Export Booms and Labor Coercion
Evidence from the Lancashire Cotton Famine

Mohamed Saleh

Toulouse School of Economics (TSE)

Institute for Advanced Study in Toulouse (IAST)

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Outline

Impact of export booms on labor

- The recent surge in unemployment and inequality has reinvigorated the debate on the impact of globalization on the labor market.
- According to the Stolper and Samuelson (1941)'s theorem, an export boom in a labor-intensive commodity should benefit labor.
- Consistent with this prediction, empirical studies generally document positive effects of export booms on employment, wages, and innovation (Wagner 2002, Macis and Schivardi 2016, Bustos 2011).

Impact of export booms on labor (cont.)

- This literature assumes, though, that labor cannot be coerced. However, coercion of labor is commonplace, both historically and today.
- Under the possibility of labor coercion, the rising demand for labor that results from an export boom can increase coercion, if labor is relatively scarce (Domar 1970, Acemoglu and Wolitzky 2011):
  - Slave imports in the labor-scarce Americas surged during export booms.
  - Influx of foreign workers into the oil-rich labor-scarce Gulf countries since the 1973 oil boom has been regulated via an employer sponsorship system that restricts the ability of foreign workers to exit employment (Zahra 2015).

This paper

- Examines the impact of export booms on labor coercion by drawing on a unique natural experiment: The boom in cotton prices during the American Civil War (Lancashire cotton famine).
- The blockade of the US Confederacy ports curtailed US cotton exports to English textile manufacturers, causing cotton prices to surge.
- Egypt, an autonomous Ottoman province that had liberalized its trade since 1842, witnessed its cotton production and exports quadruple.
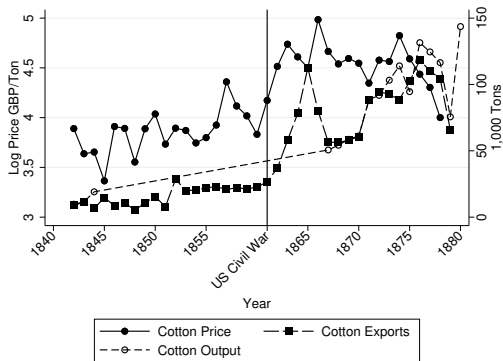
Prices and exports of Egypt's cotton

Figure: Export price, quantity exported, and total output of long-staple cotton in 1842−1880

Context and research questions

Feature 1: Two sources of labor:

1. Local Egyptian labor, 74% of which were farmers. Chronic shortage of local labor in agriculture, due to widespread land desertion.

2. Imported slaves, as enslavement of foreign (but not local) non-Muslims was permitted by Islamic law. Slaves were mostly from the Nilotic Sudan, which had been ruled by Egypt since 1820. Yet, while domestic and military slavery had long existed, agricultural slavery was extremely rare (Cuno 2009).

$\Rightarrow$ Feature 1 allows me to examine the impact of the cotton famine on labor coercion, in the form of the *emergence* of agricultural slavery, and on the non-coercive employment in agriculture of local labor (complements or substitutes).

Context and research questions (cont.)

Feature 2: Three types of landholders:

1. Landholding farmers: held usufruct rights; mostly small landholders.
2. Area headmen: in charge of allocating usufruct rights within their villages; mostly medium landholders.
3. Owners of large estates (various legal types): top state officials, forming estates on land that was confiscated from usufruct holders, who were (typically) required to work for the absentee owner, in exchange for subsistence plots, cash wage, share of the crop, or payment of tax arrears.

⇒ Feature 2 enables me to investigate the heterogeneous effects of the famine by landholder size on slavery, and on the employment of local labor, whether coercive (by large estates) or non-coercive (by other landholders).

Context and research questions (cont.)

Feature 3: Abolition of slavery in 1877, due to European (not internal) pressure.
$\Rightarrow$ Feature 3 allows me to study the impact of the abolition on non-coercive employment in agriculture, and whether the latter took the form of landholders, or cash wage agricultural workers and sharecroppers. This sheds light on the historical transition to non-coercive employment.

Advantages of the historical context

- Dearth of evidence on the impact of export booms on the emergence of indigenous coercive institutions in non-colonial and non-industrialized environments.
    - Literature focuses on labor coercion in agriculture in the Americas (Bobonis and Morrow 2014, Dippel et al 2017), and in industrialized economies (Naidu and Yuchtman 2013).
    - Impact of the American Civil War on labor in pre-colonial Egypt at the onset of the "First Globalization Era" (1870–1914) illustrates that globalization can have far-reaching unintended consequences, including the unintended exportation of institutional arrangements, such as agricultural slavery, from the core to the periphery.

