 47-8; Davies 2013, 202). In eighteenth-century France, an estimated one-third of the army in time of war consisted of conscripted militias rather than paid soldiers (Kroener 2000, 209). In eighteenth-century Prussia, Frederick William I expanded the army to encompass 4% of the population, not by using fiscal capacity to pay them market wages but by coercively conscripting civilians any paying them much less than their civilian earnings (Kroener 2000, 212-3). In the mid-eighteenth century, the English Secretary at War contrasted the paid soldiers of the British Army with the ‘compulsive methods’ used by continental European armies, where a large proportion of soldiers were conscripts who received lower than market wages or no pay at all (Conway 2014, 25; Scott 2009, 47-8).

States also levied coerced labour for public works. In France in 1789, *corvée* levied for roadbuilding was not included in fiscal capacity, but its estimated value was 20 million livres, 4% of official fiscal capacity (Roche 1998, 49; Sargent and Velde 1995, 481). In eighteenth- and nineteenth-century Poland, the state levied 10 days of *corvée* labour annually from each hearth-owning resident for public works; though reduced to 8 days after 1819, commutation of labour to money payments was inconsistent and poorly recorded into the 1840s and cannot have been included in official fiscal capacity (Rutkowski 2017, 164-6). Coerced labour thus expanded the resources available to the state in France, Prussia, Poland, and Russia beyond what was measured by their fiscal capacity alone, especially compared to states such as England which paid soldiers and labourers on public projects a market wage.

States levied taxes in kind as well as money (Scott 2009, 47-8). In eleventh-century China, 20% of taxes were levied in grain and 2% in textiles (Liu 2015, 52). In sixteenth- and seventeenth-century Switzerland, the state levied many taxes in kind because it had rising numbers of officials paid in kind rather than money (Körner 1999, 333, 344). In sixteenth- and seventeenth-century Savoy, the state levied 30,000 sacks of corn annually in peacetime and doubled the quota in wartime (Capra 1999, 429). In nineteenth-century Sri Lanka, most taxes were levied as the output of specific fields combined with villagers' coerced labour to cultivate them (Roberts 1968). As these examples illustrate, any measure of state revenues that includes only money taxes will underestimate fiscal capacity in states where taxes are paid in kind (Scott 2009, 47-8; Kiser and Levi 2015, 559; Hoffman 2015, 307-8). A state in a less monetized economy will misleadingly appear to dispose of fewer resources than one in a more monetized one.

Fiscal capacity also ignores the composition of state revenues, even though the balance between direct taxes, indirect taxes, and non-tax revenues affects both economic growth and state capacity. Reliance on non-tax revenues, for instance, typically reduces fiscal legibility, limits parliamentary consultation, impedes bureaucratic capacity, and imposes deadweight losses on the economy (Bonney 1999, 10; Besley and Persson 2013, 95-8; Querault 2019). This might not matter if the share of non-tax revenues was small or invariant across time and space. But it was not.

Even in the later eighteenth century, as Table 1 shows, the share of non-tax revenues was low in some states but high in others. Taking the most comprehensive estimates, 'domains and monopolies' averaged just 4% of state revenues in northwest Europe but 42% in central Europe. Within central Europe, the share ranged from 21% in economically advanced Saxony to over 60% in backward Württemberg and Poland. The share also varied over time in the same state, as in Brandenburg-Prussia where domains and monopolies

Table 1:
Percentage of State Revenues Derived from State Domains and Monopolies, Direct Taxes,
and Indirect Taxes, Various European States, Second Half of Eighteenth Century

State	Date	Domains & monopolies	State property	Direct taxes	Indirect taxes
Britain	1755	2		18	80 ^b
Britain	1760		4	26	69 ^a
Britain	1780		5	20	71 ^a
France	1760		7	48	45 ^a
France	1780		10	41	49 ^a
France	1780	4		41	55 ^b
Sweden	1780s	6		56	38 ^b
Austria	1770		19	48	33 ^a
Habsburg Lands	1773	38		41	21 ^b
Austria	1780		23	41	37 ^a
Austria-Hungary	1794	45		33	22 ^b
Brandenburg-Prussia	1765-6	31		32	38 ^b
Brandenburg-Prussia	1778	51		22	27 ^b
Prussia	1820		30	36	33 ^a
Bavaria (Spoerer)	1777	26		45	29 ^b
Bavaria (Körner)	1777	27		47	26 ^b
Saxony	1767	21		51	27 ^b
Kleve-Mark-Moers	1757-8	36		43	21 ^b
Hildesheim	1766	37		61	2 ^b
Hamburg	1765-6	44		30	26 ^b
Braunschweig-Wolfenbüttel	1750-1770s	45		31	24 ^b
Hanover	1750s-1760s	48		26	25 ^b
Salzburg	1770	51		34	14 ^b
Poland	1782-4	62		0	37 ^b
Württemberg	1733-6	68		20	12 ^b
Britain, France, Sweden average		4.0	6.5	35.7	58.1
Central European states average		42.0	24.0	35.6	25.2

Notes and sources:

^a Mann 1986, vol. II, p. 382 (Table 11.6). State property = percentage of state revenue derived either from royal or from nationalized property or from selling government privileges and monopolies. State revenue excludes loans. Austria, Britain and France for central government only; Prussia combines central and regional government.

^b Spoerer 2018, 790 (Table 1). Domains & monopolies = net revenues derived from princely and public economic activities beyond mere tax- or fee-collecting, typically involving revenues from domains and forests and regalian revenues from mines, saltworks, and other monopolies.

provided over 75% of state revenues in 1653, 20% in 1680, 50% in 1780, 20% in 1860, and 70% in 1895 (Spoerer 2008, 788-9).

Reliance on non-tax revenues affected both economic growth and state capacity itself. Many states derived revenues from operating state enterprises, granting monopolies to special-interest groups, or selling mercenary services to other states, all of which had repercussions for economic growth (Wilson 1995; Ogilvie 2019, 46-69). Many extracted non-tax revenues from overseas colonies, discouraging development of state capacity at home (Henriques et al. 2022, 2-5). Many deliberately fostered non-tax revenues to avoid consulting or compromising with parliament over taxation (Spoerer 2008, 789).

These flaws in measuring fiscal capacity matter. The same aggregate fiscal capacity affects economic growth and state capacity differently where it is based on state domains and monopolies rather than taxation. Neglecting non-central taxes, *corvée*, conscription, and in-kind tributes underestimates state resources more in some societies than others. At any given time, fiscal capacity will appear lower in poor economies not necessarily because the state has fewer resources but because it relies on non-central or non-monetary extraction. Conversely, fiscal capacity will appear to rise with economic growth simply because a society becomes more monetized, moves away from labour coercion, or both. An apparent gap in fiscal capacity between rich and poor economies may thus not reflect true fiscal differences but rather approaches to measurement, specifically measuring fiscal capacity through the lens of advanced rich economies.

4. State Spending Is What Creates Benefits

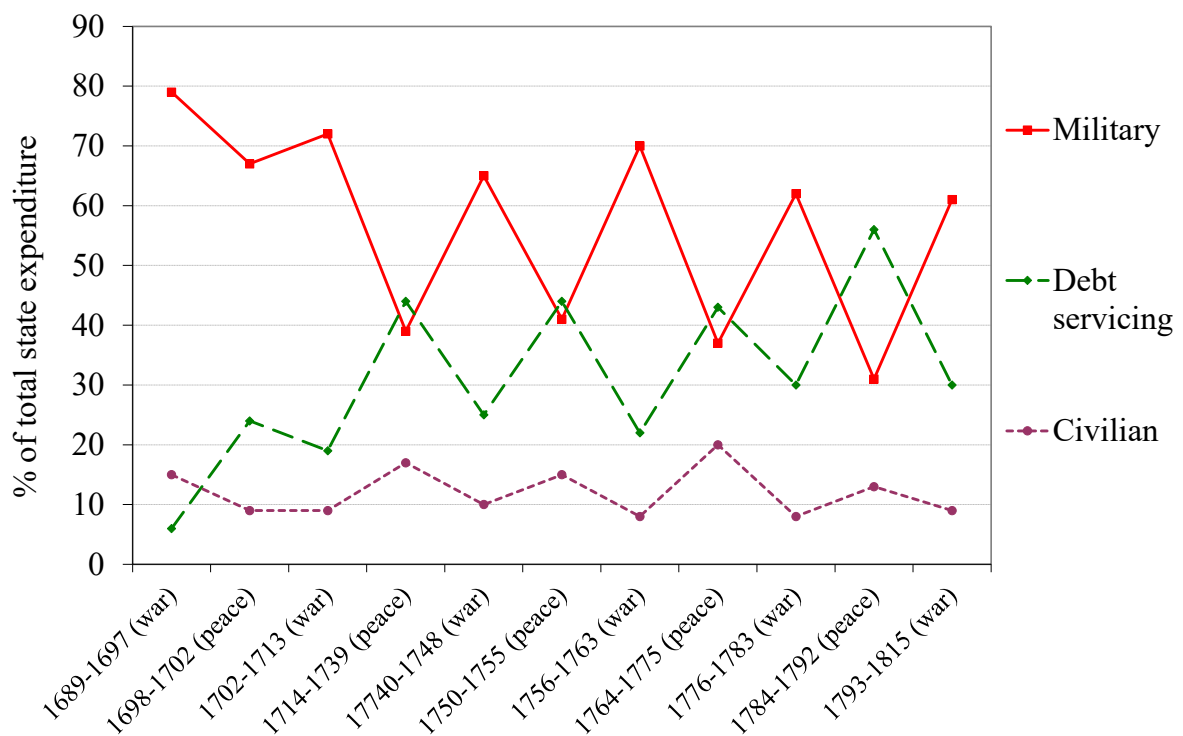
Even if fiscal capacity is flawlessly measured, it does not measure *state* capacity. This is because fiscal capacity does not tell us what the state actually *does* with its revenues. Does

having a lot of revenue imply that a state uses it to promote economic growth? What if the state spends its fiscal capacity on waging war or building palaces?

