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Abstracts of Papers Presented at the 2015 Annual Meeting

SESSION 1: RACE AND ECONOMIC OUTCOMES IN THE FIRST HALF OF THE TWENTIETH CENTURY

School Resources and Labor Market Outcomes: Evidence from Early Twentieth-Century Georgia

The relationship between school resources and students' labor market outcomes has been a topic of debate among economists for the last half-century. The relatively recent public release of the 1940 U.S. Census, the first to ask questions regarding income, allows for a closer examination of this relationship. I link children residing in Georgia in 1910 to their responses as adults to the 1940 census and to county-level school revenues collected from the reports of the Georgia Department of Education. Georgia is attractive as a case study since the State School Fund allocation rules provide a plausibly exogenous source of variation in school district revenues. A preliminary analysis, using a sample of three to seven year olds in 1910, suggests that a one standard deviation increase in school revenues received from the state per school-age child during the first three years of schooling reduced weekly wage earnings in 1940 by 1.85 percent for whites.

RICHARD BAKER, *The College of New Jersey*

Intergenerational Mobility in the Shadow of Jim Crow

We build and examine two new datasets of father–son pairs who originated in the U.S. South in the late nineteenth and early twentieth centuries. For young black males residing in the South in 1880, we document income mobility by 1900 relative to fathers' incomes in 1880. For both black and white young males in the South in 1910, we document mobility by 1930 relative to fathers' incomes in 1910. For southern blacks, we find that probabilities of upward mobility rose between the 1880–1900 decades and 1910–1930. For the latter period, we find sharp differences in the upward mobility of blacks relative to whites. Correlates of upward mobility for all groups point to short- and long-distance migration as key avenues for the bottom of the income distribution.

WILLIAM COLLINS, *Vanderbilt University,* and
MARIANNE WANAMAKER, *University of Tennessee*

The Strange Career of Jim Crow: Labor Scarcity and Racial Treatment in the Postbellum South

By economic theory, competitive markets should eliminate taste-based discrimination in the labor market. In this paper, I test whether market forces can similarly affect non-market discrimination. Specifically, I estimate the effects of relative labor scarcity on racial violence and political participation in the American South from 1865 to 1900. Random variation in labor scarcity across Southern counties was created by differential troop losses in the American Civil War. I find counties with 10 percentage-point higher death rates in the Civil War had 24–33 percent fewer lynchings of African Americans from 1866 to 1900. They also had 3.6–5.6 percent higher voter turnout. These effects persisted for at least two decades after the counties' relative labor scarcity disappeared. In the very long run (100 years), however, these counties saw much worse discrimination than average, possibly due to their much larger black populations. This suggests relative levels of discrimination were not culturally determined and can change fairly quickly.

TIM LARSEN, *Vanderbilt University*

SESSION 2: INNOVATION

The Effect of Management and Technology Diffusion on Firm Productivity: Evidence from the U.S. Marshall Plan in Italy

This paper analyzes the effect of management practices and technology diffusion promoted by the U.S. Marshall Plan on the productivity of Italian firms in the aftermath of WWII. With the Marshall Plan, the U.S. administration promoted massive economic and financial aid to Western European countries from 1948 to the end of the 1950s. Among other initiatives, starting in 1952, the plan supported management and technology assistance by both offering training periods for Italian managers and engineers in the United States and by granting to firms new machinery not available in Europe. I collected and digitized financial statements data on 6,065 Italian firms eligible to receive U.S. management and technology support, spanning from 1946 to 1970. Exploiting an exogenous change in the implementation of the policy that determined an arguably random selection of firms that eventually received the Marshall Plan assistance, I estimate that (1) firms that received at least one form of assistance significantly increased their productivity, (2) firms that received both types of transfers simultaneously showed an additional increase in productivity, (3) the effects are persistent and increasing up to a decade after the implementation of the program, and (4) firm exit rate is lower for firms that received the U.S. assistance.

MICHELA GIORCELLI, *Stanford University*

Religious Diversity and Innovation: Historical Evidence from Patenting Activity

Religious norms related to specific denominations have been associated to economic outcomes. We argue that the religious composition of a population has also an impact on economic outcomes. In particular we argue that the presence of different cultures, skills, and abilities originating from different religions fosters innovation. Matching data on long-lasting patents with information on the religious composition of county population we find that religious diversity has an inverted-U shape relationship with patenting activity. The nonlinear effect is consistent with the notion of a tradeoff between costs and benefits of diversity. Separate instrumental variable estimates based on past religious diversity and on eastward territorial annexations of Prussia support a causal interpretation of our results. We find that the effect of religious diversity on innovation is relevant for large firms' patents and in counties with a comparatively higher level of development.

