Abstracts of Accepted Papers

Reducing Moral Hazard at the Expense of Market Discipline: The Effectiveness of Double Liability before and during the Great Depression

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In this paper, we study the effectiveness of double liability as a regulatory tool for reducing bank risk and a safety net for protecting depositors. We begin by providing a simple model that characterizes two competing effects of double liability on bank risk-taking. We first develop a model that demonstrates two competing effects of double liability: a direct effect that constrains bank risk-taking due to increased skin in the game (Esty (1998), Grossman (2001), Mitchener and Richardson (2013), Koudijs and Salisbury (2016)), and an indirect effect that promotes risk-taking due to weaker monitoring by better protected depositors (Calomiris and Kahn (1991), Diamond and Rajan (2001)). The model predicts that while double liability unambiguously makes deposits stickier when negative information is revealed (i.e., less ex post deposit outflow), its overall effect on ex ante risk-taking is unclear. To our knowledge, this tradeoff between the direct effect reduced and the indirect effect of weaker market discipline has not been explored in the literature.

This theoretical ambiguity suggests that the effectiveness of double liability is ultimately an empirical question. We test the model's predictions using a novel identification strategy that compares state fed-member banks and national banks in New York and New Jersey. In order to identification difficulties due to differences in local economic conditions, regulation, supervision, and other unobservable characteristics, we use a novel identification strategy based on the unique regulatory environment prior to the Great Depression.

By limiting our focus to national and state fed-member banks — which faced the same regulatory requirements as national banks — we control for regulation. However, national and state fedmember banks are not directly comparable because the Office of the Comptroller of the Currency (OCC) supervised the former, while the Federal Reserve Bank of New York (NY Fed) supervised the latter. Further, observed differences between the banks in New York and New Jersey could result from supervision and other unobservables due to differing charter types rather than liability structure. We follow a differences-in-differences style specification in which we compare differences between national and state fed-member banks in New York (with the same liability structure) to differences between national and state fed-members banks in New Jersey (with different liability structure); Our identification assumption is that differences in bank risk taking or deposit outflows that result from differences in bank charter types are the same in these two neighboring states. Lastly, we compare national and state fed-member banks within the same county to more tightly control for local economic conditions.

We find no evidence that double liability reduced bank risk-taking prior to the Great Depression, but do find evidence that deposits in double liability banks were stickier and less susceptible to runs during the Great Depression. Our findings suggest that the banking system was inherently fragile under double liability because of the tradeoff between shareholder incentive alignment and depositor market discipline; the depositor protection feature of double liability reduced the threat of funding outflows and may have undermined its effectiveness as a regulatory tool for reducing bank risk.

The Role of Universities in Local Invention: Evidence from the Establishment of U.S. Colleges
Michael Andrews, Northwestern University

I exploit historical natural experiments to study how establishing a new college affects local invention. Throughout the nineteenth to the mid-twentieth century, many new colleges were established in the U.S. I use data on the site selection decisions for a subset of these colleges to identify ``runner-up'' locations that were strongly considered to become the site of a new college but were ultimately not chosen for reasons that are as good as random assignment. The runner-up counties are similar to the winning college counties along observable dimensions. Using the runner-up counties as counterfactuals, I find that the establishment of a new college caused 43% more patents per year in college counties relative to the runners-up. I next merge the patent data to rich individual-level datasets to determine the relative importance of several channels through which colleges can cause these additional patents. The first individual-level dataset is a novel collection of historical college yearbooks that contain the names of college alumni and faculty. Matching these names to the patent record, I document that alumni of a particular college account for only about 3% of the additional patents in that college's county. College faculty account for roughly 1% of the additional patents. The second dataset is the 100% U.S. federal decennial population censuses, which I use to determine whether patentees were living in college or runner-up counties at the time the college is established or if they migrated after the fact. Patents by individuals who were present in college counties at the time the school was established, and thus are affected only knowledge spillover channels, account for about 1.4% of the additional patents. By the far the largest channel through which colleges affect patenting is by driving migration: depending on how migration is accounted for, it explains 15-85% of the increase in patenting in college counties relative to the runner-up counties. Finally, I test whether colleges are better at promoting invention than other policies that lead to similar increases in population. To do this, I compare counties that receive a college to counties that receive another state institutions, such as a prison, hospital, or asylum, at the same time. Both population and patenting grow very similarly in the college counties and the counties with other institutions. I thus conclude that, while establishing a new college does increase patenting, most of this is driven by population rather than the direct effects of the college, and moreover other types of institutions are just as effective at increasing population and patenting.