State expenditures are much less comprehensively researched than revenues. But we have good data for Britain, the fastest-growing economy in Europe after c. 1650 and the earliest in the world to industrialize.

As Figure 4 shows, most British state expenditures between 1688 and 1815 were military. In wartime, direct military expenditures dominated. In peacetime, they were almost equalled by expenditures to service the military debts of preceding wars. In both wartime and peacetime, the state allocated a trivial share of its expenditures – just 12% – to civilian purposes.

Figure 4: Allocation of British State Expenditures between Civilian, Military, and Debt Servicing Purposes, 1688-1815



Source: O'Brien 1988, Table 1.

Britain was not unique. Table 2 shows available data for a wider range of states between c. 1600 and c. 1820. Across all these states during this key period, a majority of state

spending – perhaps 60% of the total – was devoted to military purposes. A large tranche of the remainder was used to service or repay public debts, most of them incurred for military purposes (O’Brien 1988, Table 1; Hoffman 2015, 315). Very little – less than one-fifth – was allocated to all civilian purposes taken together.

Table 2:
Percentage of State Expenditures Devoted to Civilian, Military, and Debt Servicing Purposes,
Various European States, Seventeenth to Nineteenth Century

Date	State	% Civilian	% Military	% Debt Servicing	
1576-1717	Poland	<10	90	ng	^a
17-18C	Various German states	<25	75.0	ng	^b
1600-56	France	9.1	ng	ng	^c
1683	France	<43	57.0	ng	^d
1695-1745	England/GB	13.7	54.2	32.1	^e
1714	France	<48	52.0	ng	^d
1724	Russia	<25	75	ng	^f
1740	Prussia	14.0	73.0	13.0	^b
1752	Prussia	<10	90.0	ng	^b
1750-95	England/GB	8.1	53.4	38.5	^e
1759-93	England/GB	8.1	51.8	38.2	^g
1759-93	Spain	32.3	60.6	8.7	^g
c. 1775	Prussia	14.0	60.0	26.0	^b
1784	France	<33.3	> 66.7	ng	^c
1786	Prussia	9.0	32.0	56.0	^b
1790-1820	USA	19.7	44.7	35.2	^h
1795-1817	Austria	18.3	66.3	15.2	ⁱ
1800-05	Netherlands	<20	ng	ng	^c
1801-20	England/GB	10.6	55.6	33.8	^e
Average (n=19)		19.5	-	-	

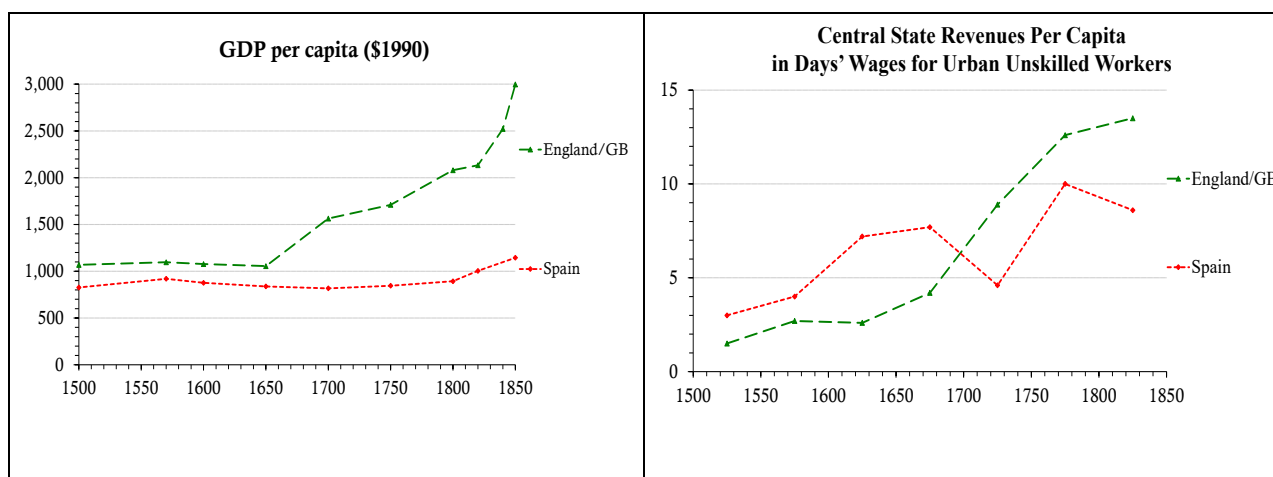
Sources:

^a Filipczak-Kocur 1999, 448. ^b Mann 1986, I:489-90. ^c Mann 1986, I:489. ^d Eloranta 2005. ^e Mann 1986, I:485.

^f Mann 1986, I:490. ^g Torres-Sanchez 2007, 440. ^h Mann 1986, I:488. ⁱ Mann 1986, I:487.

But perhaps state spending on civilian purposes was positively associated with economic growth? Detailed data on state expenditures are scarce, but an unusually well-researched comparison between two eighteenth-century European states, Britain and Spain, helps address this question.

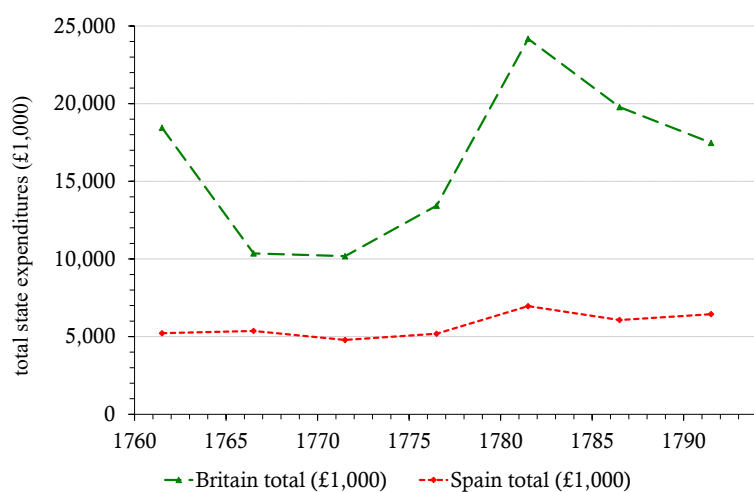
Figure 5: Economic Growth and Fiscal Capacity in Britain and Spain, 1500-1850



Source: GDP per capita Broadberry et al. 2018. State revenues per capita: Henriques et al. 2022, Tab. 1.

These two states had a very similar population size in 1700 (about 8.6m inhabitants), though Britain’s population was rising fast and reached 21m by 1820 while Spain’s grew only to 12m (Maddison 2010). As Figure 5 shows, Britain already had higher per capita GDP than Spain in 1500 and from about 1650 onwards its economy grew much faster, rising continuously while Spain’s stagnated. Yet Britain had much lower fiscal capacity than Spain from 1500 to 1700. Only in the first half of the eighteenth century did British fiscal capacity pull ahead.

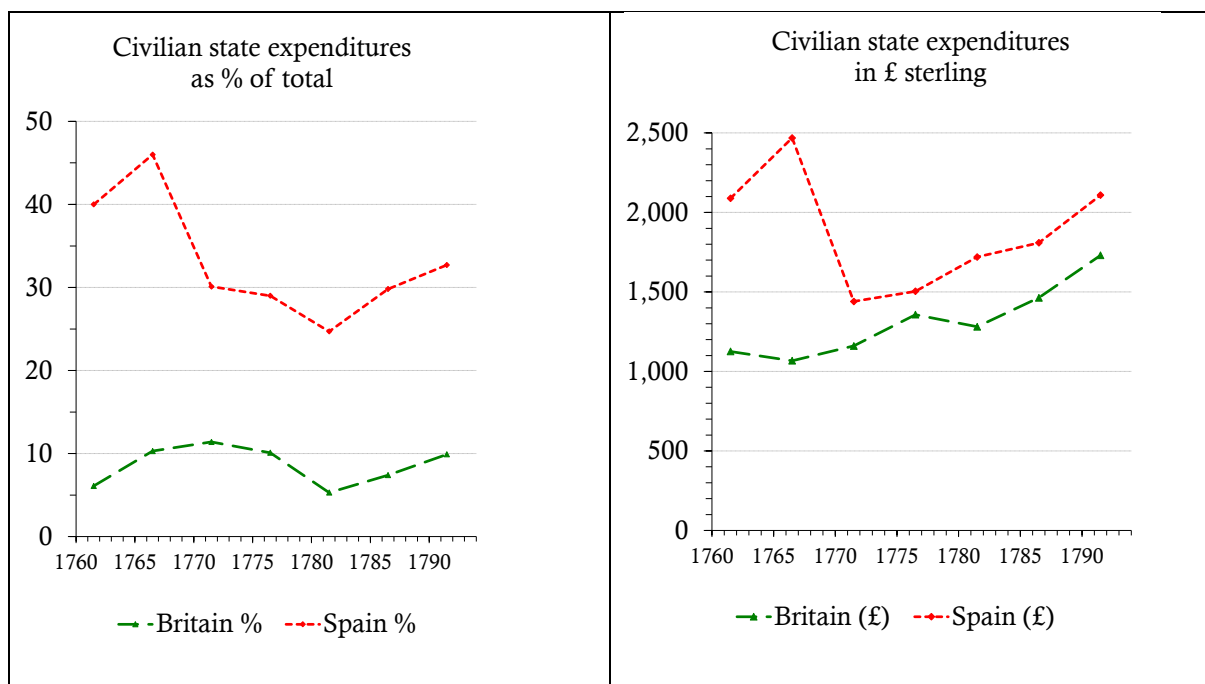
Figure 6: State Spending in Absolute Terms, Britain and Spain, 1760-1800