FRANCESCO CINNIRELLA, *Ifo Institute, Munich*, and
JOCHEN STREB, *University of Mannheim*

Dense Enough to Be Brilliant: Patents, Urbanization, and Transportation in Nineteenth Century America Market Access

This paper explores the geographical distribution of patenting in the nineteenth century United States, as it evolves in response to improvements in access to transportation. I revisit the Sokoloff (1988) hypothesis that increasing market access, caused by the spread of transportation infrastructure, led to an acceleration of innovation. I find that 20 years after the arrival of the railroad in a county, the number of patents per capita has doubled. Using cardinal direction lines from the most important ports in 1826 as an instrumental variable suggests that 30–70 percent of the increase in patenting between 1850 and 1860 was caused by the spread of the railroad in this period, and 15–30 percent of the increase between 1850 and 1870. These results are driven by the area of a county that is close enough to make a round trip to transportation within a day, and not by the area further away. A 1 percent increase in the area of the county that is within 1.5 miles of some form of transport corresponds to a 1.5 percent increase in patenting. These results are robust to controls for urbanization. Much of the effect comes from patenting in counties that had not previously patented, suggesting that new access to existing markets spurs development and leads to integration into broader markets for innovation.

ELISABETH PERLMAN, *Boston University*

SESSION 3: FINANCE AND HOUSING PRICES

What's Manhattan Worth? A Land Value Index from 1950 to 2013

Using vacant land sales, we construct a land value index for Manhattan from 1950 to 2013. We find three major cycles (1950 to 1977, 1977 to 1993, and 1993 to 2007), with land values reaching their nadir in 1977, two years after the city's fiscal crises. Overall, we find the average annual real growth rate to be 5.1 percent. Since 1993, land prices have risen quite dramatically, and much faster than population or employment growth, at an average annual rate of 15.8 percent, suggesting that barriers to entry in real estate development are causing prices to rise faster than other measures of local well-being. Further, we estimate the entire amount of developable land on Manhattan to be worth approximately $825 billion. This would suggest an average annual return of 6.3 percent since the island was first inhabited by Dutch settlers in 1626.

JASON BARR, *Rutgers University*, and
FRED SMITH, *Davidson College*

No Price Like Home: Global House Prices, 1870–2012

How have house prices evolved over the long run? This paper presents annual house prices for 14 advanced economies since 1870. Based on extensive data collection, we show that real house prices stayed constant from the nineteenth to the mid-twentieth century, but rose strongly during the second half of the twentieth century. Land prices, not replacement costs, are the key to understanding the trajectory of house prices. Rising land prices explain about 80 percent of the global house price boom that has taken place since WWII. Higher land values have pushed up wealth-to-income ratios in recent decades.

KATHARINA KNOLL, *Free University of Berlin*,
MORITZ SCHULARICK, *University of Bonn*,
and THOMAS STEGER, *University of Leipzig*

Measuring House Prices in the Long Run: Insights from Dublin, 1900–2015

Despite the importance of housing in macroeconomic fluctuations, underscored by the Great Recession, there remains a dearth of information about housing markets prior to the 1980s, thus depriving social scientists of a wealth of case studies from which to draw insights. This paper constructs for the first time a housing price index for Dublin stretching back to 1900. Principal contributions of the paper include the assembly of a micro-level dataset of transactions 1900–1949, using a sample of 66 Dublin streets, and a dataset of newspaper listings from 1949 until modern data series begin. Hedonic price indices are constructed for both datasets, which are then combined with indices covering more recent periods. The nominal price index suggests a steady fall in housing prices early in the twentieth century, undone with post-war inflation, before two decades of volatility but no obvious trend. Rapid housing price inflation started in the 1940s and was an almost ever-present feature thereafter, with the exception of the 1950s and the post-2007 period. Much of the 400-fold increase in nominal housing prices in this period, however, can be attributed to changes in the general price level, which rose by a factor of roughly 100 during the same period. Real housing prices in the mid-2010s were about 3.5 times their 1900 level. The only decades to witness significant increases in real housing prices were the 1920s, the 1940s, the 1960s, and the Celtic Tiger period (1990s–2007). The indices outlined here provide the basis for a more detailed study of the relationship between housing prices and their determinants, including inflation, incomes, supply, user cost, and credit conditions.