Advantages of the historical context (cont.)

- Egyptian cotton producers did not have international market power on the eve of the famine, and hence, the famine can be treated as exogenous (contrast with US South).
- Owners of large estates had political power to coerce local labor, which is somewhat similar to serfdom in Eastern Europe (Ogilvie and Carus 2014).
- There were two forms of labor coercion: agricultural imported slavery and coercion of local labor by large estates, which is a richer context than the focus of most of the literature.
- The cotton boom had a huge long-standing effect on Egypt. Cotton's share in exports rose from 25% to 80%; a share that it retained for over a century, which is a symptom of the "Dutch Disease."

Novel data source

- Egypt's nationally-representative individual-level population census samples of 1848 and 1868 that I digitized from the original Arabic manuscripts at the National Archives of Egypt (Saleh 2013).
    - Two of the earliest population censuses from any non-Western country to include information on every household member, including females, children, and slaves.
    - Only known individual-level comprehensive data source on slaves in Egypt (perhaps in the Middle East) before the abolition.

Overview of empirical strategy

- Difference-in-differences strategy:
  - Compares the evolution between 1848 and 1868 of slavery and of the occupational distribution of Egyptian labor, across villages with varying levels of cotton suitability.
  - I measure cotton suitability by the Food and Agriculture Organization's Global Agro-Ecological Zones (henceforth, FAO-GAEZ) cotton suitability index.
  - I control for district fixed effects, cereals and beans suitability index, and a host of household-level characteristics.

Preview of the findings

1. Slavery was relatively rare in rural Egypt in 1848. The cotton famine caused the emergence of agricultural slavery, though.

2. The famine had a positive impact on the non-coercive employment in agriculture of Egyptian labor too, suggesting that coercive and non-coercive employment were complements.
   - I interpret both effects by a labor demand shock.

3. The effect on slaveholdings is highest among area headmen, followed by landholding farmers, in areas outside large estates. I fail to find an impact among owners of large estates, who confiscated areas with larger local (non-slave) populations instead.

4. Abolition had a positive impact on the proportion of landholders, and a negative effect on the proportion of cash wage agricultural workers. This suggests that slavery was replaced with an expansion in the landholder base.

Mechanisms

- Scarcity of local labor relative to cotton expansion.
- Technical characteristics of cotton production.
- Inter-landholder differences in wealth and political power.

Outline

Cultivation of long-staple cotton

- Due to its dry climate, Egypt's agriculture relies entirely on irrigation. Up to 1800, most land produced a single "winter" crop per year; mainly, wheat, beans, barley, flax, and Egyptian clover.
- In 1821, a French industrialist discovered the superior quality of a "long-staple" cotton seed in Egypt.
- Muhammad Ali Pasha, the autonomous Ottoman viceroy of Egypt in 1805−1848, increased long-staple cotton cultivation, by investing in perennial irrigation (summer canals, waterwheels).
- As perennially-irrigated lands produced multiple crops per year, these projects increased the *cropped* area, whereas the *real* area increased only modestly.

The Lancashire cotton famine

- After the end of state monopoly in 1842, farmers were allowed to sell crops directly to exporters.
- The Lancashire cotton famine led India and Brazil to expand on their cotton production too. But Egyptian cotton was of higher quality.
- Following the cotton famine, England became Egypt's largest importer of cotton. Since then, the Egyptian economy became centered around cotton.
- The cotton boom was unexpected. Cotton expansion was due to individual decisions of farmers.
- A smaller boom in the export prices of wheat, barley, maize, and beans in 1853−1856 due to the Crimean War.

Slavery on the eve of the Lancashire cotton famine

- Slavery was self-perpetuating in law. In practice, the slave population was not sustainable by natural growth.
- In 1848, 94% of slaves were blacks from the Nilotic and Western Sudan. 6% were either Abyssinians from Ethiopia, or whites from Circassia and Georgia.
- Slaves were transported to Egypt in caravans via the Red Sea or, more commonly, via trans-Saharan routes.
- Employment of slaves in agriculture was rare before the cotton famine, especially in the cotton-producing Delta.
- Mixed accounts on the treatment of slaves.
- European pressure (and not internal forces) resulted in the abolition of slavery and the emancipation of slaves in 1877.
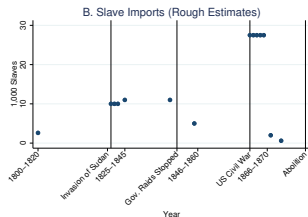
Figure: Slave prices and imports in Egypt in 1800−1877