Source: Torres Sanchez 2007, 443.

But the real revelation comes when we look at state spending. As Figure 6 shows, in the second half of the eighteenth century the British state spent more than the Spanish in absolute terms. On the face of it, this might seem to support the idea that higher state spending and faster economic growth went hand in hand, since during these four decades per capita GDP in Britain was high and rising and the economy was industrializing, while Spain's economy remained poor, stagnant, and preindustrial.

Figure 7: State Expenditures on Civilian Purposes, Britain and Spain, 1760-1800



Source: Torres Sanchez 2007, 443.

But Figure 7 shows that the state in Spain was actually spending more on civilian purposes than the state in Britain. As the left-hand graph shows, in rich, fast-growing Britain less than 10% of state expenditures were devoted to civilian purposes, compared to 33% in poor and stagnant Spain. The absolute value of state expenditures on civilian purposes, as the right-hand graph in Figure 7 shows, was also higher in Spain than in Britain, even though the Spanish economy was much poorer. Spain's per capita spending on civilian purposes was also higher, since in 1800 the two states still had approximately equal populations (10.5m).

Sadly, Spain's higher spending on civilian purposes appears not to have improved its economic performance. The Spanish economy remained poor and stagnant until well past 1800 and it only saw the tentative beginnings of an Industrial Revolution after 1832. As late as 1900, as Figure 2 shows, per capita GDP in Spain was closer to that of Russia, Poland, China or the Ottoman lands than to that of Britain. State expenditures on civilian purposes were *not* related to wealth or growth.

5. Was War Good?

Given that the state spent most of its fiscal capacity on war during the Great and Little Divergence, can we somehow argue that war helped economic growth? Some scholars have argued just this. In theory, state military spending might create economic benefits because defence is a public good which benefits the economy by protecting it from predation. Counterfactual arguments might establish that if the state had not waged war, good economic outcomes such as human capital investment, technological innovation, market power, urbanization, territorial consolidation, or institutional reform would not have taken place.

A favoured empirical approach is to focus on eighteenth-century England. Indubitably, England was almost constantly at war, allocated an even higher percentage of its state expenditures to military purposes than most other eighteenth-century states, yet continued to grow faster than other economies and launched the first ever Industrial Revolution after c. 1760. Some argue that England's extraordinary investment in warfare was actually an extraordinary investment in economic growth, 'fostering accumulation of human, social and physical capital; the diffusion of technologies; the enhancement of competitive advantages for commerce overseas; and, above all, for the formation of more efficient

systems for central governance for the consolidation of institutions promoting Britain's precocious transition to modern economic growth' (O'Brien 2022, 26).

But this idea raises many objections. Even for victorious Britain, the European wars between 1760 and 1815 killed and maimed thousands, disrupted trade, increased prices, and crowded out private investment. Britain was able partly to offset these costs by waging its wars more profitably than other states, fighting most of them on foreign soil, and ultimately winning most of them. The putative benefits of war to the British economy rely mainly on counterfactual arguments that the financial sector would not have developed without military borrowing and maritime trade would not have grown without military and naval success (Harris 2004, 217-9; O'Brien 2022). But finance and international trade were small relative to the size of the British economy. The costs of war were high even in Britain, and the offsetting spillover benefits were by no means guaranteed.

This emerges from the experience of other eighteenth-century European economies, where war inflicted greater damage and yielded fewer benefits. Across Europe as a whole, the wars between 1793-1815 killed an estimated five million people (Vries 2015, 4). In France, these wars caused about 1 million casualties, hindered market integration, impeded urbanization, diverted resources from infrastructure improvements, damaged agricultural productivity, blocked access to overseas markets, reduced trade as a share of GDP, slowed industrial growth, and was almost certainly damaging to 'France's overall macroeconomic dynamism' (Charles et al. 2022, 52; Hoffman 1996, 194-8). The Netherlands suffered even more, with French annexation and British warfare accelerating de-urbanization, destroying maritime trade, disrupting public finances, and delaying industrialization ('t Hart and Joor 2022). In Spain, these wars damaged population, agricultural performance, capital formation, trade, manufacturing, government revenues, and per capita GDP; the only potentially positive effects rely on the counterfactual argument that the wars hastened the abolition of restrictive

institutions (Prados de la Escosura and Santiago-Caballero 2022). In Italy, these wars harmed the economy through conscription, mortality, taxation, and trade destruction, while the Napoleonic institutional reforms benefited long-run development ‘only after several decades *and* the establishment of further institutional reforms’ (Dincecco and Federico 2022, 142). In Germany, the immediate effect of the wars was profoundly negative; again, the only potentially positive effects rely on counterfactual arguments that the wars caused territorial consolidation which facilitated market integration or triggered institutional reforms, though these began independently of warfare and in any case had only gradual effects (Pfister 2022). Nor was the damage limited to Europe: the European wars during this period measurably harmed market integration across the globe (O’Rourke 2006).

A different ‘bellicist’ theory argues that medieval and early modern warfare benefitted European economic growth by encouraging urbanization. According to one argument, Europe grew faster than China because constant European warfare created insecurity, causing people to move into cities, where economic growth was faster (Rosenthal and Wong 2011, 99-128). A more recent variant of this argument analyzes the relationship between 847 land-based military conflicts in Europe and the population size of 676 cities from 800 to 1799 and concludes that conflict exposure caused urban demographic growth. Warfare, the study contends, drove rural people to shelter behind city walls, expanding urban populations and fostering urban privileges, self-government, property rights, technological innovation, human capital, and agglomeration economies (Dincecco and Onorato 2016, 260).

But this theory has many flaws. The dataset of European conflicts fails to specify criteria for inclusion as a major military conflict and under-represents warfare in low-growth zones such as medieval Iberia and early modern eastern Europe, casting doubt on the claimed empirical relationship between warfare and growth (Milhaud 2019, 419). Early modern European industries did not remain concentrated in cities but spread beyond town walls into

suburbs and rural regions where they grew faster than urban manufacturing (De Vries 2012, 166). Warfare apparently either did not favour towns at all, or did not favour them enough to overcome the disadvantages of their guild monopolies and staple privileges – the dark side of urban location (Ogilvie 2019, 536-54). Agriculture remained by far the largest sector in most European economies, its performance was crucial for the growth of industry and trade, and it was systematically harmed by military conflict (Hoffman 1996, 194-8; Pfister 2022, 88-91).

In a wider perspective, although some wars defended economies against predation from the ‘capacity’ of other states, even defensive wars inflicted direct economic damage and in many cases indirectly enabled the state to use its expanded military capacity to engage in internal predation, divert resources to special interests, or increase state power at the expense of civil society. Moreover, many wars were offensive. In order to entrench state power or to satisfy special interests, rulers, states, political elites, and even parliaments had incentives to produce more military activity than actually benefited ordinary citizens (Hoffman 2012, 604). Deterring state predation is a rather negative role for state capacity, moreover, reminiscent of a protection racket: state capacity itself generated the predation against which state capacity was required.

The idea that war benefited economic growth thus rests on shaky foundations. There is little evidence that the two were consistently associated, let alone that any association was causal. Even the association between war and economic growth is hard to trace outside eighteenth-century England. Indeed, for Europe or Africa after 1800, empirical studies find no evidence that military activities benefited state or economy, either directly or indirectly (Goenaga, Sabate, and Teorell 2018; Osafa and Robinson 2013; Dincecco et al. 2019). By contrast, there is considerable direct evidence that warfare destroyed labour and capital, crowded out private investment, damaged agriculture, and increased prices by blocking trade.

The fact that most fiscal capacity was devoted to war suggests that the net effect of the major activity states historically undertook was to harm, not help, economic growth.

6. Legal Capacity

What about state activities devoted to civilian purposes? Even though states devoted few resources to civilian activities, and even though states that spent more on civilian purposes (like Spain) did not necessarily enjoy faster economic growth than states that did not (like Britain), nonetheless this minor civilian component of state activity might still have affected economic performance.