RONAN LYONS, *Trinity College Dublin*

SESSION 4: PUBLIC HEALTH INTERVENTIONS

Watersheds in Infant Mortality: The Role of Effective Water and Sewage Infrastructure, 1880–1915

We explore the first period of decline in infant mortality in the United States and provide estimates of the independent and combined effects of clean water and effective sewerage systems on infant mortality. Our case is Massachusetts, 1880–1915, when state authorities developed a sewerage and water district for municipalities in the Boston Greater Metropolitan area. We find that the two interventions were complementary and together accounted for approximately 37 percent of the total decline in log infant mortality among treated municipalities during the 36 years considered. Considerable research has documented the importance of clean water interventions for improvement in population health, but there is less evidence on the importance of sewerage systems. Our findings are directly relevant to urbanization in the developing world and suggest that a dual-pronged approach of safe water and infant and early child survival.

MARCELLA ALSAN, *Stanford University*, and
CLAUDIA GOLDIN, *Harvard University*

Origins and Effects of Rural Public Health Programs in North Carolina

This project investigates the growth and effectiveness of the Country Health Organization (CHO) movement within the state of North Carolina. North Carolina was the primary pioneer in the rural public health movement. They opened one of the first CHOs in 1911, were home to about one-third of all County Health Organizations in the United States by 1917, and represented the first public health department to develop a state-wide plan of county health work. This study evaluates effectiveness of these CHOs based on changes in infant mortality, mortality from diarrhea and enteritis, and typhoid morbidity rates between 1910 and 1930 associated with the timing of county health work. Initial results suggest that these rural public health efforts led to reductions in mortality due to diarrhea and enteritis and typhoid morbidity. However, while infant mortality rates declined across the counties, whether the presence of a CHO was responsible for this is less clear. This stands in contrast to studies of comparable programs occurring during the same time period at the state and city level.

JONATHAN FOX, *Freie Universitaet Berlin*

Pollution and Mortality in the Nineteenth Century

This study highlights the substantial impact of industrial pollution on mortality in nineteenth century Britain. To overcome a lack of direct pollution measures, I combined data on the local composition of industries with information on industry pollution intensity. I document a clear relationship between industrial pollution and mortality using data for 580 English and Welsh districts in 1851–1860. These effects were concentrated in causes-of-death related to the respiratory system, a feature that helps me to address concerns related to selection and omitted variables. I also show that rising industrial coal use increased mortality from 1851–1900, a period in which overall mortality dropped substantially. Increasing industrial pollution offset 10–25 percent of the potential mortality gains that could have been achieved over this period.

WALKER HANLON, *UCLA*

SESSION 5: COLONIAL AFRICA

De-compressing History? Pre-colonial Institutions and Local Government Finance in British Colonial Africa

This paper contributes to a growing literature linking pre-colonial institutions and current development in Africa. Research in this area attributes correlations between pre-colonial institutions and current development to "indirect rule," in which African regimes were integrated into colonial administrations. However, the structure and practice of indirect rule varied widely. This paper uses a new data set on local government finance in British colonial Africa to establish a more precise connection between indigenous states and colonial institutions. These data are paired with anthropological records on pre-colonial states to analyze the extent to which the fiscal capacity of local government units reflected pre-colonial state centralization. Further, it argues that differences in local government capacity during the colonial period had implications for later economic development through local investments in human capital. Finally, it provides additional evidence of diversity in development outcomes not only between but also within African countries across the twentieth century.

JUTTA BOLT, *University of Groningen*, and
LEIGH GARDNER, *LSE*

Colonial Trade and Price Gaps in Africa

A common explanation for current African underdevelopment is the extractive character of institutions established during the colonial period. Yet, since colonial extraction is hard to quantify, the magnitude of this phenomenon is still unclear. In this paper, I tackle this issue by focusing on colonial trade in French Africa. By using archival data on export prices, I provide new yearly-estimates of colonial extraction measured as the gap between prices to Africans and in the world market. The results show that African prices were substantially lower than world market prices: colonial trade dynamics was characterized by a considerable amount of extraction.

FEDERICO TADEI, *Bocconi University*

Financing the African Colonial State: The Revenue Imperative and Forced Labor

Recent studies on colonial public finance have pointed to the severe constraints to fiscal capacity building Sub-Saharan Africa, and to the inclination of colonial governments to avoid direct taxes when revenue from trade became sufficiently available. Although fiscal revenue was indeed a central pillar of the colonial state formation process, contributions from a widely used but implied source of government "income" —that of forced labor (or "labor taxes")—have so far been left out of the picture. Exploiting data on labor corvée schemes in French Africa between 1913–1937 (the prestations), this is the first paper to provide estimates of how much this in-kind form

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of revenue may have enhanced colonial budgets. I show that in most places labor taxes constituted the most important component of early colonial state income. My results imply that studies on historical fiscal capacity building efforts need to make a greater effort to estimate and integrate this significant source of state income into their analysis.