Land tenure and local labor in agriculture

- Around 47% of real area in 1844 was *kharaj* land, on which landholders held usufruct rights:
  - Area headmen assigned usufruct within their villages.
  - In 1848, farmers constituted 74% of the employed population in rural Egypt. 84% were usufruct holders, 14% were landless farmers (cash wage workers and sharecroppers), and 2% were area headmen.
- By 1844, large estates expanded to account for 53% of real area (and 4% of the rural population in 1848).
  - Formed via the state confiscation of land from the usufruct holders. Land was then granted to Ali's family members and top state officials.
  - The former usufruct holders had to work for the large estate owner as tenant, sharecropper, or wage worker.
  - Legal types of large estates: *'uhdas*, *'izbas*, *iba'adiyas*, and *jifliks*.

Outline

Egypt's 1848 and 1868 population censuses

- A wide range of variables, such as sex, age, relationship to household head, slave/free status, nationality, religion, ethnicity (e.g., black), occupation, place of residence, and place of origin. Households are clearly delineated.
- The population census samples are two repeated cross-sections of around 80,000 individuals in each of 1848 and 1868.
- I aggregated the census samples to the household level, which is a suitable level to measure slaveholdings, and restricted the analysis to households residing in a panel of districts that are observed in both 1848 and 1868 (25 out of 70 districts), in order to include district fixed effects.

Outcomes

- Slavery: I measure household slaveholdings by:
  1. number of slaves residing in a household,
  2. =1 if a household is headed by a free head and has at least one slave,
  3. number of slaves and blacks in free-headed households,
  4. =1 if a household is headed by a slave.
- Occupational distribution of Egyptian non-slave labor:
  1. = 1 if HH head is a farmer, which includes area headmen, usufruct holders, cash wage agricultural workers, and sharecroppers,
  2. = 1 if HH head is a white-collar worker,
  3. = 1 if HH head is an artisan,
  4. = 1 if HH head is an unskilled non-agricultural worker.

Photo - Census page of a village in the Nile Delta

Figure: Page 1 of the population census register of the village of *Bigirim wa Kafr al-Sheikh Mansour*, *Al-Gharbiya* province, 1847

Crop suitability

- I employ the FAO-GAEZ crop suitability indices for cotton, wheat, barley, beans, and maize, under irrigation and intermediate input level for the baseline period (1961−1990).
- I transformed each crop measure into an index varying between 0 and 1.
- I created a cereals suitability index which is equal to the maximum of the suitability to wheat, barley, beans, and maize.

Figure: Cotton and cereals suitability indices of villages in the matched districts

Outline

Empirical specification

- The basic specification is:

$$y_{hvdt} = \alpha_d + \delta 1868_t + \beta_1(cotton_v \times 1868_t) + \beta_2(cereals_v \times 1868_t)$$
$$+ \beta_3 cotton_v + \beta_4 cereals_v + X_{hvdt}\gamma + \epsilon_{hvdt}$$

  where:

  - y_{hvdt} is the outcome of household h residing in village v in district d in year $t \in \{1848, 1868\}$,
  - α_d are a full set of district fixed effects,
  - $1868_t = 1$ for households in the 1868 census sample,
  - $cotton_v$ is the FAO-GAEZ cotton suitability index in village v,
  - $cereals_v$ is the maximum suitability to wheat, barley, beans, and maize (ranges from 0 to 1) in village v,
  - X_{hvdt} is a vector of household-level controls: sex and age composition of free HH members, non-Muslim and Bedouin indicators,
  - ϵ_{hvdt} is an error term.

- Standard errors clustered at the village level.

- Regressions are weighted by the inverse of probability of inclusion in the census sample.

Empirical specification (cont.)

- β_1 captures the differential growth of slavery and of the occupational distribution of local labor in $1848-1868$ across more cotton-suitable villages and less cotton-suitable villages.

- The underlying hypothesis is that households who resided in villages that were more cotton suitable, were more susceptible to being impacted by the Lancashire cotton famine in $1861-1865$ (intention-to-treat).

- Cereals suitability ($\times 1868_t$) controls for the potential confounding effect of the Crimean War boom in $1853-1856$ on employment.