Reconstruction Aid, Public Infrastructure, and Economic Growth
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This paper studies the effects of international reconstruction aid on long-term economic growth. Specifically, it uses evidence from the Marshall Plan in Italy to estimate the effect of the reconstruction and modernization of public infrastructure on a wide array of economic outcomes.

We first collected and digitized new data on the quantity of Marshall Plan aid received by each Italian province between 1948 and 1952. We then combined this dataset with province-level industrial and economic outcomes digitized from the Industrial Census, the Population Census, the Annals of Agricultural Statistics, and official lists of patents issued by the Italian Patent Office. Finally, we matched these sources with granular data on Allied bombings compiled by the US Air Force.

We estimate the causal effects of the Marshall Plan aid by exploiting the geographical distribution of Allied bombings in Italy during the last stages of World War II (March 1944-April 1945). Specifically, we instrument the amount of reconstruction grants received by each Italian province with the amount of bombings dropped by Allied forces against the invading Nazi troops. This variable has two features that make it suitable to be a good instrumental variable. First, the Allies dropped these explosives when Italy had already quit the war by signing

the Armistice of Cassibile (September 3, 1943). The geographical distribution of these air attacks, therefore, mostly followed the land battles between Allied and German troops on the Italian soil, which were plausibly not correlated with other factors (such as prewar economic conditions) that might have affected postwar growth. Second, some of the preferred targets were railways and roads, because many of these bombings intended to stop reinforcements and supplies from Germany. By targeting public infrastructure, these air attacks drew a large amount of reconstruction grants from the Marshall Plan.

We find three main results. First, in provinces that received more grants, industrial and agricultural outputs increased more after the disbursement of reconstruction grants. Second, growth in industry and agriculture had different characteristics. The Italian industry experienced the entry of many new firms and an expansion of its labor force. The agricultural sector, instead, increased production, but sustained a stark decrease in labor force. Third, the adoption of newer technologies increased disproportionately in provinces with more grants and higher growth. In agriculture, for example, we observe a larger increase in the use of general-purpose tractors in provinces that received more international aid. Similarly, firms and individuals in provinces that received more grants started developing more patents.

Did provinces with more bombings during the Italian Campaign merely recover faster from WWII? Or did they experience a larger economic expansion? We find that most outcomes surpassed their pre-war levels between 1952 and 1971 (the second Census available after the conclusion of the Marshall Plan in 1952).
Finally, we leverage detailed data on the projects funded through the Marshall Plan to draw a tighter connection between international aid and growth. Compared with railways, roads are correlated with a larger increase in economic outcomes.

The Road to the Urban Interstates: A Case Study from Detroit
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Where are highways built and how do they affect cities? I examine the political economy behind site selection for urban segments of the US Interstate Highway System (IHS) and measure the subsequent effects on local outcomes in the city of Detroit. After a 30-year planning period, Congress passed the Federal Aid Highway Act of 1956 which initiated large-scale construction of the IHS. Sixteen percent of the 41,000-mile network was constructed within urban areas. The purpose of the urban segments was to connect cities' central business districts to the national system, to facilitate national defense, and to alleviate acute, post-War transportation problems. Yet construction imposed tremendous financial and social costs on American cities and we know little about the within-city effects of construction on urban neighborhoods.

I use the city of Detroit in a case study framework to provide quantitative answers to two questions. First, how did policymakers determine the location of urban interstate routes? While the US federal government was heavily involved in locating *inter*-city routes, mapping *intra*-city routes was left to state and local officials. Previous literature in the social sciences examines the intimate relationship between interstate planning and macro events of the post-War era to identify three prominent hypotheses of interstate placement within cities. Using variation at the census tract level, I show that property values drove site selection for constructed interstate routes. Even when conditioning on competing motivating factors – including race and measures of the housing stock – property values dominate. The empirical evidence suggests that policymakers targeted neighborhoods with low property values *per se* to minimize the costs of acquiring land for construction and future losses to the city's tax base.