Marlous van Waijenburg, *Northwestern University*

SESSION 6: SLAVE OWNERS IN THE WAKE OF ABOLITION

The New National Lynching Data Set

Interest in lynching in the United States in the late nineteenth and early twentieth centuries has surged, and researchers in several fields have begun to use lynching data in new ways for a wide range of empirical investigations. A limited number of historical national lynching data series are available, have well-known flaws, and are nonetheless used. Alternatively, researchers rely on better data from confirmed lynchings in the Deep South, which can limit the scope of empirical analysis. I have collected data on confirmed lynchings throughout the United States to create the first verified historical national lynching data set and to fill this hole in the literature. The new national data reveal that traditional sources underestimated lynching activity during this period by as much as 15 percent. Further, traditional national lynching data miscalculated the racial and ethnic composition of victims, significantly undercounting Asian, Hispanic, and Native American lynching victims.

Lisa D. Cook, *Michigan State University*

The Iron Law of Oligarchy: The Post-Slavery Caribbean Sugar Colonies

The great puzzle of Caribbean history in the mid-nineteenth century is that this was a time of radical institutional change—with all but one of the long-established Caribbean parliaments voting themselves out of existence inside a 20-year window—despite very stable conditions in the (exogenous) terms-of-trade and in the (endogenous) local plantation economy. This paper argues that the post-slavery change of the planter elite into a more creole and colored composition did not change the incentives of the coercive Caribbean plantation economy, but that it did undermine the elite's ability to dominate the political process within the given set of formal institutions, i.e., the locally elected parliaments. The new elite needed a new set of formal institutions to maintain the existing coercive institutional bundle. The first argument is a version of the "iron law of oligarchy" (Michels 1911), the second a version of the "seesaw of de jure and de facto institutions" (Acemoglu and Robinson 2008). Guided by a model of elite coherence and institutional choice, we explore our two arguments in a combination of very rich micro-data on islands' parliamentary politics and sugar plantations, as well as colony-level regression analysis.

Christian Dippel, *UCLA*, and
Jean Paul Carvalho, *UC Irvine*

The Impact of the Civil War on Southern Wealth Mobility

We exploit recent advances in electronic access to the Federal Census Manuscripts to undertake a comprehensive investigation of the effects of the Civil War and emancipation on wealth mobility during the 1860s. By linking the top wealth holders in 1860 to the 1870 census we can determine how this group fared over the course of the decade. At the same time, by linking the top wealth holders in 1870 back to the 1860 census we will be able to identify the origins of this elite group. While this research is ongoing, our work suggests that linkage rates are relatively high, so we should be able to draw robust conclusions about the way in which the events of the 1860s affected wealth holders in both the South and North.

Brandon Dupont, *Western Washington University*, and
Joshua Rosenbloom, *University of Kansas*

SESSION 7: OFF WALL STREET: FINANCE AND BANKING IN THE 19TH CENTURY US

Railroad Failures and the Panic of 1873

This paper investigates the relationship between railroad bond defaults and nine financial outcomes in the National Banking System during the Panic of 1873. Contemporary accounts and anecdotal evidence indicate the importance of a boom and bust in the railroad industry to the onset of the panic. I use comprehensive balance sheet data for national banks before and after the panic, along with detailed GIS data on the location and features of the railroad network, to show that railroad defaults had a strong negative impact on the balance sheets of those banks most vulnerable to railroad failures. I also explore the factors which contribute to railroad failures in the first place. I find that land grant railroads were significantly more likely to default on their bonds, suggesting that land grand railroads might have been overbuilt relative to demand and therefore particularly vulnerable to the downturn in the bond market.

Christopher Cotter, *Vanderbilt University*

A City between Nations: Domestic and Foreign Currencies in New Orleans, Interregional and External Trade of the Antebellum South, 1856–1860

This paper attempts to shed light on the monetary and commercial interconnections of New Orleans as a major port city with other regional economies in the United States and the world through the analysis of discounts and premiums of domestic notes, and the exchange rates of domestic and foreign currencies in the Crescent City between 1856 and 1860. Discounts and premiums of domestic banknotes provide information about the imbalanced inter-regional specialization and integration of the American economy right before the Civil War. The nominal exchange rates of foreign currencies in New Orleans such as the British sterling pound, the French franc, the Austrian thaler, the Mexican peso, the Spanish and the Latin American "patriot" doubloons inform our understanding of the integration of the United States to the world economy of the long nineteenth century.

