

## *Abstracts of Papers Presented at the 2022 Annual Meeting*

### SESSION 1: SELECTION AND MIGRATION

#### *Explaining Gender Differences in the Selection and Sorting of Migrants: Evidence from Canada-US Migration*

This paper uses newly digitized border crossing records from 1906 to 1954 and US census data to study the selection and sorting of migrants from Canada to the United States. We exploit evidence on physical stature (height) to assess selection patterns in the absence of wage data. We find that Canadian women and men were positively selected on height. Our results show that sorting across destinations was notably gender-specific. Among single women, career possibilities, enclave effects, and destination marriage markets were important determinants of migrant sorting. These factors were less important for married women and unimportant for men.

DAVID ESCAMILLA-GUERRERO, *University of St. Andrews*,  
MIKO LEPISTÖ, *University of Helsinki*, and  
CHRIS MINNS, *London School of Economics*

#### *Return Innovation: Evidence from the English Migration to the United States, 1850–1940*

What drives the direction of innovation? In this paper we show that out-migration influences the production and direction of innovation in the country of origin of migrants. During the Age of Mass Migration (1850–1910) approximately 4 million English migrants settled in the US. Using detailed individual-level census data, we construct bilateral migration flows between English districts and US counties over time. We complement these with newly digitized English patent data, and a comprehensive dataset of historical US patents. We document a strong positive association between the field of innovation activity in US counties where English migrants settle, and that in their districts of origin. In ongoing work, we investigate the mechanism(s) behind this result. We speculate that migrants facilitate knowledge outflows between receiving and sending countries, influencing short- and long-run innovation dynamics.

DAVIDE COLUCCIA, *Bocconi University*, and  
GAIA DOSSI, *London School of Economics*

#### *Like an Ink Blot on Paper: Testing the Diffusion Hypothesis of Mass Migration, Italy 1876–1920*

Why were the poorer countries of the European periphery latecomers to the Age of Mass Migration? We test the diffusion hypothesis, which argues that mass emigration was delayed by a lack of exposure to migration networks, and that their geographic expansion in a process of spatial diffusion was the main factor that eventually unleashed mass emigration. We propose a network model of migration to formalize this hypothesis and to derive its testable predictions. Focusing on Italy, we construct a comprehensive commune-level panel of annual emigration data and show that the predictions of our

model are borne out in the data. Crucially, Italian mass emigration began in a few separate epicenters and expanded from there in an orderly pattern of spatial expansion, the epidemiology of which matches that predicted by our model. These findings strongly support the diffusion hypothesis as an explanation for the delayed migration puzzle.

YANNAY SPITZER, *Hebrew University of Jerusalem*, and  
 ARIELL ZIMRAN, *Vanderbilt University*

SESSION 2: WORLD WAR II

*Household Saving in World War II*

Household saving rates were extremely high during WWII, higher than during any other period since 1929. By the end of the war, Americans had accumulated substantial liquid assets, largely in the form of war bonds and deposit holdings. This paper seeks to provide a comprehensive account of household saving during WWII. Two-thirds of net private saving during WWII can be accounted for by war bond purchases and deposits in financial institutions. Household survey data shows that WWII veteran status had no systematic influence on asset accumulation. Wartime saving was systematically higher in counties that had more farm acreage and more war production, but lower in counties that had more manufacturing employment in 1939, suggesting that saving was highest in places where war production was large relative to initial manufacturing capacity.

GILLIAN BRUNET, *Wesleyan University*

*The Effects of the National War Labor Board on Labor Income Inequality*

During World War II, the United States federal government instituted an explicit policy of wage controls through the National War Labor Board with the aim of controlling inflation and discouraging labor mobility. These wage controls, which differed by industry, occupation, and geographic region, specified maximum allowable raises for those earning less than a certain level (the so-called “bracket”) and froze wages greater than that level. We find that higher brackets were associated with relative increases in inequality as measured by the p10-p90 and p25-p75 ratios between 1940 and all the way up to 1970 with no effects detectable from 1980 onward. These effects are concentrated in the left tail of the earnings distribution. A one standard deviation increase in the bracket relative to the 10th percentile of an occupation-region’s labor earnings distribution in 1940 reduces the change in the log 10–50 ratio in 1960 by 18 log points.

CHRIS VICKERS, *Auburn University*, and  
 NICOLAS ZIEBARTH, *Auburn University*

*Female Educational Attainment, Marriage, and Fertility: Evidence from the 1944 G.I. Bill*

To study whether educational attainment affects marriage and fertility choices in a historical setting, I rely on the variation in educational attainment among female WWII veterans created by the 1944 G.I. Bill. Using data from the long-form 1980 census, I

establish a causal effect of educational attainment on marriage and fertility outcomes among female veterans using age at the time of the G.I. Bill announcement as an instrumental variable. My estimates suggest that each year of G.I. Bill-induced educational attainment is associated with an 8 percentage point decrease in the probability of ever getting married, a 4.7-year increase in age at first marriage, and a 0.67 reduction in the number of children. Using age at the time of the G.I. Bill announcement as an instrument is valid because G.I. benefits could not have been easily anticipated, females had to be 21 to enlist, and the generosity of one's G.I. benefits depended on the number of years of WWII service.