The second question I address pertains to the within-city effects of the interstates. More specifically, how did urban interstate construction affect local neighborhoods in the city of Detroit? I build a geographically-consistent dataset over time to assess the extent to which urban interstate construction affected a tract's population density, percentage of black residents, and property values in both the short-run (1970) and long-run (1990). Results indicate that interstate construction within a tract leads to a short-run decrease in

population density and percentage of black residents by 10% and 12%, respectively. Both effects diminish in magnitude and significance over time, and by 1990, I cannot conclude that the interstate effect is different from zero. Taken together, these findings suggest that individuals displaced by interstate construction were relocated outside of urban interstate tracts and that Blacks were disproportionately affected. In the long-run, I find a strong negative effect of interstate location on a census tract's median property values. By 1990, median property values in interstate tracts were 16% lower, on average, compared to non-interstate tracts. Results are consistent with the *disamenity* value of living in close proximity to the urban interstates that grow in both magnitude and significance over time.

Genes Versus Culture in Social Outcomes. A Lineage Study of 263,526 English Individuals, 1750-2018
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In this paper we utilize a lineage of 263,500 English individuals born 1750-2018 with rare surnames where we know all familial connections, and for a subset of individuals also a set of social outcomes: wealth at death, occupation, attainment of higher education qualifications, schooling when observed aged 11-20, lifespan, and house value 1999. Because the lineage spans nine generations we observe people as distantly connected as 5th cousins, who share only a great-great-great-great grandfather.

Social status is transmitted very strongly across generations, and in a very distinctive pattern. The correlation in traits between parent and child is modest at 0.2-0.6, and varies across attributes. But for each subsequent generation that correlation declines by only a factor of .8, so that people still have significantly connected social status after 4 or 5 generations.

We show in the paper that a cultural model of transmission of status has different implications for the correlation of status across different relatives in the lineage than would a genetic model. Thus where b is the underlying long run correlation, and θb the short run first generation correlation, the predicted patterns are

	Cultural Transmission	Genetic Transmission
Parent	θb	θb
Sibling	θ	θb
Uncle/Aunt	θb	θb^2
Grandparent	θb^2	θb^2
Cousins	θb^2	θb^3
Great Grandparent	θb^3	θb^3

We show also that the observed correlations between siblings and between uncles and nephews are completely consistent with genetic transmission, but not with cultural transmission. Siblings show the same correlation as do parent and child. Uncles are less correlated than fathers to children. Indeed we find that genetic transmission in general predicts all the correlations well.

We also show that attempts to modify a cultural transmission model to fit the observed pattern of correlations cannot reproduce the observed patterns.

However, the genetic explanation faces its own challenges. To be consistent with the 0.8 rate of persistence of correlations across multiple generations, mating has to be highly assortative, with a correlation between spouses in the relevant genetics of 0.6. We find, however, evidence of exactly such assortment.

Genetic transmission also has the implication that family environments have little effect on child outcomes. We can test this also with the lineage data since for marriages 1780-1880 family size was almost entirely a random draw. In this interval we find small negative effects of larger families, and no effect of birth order, even though completed family sizes varied from 1 to 18 in our data. It also implies that grandparents play no causal role in grandchild outcomes. We confirm this by showing that grandparents dead at time of grandchild birth contribute as much additional information on grandchild outcomes as do live ones.

Thus social status, at least within English society in the last 250 years, has a surprisingly important genetic underpinning.

Workplace Diversity and Black-White Social Relations

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In this paper I use county-level Census data for the U.S. South combined with military records from WWII to show that counties with higher wartime casualty rates among semi-skilled whites saw a substantial skill upgrade of black workers from low- to semi-skilled jobs. This exogenously increased the exposure of these two groups at work. Using survey data from the South in 1961, IV results show that the casualty induced skill upgrade of blacks and the associated increase in inter-group workplace exposure have positive effects on black-white social relations with respect to interracial friendships, living in mixed-race areas, or attitudes towards integration.

Booms and Busts in Housing Markets: Prices and Turnover in Amsterdam, 1582-1810

Matthijs Korevaar, Maastricht University

Booms and busts in housing markets tend to be accompanied by four puzzling features. House prices typically display short-term momentum in prices, a positive price-turnover relationship, excess volatility of prices relative to fundamentals, but reversion over the longer run. Although these features have been documented in many countries around the globe, their causes are still debated. This paper contributes to this debate by introducing a new approach to study housing booms and busts: the analysis of historical markets based on detailed archival micro-data. First, I describe the characteristics of the historical Amsterdam housing market and construct a new annual house price (1625-1810) and turnover index (1582-1810), based on more than 150,000 records of property transactions from the Amsterdam City Archives. Second, I combine these series with supplementary data to analyze the existence and dynamics of housing booms and busts in Amsterdam, with a focus on the price-turnover relationship. Last, I examine which existing theories are able to explain this relationship.