Discussion of the parallel trends assumption

- In the absence of the Lancashire cotton famine, slavery and the occupational distribution of local labor would have evolved equally in 1848−1868 across villages with different cotton suitability values, conditional on controls.

- We lack an additional "pre-treatment" population census (besides the 1848 census). However, I provide a few pieces of evidence in support of the parallel trends assumption:

  1. Baseline differences by cotton suitability in 1848
  2. Tracing household slaveholdings over time
  3. Tracing the occupational distribution of Egyptian labor over time
  4. Village-specific employment shocks in 1848−1868

Impact of Lancashire cotton famine on slavery

Table: The Lancashire cotton famine and slavery in rural Egypt

	Number of slaves and blacks in HH			=1 if slaveowner free-headed HH			No. of slaves & blacks in free-headed HH	=1 if slave-headed HH
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cotton × 1868	0.446***	0.540*	0.504*	0.173***	0.242**	0.235**	0.568*	-0.011
	(0.153)	(0.296)	(0.301)	(0.050)	(0.101)	(0.098)	(0.300)	(0.018)
Cereals × 1868		-0.115	-0.193		-0.071	-0.087	-0.209	0.001
		(0.295)	(0.302)		(0.082)	(0.082)	(0.295)	(0.019)
Cotton	-0.122	0.083	0.130	-0.037*	-0.081	-0.079	0.089	-0.003
	(0.087)	(0.237)	(0.253)	(0.022)	(0.061)	(0.066)	(0.248)	(0.020)
Cereals		-0.186	-0.156		0.041	0.055	-0.134	0.007
		(0.249)	(0.257)		(0.051)	(0.056)	(0.246)	(0.021)
1868	-0.102	-0.075	-0.036	-0.042	-0.030	-0.022	-0.063	0.006
	(0.086)	(0.103)	(0.094)	(0.026)	(0.027)	(0.026)	(0.088)	(0.007)
HH controls?	No	No	Yes	No	No	Yes	Yes	Yes
District FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters (villages)	609	609	609	609	609	609	609	609
Obs (households)	5790	5790	5736	5760	5760	5723	5723	5736
R^2	0.015	0.016	0.091	0.044	0.044	0.126	0.099	0.010
Av. dep. var. in 1848	0.058	0.058	0.058	0.013	0.013	0.013	0.049	0.004

Impact of Lancashire cotton famine on slavery

- While the number of slaves and blacks in households located in villages at the 10th percentile of cotton suitability did not statistically change in 1848–1868, it increased by 0.16 in households at the 90th percentile, which is three times the average in 1848.
- The effect on the number of slaves and blacks is attributable to the increase in slaveholdings among free-headed households.
- The proportion of slave-owners among free-headed households increased by 7 percentage points in villages at the 90th percentile, while it remained unchanged at the 10th percentile.

Impact of Lancashire cotton famine on slavery

- Were slaves employed in agriculture? The censuses do not report the tasks of slaves inside the household:
  - It was farmers who purchased slaves in higher cotton-suitability villages.
  - The effect is mostly due to purchasing male slaves in working age (between 6 and 20 years of age).
- Labor demand or slave supply? The surge in demand for labor triggered an increase in the number of slaves who were captured in Sudan and imported into Egypt. Prices of black male slaves increased slightly by 1872.
- Increase in slave raids or importing existing slaves in Egypt? Egypt's slave population tripled between 1848 and 1868 from 55,072 (1.2% of the population) to 173,654 (3.1%).

Impact of Lancashire cotton famine on local labor

Table: The Lancashire cotton famine and the occupational distribution of local free labor

	=1 if HH head farmer		=1 if HH head white-collar		=1 if HH head artisan		=1 if HH head non-agr. unskilled	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cotton × 1868	0.757***	1.219**	-0.215**	-0.330*	-0.068	-0.126	-0.474***	-0.763**
	(0.201)	(0.552)	(0.102)	(0.191)	(0.099)	(0.326)	(0.159)	(0.341)
Cereals × 1868		-0.454		0.096		0.052		0.306
		(0.486)		(0.195)		(0.283)		(0.298)
Cotton	-0.080	-0.026	0.036	0.036	0.014	-0.060	0.030	0.051
	(0.140)	(0.406)	(0.048)	(0.119)	(0.055)	(0.256)	(0.134)	(0.282)
Cereals		-0.057		0.014		0.073		-0.029
		(0.350)		(0.114)		(0.222)		(0.233)
1868	-0.513***	-0.457***	0.176***	0.173**	0.006	0.003	0.331***	0.281***
	(0.113)	(0.124)	(0.055)	(0.068)	(0.055)	(0.060)	(0.090)	(0.101)
HH controls?	No	Yes	No	Yes	No	Yes	No	Yes
District FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters (villages)	574	574	574	574	574	574	574	574
Obs (households)	4032	4020	4032	4020	4032	4020	4032	4020
R^2	0.065	0.100	0.030	0.045	0.020	0.079	0.045	0.071
Av. dep. var. in 1848	0.672	0.672	0.055	0.055	0.094	0.094	0.179	0.179