CONOR LENNON, *University of Louisville*

### SECTION 3: HEALTH CAPITAL

#### *Worldwide Child Stunting since the Nineteenth Century*

This paper conducts a meta-analysis of 1,466 historical child growth studies to reconstruct child stunting rates, the share of children who are too short for their age, for 116 countries from the earliest date possible to the present. This data complements and extends the modern Joint Malnutrition Estimates database of country-level stunting rates, which begins in the 1980s. We find that many European countries had stunting rates similar to current LMICs at the turn of the twentieth century, but child stunting fell in the early twentieth century reaching very low levels before World War II. Stunting rates were also very high in Japan and Korea. However, stunting rates were surprisingly low historically in the European settler colonies, Eastern Europe and the Caribbean. Historical comparisons of child stunting add a new dimension to the historical health transition and allow for more direct historical lessons for the fight against stunting today.

ERIC SCHNEIDER, *London School of Economics*

#### *When Beer is Safer than Water: Beer Availability and Mortality from Water-Borne Illnesses in 19th Century England*

We investigate the impact of beer on mortality during the Industrial Revolution in England. Due to the brewing process, beer represented an improvement over available water sources during this period prior to the widespread understanding of the link between water quality and human health. Using a wide range of identification strategies to derive measures of beer scarcity driven by tax increases, weather events, and soil quality, we show that beer scarcity was associated with higher mortality, especially in the summer months where mortality was more likely to be driven by water-borne illnesses. We also leverage variation in inherent water quality across parishes using two proxies for water quality to show that beer scarcity resulted in greater deaths in areas with worse water quality. Together, the evidence supports the hypothesis that beer had a major impact on human health during this important period in economic development.

FRANCESCA ANTMAN, *University of Colorado, Boulder*, and  
JAMES FLYNN, *University of Colorado, Boulder*

*Mass Vaccination and Mortality: Evidence from the US's Experience with the 1954 Salk Vaccine Trial*

This paper studies how the Salk Vaccine Trial broadly affected public health during the 1950s and 1960s. The trial is the largest vaccine trial ever conducted and involved over 1.8 million child participants. This trial provided access to the inactivated polio vaccine (IPV), established vaccination programs in schools, and provided many parents with information about the safety and benefits of childhood vaccination. The trial also preceded a first-of-its-kind Federal intervention in vaccine provision and massive polio eradication effort. Using variation in trial participation across counties, I find that trial counties experienced substantial declines in both all-cause and infant mortality relative to alternative counties considered by organizers. These declines coincide with the availability of Federal funding for vaccine provision. Evidence from newspapers suggests that areas closer to the trials were more likely to host public vaccine clinics.

KEITH MEYERS, *University of Southern Denmark*

SESSION 4: BUILDING WEALTH IN THE USA

*Blockbusting and the Challenges Faced by Black Families in Building Wealth through Housing in the Postwar United States*

We quantify the impacts of blockbusting, i.e. large-scale racial turnover of urban neighborhoods in the postwar United States orchestrated by real estate professionals using aggressive and discriminatory practices. We first study individual-level data in a neighborhood of Baltimore, Maryland. We find that blockbusters charged an average markup of 45 percent when reselling properties. The foreclosure rate on mortgages or installment contracts that blockbusters arranged totaled 13 percent. Second, we analyze neighborhood-level outcomes in a panel of census tracts across cities. We find that blockbusting occurred in areas located near existing, Black-populated neighborhoods, and particularly in cities where in-migration was high during the Great Migration.

DANIEL HARTLEY, *Federal Reserve Bank of Chicago*, and  
JONATHAN ROSE, *Federal Reserve Bank of Chicago*

*Exploiting Minorities through Advertising: Evidence from the Freedman's Savings Bank*

This paper investigates how financial institutions can use advertising to exploit minorities. We do so through the lens of the Freedman's Savings Bank, established in 1865 after the Civil War as the first institution collecting deposits from recently freed African Americans. Despite management and governance issues, the bank successfully recruited depositors by promoting itself more than any other bank at this time. Using a comprehensive dataset of newspaper articles, we show that the bank's extensive advertising uniquely relied on false claims and racial stereotyping. This misleading advertising coupled with fraudulent lending led to a transfer of wealth from African Americans to white populations.

CLAIRE CELERIER, *University of Toronto*, and  
PURNOOR TAK, *London Business School*

*The Paradox of Slave Collateral*

As liquid financial assets, slaves have high liquidation value that makes them desirable as loan collateral. This paper highlights the dark side of their liquidity that makes it easier for borrowers to act at the lender's expense allowing them to evade repayment. Because slaves were mobile assets, borrowers could sell slaves to outside buyers, or they could move them beyond the reach of creditors. Mortgage and sales records indicate that lending against slave collateral entailed risk and limited their use as loan collateral. Our findings pose challenges to the prevailing narrative on slave backed credit.

RAJESH NARAYANAN, *Louisiana State University*, and  
JONATHAN PRITCHETT, *Tulane University*

## SESSION 5: ACCESS TO PUBLIC AND NATURAL RESOURCES

*Infrastructures of Race? Colonial Indigenous Zoning and Contemporaneous Urban Segregation*

We study the impacts of a colonial segregation policy on modern Mexican cities. The Spanish Kingdom segregated natives in settlements called "pueblos de indios". There were two types of settlements by the end of colonial times: pueblos with only indigenous inhabitants and pueblos with diverse-ancestry populations. To estimate the impacts of the successfully segregated pueblos on the blocks of modern cities, we combine an IV design with a spatial first differences approach to address selection and spatially correlated unobserved heterogeneity. We find that urban blocks closer to segregated pueblos have lower levels of education relative to blocks closer to pueblos with multi-ancestry individuals. The segregated pueblos do not lead to modern agglomerations of the indigenous population. We document that mestizo individuals with darker skin tones agglomerate around pueblos with successful segregation.

