

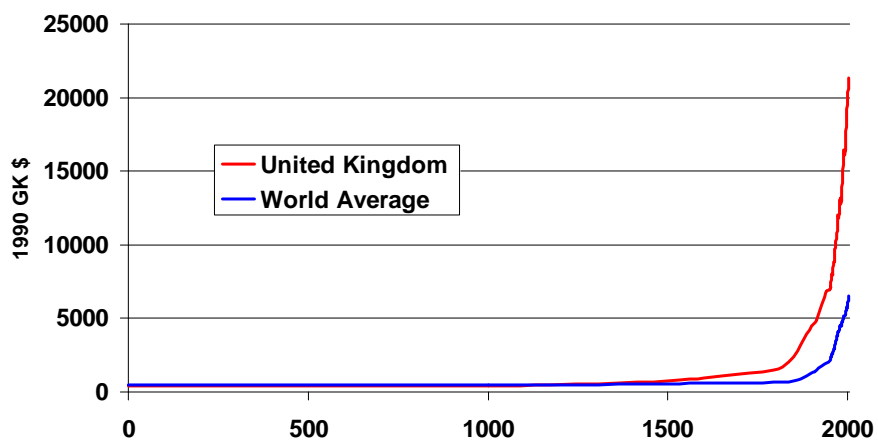


## Apprenticeship, Information, Human Capital and Development: Britain on the Eve of the Industrial Revolution

Tim Leunig, Chris Minns, Patrick Wallis



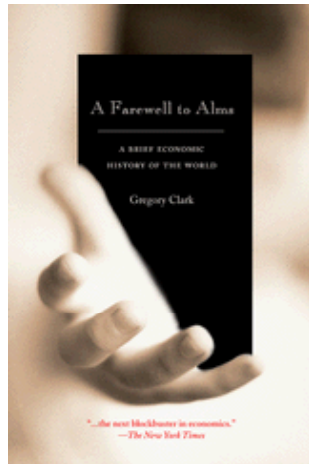
## GDP per capita since AD1



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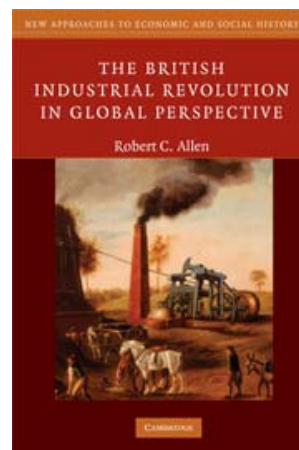
## Why did Britain “take-off”? 1



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## Why did Britain “take-off”? 2



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## Why did Britain “take-off”? 3

- Why were we rich at the start?
- Did being rich at the start directly create the ability to get richer still?
- Did being rich at the start indicate other conditions conducive to getting richer?



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## Two caricatures of life

- Anthropology: lives are determined by who you know, by kinship, by custom
- Economics: people maximise, the world is frictionless
- Neither has ever been exactly true, but many people believe that the world was more like the anthropology cartoon if you go back far enough



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## Apprenticeship

- Regulated, more or less, by the 1562 Statute of Artificiers
- 7 years training, with a specific Master
- Grants citizenship, and the right to trade
- Apprentices usually urban, and therefore required migration for many
- Lots of apprentices – c. 10% of the male population



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## Apprenticeship: custom

- Male
- Fixed training period
- Role of kinship in providing or securing training?



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## Apprenticeship: market

- Market determination of premiums
- No church or other “irrelevant” requirements
- No ability to be “blackballed”
- No requirement to be “nominated” or “sponsored”
- But how extensive was the role of kinship in providing or securing training?



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## The question

- To what extent were would-be apprentices' choice of master constrained by social convention or limited knowledge of the range of opportunities?
- If a lot, then the “anthropology” caricature has more credibility
- If a little, then the “economics” caricature has more credibility



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## Previous work

- Has emphasised kin
- Has emphasised trade routes
- (Has emphasised chain migration)
- True for continental Europe as well
- But sample sizes are very small – autobiographies, single companies, small time periods



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## The data

- From London Livery Company Records
- 1600-1750: 118,000 apprentices
- c. 35-50% of all apprentices in the period
- Little detail on the masters, but they would have been apprentices once, and so...
- Linked sample: 36,000 apprentices to 12,000 masters