Despite its very different institutions; such as the absence of large-scale mortgage borrowing, fiscal benefits to home-ownership, or monetary policy; Amsterdam went through three large boom-bust cycles which were characterized by the same features as those in modern markets. This suggests, somewhat paradoxically, that booms and busts might be 'fundamental' to the nature of housing markets: although different booms and busts might each have different causes, they have occurred as far as historical data can stretch.

My empirical findings indicate there are three components that are possibly driving the price-turnover relationship in Amsterdam. First, turnover responds faster to changes in market conditions than house prices. This creates a lead-lag relationship between turnover and house prices, which is strongest at the two-year level.

Changes in turnover positively predict changes in house prices, while to a lesser extent house price changes negatively predict future turnover. Second, the price-turnover relationship gets significantly stronger in periods where properties are valued at losses. My findings suggest that in these periods, about half of the price-turnover relationship can be attributed to loss aversion. Third, the share of short-term investors increases significantly during the initial phase of a boom. This might reflect the presence of speculators that are attracted to the market by predictable price increases.

Slavery, Fiscal Capacity and Public Goods Provision in Brazil: Evidence from Rio de Janeiro and São Paulo, 1836-1912

Andrea Papadia, European Union Institute

This paper studies the effect of slavery on the development of fiscal institutions at the local level in Brazil. I focus on the two key Southeastern provinces/states of Rio de Janeiro and São Paulo and show that a high incidence of slavery in the 19th century was causally associated with lower public revenue and expenditure per capita and worse public goods provision at the municipal level in the early 20th century. In line with previous research, I find that standard regressions are largely inconclusive regarding the effect of slavery on developmental outcomes. This reflects serious challenges to causal inference due to measurement error and the fact that booming areas attracted large numbers of slaves and were also able to increase public revenues and expenditure. I overcome these issues by employing an instrumental variable strategy based on finely measured geographical indicators. I then use the location of immigrant settler colonies to investigate one of the potential channels through which slavery affected fiscal development. I find compelling evidence that slavery's impact on fiscal capacity was at least partially due to its negative influence on the establishment of foreign immigrants, who were a major force in the expansion of the public sector in Southeastern Brazil, where they settled en masse in the late 19th early and 20th century.

The findings of the paper speak to the literature on the determinants of long-term development. Much of the debate has been focused on identifying the ultimate cause of why some countries are rich and some are poor, with institutions and geography normally being on either side of the debate. However, it is becoming increasingly clear that both institutions and geography matter, that they can influence each other, and that each can matter more or less given a myriad of other circumstances. The findings of this paper are very much in line with these ideas. On one hand, they suggest that geography does matter, since, in addition to any direct effects of endowments on fiscal development, the allocation of slaves was determined at least in part by geographical features. On the other hand, the changing salience of geographical characteristics for the allocation of slaves across Brazilian municipalities was due to events unconnected to geography, namely the gradual decline and eventual abolition of slavery over the course of the 19th century. Moreover, the delayed settlement of some areas of the country - which led them to rely less on slave labor compared to equally endowed areas closer to the coast - was due to the late and slow diffusion of railways in Brazil, which, in turn, was mainly due to financial and political factors. In turn, these circumstances helped to shape local institutions. This demonstrates that endowments transform themselves into political and economic outcomes through complex and non-linear mechanisms and that the same endowments need not yield the same outcomes.

Economic Consequences of the U.S. Convict Labor System

Michael Poyker, University of California, Los Angeles

The United States has largest prison population in the world. More than half of the convicts are engaged in some form of convict labor, and inmates employed in prison industries convicts constituted 4.5% of the total U.S. manufacturing employment in 2005. They earn substantially below minimum wage, ranging from $0 to $4.90 per hour in state prisons. Such low labor costs may have externalities on the free labor.
Despite numerous examples of malevolent competition, no research has been done regarding possible effects

of how convict labor affects free labor. Contemporary public-policy literature considers convict labor being purely beneficial to the society (through rehabilitation of prisoners and alleviating budgetary expenses on corrections). Finally, U.S. prisons are built in economically depressed counties under the assumption that they will provide jobs in the local labor market.

I address previously unstudied question of how convict labor affects local-labor markets and firms that employ free labor by studying convict labor in XIX-XX century United States. Data on contemporary convict labor output is not available, and as prisons are strategically located in economically depressed areas it could confound the results. I use historical context when convict labor first appeared in 1870s. First, very detailed data is available. Second, the rule of prison-location was different – prisons were located in large urban areas to save money on transportation of prisoners. Third, the introduction of convict labor system was nation-wide movement uncorrelated with the local economic conditions.