LUIS BALDOMERO-QUINTANA, *College of William and Mary*,  
ENRIQUE DE LA ROSA-RAMOS, *King's College*, and  
GUILLERMO WOO MARA, *Paris School of Economics*

*Effects of Raising Minimum Housing Standards: Evidence from the Tenement House Act of 1901*

From 1900 to 1930, neighborhoods in New York's city center experienced increases in average income and socio-economic status. I show that the imposition of minimum housing standards, namely the Tenement House Act of 1901, improved children's health and increased the proportion of middle-class residents (as opposed to laborers) in initially poor neighborhoods. I identify treatment by exploiting the filing deadline for a tenement to be considered a pre-existing building under the Act. Individual-level analysis points to sorting as an important mechanism for the observed positive outcomes. Nevertheless, exploiting variation in children's ages when the Act was introduced, I estimate that a child's ten-year survival rate increases by about 0.5% per year of exposure to the Act. The direct effect of tenement house legislation on incumbent residents is estimated to account for 54% of the total observed increase in children's survival rates in treated neighborhoods.

QINGYANG SHEN, *University of Toronto*

*Beggar Thy Neighbor: Strategic Resource Depletion and Environmental Outcomes for Water Quality*

Do legal processes for allocating rights impact a resource's use and quality? In this paper I study how the process of resolving property rights affects resource use and externalities in the interim, and after resolution. I show that negotiating for American Indian water rights in the western United States is associated with increases in pollution during negotiation (even after controlling for water use). These increases are most pronounced for pollutants related to increased human or agricultural development, and impacts are concentrated upstream and on reservations. I also find that once rights are settled, water use increases (evidenced by streamflow changes) and pollution declines, illustrating key predictions of the property rights literature that defined allocations help to mitigate pollution externalities. In addition, tribes that negotiate for non-consumptive environmental flow rights seem to further mitigate a portion of the previous pollution increases once rights are settled, with effects also concentrated in upstream and on-reservations areas.

Laura Davidoff Taylor, *California Institute of Technology*

SESSION 6: POLITICAL ECONOMY OF DIVERSITY

*Within-Group Heterogeneity in a Multi-Ethnic Society*

Is ethnic diversity good or bad for economic development? Most empirical studies find corrosive effects. In this paper, I show that ethnic diversity need not spell poor development outcomes' history of within-group heterogeneity can turn ethnic diversity into an advantage for long-run development. I collect new data on a natural experiment from Peru's colonial history: the forced resettlement of native populations in the 16th century. This intervention forced together various ethnic groups in new jurisdictions. Where colonial officials concentrated individuals from more heterogeneous ethnic groups, working in complementary climates of the Andes prior to colonization, ethnic diversity has systematically lower costs and may even become advantageous. Neither pre-colonial groups' political complexity nor their degree of economic development explain this result. The transmission of prosocial behavior is one likely channel.

Miriam Artiles, *Pontificia Universidad Catolica de Chile*

*African Political Institutions and the Impact of Colonialism*

The nature of African political institutions before and during colonial rule is subject to considerable debate. We provide a new perspective stressing the historical prevalence of political constraints and their persistence under colonial rule. By assembling new data on local institutions during the pre-colonial and colonial periods, we demonstrate that pre-colonial institutions were heterogeneous, but possessed a wide range of constraints on rulers. These were mirrored in the structure of colonial institutions around 1950, when local institutions across most of British Africa possessed influential councils. Our evidence does not support the hypothesis that either pre-colonial or local colonial institutions are

the source of “despotism” in post-colonial Africa. More likely, the creation of arbitrary states made it difficult to aggregate heterogeneous local institutions of accountability into legitimate national institutions which would have constrained potential dictators.

JUTTA BOLT, *Lund University*,  
LEIGH GARDNER, *London School of Economics*,  
JENNIFER KOHLER, *London School of Economics*,  
JACK PAINE, *University of Rochester*, and  
JAMES ROBINSON, *University of Chicago*

*(Un) principled Agents: Monitoring Loyalty after the End of the Royal African Company Monopoly*

The sudden revocation of the Royal African Company’s monopoly in 1698 marked a foundational moment in corporate history and inaugurated a structural transformation of the transatlantic slave trade. While the RAC’s gradual exit from slave trade has received ample scholarly attention, little is known about the company’s “real time” response to the loss of its exclusive trading privileges, which raised overall competition and exacerbated the company’s principal-agent problems on the West African coast. We conduct the first in-depth analysis of the company’s behavior in the early post-monopoly period, exploiting a unique series of 359 instruction letters that the RAC issued to its slave-ship captains between 1686 and 1706, coding each individual command in the letters. Our “captain-instructions” database reveals new insights into the company’s response to its upended competitive landscape.

MARLOUS VAN WAIJENBURG, *Harvard Business School*, and  
ANNE RUDERMAN, *London School of Economics*

SESSION 7: ECONOMIC DEVELOPMENT IN ASIA

*The Short- and Long-Run Effects of Affirmative Action: Evidence from Imperial China*

We use a difference-in-differences framework to study the effects of affirmative action policies in the setting of imperial China. Imperial China used an examination system to select government officials. We examine a policy reform in 1712 aimed to lower inequality in access to exams and government jobs. The reform equalized acceptance rates across the provinces, allowing individuals from underrepresented provinces to pass the exam with lower scores. The reform led to an increase in successful candidates in underrepresented provinces, whose academic and career outcomes also improved over time. We find that such gains were concentrated among individuals in prefectures with the greatest advantage in imperial exams prior to the reform, resulting in growing inequality within the provinces. Divergent trends between prefectures persisted decades into the reform but were mitigated in prefectures where candidates received travel subsidies.