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## Spread of information

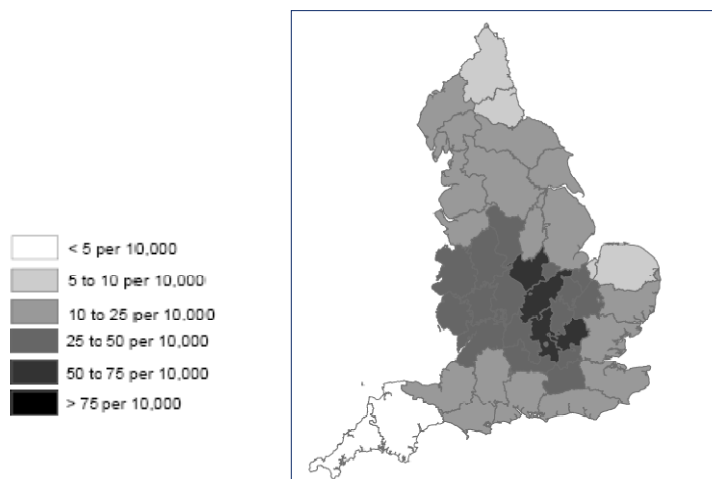
- If information about opportunities was limited to London and its environs, we would expect apprentices to be drawn disproportionately from that area
- This is most likely early on, as transport was more primitive



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## 1600-25



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## Kinship (table 1)

- The classic anthropological connection
- Some kinship links are recorded
- 0.5% of apprentices are recorded as kin
- Rises to 2.3% for the London-resident
- 1.2% of masters had ever had a relative
- But perhaps not all kin links were declared?



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## Unusual names (table 1)

- If you meet two Smiths in Britain, they are probably unrelated
- If you meet two Leunigs in Britain, they are probably related
- So we can look to see if apprentices with unusual names share a name with their master
- Will not catch maternal kinship



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## Unusual name results (table 1)

- Unusual names defined as names that occur <6x in the 356,000 marriage requests to the Archbishop of Canterbury, 1694-1800
- 7% of apprentices with an unusual name had the same name as their master
- 16% of unusual named masters took an apprentice with that name
- Not random, but not “the norm”



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## Maternal relatives

- This 7% figure captures father, father’s brothers, but not father’s sister’s husbands, or mothers or any other maternal relative
- Perhaps we should multiply it by 4?
- So it is not small, but it is not “the norm”
- And it certainly is not a quasi-requirement



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## Did Dad's job matter?

- The father's occupation is recorded in each case
- We can classify them in lots of ways



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## Very broad categories (table 2)

- Manufacturing: 33%
- Farming & Gentlemen: 45%
- Other: 22%
- But even manufacturing is a broad category



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## Very narrow categories (table 3)

- Only 4% of father's occupations match the company to which their son was apprenticed. Higher than random, but not that high.
- It is only 9% of father's occupations even when we restrict ourselves to fathers in manufacturing.



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## What about location? (1)

- We already know that many places distant sent a lot of apprentices
- But perhaps they did not know about the full range of opportunities?
- If so, they would be disproportionately “clustered” into a subset of companies



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## DDI

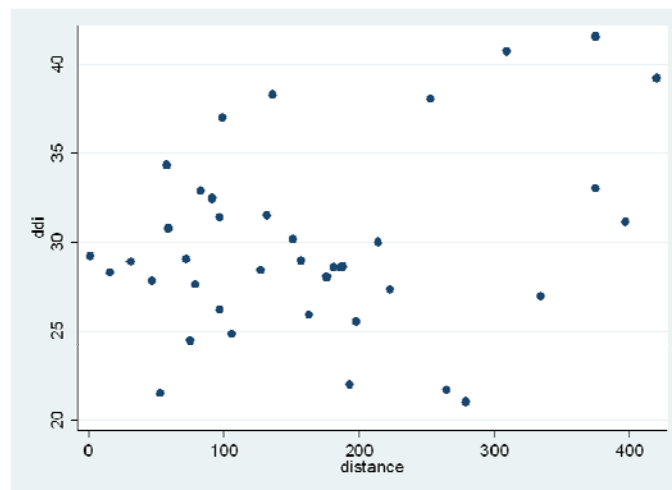
- Measures whether two distributions are the same
- Value 1 if a perfect proportionate match
- Value 0 if no match
- If information decays with distance, the DDIs of places relative to London should rise with distance



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## DDI by location (figure 3)



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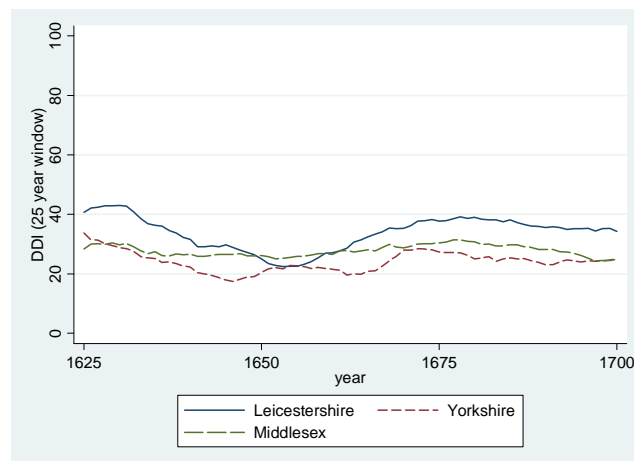
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## What about location over time?