‘Legal capacity’ is a measure of state capacity that seeks to encapsulate this argument. This is defined as the capacity of the state to enforce its rules across the territory it controls and is widely held to benefit the economy (Besley and Persson 2009, 1218-20; Johnson and Koyama 2017, 4-6; Koyama 2022). Legal capacity is not well measured by fiscal capacity, since legal provision consumed only a tiny share of state expenditures, and was mainly financed by litigant fees (Hoffman 2017, 1559). If anything, royal justice was a profitable enterprise and brought in net revenues for pre-modern states (Ormrod 1999, 24-5). In return, however, the state supported legal capacity by providing legitimacy and enforcement.

There are certainly ways in which legal capacity benefits growth. Markets are needed for the economy to grow, but property rights and contract enforcement are needed for markets to function (Ogilvie and Carus 2014, 407-18.). Both are quasi-public goods since they are partly non-excludable and non-rival. Legal guarantees of property rights and contracts can in principle exclude some users, such as women, serfs and slaves, but to benefit the economy they should not do so. Likewise, guaranteeing property and contracts can in principle be rival, in the sense that adding users can cause congestion; but the basic

infrastructure of law-codes, law-courts, and the state's monopoly of legal coercion has a large fixed component that is not diminished by adding users. These public good characteristics mean that legal guarantees of property and contracts can in principle be provided more efficiently by the state than the market.

During the medieval period, long before they increased fiscal capacity, most European states provided basic legal guarantees of property and contracts (Ogilvie and Carus 2014). What mattered for economic growth, however, was whether legal capacity was supplied on a 'generalized' basis by impartial and open-access legal systems that guaranteed the property and contracts not only of privileged groups such as nobles and burghers, but also of peasants, women, labourers, servants, migrants, and foreigners (Ogilvie 2005; Ogilvie and Carus 2014). Generalized provision of legal capacity even supported trade between members of different states in some advanced polities, such as thirteenth-century Champagne, fourteenth- and fifteenth-century Northern Italy and Flanders, the sixteenth- and seventeenth-century Netherlands, seventeenth- and eighteenth-century England, and in France and parts of Germany after the French Revolution (Ogilvie 2000, 2011).

But the legal capacity of the state had a dark side, which did not promote economic growth. State legal capacity was often 'particularized', enforcing legal privileges for special-interest groups, which not only imposed costs on others but slowed growth by inflicting deadweight losses on the whole economy. A feudal landlord, for instance, enjoyed legal property rights over his serfs entitling him to extract coerced labour or proto-industrial 'loom dues' – this continued to be the case in central and eastern-central Europe long past 1800, supported by growing state capacity (Ogilvie and Carus 2014, 469-86). A guild of craftsmen or proto-industrial producers enjoyed a legal 'privilege' giving it a local monopoly over production and trade which entitled it to exclude female and Jewish producers and suppress innovative processes and products, reducing productivity and output; these legal privileges

were supported and intensified by growing state capacity well into the nineteenth century, with the last guild in Europe only abolished in 1883 (Ogilvie 2019). Associations and ‘companies’ of merchants secured legal privileges from states all over Europe enabling them to extract rents from long-distance trade and proto-industrial commerce at the expense of other traders and the wider economy; these privileges, too, were supported by growing state capacity well into the nineteenth century (Ogilvie 2011). Even during industrialization, many European states used their legal capacity to sell ‘concessions’ giving individual manufacturers the exclusive entitlement to set up a factory in a particular place, use particular machines, exclude competitors, and even compel consumers in a particular zone to purchase exclusively from that factory (Kisch 1959; Ogilvie 2000; Horn 2015). States would not have been able to enforce these particularized legal privileges had they not developed greater legal capacity. Indeed, states used legal capacity in this way to increase their revenues and avoid parliamentary scrutiny, as we saw above with states’ non-tax revenues.

The general lesson is that legal capacity, enabling a state to enforce the rule of law over the entirety of the territory over which it claims sovereignty, only benefits economic growth if the content of the law is growth-friendly, in the sense of being impartial, open-access, and generalized. If the law consists instead of particularized legal privileges for special-interest groups, legal capacity can harm economic growth while still increasing state capacity. This lesson from economic history sadly still applies to many modern developing economies (Auriol and Warlters 2005).

7. Bureaucratic Capacity

Bureaucratic capacity is another measure that focuses partly on state activities devoted to civilian purposes. It is defined as the state’s capacity to deploy an administrative

apparatus to implement its policies. A professional and effective implementation of state policy is held to create a framework in which economic agents can rely on systematic collection of taxes, provision of state services, and delivery of public goods (Mann 1986, 113; Johnson and Koyama 2017, 5-8, 10-11).

But this raises two problems. First, bureaucratic capacity is typically measured in terms of inputs: number of civil servants, level of professional training, proliferation of state bureaux. This tells us little about outputs: large numbers of highly trained civil servants working in elaborate state bureaux can still suffer from lack of information, deficient coordination, poor motivation, and rampant corruption. Second, even if bureaucracies are perfectly informed, carefully coordinated, highly motivated, and squeaky clean, they may simply be super efficient at implementing policies that are bad for the economy. The effects of bureaucratic capacity depend on what bureaucrats actually do.

History provides many examples of states with highly developed, professional, and meritocratic bureaucracies which did not achieve high per capita GDP or rapid economic growth. China, for instance, had high bureaucratic capacity from the Song dynasty (960-1279) into the nineteenth century, with merit-based civil service examinations, elaborate administrative structures, and highly professionalized administration (Wong 1997, 134, 157, 282; Woodside 2009, 56; Rosenthal and Wong 2011, 173). European states, by contrast, had low bureaucratic capacity, in which many public posts were occupied by hereditary nobles, rich men who purchased public offices venally and recouped their investment through corruption, or amateur volunteers who did public work out of civic duty without qualifications or salary (Vries 2015, 26-7). But despite its highly developed bureaucratic capacity, China had low per capita GDP, got poorer from 1690 to 1840, and stagnated from 1840 to 1912. Most parts of Europe were richer and faster-growing.

Within Europe, Sweden and the German territories were the earliest to develop professionalized bureaucracies. But these states, as we saw in Figure 3, had low per capita GDP, grew slowly, and industrialized late. Conversely, rich, fast-growing, and early industrializing England had a tiny bureaucracy, which mostly just ran the army, navy and customs service; internally, government relied on amateur, untrained, unpaid local Justices of the Peace recruited from the hereditary nobility and gentry until long past 1800 (Brewer 1989). High bureaucratic capacity thus was neither necessary nor sufficient for rapid economic growth.

This is not surprising. Bureaucratic capacity often just involved civil servants implementing harmful policies very well. Bureaucracies in China, Sweden, and Germany efficiently, systematically, and professionally enforced privileges for rent-seeking groups such as feudal landlords, merchant associations, craft guilds, and concession-holding factory owners, stifling economic growth. Recent analysis of a sample of countries between 1789 and 1999 found that the size and quality of the bureaucracy had economically and statistically insignificant effects on economic growth until 1945, after which date economic growth improved bureaucracy, not vice versa (Cornell et al. 2020). History provides no evidence that bureaucratic capacity, even when deployed for civilian purposes, systematically enhanced economic performance.

8. Transportation Infrastructure

Fiscal, legal and bureaucratic capacity are inputs. What about the outputs of state capacity? One way states may benefit growth is by providing infrastructure. Roads, bridges, canals, harbours, and railways are not public goods since they are excludable (users can be kept out) and to some extent rival (beyond a point, adding users causes congestion). But

many have natural monopoly features and charging user fees may be inefficient, meaning that there is a case for state provision. Did states use their growing capacity to build infrastructure?

The empirical record suggests not. Canals and river improvements were provided poorly by all states in early modern Europe (Bogart et al. 2010, 90-2). As Table 3 shows, in fast-growing and early industrializing Britain, water transport infrastructure was built almost exclusively by the private sector, through for-profit, joint-stock companies. In slow-growing, industrially underdeveloped France, by contrast, canals and river improvements were built by the state with some private participation, and in much lower quantities. By 1815, waterway density in Britain, where such infrastructure was provided by the private sector, was three times that in France where it was provided mainly by the state (Bogart 2014, 376). By 1850, Britain was far ahead of France, Spain, and Germany in its kilometres of navigable waterways both per capita and per square kilometre; only the Netherlands and Belgium had more.

Table 3: Waterway Provision in Europe, 1700-1870

Country	Waterway policy	Km per capita (000s) c. 1850	Km per sq km c. 1850
England & Wales	Private river & canal network	0.40	0.0290
Dutch Republic / Netherlands	Municipal financing & ownership	0.53	0.0400
France	Mixture of public & private participation	0.23	0.0060
Belgium	Initially mixture of provincial & private ownership, later state-owned	0.36	0.0500
Germany	State-owned network	0.07	0.0050
Russia	Mostly state-owned network	0.01	0.0001

Source: Bogart et al. 2010, 91.

Note: Figures for Netherlands are for 1830.