MELANIE MENG XUE, *London School of Economics*, and  
BOXIAO ZHANG, *University of California, Los Angeles*

*Vent-for-Surplus in Southeast Asian Development since 1870*

This paper develops a new vent-for-surplus model to analyze Southeast Asia's two phases of rapid export-led growth. During the first, from 1870 to 1929, international trade provided the 'vent' to utilize land and labour surpluses in the production of primary commodities. Intra- regional exchange both allowed and created specialization. A second growth phase from 1970 depended on exporting manufactures and vented labour surpluses through trade or its substitute of emigration. Western markets and regional integration again drove growth, transforming Southeast Asian countries from agricultural to predominantly industrial. This time, Southeast Asian development depended on integration with markets in the West but, crucially, also on supply chains within the region. By incorporating regional integration into a formal framework, the model can explain the reality of Southeast Asia's growth and extreme commodity specialization. In both phases, trade served as the growth engine, but in neither was technical change the chief expansionary source.

GREGG HUFF, *University of Oxford*

*The Cultural Origins of Family Firms*

What determines the prevalence of family firms? In this project, we investigate the role of historical family culture in the spatial distribution of family firms. Using detailed firm-level data from China, we find that there is a larger share of family firms in regions with a stronger historical family culture, as measured by genealogy density. The results are further confirmed by an instrumental variable approach and the nearest neighbor matching method. Examining the mechanisms, we find that entrepreneurs in regions with a stronger historical family culture: i) tend to have family members engage more in firms; ii) are more likely to raise initial capital from family members; iii) are more willing to pass on the firms to their children. Historical family culture predicts better firm performance partly due to a lower leverage ratio.

JIAN XIE, *University of Warwick*, and  
SONG YUAN, *University of Warwick*

## SESSION 8: IDENTITY AND SEGREGATION

*Choosing Racial Identity in the United States, 1880–1940*

This paper documents that a substantial minority of African American men experienced a change in racial identity to white during 1880 to 1940, while analogous changes were negligible for white men. We provide descriptive evidence that is consistent with the conventional wisdom that "passing" for white was a response to severe discrimination, and came at great personal cost. The findings suggest that contrary to traditional economic thinking, racial identity is neither entirely exogenous nor fixed over the lifetime, and responds to incentives.

RICARDO DAHIS, *PUC-Rio*,  
EMILY NIX, *University of Southern California*, and  
NANCY QIAN, *Northwestern University*

*Linguistic Segregation in the United States, 1900–1930*

While racial and ethnic-origin segregation has been extensively studied in the United States, there is no prior research on how Americans were segregated by language use. Despite most Americans speaking English in the early twentieth century, in some areas of the country significant minorities spoke other languages exclusively or maintained facility in both English and another language. Prior to the restriction of immigration in 1924, there was significant concern and political debate about immigrants and their descendants who did not speak English, with repeated attempts before 1920 to ban the admission of immigrants who could not demonstrate some competency in English.

ISABELLA OU, *University of Minnesota*, and  
EVAN ROBERTS, *University of Minnesota*

*Origins of a Violent Land: The Role of Migration*

There is substantial variation in violent crime rates across the US - can cultural differences explain this? Several theories have focused on the culture of violence brought over by 18th-century Scots-Irish immigrants, a group that primarily settled in the South. The theories posit that the Scots-Irish passed on their culture to later generations of southern whites who, in turn, passed these traits to blacks, before the latter brought the culture of violence to the rest of the country during the Great Migration. My paper seeks to bring empirical evidence to bear on these hypotheses. I find evidence for an intra-race transmission of culture, but not for an inter-race or an inter-region transmission.

HUI REN TAN, *National University of Singapore*

## SESSION 9: RELIGION AND STATE CAPACITY

*Praying for Rain: The Climate as a Determinant of Religious Belief*

We study the climate as a determinant of instrumental religious belief. People believe when religious authorities (the “church”) can credibly intervene in nature on their behalf. We present a theoretical model in which nature determines the process of rainfall over time and the church chooses when optimally to pray to persuade people that prayer caused the rain. We present evidence from over 200 years of prayers for rain in Murcia, Spain, that the church followed such an optimal policy and that its prayers are therefore highly predictive of rainfall. In our model, prayer is only credible if the hazard of rainfall after a dry spell is increasing over time. We test this prediction in a newly-gathered data set of whether ethnic groups around the world traditionally prayed for rain. We find that prayer for rain is widespread and rainfall hazard predicts historical prayer consistent with our model.

JOSE ESPIN-SANCHEZ, *Yale University*,  
SALVADOR GIL-GUIRADO, *University of Murcia*, and  
NICHOLAS RYAN, *Yale University*

*The Quest for Bureaucratic Efficiency: Sweden's Rise and Fall as an Empire*

In this paper we will provide some new figures and comparisons on Sweden's long run fiscal and political path. In addition, we argue that a focus on revenue collection alone, which has been a fairly standard practice in recent literature, can be misleading and that it is important to not only look at the spending side and credit, but also what countries were able to get for that spending, i.e., the bang for the buck (=state efficiency). After all, it is possible that some states could produce more military capacity with less money, due to a more effective bureaucracy, increased industrial capacity (or otherwise more versatile economy), or lower production costs of military equipment. These considerations will hopefully be more widely taken into account in subsequent analyses of the European (and non-European) warfare states.