- For counties with a sufficient sample size, we can look at DDI for 25 year rolling averages
- (small sample size has integer issues)



## DDI over time (figure 4)



## What about location? (2)

- It could be that apprentices from a particular place would be apprenticed to a master from that particular place.
- We can test this...



## Location (table 4)

- Only 8% of apprentices had masters who had come from the same place
- This includes some who shared a name with their master
- When we exclude these people it falls to 5%
- (Much) higher than random, but still not that high



## Broader location

- If you came from somewhere small perhaps you could not be apprenticed to someone from your home town – perhaps there simply wasn't anyone in the relevant profession in London
- Perhaps then you would be apprentices to someone from the same county



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## Broader location (table 5)

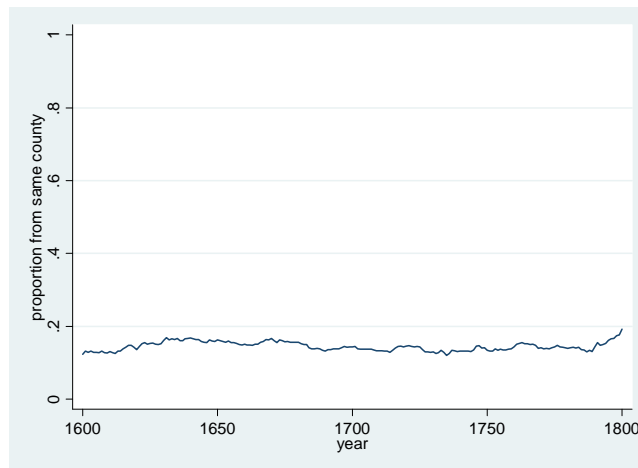
- 23% of apprentices had a master from their same county.
- 19% if we exclude same-name apprentices and masters
- Both are much higher than random, but still, it is clearly not a requirement



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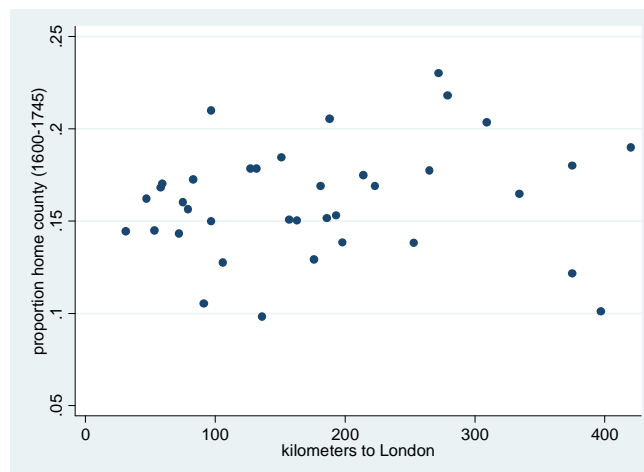
## Did this change over time? (f5)



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## Was this more important for some places?



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## Summary

- We can find evidence that kinship and geography mattered
- The % are all higher than random
- But they are not “the norm”
- When aggregated we can find no discernable link for 60% of apprentices
- There may be other links, but there are no links in the literature we have not measured



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## Anthropology mattered...

- Kinship did matter, and so did geographical origins



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## ...but it was not crucial

- ... you didn't need these connections to become an apprentice
- It is probably best to see them as an extra avenue, a bonus, rather than a requirement



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## Economics mattered

- There is good evidence that apprentices were coming from across Britain
- And that apprentices from across Britain went into a wide variety of companies



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## Why does this matter? (1)

- People with aptitude and ability could use them, irrespective of their parents background (so long as their parents were affluent, that is)
- This increases human capital
- It reduces the human capital premium (pace Goldin and Katz)
- This will encourage development



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## Why does this matter? (2)

- The lack of a regional pattern means that each area had a spread of skills.
- This guaranteed that all skills were available everywhere
- Increases the chance that a new idea that requires more than one skill will be successful
- This will encourage development



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## Why does this matter? (3)

- This is an important transaction
- Expensive and life altering
- That it could be widespread within kinship and other networks being required suggests that the idea of impersonal contracts were embedded in British society
- This will encourage development



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## What next?

- Understanding the extent of chain migration
- Understanding who quits the apprenticeship after it has begun



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## Bigger question

- Why was Britain so precociously able to use impersonal contacts?



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**Comments? Questions?**