Manuel Alejandro Bautista Gonzalez, *Columbia University*

Stopping Contagion with Bank Bailouts: Micro-Evidence from Pennsylvania Bank Networks during the Panic of 1884

Using a newly constructed historical dataset on the Pennsylvania state banking system, detailing the amounts of—"due-froms" on a debtor bank-by-debtor bank basis, we investigate the effects of the Panic of 1884 and subsequent private sector-orchestrated bailout of systemically important banks (SIBs) on the broader banking sector. We find evidence that Pennsylvania banks with larger direct interbank exposures to New York City changed the composition of their asset holdings, shifting from loans to more liquid assets and reducing their New York City correspondent deposits in the near-term. Over the long term though, only the lower correspondent deposits effect persisted. Our findings show that the banking turmoil in New York City impacted more exposed interior banks, but that bailouts of SIBs by the New York Clearing House likely short-circuited a full-scale banking panic.

Haeilim Park, *United States Treasury*, and
John Bluedorn, *IMF*

SESSION 8: THE QUANTITY-QUALITY TRADEOFF IN HISTORICAL PERSPECTIVE

Protectionism and the Education–Fertility Tradeoff in Late Nineteenth Century France

The assumption that education and fertility are endogenous decisions that react to economic circumstances is a cornerstone of the united growth theory that explains the transition to modern economic growth, yet evidence that such a mechanism was in operation before the twentieth century is limited. This paper provides evidence of how protectionism reversed the education and fertility trends that were well under way in late nineteenth-century France. The Meliné tariff, a tariff on cereals introduced in 1892, led to a substantial increase in agricultural wages, thus reducing the relative return to education. Since the importance of cereal production varied across regions, we use these differences to estimate the impact of the tariff. Our findings indicate that the tariff reduced education and increased fertility. The magnitude of these effects was substantial, and in regions with large shares of employment in cereal production the tariff offset the time trend in education for up to 15 years. Our results thus indicate that even in the nineteenth century, policies that changed the economic prospects of their offspring affected parents' decisions about the quantity and quality of children.

Vincent Bignon, *Bank of France*, and
Cecilia Garcia-Penalosa, *Aix-Marseille University and CESifo*

The Child Quality-Quantity Tradeoff, England, 1750–1880: Is a Fundamental Component of the Economic Theory of Growth Missing?

A child quantity/quality tradeoff is central to economic theorizing about modern growth. Smaller families, it is argued, led to increased human capital and modern growth. Yet the evidence in favor of a significant quality-quantity tradeoff is minimal.

For England 1770–1880, the first economy to achieve sustained modern growth, the fertility regime allows us to measure well the tradeoff. Before 1880 in England there was no fertility control within marriage, huge natural variation in family sizes, and no association between completed family size and parent "quality." Yet family size has no effect on educational attainment, occupational status, or adult longevity. Larger family size does reduce child wealth: physical capital. But controlling for bequests received, children of larger families had more wealth at death than those of smaller ones. The quality-quantity tradeoff is a myth. The theory of growth must proceed in other directions.

Gregory Clark, *UC Davis*,
and Neil Cummins, *LSE*

Clio's Role for Economic Growth: New Findings on the Quantity-Quality Tradeoff in Nineteenth Century France

Recent theoretical developments of growth models, especially on unified theories of growth, suggest that the child quantity-quality trade-off has been a central element of the transition from Malthusian stagnation to sustained growth. Using an original census-based dataset, this paper explores the role of gender on the trade-off between education and fertility across 86 French counties during the nineteenth century, as an empirical extension of Diebolt-Perrin (2013). We first test the existence of the child quantity-quality trade-off in 1851. Second, we explore the long- run effect of education on fertility from a gendered approach. Two important results emerge: (i) significant and negative association between education and fertility is found, and (ii) such a relationship is non-unique over the distribution of education/fertility. While our results suggest the existence of a negative and significant effect of the female endowments in human capital on the fertility transition, the effects of negative endowment almost disappear at low level of fertility.