JARI ELORANTA, *University of Helsinki*,

PETRI KARONEN, *University of Jyväskylä*,

HENRIC HÄGGQVIST, *Uppsala University*, and

JEREMY LAND, *University of Helsinki*

*Taxes, Religion and Nationalism: Evidence from Six Centuries of Bosnian History*

While economic historians have invested a great deal of effort into understanding the economic consequences of religion, they have invested relatively less effort into understanding the determinants of religious affiliation. This paper examines the determinants of conversion to Islam in the Ottoman Bosnia. Employing village-level data constructed from the Ottoman tax registers of 1468 and 1604, we find that households in the initially poorer villages were more likely to convert to Islam. This finding is consistent with the notion that the poll-tax that non-Muslims had to pay stimulated the poorer Christians to convert to Islam. Using a stream of population censuses, we also find that our results hold after the end of the Ottoman rule and its discriminatory tax in 1878. We hypothesize that one reason for this persistence is that religious identity became embedded into the rising national consciousness during the nineteenth century, increasing the cost of changing religion.

LEONARD KUKIC, *Universidad Carlos III de Madrid*, and

YASIN ARSLANTAS, *Anadolu University*

## SESSION 10: WOMEN IN ECONOMIC HISTORY

*Home Economics and Women's Gateway to Science*

Why does the share of women vary widely across STEM majors? Women make up a large share of majors in biology and chemistry, but only a small share of physics and engineering majors. We propose a historical explanation: early 20th century college home economics introduced women to some scientific fields, but not others. Using novel data from college course catalogs, we quantify how science-heavy home economics was. We then document a contemporaneous relationship between home economics and science programs using two datasets: panel data from historical college yearbooks and

cross sections from Commissioner of Education reports. We exploit the relationship between male agricultural education and home economics to construct an instrument for the relative size of home economics programs and argue that the observed relationship is likely causal. Finally, we document that historical home economics predicts the share of women studying biology in years since 1965.

MICHAEL ANDREWS, *University of Maryland, Baltimore County*, and  
YILING ZHAO, *Peking University*

*Gender and Justice: Women's Participation, Settlement, and Victory  
in Ottoman Courts*

We study gender's effect on justice in Ottoman courts by analyzing differences between men and women in court participation, dispute settlement, and litigation victory. The data come from the early nineteenth century registers of the Galata and Üsküdar courts in Istanbul and the Konya and Kütahya courts in the provinces. The findings show that although the legal disputes between men dominated the courts, women were involved in about thirty percent of cases. Gender's effect on settlement decisions varied across courts and case-types. In litigation, women were less likely than men to win as plaintiffs. Mediation analysis shows that about thirty to seventy percent of the gender gap in plaintiff victory can be attributed to differences in evidence use during trial (witness testimony, written documents, legal opinions).

METIN COSGEL, *University of Connecticut*,  
HAMDI GENÇ, *Medeniyet University*,  
EMRE ÖZER, *Medeniyet University*, and  
SADULLAH YILDIRIM, *Marmara University*

SESSION 11: PERSPECTIVES ON UKRAINE AND RUSSIA

*Catching-Up and Falling Behind: Russian Economic Growth from the 1690s  
to the 1880s*

GDP per capita at decadal frequency is estimated for Russia from the 1690s to the 1880s. Although Peter the Great's reforms ushered in a period of positive growth between the 1710s and 1760s, this was followed by a period of negative growth between the 1760s and 1800s as population growth outstripped the ability of agriculture to maintain per capita food supply. GDP per capita then stagnated between the 1800s and 1880s, including the years after the 1861 abolition of serfdom. Although large-scale industry grew more rapidly than the rest of the economy, it was starting from a low base and the economy continued to be dominated by the slow-growing agriculture, small-scale industry and services. Russian economic growth before the 1760s resulted in catching-up on the West, but this was followed by a period of relative decline, leaving mid-nineteenth century Russia further behind than at the beginning of the eighteenth century.

STEPHEN BROADBERRY, *University of Oxford*, and  
ELENA KORCHMINA, *University of Southern Denmark*

*Landed Elite and Expansion of Primary Schooling in Imperial Russia*

The paper investigates the role of large noble landowners in primary education development during 1880–1894 and its subsequent expansion in the 1900s. The cross-section estimates show a statistically significant and negative link between noble land concentration and education before Russia’s industrial spurt (1880–1894). The magnitude of the estimated coefficient is economically meaningful - one standard deviation increase in land concentration would result in 0.1 standard deviation decrease in schooling enrolment rate. Furthermore, I use a state-sponsored subsidy program launched in 1905–1907 as a schooling supply shock showing that areas with a historical prevalence of large landownership exhibited a higher increase in educational demand over 1880–1911, conditioning on schooling capacity. This result indicates the importance of the educational demand constraints imposed by landed elites.

VIKTOR MALEIN, *University of Southern Denmark*

*The Long-Term Consequences of the 1932–33 Famine: Evidence from Post-Soviet Ukraine*

The Soviet famine of 1932–33 was accompanied by a set of collectivist policies that aimed at changing the social structure in rural areas and eliminating characteristics valued in market economy. Some policies, in particular those applied to blacklisted communities, were repressive. Blacklisting was extensively used in Ukraine. In this project, I examine how the socioeconomic outcomes in Ukrainian villages during transition from planned to market economy (60–70 years after the famine) differ depending on the blacklisting status of their territory in the 1930s. For this purpose, I georeferenced the lists of blacklisted communities constructed by historians that have not been previously examined empirically. To identify the causal effect of blacklisting I exploit the random variation in blacklisting status due to adverse weather conditions.