Roads were likewise provided poorly by all early modern states. Fiscal capacity grew hugely, but almost none was spent on road building. In Britain, as Table 4 shows, roads were

mainly provided by local communities and turnpike trusts, privately financed organizations that charged tolls to users. Between 1690 and 1815, turnpike trusts added an estimated 1.65% to British national income (Bogart 2009, 128-9). In France, by contrast, roads were built and maintained by local communities and the state, mainly by extracting *corvée* labour. The outcome was poor in terms of both quality and density. In 1760, road travel speed in France was just 50% of that in Britain (Szostak 1991, 70). By 1840, road density both per capita and per square kilometre was much higher in Britain than in France or Spain, as Table 4 shows. Belgium also built roads through communities and turnpike trusts, achieving comparable highway density to Britain. Successful road provision in Britain did depend on the state, not because the government directly built the roads but because it provided a legal and regulatory framework in which local communities and turnpike trusts could operate (Rosevear et al. 2022, 4).

Table 4: Road Provision in Europe, 1840

Country	Road policy	Road km per capita (000s) c. 1840				Road km per sq kilometre c. 1840			
		local	turnpike	state	total	local	turnpike	state	total
England & Wales	local & turnpike	7.540	1.980		9.520	0.490	0.130		0.620
S. Netherlands/Belgium	local & turnpike	n/a	1.220		n/a	n/a	0.170		n/a
France	local & state	0.880		1.000	1.880	0.050		0.050	0.100
Spain	local & state	n/a		0.600	n/a	n/a		0.015	n/a

Source: Bogart et al. 2010, 89.

Notes: Southern Netherlands had 3,000-5,000 km of roads in 1840, described as 'mostly turnpike roads'.

Britain was also precocious in having railways, but not because the state initiated, financed, or constructed them. Instead, the market provided the entrepreneurship, the finance and the technology, while the state provided property rights and regulation (Bogart et al. 2010, 92-4; Bogart 2014, 376-87). Uniquely in Europe, railways in Britain were from the beginning in private ownership with no state subsidies, while other countries pursued private

ownership with state subsidies (France, Spain, Portugal, Austria-Hungary), mixed private-state ownership with state subsidies (Russia, Italy), initial private ownership shifting later to state ownership (the Netherlands, Denmark, Norway), or a mixture of state and private ownership from the start (Germany, Sweden, Belgium). Many European states only increased their involvement in railways for military and political reasons, and then quite gradually (Bogart et al. 2010, 93-4).

European states did little to provide transportation infrastructure before 1850. In England, Belgium, and the Netherlands, the state at least provided property rights and a regulatory framework. But it was local community institutions, turnpike trusts, and private joint-stock companies that built the infrastructure and bore the risks. Good transportation infrastructure in these northwest European economies almost certainly promoted their early victory over famine, their well-functioning supply chains, and their growing per capita GDP. But the role of state capacity was to provide public goods – property rights, contract enforcement, and regulation – which enabled the private sector to build the actual infrastructure.

9. Industrial Policy

A further state activity sometimes held to fuel economic growth is industrial policy – a deliberate effort by the government to shift the economy to what it sees as more desirable activities, typically industrial ones. Many states, historical and modern, have deployed their capacity to set up state-owned enterprises, subsidize private firms in favoured sectors, and protect national producers from foreign competition. Some argue that Britain was one such state. These claims rely almost entirely on three specific episodes of state intervention.

The first is Edward III's 1337 order banning wool exports, blocking cloth imports, and inviting Flemish weavers to England to transmit their techniques. This is portrayed as an early state industrial policy to promote the English cloth industry (Chang 2002, 20-1, 60-1; Sainsbury 2021a, 1051; Sainsbury 2021b, 21). However, these measures were directed not at enhancing economic performance but rather at achieving the ruler's political ends (Oldland 2019). Edward III undertook them to put diplomatic pressure on Flanders and to raise money for war by selling an export monopoly to a group of rich English merchants. The policy was opposed by English taxpayers, wool-growers, and small-scale merchants because it profited a rich merchant cartel at the expense of less politically connected producers and the wider society. Nor did the policy benefit the economy, since it culminated in a diplomatic alliance giving Flemish cloth manufacturers control over English wool supplies. Even the protection offered to Flemish weavers was not devised to diffuse new techniques but rather to offset guild privileges and secure a counter-offer from English weavers. All English monarchs banned wool exports and cloth imports when conflict arose with Flanders and then abandoned the bans when diplomatic relationships recovered. Indeed, most European rulers imposed similar policies in times of conflict, as between 1303 and 1360 when France banned exports of wool, unfinished cloths, and dyeing materials to support its war with Flanders, not to promote French textile manufacturing, which remained backward and uncompetitive.

A second episode of putative English industrial policy occurred between 1493 and 1496 when Henry VII imposed customs duties on wool exports to increase the costs of foreign clothmakers, granted English clothmakers tax exemptions and monopolies, and invited foreign craftsmen to England to transmit their skills. This is portrayed as a deliberate policy to encourage innovation, scale economies, and growth in English textile manufacturing (Chang 2002, 20-1, 60; Sainsbury 2021a, 1051; Sainsbury 2021b, 21-2). Again, however, these measures were primarily political and diplomatic, not economic

(Oldland 2019). They were discontinued after just three years, not long enough to exert significant economic impact. English cloth had been selling well overseas since c. 1400 and statistical series show no exceptional growth between 1493 and 1496 (Britnell 1998, 90). In the 1450-1540 period, increases in exports of woollen cloth, tin, and lead created full-time employment for less than 1.3% of the English labour force and made a miniscule contribution to economic growth (Britnell 1998, 93-4). Most European rulers imposed very similar policies, either to serve diplomatic purposes or to secure domestic support from well-connected interest-groups. The distinctive characteristic of English state intervention in this period was the exact opposite of industrial policy: it gradually withdrew protection from urban guild masters against competition from dynamic rural proto-industries and foreign producers. Medieval English governments influenced the economy ‘through decisions concerning war and peace, which had direct implications for levels of taxation and freedom to trade’ – but not through deliberate industrial policy (Britnell 1998, 101).

The most eye-catching example adduced to support the idea that state industrial policy fuelled English economic growth is the 1721 Calico Act. This legislation, it is argued, was directed at excluding Indian calicos, protecting the English cotton industry from which the Industrial Revolution would germinate four decades later (Chang 2002, 21-5, 51-2; Sainsbury 2021a, 1052; Sainsbury 2021b, 22-3, 108-12). But this interpretation is at odds with the facts. The Calico Act was directed not at encouraging English cotton textiles, but rather at protecting England’s older, and much larger, woollen and silk textile industries. It did so by prohibiting production and trade of pure cotton cloths (including British manufactures) and taxing production and trade of mixed cotton-linen textiles (which were mainly British). The net effect was to discourage the British cotton industry. The standard rationale for import-substituting industrialization does not apply in the case of the Calico Act since the eighteenth-century British cotton industry was tiny, with low capital costs and no minimum efficient

scale, so there were no scale economies to exploit by protecting it from competition. It also had low barriers to entry, enjoyed no first-mover advantage, and generated little technical learning for future cotton factories. Indeed, only 10-17% of English cotton manufacturing in 1721 actually competed against foreign cotton. Most of the cotton-related mechanization advances during the British Industrial Revolution were spillovers from non-cotton textile sectors. British cotton manufacturing in the 1720s was tiny: it contributed 2.6% of value added in industry, less even than silk (5%) or linen (8%), let alone wool textiles (at 31%, nearly twelve times as much as cotton). The home market could have stimulated cotton inventions just as well. Indeed, the only reason overseas markets were so important for the British cotton industry in the eighteenth century was that the Calico Act denied British cotton firms a home market by banning the production and trade of pure cotton cloths, including British ones. It is therefore plausible that the Calico Act functioned as an anti-competitive, anti-innovation policy that delayed textile mechanization in Britain. The 1721 Calico Act played no role in the later success of English cotton manufacturing during the Industrial Revolution.¹

State industrial policies seldom succeeded. All European states pursued ‘industrial policies’ from the medieval period until well past 1800, protecting favoured industries which mostly failed to develop. The Spanish state spent huge sums to support royal manufactures in cloth, china, playing cards, glass, paper, pottery, saltpetre, stockings, swords, tapestry, and tissue (Townsend 1791, II:231-2). These manufactures sucked up huge subsidies, failed to reduce costs or transmit techniques, seldom even broke even, and ultimately went bankrupt (Echávarri Otero et al. 2012, 67) – one reason the Spanish state got no growth dividend out of outspending Britain for civilian purposes. Portugal used its state capacity to establish and subsidize over three hundred ‘royal factories’ during the eighteenth century. These suffered

¹ <https://pseudoerasmus.com/2016/12/19/calico/>; <https://pseudoerasmus.com/2017/01/05/ca/>; Van Neuss 2015, 31, 43.

from excessive scale, high production costs, and uncompetitive prices, ultimately going bankrupt and hindering the move to mechanization (Costa et al. 2016). The Russian Czars erected numerous mercantilist manufactories worked by coerced serf labour, but even the most successful, a military metallurgical complex in the Urals, suffered from technological stagnation and flourished only briefly (Echávarri Otero et al. 2012, 56). The Austrian Habsburg Emperors fostered state cloth manufactures in Linz, glass and mirror manufactures in Neuhaus, and porcelain manufactures in Vienna, but these were inefficiently operated, remained technologically backward, and went bankrupt after swallowing massive subsidies (Echávarri Otero et al. 2012, 56). Prussia set up numerous royal manufactories, producing iron, steel, cloth, silk, porcelain and weapons, but they suffered from high costs, low demand, and perpetual threat of bankruptcy. So notorious was their failure that in 1788 the Comte de Mirabeau wrote of the unprotected, private, and highly successful textile industry in the Rhineland city of Krefeld (which was part of Prussia), ‘Unhappy those manufactures, if ever a Prussian king should love them!’ (Mirabeau 1788, III:239-40).