I collected and digitalized archival data on U.S. prisons and convict labor camps to construct county-level exposure to convict labor in 1886-1940. I find a significant negative effect of convict labor on wage growth and manufacturing employment, and positive effect on patenting.

The magnitude of the convict labor output was enormous: for each manufacturing worker with an average annual wage of $242, there were at least $18 per worker of prison-made goods. Comparing counties at 25th and 75th percentile, the one more exposed to convict labor experienced 12.6% slower wage growth. In terms of contrafactuals, the introduction of convict labor in the 1870s accounts for 16% slower wage growth in 1880-1900 (7.2% wage growth at that time).

Competition with convict labor affected firms. Firms in affected industries couldn't compete with prison-made goods in terms of labor costs. Thus, they had to innovate-away in product-space or upgrade their technology to decrease costs or substitute labor with capital. I find that introduction of convict labor accounts for 6% of the growth in patenting in affected industries.

I also show effects of convict labor on other economic outcomes. Convict labor incentivized police to arrest more people. I show that counties more exposed to convict labor had higher incarceration rates and have lower intergenerational mobility in the long-run.

Overall papers findings may be important for the public policy literature regarding convict labor since convict labor may worsen local labor market outcomes, thus overshadowing any possible positive effects from rehabilitation or jobs provided by prisons.

"Loans For the Little Fellow:" Credit, Crisis and Recovery in the Great Depression
Sarah Quincy, University of California, Davis

The Great Depression is perhaps the most studied phenomenon in macroeconomics. Financial explanations center on bank failures and monetary policy through effects on banks' willingness to lend (Bernanke 1983; Calomiris and Mason 2003; Friedman and Schwartz 1963; Richardson and Troost 2009). Understanding how changes in credit led to the decline and recovery of the real economy requires measurement of bank loan supply which was unrelated to the health of the real economy at the onset of the Depression. In this paper, I employ a novel empirical strategy to assess the causal effect of loan supply shocks on economic growth during the Great Depression.

Specifically, I focus on differences in loan supply within California, which had few bank failures during the 1930's, but still suffered large losses in income and lending. One bank however, did not cut loans. Bank of

America, the third-largest bank in the United States at the time, was famous for its generous lending policies and determination to build the nation's first large branching network. Regulators, skeptical of the safety of branch banking, did not allow the bank to expand unchecked, and only haphazardly allowed it to open new branches. As a result, the bank's "monopolistic tentacles" did not systematically access new markets as it went from having branches in 45 cities in 1922 to 232 cities in 1929.

During the Great Depression, the Bank of America did not curtail lending to the same extent as other California banks. Instead, it continued to promote small business and household loans to its customers in an effort to get, as its advertising slogan went, "back to good times." Cities also did not differ in industrial structure or 1920's economic growth trends based on Bank of America branch status. I therefore treat 1929 Bank of America branch locations as having quasi-experimental exposure to higher levels of lending during the Great Depression.

Using newly-collected city-level annual economic and banking data, I trace out the evolution of economic activity during the 1930's as a function of local loan supply. California cities with Bank of America branches at the onset of the Great Depression had nine percent smaller contractions and thirteen percent stronger recoveries than those without a Bank of America branch in 1929. If credit insulated local demand from aggregate shocks in the 1930's, then higher loan supply should have increased demand for services, so cities with large service sectors should have the highest economic growth. However, if higher levels of lending translated into economic growth through the expansion of productive capacity, then manufacturing-oriented cities should have smaller declines and larger rebounds in economic activity. I test the relative strength of these channels and find that the recovery was strongest in cities with large manufacturing sectors. In contrast with work on the Great Recession, this indicates that firm, not household, credit drove differences in the real economy during the 1930's.

Banking on the Boom, Tripped by the Bust: Banks and the World War I Agricultural Price Shock

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This paper studies the interplay of bank lending and asset prices in a boom-bust cycle affecting U.S. farmland prices during and after World War I. Triggered by the wartime collapse of European agricultural production, a sharp increase in commodity prices spurred large gains in U.S. farmland prices supported by a substantial increase in farm mortgage debt. The boom was short-lived, however. European production recovered quickly after the war, driving down farm output prices and land values in the United States. Reduced farm incomes and land values triggered a wave of farm foreclosures and bank failures in the early 1920s.

Previous research found that credit availability contributed to rising farmland prices during the war years, both directly and by amplifying the impact of fundamentals on land prices. Here we focus on how banks responded to the boom and bust, how government policies affected those responses, and whether bank closures contributed to falling land values when fundamentals soured.