Impact of Lancashire cotton famine on local labor

- The occupational distribution of free household heads in higher cotton-suitability villages shifted from white-collar and non-agricultural unskilled jobs to farming.
- Among farmers, there is a shift from cash wage agricultural workers and sharecroppers to landholding farmers (expansion in landholder base).
- No effect on immigration. Impact driven by village natives.

Robustness checks

- Alternative measure of cotton suitability (distance to Damietta branch)
- Village fixed effects
- District-level analysis

II. Impact of Lancashire cotton famine by landholding size

Table: The Lancashire cotton famine, slavery, and local labor by landholding size

| | Number of slaves and blacks | | Number of free local individuals | |
	(1)	(2)	(3)	(4)
Non-landholder × Cotton × 1868	-0.135	0.072	30.599	53.623
	(0.136)	(0.340)	(26.031)	(39.290)
Landholding farmer × Cotton × 1868	0.367**	0.356**		
	(0.148)	(0.151)		
Area headman × Cotton × 1868	7.990*	7.964*		
	(4.436)	(4.441)		
Large estate × Cotton × 1868	-66.391	-66.482	1951.462***	1943.490***
	(66.749)	(66.769)	(694.438)	(695.380)
Cereals × 1868		-0.202		-24.227
		(0.284)		(35.940)
Non-landholder × 1868	0.125	0.152*	-22.725	-18.373
	(0.080)	(0.082)	(14.446)	(17.120)
Landholding farmer × 1868	-0.173**	-0.166*		
	(0.086)	(0.088)		
Area headman × 1868	-2.519	-2.502		
	(2.800)	(2.803)		
Large estate × 1868	39.706	39.760	-1093.096***	-1088.368***
	(39.678)	(39.689)	(394.795)	(395.270)
Landholder FE?	Yes	Yes	Yes	Yes
Landholder FE × Cotton?	Yes	Yes	Yes	Yes
District FE?	Yes	Yes	Yes	Yes
Clusters (villages)	578	578	609	609
Obs (landholders/areas)	3900	3900	669	669
R^2	0.227	0.227	0.326	0.327
Av. dep. var. in 1848	0.059	0.059	49.080	49.080

Impact of Lancashire cotton famine by landholding size

- The relationship between landholding size and slaveholdings was an inverted-U curve:
  - The positive impact of the cotton famine on slaveholdings within higher cotton suitability villages was highest among area headmen, followed by landholding farmers, in areas outside large estates.
  - I fail to detect an impact on owners of large estates.
- Large estates responded to the cotton famine by confiscating areas with larger local populations. No similar impact on the free local population of areas outside large estates.

III. Impact of abolition on wage employment and sharecropping in agriculture

- Abolition can have two countervailing effects on wage employment of local workers in agriculture:
    1. Area headmen and landholding farmers may substitute wage workers and sharecroppers for emancipated slaves (who may become wage workers or sharecroppers themselves), thus increasing the proportion of cash wage workers and sharecroppers.
    2. Scarcity of local labor relative to the continuous expansion in both real and cropped area, due to cotton expansion, may increase the proportion of landholders, at the expense of cash wage workers and sharecroppers.
- Evidence comes in support of the second possibility.

Impact of abolition on wage employment and sharecropping in agriculture

Table: Abolition of slavery and the employment of local labor in agriculture

	Prop. (Ex-)slaves		Prop. Landholders		Prop. Cash wage workers		Prop. Sharecroppers	
	(1) OLS	(2) IV	(3) OLS	(4) IV	(5) OLS	(6) IV	(7) OLS	(8) IV
Δ Slavery 1848−1868 × Post-1877	-0.157	-0.139	1.334	5.648**	-1.482*	-3.284***	-0.216	-0.321
	(0.137)	(0.136)	(1.273)	(2.728)	(0.753)	(0.983)	(0.328)	(0.668)
Cereals × Post-1877	0.033	0.031	-0.080	-0.804	-0.013	0.290	-0.049	-0.031
	(0.053)	(0.049)	(0.630)	(0.655)	(0.216)	(0.269)	(0.229)	(0.207)
District FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters (districts)	25	25	25	25	25	25	25	25
Obs (district-year)	118	118	93	93	93	93	93	93
R^2	0.468	0.468	0.787	0.759	0.751	0.719	0.572	0.572
KP Wald F-stat		15.564		18.687		18.687		18.687
Av. dep. var. in 1848	0.011	0.011	0.594	0.594	0.065	0.065	0.023	0.023