VITALIYA YAREMKO, *University of California, Berkeley*

## SESSION 12: INDUSTRIALIZATION, PRODUCTIVITY, AND EMPLOYMENT

*Changing Returns to Scale in Manufacturing 1880–1930: The Rise of (Skilled) Labor?*

This paper estimates returns to scale for manufacturing industries around the turn of the twentieth century in the United States by exploiting an industry-city panel data for the years 1880–1930. We estimate decreasing returns to scale on average over the period, contrary to most of the existing literature, because our empirical methodology allows us to separate returns to scale from “agglomeration” effects. We also find that returns to scale grew substantially after 1910, mostly because the return to labor grew. We find that this was more marked in industries that were more intensive in human capital and energy at the beginning of the period and in cells that were less competitive. Overall, results suggest that technological change and lack of initial competition played relevant roles in the rise of larger establishments in manufacturing.

JEANNE LAFORTUNE, *Pontificia Universidad Catolica de Chile,*

ETHAN LEWIS, *Dartmouth College,*

JOSE PABLO MARTINEZ, *Pontificia Universidad Catolica de Chile,* and

JOSE TESSADA, *Universidad Catolica de Chile*

*Impacts of the Clean Air Act on the Power Sector from 1938–1994: Anticipation and Adaptation*

We digitized data on the operations of virtually every fossil-fuel power plant from 1938–1994 to examine the impacts of the 1970 Clean Air Act (CAA) on the power sector. This unique long panel provides an extended pre-regulation benchmark, allowing us to account for anticipatory behavior by electric utilities in the years prior to the Act's passage. The CAA caused large and persistent decreases in output and productivity, but only for plants built before the original 1963 CAA, which primarily signaled impending federal regulation. The reallocation of output away from older plants significantly mitigated the aggregate productivity losses from the CAA.

KAREN CLAY, *Carnegie Mellon University*,  
AKSHAYA JHA, *Carnegie Mellon University*,  
JOSHUA LEWIS, *University of Montreal*, and  
EDSON SEVERNINI, *Carnegie Mellon*

*Free-riding the Yankees: Manufacturing Productivity in Canada before and after the Panama Canal*

We study the impact of the Panama Canal on the development of the manufacturing sector of Canada from 1910 to 1939. We use newly digitized county-level data from the Census of Manufactures, a market access approach, and exploit the plausibly exogenous nature of this historical episode to study how changes in transportation costs affect the location of economic activity and productivity dynamics. Our reduced-form estimates show that lowered shipping costs led to greater market integration of marginally productive counties with key markets both inside and outside of Canada. This development enabled the reallocation of productive activity to places whose production level was, otherwise, inefficiently low. Manufacturing revenues and productivity increased by 16% in counties that observed a 1 standard deviation increase in market access. These results suggest that the Canal substantially altered the economic geography of the Western hemisphere in the first half of the twentieth century.

SEBASTIÁN GALIANI, *University of Maryland*,  
LUIS JARAMILLO, *University of Maryland*, and  
MATEO URIBE-CASTRO, *Universidad del Rosario*

SESSION 13: MOBILITY

*Marriage and the Intergenerational Mobility of Women: Evidence from Marriage Certificates 1850–1910*

The literature finds a high degree of economic mobility for men in the 19th century in comparison to today. Due to data limitations, changes in female economic mobility over time are not well understood. Using a set of marriage certificates from Massachusetts over the period of 1850–1910, we link men and women to their childhood and adult census records to obtain a measure of occupational standing across two generations. Intergenerational mobility for women is higher than for men during 1850–1880. Between 1880 and 1910, men's mobility increases to converge with that of women. We also find evidence of assortative mating based on the correlation in occupational income score and real estate wealth between the husband's and wife's fathers. The strength of

assortative mating increased from 1850 to 1910. Consequently, mobility of women in the 1880–1910 cohort might have been higher than observed if they faced the lower level of assortative mating of women in the earlier 1850–1880 cohort.

JACQUELINE CRAIG, *Federal Reserve Bank of Chicago*,  
KATHERINE ERIKSSON, *University of California, Davis*,  
GREGORY NIEMESH, *Miami University*, and  
MYERA RASHID, *Northwestern University*

*Family Trees and Falling Apples: Intergenerational Mobility Estimates from U.S. Genealogy Data*

We use an innovative strategy for linking parents to their adult children (both sons and daughters) in the United States census to produce estimates of the intergenerational transmission of socioeconomic status from 1850 to 1940. We begin with data from a large, online, crowd-sourced genealogy platform. We include the links created by these users in our data set, but also use information from the links they create to inform other supervised and unsupervised matching methods. Our completed data set, which we call the Census Tree, contains hundreds of millions of links among the 1850–1940 censuses. This data set is beyond the current frontier in terms of the precision, recall, and representativeness of the included links. Because family members do the linking and often know the maiden names of women in their family, we are able to include women in our analysis where previous research has omitted.

KASEY BUCKLES, *University of Notre Dame*,  
JOSEPH PRICE, *Brigham Young University*,  
ZACHARY WARD, *Baylor University*, and  
HALEY WILBERT, *University of Notre Dame*

*The Democratization of Opportunity: The Effects of the U.S. High School Movement*

The construction of public high schools across the United States in the early 1900s transformed the economic opportunities of women, who outnumbered men as high school graduates until the 1940s. We provide the first causal estimates of the effect of the “high school movement” on long-run outcomes for both men and women. We construct a novel, complete panel of high schools in 33,000 towns and cities across the United States, generating a place-level measure of high school access in the late 1800s and early 1900s. We link this panel to the exact birthplaces of notable men and women using structured biographies of Federal judges, congresspeople, scientists, businesspeople, and artists born between 1870–1950. We use event studies to compare the adult outcomes of children who did and did not have access to a public high school, exploiting variation across similar cities that expanded high schools at different times.