Restrictions on branching tied banks closely to their local economy, and many lacked the diversification or scale necessary to weather adverse shocks. We approximate local income shocks using a county-specific crop price index based on 11 major crops. We use balance sheet information for individual banks in 18 agricultural states to examine how rising prices affected the establishment of new banks and the portfolio decisions of existing banks, and to model the determinants of bank closures when crop prices fell.

We find that rising crop prices and farmland values encouraged entry of new banks and expansion of previously established banks. Deposit insurance amplified the effects of rising crop prices on bank loan volumes and risk, while higher minimum capital requirements deterred entry and dampened the impact of changes in crop prices on loan volumes and risk.

Falling crop prices reduced land values and caused a wave of bank closures in the early 1920s. Closure risk was higher for banks located in counties with large declines in land values, especially when preceded by large increases in land values. We also find that banks that had expanded rapidly during the boom or belonged to state deposit insurance systems were at greater risk of closing, as were smaller, newer banks with higher loans-to-assets, or lower capital-to-assets or liquidity-to-assets ratios.

We find that the banking system reinforced the impact of the agricultural price shock on farmland prices in both the boom and the bust. Locations with more state banks in 1910, or where banks expanded their lending more during the 1910s, saw larger increases in farmland values between 1910 and 1920. Further, we find that state bank closures had a depressing effect on farmland values. Thus, our research shows that banks can both be affected by, and contribute to, asset price booms and busts, and that banking regulations and policies can influence the feedback loop around such events.

Autocratic Rule and Social Capital: Evidence from Imperial China

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This paper explores the impact of autocratic rule on social capital–defined as the beliefs, attitudes, norms and perceptions that support cooperation. We focus on political repression–a distinguishing feature of autocratic rule–and investigate its role in China's autocratic resilience via the transformation of civil society. The unique historical shock we exploit provides novel evidence on the impact of autocracy on the fabric of society.

We examine a period during which the premodern autocratic imperial state came to be perfected. Following the Qing occupation of China in 1644, imperial China saw a new wave of political repression. Between 1660-1788, individuals in imperial China were persecuted if they were suspected of holding subversive attitudes towards the state. The intellectuals who played an important role in civil society, saw new restrictions imposed on their behavior and speech and were subjected to persecutions–known as literary inquisitions. We explore the impact of these persecutions on civil society.

We find that after a prefecture was exposed to a literary inquisition case, the number of charities in that prefecture fell by an average of 38 percent, relative to prefectures that never had a persecution, or prefectures that had not yet experienced a persecution. This suggests that there was a decline in successful collaborative efforts to set up charities in affected prefectures. Political repression permanently reduced social capital.

To explore these effects further, we first regress literary inquisitions on indicators of social capital today from the Chinese General Social Survey. Literary inquisitions consistently predict a lower level of generalized trust, but do not affect trust between family members.

Next we consider how lower social capital manifests itself when the provision of public goods was decentralized. In Qing and early Republican China, primary schools were provided by local communities. If the Qing persecutions affected the cultural values that sustained this cooperation (i.e. social capital), it would have had negative consequences for the provision of basic education.

We find that individuals born in the early 20th century were 5 percentage points less likely to be literate in prefectures that experienced persecutions. These results are not sensitive to controlling for historical shocks such as the Taiping Rebellion, the exodus to Taiwan following the Chinese Civil War, and the Cultural Revolution.

To establish causality, we construct two instrumental variables. The first IV exploits pre-existing levels of interactions between Manchus and Han Chinese as proxied for by a prefecture's distance to the pre-conquest

Manchu capital. The second IV is based on a prefecture's distance to the nearest base of the Manchu Eight Banner armies. The farther away a prefecture was from the Eight Banners, the more difficult for the Qing state to dispatch troops in the event of unrest.

Social capital should matter the most in places where public goods are provided locally and informally. We find that the effect of literary inquisitions on basic education is concentrated in the rural sample. Analyzing the impact of literary inquisitions by cohort, we find effects for all cohorts educated when educational institutions were decentralized.

Finally, we explore the question whether autocracy leads to more autocracy using a recent survey of political attitudes of Chinese national and the Chinese General Social Survey. We find that individuals in affected prefectures are less likely to engage in community affairs, more politically apathetic, but have more progressive political attitudes. One consequence of political repression is that the individuals who are more likely to support democratic reform, are less likely to be politically engaged.