In Britain, as in Krefeld, the state seldom granted subsidies, monopolies, or even trade protection to industry. By the standards of eighteenth-century states, Britain practised very little ‘industrial policy’. Its economic success and early industrialization owed nothing even to the most prominent examples of such policy emphasized in the literature. The British state had high capacity, but seldom used it to support industry, and never successfully. The British Industrial Revolution was not caused by state industrial policy.

10. State Capacity and Culture

A final way state capacity is supposed to stimulate economic growth is by promoting good cultural norms. State capacity is thought to create a ‘common-interest society’ in which homogeneous norms of social harmony, faith in the state, and willingness to pay for public

goods encourage economic growth (Besley and Persson 2011, ch. 2). Twentieth-century less-developed countries with heterogeneous ethnicity and culture, it is argued, have lower public good provision, more frequent civil war, and lower per capita GDP. This is held to imply that states that promote homogeneous national cultures through national education, public patriotism, and state religion will benefit economic growth (Easterly and Levine 1997; Alesina et al. 1999; Alesina et al. 2021). Historical nation-states with homogeneous cultures such as England and France were economically successful, it is argued, while multi-ethnic states such as the Habsburg Empire, the Ottoman lands, and Czarist Russia were unsuccessful because its peoples were too culturally diverse to cooperate in supporting growth-friendly state policies (Johnson and Koyama 2017, 12).

But these arguments raise questions. For one thing, the historical evidence is very mixed. Culturally homogeneous countries such as Sweden and the territorial states of central and western Germany achieved only slow economic growth and failed to industrialize until well into the nineteenth century. Culturally heterogeneous states such as the Southern Netherlands, Switzerland, and Bohemia, by contrast, industrialized soon after Britain and achieved rapid growth thereafter.

A second problem is endogeneity. Observing an association between homogeneous national culture and successful economic growth does not imply that cultural homogeneity causes growth. Fast growth could be ironing out cultural heterogeneity, for instance through urbanization and interregional trade. Or underlying variables could be causing both homogeneity and growth. National units involve such substantial aggregation that it is virtually impossible to control for all confounding variables and identify a definite causal effect of cultural homogeneity.

Besides, homogeneous national culture is a two-edged sword. The Tanzanian *Ujamaa* policy of 1970-81, for instance, aimed to create a national identity and consolidate state

authority by mandating diverse populations to live in planned villages where children received a political education. Recent empirical analysis shows that it did increase support for a strong central state. But it did not enhance generalized trust within or between ethnic groups and it stifled domestic pressure for democratic accountability (Carlitz et al. 2022).

Convincing citizens of the cultural legitimacy of the state only creates economic benefits if the state uses legitimacy in growth-friendly ways. What if homogeneous national norms block women's access to training, labour markets, and business ownership? What if the state religion censors science and innovation? What if political cohesion against minorities and migrants blocks entrepreneurship? What if cultural homogeneity stifles productive diversity? What if national culture is used to stifle domestic dissent or mobilize support for offensive wars against other cultures? Women's status, religious toleration, openness to migrants, liberalism towards minorities, value for diversity, democratic accountability, and abjuring offensive wars are typically associated with good economic outcomes. Across the long span of history, state-imposed cultural homogeneity displays few benefits for economic growth or – its main justification – human well-being.

11. Conclusion

The main lesson from history is that state capacity is a muddled concept. Anything good that a state does is called 'state capacity', even if it involves imposing constitutional limits on the state, as in early modern England and the Netherlands. Conversely, anything bad that a state does is called 'low state capacity', even if it achieves the aims of that state and increases state power in that society, as in preindustrial Prussia, Russia, or China.

State capacity is also hard to measure, and history shows why. Fiscal capacity, the dominant measure, is flawed since it focuses narrowly on money resources collected by the

central state. This excludes many state resources, since taxes are often collected at lower levels of government and states often extract resources in the form of coerced labour, grain, or other commodities. These measurement flaws underestimate the resources of all states, but disproportionately underestimate those available to states with low monetization and high levels of labour coercion, features typical of poor and under-developed economies. The state capacity gap between rich and poor economies is partly an artefact of excluding the resources states typically extract in poor economies.

Fiscal capacity, moreover, is a cost. To measure state benefits, we need to look at expenditures. Before the modern era, state expenditures were seldom used in ways that benefited the economy. The vast majority of state spending was devoted to military activities, whose economic effects were at best ambiguous. State expenditures on civilian purposes were trivial and show no association with economic growth.

Legal and bureaucratic capacity are even harder to measure but beyond basic guarantees of property and contracts show even less historical association with economic growth. Slow-growing economies such as China, Germany, and Scandinavia had efficient legal systems and professionalized domestic bureaucracies, while fast-growing economies such as Britain relied on amateur volunteers such as Justices of the Peace and outward-facing customs officers and military administrators. Besides, like fiscal capacity, the rule of law and a professional bureaucracy only benefit economic growth if they implement growth-friendly laws and policies. Legal capacity was sometimes used for economically beneficial purposes such as guaranteeing property rights and contracts, but sometimes for economically harmful ones such as enforcing the legal privileges of rent-seeking special interests. Bureaucratic capacity was sometimes used to provide state services efficiently, but sometimes to enforce administrative measures that hindered innovative businesses. Since fiscal, legal, and

bureaucratic capacity were historically used in ways that harmed the economy, it is reasonable to be cautious about advocating more of them without specifying what they do.

This is not to say that the state plays no role in economic growth. Markets are needed for the economy to grow, but public-order institutions are needed for markets to function (Ogilvie and Carus 2014, 404, 407-18). Yet as we have seen, not all activities of public-order institutions benefit the economy. Historical studies can help distinguish growth-friendly from growth-hostile state capacity. State capacity supported growth when it provided public goods and helped solve market failures. But it stifled growth when it was used for offensive wars, elite extraction, and granting monopolies and privileges. The British Industrial Revolution was not caused by state industrial policy, or indeed by any deliberate state action. On the domestic front, almost all the British state did was to provide the public goods of property rights, contract enforcement, and a framework of market regulation. On the international front, it mainly used its capacity to wage war. The underlying wealth and dynamism of the economy enabled the British state to win most of these wars. But the economy suffered. The Industrial Revolution took place despite, not because of Britain's wars and most of its state capacity. In the same era other societies waged wars – often the same wars as England – and did not benefit economically. Other European societies had high fiscal capacity, strong legal and bureaucratic capacity, and active industrial policy, but slow growth and late industrialization. What mattered for growth was refraining from harmful uses of state capacity for domestic purposes, particularly granting and enforcing privileges for special interests.

History suggests that the challenge is not to build a *capacious* state – many states in the past half-millennium have built capacity. Rather, the challenge is to build a growth-friendly state. History provides a few hints. How an economy gets a state that encourages growth is by fostering constitutional scrutiny, correcting market failures, curbing rent-

seeking, and letting markets and civil society provide services in which they have advantages. It is not to give the state capacity to extract a lot of resources which it can then waste on war, subsidizing flagship enterprises, and enforcing elite extraction. The state can support economic growth – but also harm it. History suggests that we need to be attentive to the bright side of state capacity, but also to its dark side.