ALISON DOXEY, *University of Chicago*,  
EZRA KARGER, *Federal Reserve Bank of Chicago*, and  
PETER NENCKA, *Miami University*

## SESSION 14: EXCLUSION FROM MARKETS

*The Legacy of Indian Missions in the United States*

Christian missions played an integral role in the process of the colonization of North America. Beyond the goal of religious conversion of local populations, missionaries were also key actors in both cultural and economic exchange. However, the extent of missionary involvement with local populations across regions varied over time and by denomination. In this paper we examine the intermediate and long-run effects of Christian missionary engagement with Indigenous populations in the pre-reservation period in the United States. We construct a dataset on the location of over 250 missions across the US before 1861 which we combine with other publicly available sources to study the effects of historical missionary presence on education and income in the early 1900s and the modern period. In line with previous research on missionary presence in the developing world, we find historical missionary activity to be positively correlated with modern education and income.

DONNA FEIR, *University of Victoria*,  
MAGGIE JONES, *Emory University*, and  
DAVID SCOONES, *University of Victoria*

*Technological Unemployment in Historical Perspective*

There is no quantitative record of the employment opportunities created by and lost to creative destruction as industries mechanized in Great Britain between 1851–1911. This is primarily because English census data tracks occupation only at the industry level, which obscures shifts in the occupational structure taking place at the sub-industry, “task”, level. I create a new, more finely grained occupational categorization structure, using text recorded in individual level English census observations, digitized by the Integrated Census Microdata project, as data. I take the English bootmaking industry as a case study to pilot the approach, and link 1.29 million bootmakers (97.2%) to the sub-industry level “tasks” they performed. This illuminates the impact of mechanization in the industry, revealing that 152000 jobs were lost to obsolescence, and 145000 jobs, demanding new skills, were created. Bootmakers were not able to move from declining occupations into the newly generated ones.

HILLARY VIPOND, *London School of Economics*

*Slavery, Race, and Finance in the Cape Colony, c.1800–1834*

Using a series of probate inventories, we identify credit transactions of indigenous people and freed slaves (“Coloured”) in the nineteenth-century Cape Colony. We identify over 300 transactions which we use to investigate the structure of credit trading between races. The preliminary findings suggest Coloured individuals primarily borrowed from and lent to white settlers. While Coloured individuals borrowed (or extended credit) for smaller values than the white settlers, there are examples of large debts. Coloured individuals also used credit for consumption rather than productive purposes compared to white settlers.

KARA DIMITRUK, *Swarthmore College*,  
CHRISTIE SWANEPOEL, *University of Western Cape*, and  
KATE EKAMA, *Stellenbosch University*

## SESSION 15: IBERIAN INFLUENCE

*Migrant Self-Selection during the Portuguese Mass Migration, 1880–1930*

This paper examines the dynamics and determinants of migrant self-selection from Portugal during the Age of Mass Migration (1880–1930). We use newly digitized district-level data on migrants and population censuses. Our contribution is two-fold: first, unlike past literature, we rely on a direct measure of human capital “literacy” and consider several decades; second, we provide the first evidence on migrant self-selection disaggregated by gender. While average self-selection was positive throughout the period, there was substantial cross-district and temporal variation. Using our panel data, we find that the degree of self-selection was negatively associated with emigration rates and with the growth in literacy rates at origin. Self-selection was significantly higher among men than women; this gap was smaller in districts with predominantly US-bound emigration and narrowed as emigration increased or when the literacy gap at origin decreased.

MARTIN FERNANDEZ-SANCHEZ, *Luxembourg Institute of Socio-Economic Research*, and  
GASPARE TORTORICI, *Luxembourg Institute of Socio-Economic Research*

*When a Town Wins the Lottery: Evidence from Spain*

For over a century, Spain has conducted a national lottery which often results in the random allocation of large cash windfalls to one town. Leveraging data on lottery ticket expenditures, we match winning towns to non-winning towns with equal winning probability. For towns that won in recent decades, consumption of durables increases while employment, businesses, and migration to the town decrease. An analysis of a century of winners reveals a stark and persistent population increase for towns that won after the Civil War. Our results suggest a limited role for wealth shocks in spurring economic growth outside of large recessions.

ALEJANDRO MARTINEZ MARQUINA, *University of Southern California*

*Bourbon Reforms and State Capacity in the Spanish Empire*

Understanding the factors that affect the state’s ability to fulfill its various duties has been a perennial topic of interest in the social sciences. Raising tax revenues ranks among the most important foundations to develop these abilities. Still, there is no consensus on the ultimate determinants of fiscal capacity. Plus some of the most salient explanations originally conceived to understand European state formation (war making, in particular) fail to extrapolate to other settings, such as the Americas. By delving into the historical origins of state capacity in the Americas, this paper seeks to understand the fundamental role, and potential persistence, of the fiscal institutions put in place during the centuries-long Spanish colonial rule. We rely on the extensive records kept by the network of Royal Treasuries (Cajas Reales) created in the Spanish empire during the XVI-XVIII centuries. Particularly, we consolidate and harmonize the available information, building on the titanic work of Tepaske and Klein (1982, 1990)

and complementing this with information for the viceroyalty of New Granada from Pinto (2016). We present a detailed description of the data to revisit our understanding of the treasuries themselves, stressing: 1. the importance of inter-treasury transfers relative to revenue for the Crown, 2. the likely effects of windfall revenues from particular economic activities and from other treasuries on tax effort, and 3. the distinctive characteristics of Cajas located in or near other institutions of local power (i.e. provincial capitals) compared to those farther away from these centers. In our empirical analyses we plan exploit both the spatial and time series nature of the data.