Outline

1. Introduction

2. Historical background

3. Data

4. Empirical analysis

5. Mechanisms

6. Conclusion

A. Scarcity of local labor relative to cotton expansion

- Explains why the cotton famine led to the emergence of agricultural slavery in higher cotton-suitability villages, and why it shifted local labor in these villages towards farming.
- Consistent with Domar (1970) and Acemoglu and Wolitzky (2011). But in contrast to the perfectly inelastic labor supply assumption, Egypt's labor supply shifted via the importation of slaves, and the occupational shift of local labor towards farming.

Impact on cotton expansion

Table: The Lancashire cotton famine and cotton expansion

	Δ Area (1,000 feddans) (1)-(5)					Δ Yield (1,000 qintars or ardabbs) (6)-(7)	
	(1) Total Real	(2) Total Cropped	(3) Cotton	(4) Cereals and beans	(5) Other crops	(6) Cotton	(7) Cereals and beans
Cotton (district average)	443.151**	125.035	51.305*	158.088	-137.227	93.353**	436.650
	(175.125)	(203.883)	(26.715)	(155.075)	(92.413)	(44.316)	(440.412)
Cereals (district average)	-232.793	126.617	-8.923	59.931	120.827	12.773	255.585
	(144.706)	(237.595)	(26.547)	(162.392)	(102.088)	(58.408)	(561.376)
Obs (districts)	24	21	19	21	19	21	21
R^2	0.243	0.244	0.252	0.322	0.091	0.204	0.310
Mean dep. var. in 1844	80.052	100.245	4.484	57.422	39.924	4.604	166.287

Cotton expansion, slavery, and local labor

Table: The Lancashire cotton famine and cotton expansion

	No. of slaves and blacks in free-headed HH		=1 if slaveowner free-headed HH		=1 if HH head farmer	
	(1)	(2)	(3)	(4)	(5)	(6)
Cotton area	0.028***		0.010***		0.026	
	(0.003)		(0.001)		(0.015)	
Cereals area	-0.000		0.000		0.000	
	(0.001)		(0.000)		(0.004)	
Other area	0.001		-0.000		-0.001	
	(0.002)		(0.001)		(0.007)	
Cotton yield		0.008***		0.003***		0.007**
		(0.001)		(0.000)		(0.003)
Cereals yield		0.000		0.000		-0.000
		(0.000)		(0.000)		(0.001)
1868	-0.001	-0.012	0.004	0.005	-0.273***	-0.253***
	(0.024)	(0.039)	(0.006)	(0.012)	(0.091)	(0.072)
HH controls?	Yes	Yes	Yes	Yes	Yes	Yes
District FE?	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	19	21	19	21	19	21
Obs	4174	4746	4174	4746	2927	3310
R^2	0.106	0.104	0.149	0.141	0.110	0.107

B. Technical differences between cotton and wheat

Why did the cotton famine increase demand for labor?

- Labor intensity of cotton: Yes
- Landholders' optimism about the future world demand for cotton: Yes
- Transfer of cotton production technology: Possible
- Increasing returns to scale: No
- Relative productivity of women and children: No
- High turnover cost: No

C. Inter-landholder differences in wealth and state power

- Area headmen were wealthier than landholding farmers.
- Owners of large estates possessed coercive power over local labor.

Outline

Conclusion

- This paper analyzed the impact of export booms on labor coercion, using a natural experiment from 19th-century rural Egypt: The Lancashire cotton famine in 1861−1865.

- The cotton famine increased both labor coercion (slavery by area headmen and landholding farmers, and confiscation of areas by owners of large estates), and non-coercive employment of local labor (occupational shift).

- Opens new areas of research:
  - Trade and transfer of institutional arrangements: When can trade enhance welfare and when it can reduce it (at least for a segment of the population)?
  - Transition from labor coercion and self-employed landholders to wage labor in agriculture.
  - Impact of trade on the introduction of private property rights on land.