References

- Alesina, Alberto, et al. 1999. 'Public Goods and Ethnic Divisions', *The Quarterly Journal of Economics*, 114: 1243-1284.
- Alesina, Alberto, et al. 2021. 'Nation-Building and Education', *The Economic Journal*, 131: 2273-2303.
- Auriol, Emmanuelle, and Michael Warlters. 2005. 'Taxation Base in Developing Countries', *Journal of Public Economics*, 89: 625-646.
- Besley, Timothy, and Torsten Persson. 2009. 'The Origins of State Capacity: Property Rights, Taxation, and Politics', *The American Economic Review*, 99: 1218-1244.
- Besley, Timothy, and Torsten Persson. 2011. *Pillars of Prosperity: The Political Economics of Development Clusters* (Princeton University Press: Princeton).
- Besley, Timothy, and Torsten Persson. 2013. 'Taxation and Development.' in Alan J. Auerbach, et al. (eds.), *Handbook of Public Economics* (Elsevier: Amsterdam / London): 51-110.
- Bogart, Dan. 2009. 'Turnpike Trusts and Property Income: New Evidence on the Effects of Transport Improvements and Legislation in Eighteenth-Century England', *Economic History Review*, 62: 128-152.
- Bogart, Dan. 2014. 'The Transport Revolution in Industrializing Britain.' in Roderick Floud, et al. (eds.), *The Cambridge Economic History of Modern Britain* (Cambridge University Press: Cambridge / New York): 368-391.
- Bogart, Daniel, et al. 2010. 'State and Private Institutions.' in Stephen Broadberry and Kevin O'Rourke (eds.), *The Cambridge Economic History of Modern Europe. Volume 1: 1700-1870* (Cambridge University Press: Cambridge): 368-391.
- Bonney, Richard. 1999. *The Rise of the Fiscal State in Europe, c.1200-1815* (Oxford University Press: Oxford).
- Brewer, John. 1989. *The Sinews of Power: War, Money and the English State, 1688-1783* (Unwin Hyman: London).
- Britnell, R. H. 1998. 'The English Economy and the Government, 1450-1550.' in John Lovett Watts (ed.), *The End of the Middle Ages? England in the Fifteenth and Sixteenth Centuries* (Sutton: Stroud): 89-116.
- Broadberry, Stephen. 2016. 'When and How Did the Great Divergence Begin?', *Paper presented at the Fifth Asian Historical Economics Conference, Seoul National University, Seoul, September 2-3, 2016*.
- Broadberry, Stephen, et al. 2018. 'China, Europe, and the Great Divergence: A Study in Historical National Accounting, 980-1850', *The Journal of Economic History*, 78: 955-1000.
- Broadberry, Stephen N., and John Joseph Wallis. 2016. 'Shrink Theory: the Nature of Long Run and Short Run Economic Performance', *Unpublished manuscript, University of Oxford*, 4 April 2016.
- Capra, Carlo. 1999. 'The Italian States in the Early Modern Period.' in Richard Bonney (ed.), *The Rise of the Fiscal State in Europe c.1200-1815* (Oxford University Press): 417-442.
- Carlitz, Ruth, et al. 2022. 'State-Building in a Diverse Society', *CEPR Discussion Papers*, DP17735.
- Chang, Ha-Joon. 2002. *Kicking Away the Ladder: Development Strategy in Historical*

- Perspective* (Anthem: London).
- Charles, Loïc, et al. 2022. 'In the Epicentre of the Storm? The Effects of the Revolution and Warfare on the French Economy, 1789-1815.' in Patrick Karl O'Brien (ed.), *The Crucible of Revolutionary and Napoleonic Warfare and European Transitions to Modern Economic Growth* (Brill: Leiden / Boston): 50-81.
- Conway, Stephen. 2014. 'The Eighteenth-Century British Army as a European Institution.' in Kevin Linch and Matthew McCormack (eds.), *Britain's Soldiers: Rethinking War and Society, 1715-1815* (Liverpool University Press: Liverpool): 17-38.
- Cornell, Agnes, et al. 2020. 'Bureaucracy and Growth', *Comparative Political Studies*, 53: 2246-2282.
- Costa, Leonor Freire, et al. 2016. *An Economic History of Portugal, 1143-2010* (Cambridge University Press: Cambridge).
- Davies, Brian. 2013. 'Military Engineers and the Rise of Imperial Russia.' in Bruce P. Lenman (ed.), *Military Engineers: The Development of the Early Modern European State* (Edinburgh University Press: Edinburgh): 201-215.
- De Vries, Jan. 2012. 'Review of R. Bin Wong and Jean-Laurent Rosenthal. Before and Beyond Divergence: The Politics of Economic Change in China and Europe', *American historical review*, 117: 165-166.
- Dincecco, Mark, and Giovanni Federico. 2022. 'Napoleon in Italy: A Legacy of Institutional Reform?' in Patrick Karl O'Brien (ed.), *The crucible of Revolutionary and Napoleonic warfare and European transitions to modern economic growth* (Brill: Leiden / Boston): 141-170.
- Dincecco, Mark, et al. 2019. 'Is Africa Different? Historical Conflict and State Development', *Economic History of Developing Regions*, 34: 209-250.
- Dincecco, Mark, and Gabriel Katz. 2016. 'State Capacity and Long-Run Economic Performance', *The Economic Journal*, 126: 189-218.
- Dincecco, Mark, and Massimiliano Onorato. 2016. 'Military Conflict and the Rise of Urban Europe', *Journal of economic growth*, 21: 259-282.
- Easterly, William, and Ross Levine. 1997. 'Africa's Growth Tragedy: Policies and Ethnic Divisions', *The Quarterly Journal of Economics*, 112: 1203-1250.
- Echávarri Otero, Javier, et al. 2012. 'Royal Manufactures Promoted by the Spanish Crown during the 18th and 19th Centuries: An Approach to European Industrialisation.' in Teun Koetsier and Marco Ceccarelli (eds.), *Explorations in the History of Machines and Mechanisms* (Springer Netherlands: Dordrecht): 55-68.
- Eloranta, Jari. 2005. 'Military Spending Patterns in History.' in Robert Whaples (ed.), *EH.Net Encyclopedia* [<https://eh.net/encyclopedia/military-spending-patterns-in-history>].
- Filipczak-Kocur, Anna. 1999. 'Poland-Lithuania before Partition.' in Richard Bonney (ed.), *The Rise of the Fiscal State in Europe c.1200-1815* (Oxford University Press: Oxford): 443-479.
- Goenaga, Agustín, et al. 2018. 'War and State Capacity in the Long Nineteenth Century', *STANCE Working Paper Series, Lund University*, 2018:6.
- Harris, Ron. 2004. 'Government and the Economy, 1688-1850.' in Roderick Floud and Paul Johnson (eds.), *The Cambridge Economic History of Modern Britain*, vol. 1: *Industrialisation, 1700-1860* (Cambridge University Press: Cambridge): 204-237.
- Henriques, Antonio, et al. 2022. 'Anatomy of a Premodern State', *University of Manchester*

- Economics Discussion paper Series*, EDP-2208.
- Hoffman, Philip T. 1994. 'Early Modern France, 1450-1700.' in P. T. Hoffman and K. Norberg (eds.), *Fiscal Crises, Liberty, and Representative Government, 1450-1789* (Stanford University Press: Stanford): 226-253.
- Hoffman, Philip T. 1996. *Growth in a Traditional Society: the French Countryside, 1450-1815* (Princeton University Press: Princeton).
- Hoffman, Philip T. 2012. 'Why Was It Europeans Who Conquered the World?', *Journal of Economic History*, 72: 601-633.
- Hoffman, Philip T. 2015. 'What Do States Do? Politics and Economic History', *The Journal of Economic History*, 75: 303-332.
- Hoffman, Philip T., et al. 2017. 'Public Economics and History: A Review of Fiscal Regimes and the Political Economy of Premodern State, Edited by Andrew Monson and Walter Scheidel', *Journal of economic literature*, 55: 1556-1569.
- Horn, Jeff. 2015. *Economic Development in Early Modern France: the Privilege of Liberty, 1650-1820* (Cambridge University Press: Cambridge).
- Johnson, Noel D., and Mark Koyama. 2017. 'States and Economic Growth: Capacity and Constraints', *Explorations in Economic History*, 64: 1-20.
- Karaman, K. Kivanç, and Şevket Pamuk. 2010. 'Ottoman State Finances in European Perspective, 1500–1914', *The Journal of Economic History*, 70: 593-629.
- Karaman, Kamil Kivanç, and Şevket Pamuk. 2013. 'Different Paths to the Modern State in Europe: The Interaction Between Warfare, Economic Structure, and Political Regime', *American political science review*, 107: 603-626.
- Kisch, Herbert. 1959. 'The Textile Industries of Silesia and the Rhineland: a Comparative Study of Industrialization', *Journal of Economic History*, 19: 541-564.
- Kiser, Edgar, and Margaret Levi. 2015. 'Interpreting the Comparative History of Fiscal Regimes.' in Andrew Monson and Walter Scheidel (eds.), *Fiscal Regimes and the Political Economy of Premodern States* (Cambridge University Press: Cambridge): 557-571.
- Körner, Martin. 1999. 'The Swiss Confederation.' in Richard Bonney (ed.), *The Rise of the Fiscal State in Europe c.1200–1815* (Oxford University Press): 327-357.
- Koryś, Piotr, and Maciej Tymiński. 2021. 'Economic Growth on the Periphery: Estimates of GDP Per Capita of the Congress Kingdom of Poland (for Years 1870–1912)', *European review of economic history*, 26: 284-301.
- Koyama, Mark. 2022 early view. 'Legal Capacity.' in Jeffery A. Jenkins and Jared Rubin (eds.), *The Oxford Handbook of Historical Political Economy* (Oxford University Press: Oxford).
- Kroener, Bernhard R. 2000. 'The Modern State and Military Society in the Eighteenth Century.' in Philippe Contamine (ed.), *War and Competition between States* (Oxford University Press: Oxford): 195-220.
- Lewis, Mark E. 2015. 'Early imperial China, from the Qin and Han through Tang.' in Andrew Monson and Walter Scheidel (eds.), *Fiscal Regimes and the Political Economy of Premodern States* (Cambridge University Press: Cambridge): 282-307.
- Liu, William Guanglin. 2015. 'The Making of a Fiscal State in Song China, 960–1279', *The Economic history review*, 68: 48-78.
- Maddison, Angus. 2010. 'Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD'. [<http://www.ggdnc.net/MADDISON/oriindex.htm>].