LUIS ROBERTO MARTINEZ, *University of Chicago*,  
LEOPOLDO FERGUSSON, *Universidad de los Andes*,  
GIORGIO CHIOVELLI, *Universidad de Montevideo*,  
FELIPE VALENCIA CAICEDO, *University of British Columbia*, and  
JUAN DAVID TORRES, *Stanford University*

#### SESSION 16: RACE IN THE UNITED STATES

##### *The Impact of Affirmative Action Litigation on Police Killings of Civilians*

Although research has shown that court-ordered hiring quotas increase the number of minority police officers in litigated cities, there has been little insight into how workforce diversity, or lack thereof, may impact police violence. Using an event-study framework, we find that the threat of affirmative action litigation reduces police killings of non-white civilians in the long-run. In addition, we find evidence of lower arrest rates for non-white civilians and more diverse police departments 25 years after litigation. Our results highlight the vital role that federal interventions have in addressing police behavior and the use of lethal force.

ROBYN COX, *University of Southern California*,  
JAMEIN CUNNINGHAM, *Cornell University*, and  
ALBERTO ORTEGA, *Indiana University*

##### *Black Empowerment and Whites' Backlash: The Effect of the Voting Rights Act*

From the end of Reconstruction until the passage of the Voting Rights Act (VRA) in 1965, African Americans in the U.S. South have endured suppression of their constitutional rights to vote by violence, intimidation and institutionalized disenfranchisement. The success of the VRA in dismantling institutional barriers to African American political participation is clear, but did it also win hearts and minds in the racially conservative South? Establishing a causal link between the VRA and the response of the white and the Black electorate has, thus far, been impaired by the lack of data on race-specific political preferences and voting behavior at the local level. In this paper, we make progress on this issue by exploiting a unique dataset on county level voter registration rates by race to estimate whether the VRA led to racial integration, or if instead triggered white backlash.

ANDREA BERNINI, *University of Oxford*,  
GIOVANNI FACCHINI, *University of Nottingham*,  
MARCO TABELLINI, *Harvard Business School*, and  
CECILIA TESTA, *University of Nottingham*

*The Power of Narratives: Anti-Black Attitudes and Violence in the US South*

Systematic discrimination and violence against minorities are enduring phenomena. This paper investigates the role of racist narratives in sustaining discriminatory attitudes and collective violence against the Black population in the United States South from 1865 to today. Leveraging plausible exogeneity in excess deaths from the Civil War, we show that white sex imbalances precipitated a fear of racial mixing, fostering an increase in the prevalence of an association between Black men and sexual predators in local newspapers. Sex imbalances also increased the demand for segregation, incidence of lynching for alleged sexual offenses, and explicit racial attitudes. This narrative persisted beyond the immediate aftermath of the war, shaping discrimination and collective violence over 150 years.

FEDERICO MASERA, *University of New South Wales*,  
 MICHELE ROSENBERG, *University Essex*, and  
 SARAH WALKER, *University of New South Wales*

## SESSION 17: AGRICULTURE AROUND THE WORLD

*Private Benefits and Public Goods: Agricultural Drainage in the United States 1850–1969*

In wet areas with poorly drained soils, excess water creates waterlogging, preventing the absorption of oxygen and drastically reducing yields. Tile drainage was first demonstrated as a method to adapt agriculture to excess precipitation and poor natural drainage in Upstate New York in 1835. Subsequently, the combination of innovations in local governance, engineering, and tile manufacture allowed drainage on large portions of the U.S. Midwest and Southeast. Today, of the 215 million acres of wetlands estimated to exist in the contiguous United States at colonization, 124 million have been drained, 80–87% for agricultural purposes. We show the passage of the first drainage district laws in each state coincided with a “catch-up” of improved acres and land value in counties with poorly drained soils relative to others. We estimate artificial drainage increased the value of agricultural land in the worst-drained counties of the eastern United States by \$13–29B (2020 dollars).

ERIC EDWARDS, *North Carolina State University*, and  
 WALLY THURMAN, *North Carolina State University*

*Letting Old Data Speak: Local Cultural Traits in Qing China Grain Prices*

This paper explores the information content from the quality of Qing China grain prices (from 1738 to 1911). Based on two measures of data quality, a “simplistic” measure that looks for unchanged reported prices over an extended period of time and a “sophisticated” measure that looks for nearly perfectly correlated reported high and low prices, we find that the quality of grain price data varies across regions and over time. To test if the measures contain local and persistent cultural traits, we control for variables in Qing dynasty like weather and wars, and then show how the remaining variations of

data quality correlate with some cultural measures. Finally, we find that the unexplained variations of the two measures predict the number of deaths during the Great Famine (1959-1961) and manipulations of official statistics in more recent years, in a way that is consistent with our cultural interpretation.

TERRY CHEUNG, *Academia Sinica*,  
SHAOWEN LUO, *Virginia Tech*, and  
KWOK PING TSANG, *Virginia Tech*

*Caste and Landlessness in India at Independence*

Agriculture is the largest occupation among Hindus in India today. Historically and today, the castes lowest on the Hindu hierarchy have been disproportionately agricultural laborers rather than cultivators. A major theme of Indian historiography is that this is a result of discrimination against these groups. To our knowledge, there has never been an India-wide examination of even the correlations between presence of oppressed groups in a region and the extent of employment as agricultural laborers. Our paper is a first attempt to provide such an analysis. We find that there is no statistical relationship between the presence of oppressed groups in a region and either the extent of employment as laborers, or the wage. Measured coefficients are not only statistically insignificant, but also of the wrong sign.

Rainfall and railway miles do matter. This does not disprove discrimination, but it does suggest geography and infrastructure may have mattered more.

VIET NGUYEN, *Northeastern University*, and  
SUSAN WOLCOTT, *Binghamton University*