- Malinowski, Mikołaj, and Jan Luiten van Zanden. 2017. 'Income and its Distribution in Preindustrial Poland', *Cliometrica*, 11: 375-404.
- Mann, Michael. 1986. *The Sources of Social Power* (Cambridge University Press: Cambridge).
- Mathias, Peter. 2011. *The Transformation of England: Essays in the Economic and Social History of England in the Eighteenth Century* (Routledge: Abingdon).
- Milhaud, Cyril. 2019. 'Review of Dincecco and Onorato, From Warfare to Wealth: the Military Origins of Urban Prosperity in Europe (2018)', *Economic history review*, 72: 419-420.
- Mirabeau, Gabriel-Honoré de Riquetti. 1788. *De la monarchie prussienne sous Frédéric le Grand* (London / Paris).
- O'Brien, Patrick K. 1988. 'The Political Economy of British Taxation, 1660-1815', *Economic history review*, 41: 1-32.
- O'Brien, Patrick Karl. 2022. 'Britain's Wars with France 1793-1815 and Their Contribution to the Consolidation of Its Industrial Revolution.' in Patrick Karl O'Brien (ed.), *The Crucible of Revolutionary and Napoleonic Warfare and European Transitions to Modern Economic Growth* (Brill: Leiden / Boston): 22-49.
- Ogilvie, Sheilagh. 2000. 'The European Economy in the Eighteenth Century.' in T. W. C. Blanning (ed.), *The Short Oxford History of Europe, Vol. XII: The Eighteenth Century: Europe 1688-1815* (Oxford University Press: Oxford): 91-130.
- Ogilvie, Sheilagh. 2005. 'The Use and Abuse of Trust: the Deployment of Social Capital by Early Modern Guilds', *Jahrbuch für Wirtschaftsgeschichte*, 2005: 15-52.
- Ogilvie, Sheilagh. 2011. *Institutions and European Trade: Merchant Guilds, 1000-1800* (Cambridge University Press: Cambridge).
- Ogilvie, Sheilagh. 2019. *The European Guilds: An Economic Analysis* (Princeton University Press: Princeton).
- Ogilvie, Sheilagh, and André W. Carus. 2014. 'Institutions and Economic Growth in Historical Perspective.' in Stephen Durlauf and Philippe Aghion (eds.), *Handbook of Economic Growth* (Elsevier: Amsterdam / London): 405-514.
- Oldland, John. 2019. *The English Woollen Industry, c.1200-c.1560* (Routledge: London).
- Ormrod, W. M. 1999. 'England in the Middle Ages.' in Richard Bonney (ed.), *The Rise of the Fiscal State in Europe c.1200-1815* (Oxford University Press: Oxford): 18-52.
- O'Rourke, Kevin H. 2006. 'The Worldwide Economic Impact of the French Revolutionary and Napoleonic Wars, 1793-1815', *Journal of Global History*, 1: 123-149.
- Palma, Nuno, and Jaime Reis. 2019. 'From Convergence to Divergence: Portuguese Economic Growth, 1527-1850', *The Journal of Economic History*, 79: 477-506.
- Pamuk, Şevket. 2017. 'Incomes in South East Europe since 1500 in Comparative Perspective', *Paper Presented at the Center for Liberal-Democratic Studies, Belgrade, Jun 14, 2017*.
- Pamuk, Şevket. 2006. 'Estimating Economic Growth in the Middle East since 1820', *The Journal of Economic History*, 66: 809-828.
- Pamuk, Şevket. 2021. 'The Rise of State Capacity in Europe, Asia and the Rest of the World since 1500', *Paper presented at the Quantitative History Webinar, University of Hong Kong, 23 September 2021*.
- Pamuk, Şevket, and Maya Shatzmiller. 2014. 'Plagues, Wages, and Economic Change in the Islamic Middle East, 700-1500', *The Journal of Economic History*, 74: 196-229.

- Pfister, Ulrich. 2022. 'War, State Growth, and Germany's Transition to Post-Malthusian Growth.' in Patrick Karl O'Brien (ed.), *The Crucible of Revolutionary and Napoleonic Warfare and European Transitions to Modern Economic Growth* (Brill: Leiden / Boston): 82-113.
- Prados de la Escosura, Leandro, and Carlos Santiago-Caballero. 2022. 'The Napoleonic Wars: A Watershed in Spanish History.' in Patrick Karl O'Brien (ed.), *The Crucible of Revolutionary and Napoleonic Warfare and European Transitions to Modern Economic Growth* (Brill: Leiden / Boston): 171-204.
- Queralt, Didac. 2019. 'War, International Finance, and Fiscal Capacity in the Long Run', *International organization*, 73: 713-753.
- Ridolfi, Leonardo, and Alessandro Nuvolari. 2021. 'L'histoire immobile? A reappraisal of French economic growth using the demand-side approach, 1280–1850', *European review of economic history*, 25: 405-428.
- Roberts, Michael W. 1968. 'Grain Taxes in British Ceylon, 1832–1878: Problems in the Field', *The Journal of Asian Studies*, 27: 809-834.
- Roche, Daniel. 1998. *France in the Enlightenment* (Harvard University Press: Cambridge, MA).
- Rosenthal, Jean-Laurent, and Roy Bin Wong. 2011. *Before and Beyond Divergence: the Politics of Economic Change in China and Europe* (Harvard University Press: Cambridge, MA).
- Rosevear, Alan, et al. 2022. 'Government, Trusts, and the Making of Better Roads in Early Nineteenth Century England and Wales', *UCI Department of Economics Working Papers*, 22-23-01.
- Rutkowski, Marek. 2017. 'Primary Principles of a Compulsory Public Works System (Corvée) in the Construction, Repair and Maintenance of the Communication Network of the Kingdom of Poland and Other Former Polish Territories Ruled by Tsarist Russia', *Scientific Journal of Silesian University of Technology. Series Transport*, 96: 161-173.
- Sainsbury, David. 2020. 'Toward a Dynamic Capability Theory of Economic Growth', *Industrial and corporate change*, 29: 1047-1065.
- Sainsbury, David. 2020. *Windows of Opportunity: How Nations Make Wealth* (Profile Books: London).
- Sargent, Thomas J., and François R. Velde. 1995. 'Macroeconomic Features of the French Revolution', *Journal of Political Economy*, 103: 474-518.
- Scott, Hamish. 2009. 'The fiscal-military state and international rivalry during the Long eighteenth century.' in Christopher Storrs (ed.), *The Fiscal-Military State in Eighteenth-Century Europe. Essays in honour of P. G. M. Dickson* (Ashgate: Aldershot): 23-54.
- Spoerer, Mark. 2008. 'The Revenue Structures of Brandenburg-Prussia, Saxony and Bavaria (Fifteenth to Nineteenth Centuries): Are They Compatible with the Bonney-Ormrod Model?' in Simonetta Cavaciocchi (ed.), *La fiscalità nell'economia europea secc XIII - XVIII : atti della "Trentanovesima Settimana di Studi", 22 - 26 aprile 2007* (Firenze University Press: Florence).
- Szostak, Rick. 1991. *The Role of Transportation in the Industrial Revolution: a Comparison of England and France* (McGill-Queen's University Press: Montreal / Buffalo).
- 't Hart, Marjolein, and Johan Joor. 2022. 'Revolutionary Wars and Economic Change in the

- New State of the Netherlands, 1795-1815.’ in Patrick Karl O’Brien (ed.), *The Crucible of Revolutionary and Napoleonic Warfare and European Transitions to Modern Economic Growth* (Brill: Leiden / Boston): 114-140.
- Tanimoto, Masayuki. 2019. ‘From “Feudal” Lords to Local Notables: The Role of Regional Society in Public Goods Provision from Early Modern to Modern Japan.’ in Tanimoto Masayuki and R. Bin Wong (eds.), *Public Goods Provision in the Early Modern Economy* (University of California Press: Berkeley): 17-37.
- Torres Sánchez, Rafael. 2007. ‘Possibilities and Limits: Testing the Fiscal-Military State in the Anglo-Spanish War of 1779-1783.’ in Rafael Torres Sánchez (ed.), *War, State and Development: Fiscal-Military States in the Eighteenth Century* (Ediciones Universidad de Navarra Pamplona): 437-460.
- Townsend, Joseph. 1791. *A Journey through Spain in the Years 1786 and 1787* (C. Dilly: London).
- Van Neuss, Leif. 2015. ‘Why Did the Industrial Revolution Start in Britain?’, *SSRN working papers*, 2696076.
- Vries, P. H. H. 2015. *State, Economy and the Great Divergence: Great Britain and China, 1680s-1850s* (Bloomsbury: London).
- Wallis, John Joseph. 2000. ‘American Government Finance in the Long Run: 1790 to 1990’, *The Journal of Economic Perspectives*, 14: 61-82.
- Wilson, Peter H. 1995. *War, State and Society in Württemberg, 1677-1793* (Cambridge University Press: Cambridge).
- Wong, Roy Bin. 1997. *China Transformed: Historical Change and the Limits of European Experience* (Cornell University Press: Ithaca).
- Woodside, Alexander. 2009. *Lost Modernities: China, Vietnam, Korea, and the Hazards of World History* (Harvard University Press: Cambridge, MA).