Claude Diebolt, *University of Strasbourg*,
Tapas Mishra, *University of Southampton*,
and Faustine Perrin, *Lund University*

SESSION 9: WOMEN IN MARRIAGE AND LABOR MARKETS

The Gender Gap in Turn of the Century Swedish Manufacturing

This paper explores the wage gap among Swedish cigar workers and compositors circa 1900. We examine information on men and women holding the same jobs; such data are rare but important for understanding the gender wage gap. Women's hourly wage was about 70 percent of men's. Individual characteristics explain much of this gap, but not all of it. To explain the remained of the wage gap we examine training and differences across firms. Wage profiles indicate that women initially had a slightly higher average wage, but after about five years of experience when female wages stagnated and male wages continued to grow, creating a persistent male advantage. This wage pattern may have been caused by differences in training. Women were less likely to be apprentices, but may have chosen less training if they expected shorter tenures. We also find differences across firms by size and location. Smaller, non-metro firms treated men and women fairly; it was the larger, metro firms where we see different opportunities for men and women.

JOYCE BURNETTE, *Wabash College,* and
MARIA STANFORS, *Lund University*

Migration, Marriage and Social Mobility. Women in Sweden during Industrialization

The aim of this paper is to study the connection between internal migration and marriage outcomes for women using complete count census data for Sweden. The censuses 1880, 1890, and 1900 have been linked at the individual level, which enables us to follow about 70,000 women from their parental home to their new marital household. Marriage market imbalances do not seem to have been an important push factor in internal migration for women at the turn of the last century in Sweden. On the other hand, we find a strong association between migration distance and marriage outcomes, both in terms of overall marriage probabilities and in terms of partner selection. These results highlight the importance of migration for women's social mobility during industrialization.

MARTIN DRIBE, *Lund University*,
BJÖRN ERIKSSON, *Lund University*, and
FRANCESCO SCALONE, *University of Bologna*

Assortative Matching and Persistent Inequality: Evidence from the World's Most Exclusive Marriage Market

Why do people marry similar others? Using data on peerage marriages in nineteenth century Britain, I find that search costs and segregation in the marriage market can generate sorting without resort to preferences. Peers typically courted in the London Season, a centralized marriage market taking place every year. As Queen Victoria went into mourning for her husband, the Season was interrupted (1861–63), raising search costs and reducing market segregation. I find that the cohort of women affected by the interruption became 80 percent more likely to marry a commoner. Sorting along landed wealth decreased by 50 percent within the peerage. My second contribution is to show that marital sorting can contribute to wealth inequality in the long run. In 1870, landownership was more concentrated in counties where intermarriage had been lower since c.1500. Finally, I discuss how inequality delayed the provision of public schooling in England and Wales.

MARC GONI, *University of Vienna*

SESSION 10: POST-COLONIAL AFRICA

The Efficiency of Cape Colony Railways and the Origins of Racial Inequality

The railway played a large part in late nineteenth century and early twentieth century globalization since, to benefit from the international economy, peripheral countries needed cheap inland transport. This paper discusses how the railway transformed the economy of South Africa's Cape Colony during the first era of globalization. A very large share of the Colony's GDP came from rail transport —its resource saving effect was one of the highest in the world at that time. We estimate that 46 to 51 percent of the Colony's increase in labor productivity between 1873 and 1905 came directly from the railway, whether from investment in the rail network or from savings in transport costs. We argue that it was the boom in diamond production, necessitating the building of the railway to connect the Kimberley diamond fields with the international economy that weighted the Colony's economy so heavily towards the rail transport sector. The railway not only boosted the Colony's growth, it also re-shaped its economic geography, organizing it around the railway lines that connected the diamond mines with the ports. Areas not served by the railway missed out on the benefits of globalization. As these areas were mostly populated by blacks, the railway helped to create a dual economy with a racial social divide and was later instrumental in creating black "homelands" and establishing the apartheid institutions.

Johan Fourie, *Stellenbosch University*, and
Alfonso Herranz-Loncan, *University of Barcelona*

Blood Rubber: The Effects of Labor Coercion on Development and Culture in the DRC

King Leopold's Congo Free State is infamous for its coercive and exploitative labor practices, particularly in the extraction of rubber. Between 1892 and 1906, Leopold divided parts of DRC into concessions that were granted to private companies to extract rubber. These companies used violence and coercion to force people to collect rubber. We examine the long-term effects of exploitative institutions and labor coercion on development outcomes in DRC today. First, we use a geographic regression discontinuity design to demonstrate that those areas inside former rubber concessions have worse development outcomes today across a variety of measures. Second, we examine various potential channels for the persistence of these effects. We find evidence of worse public goods provision at the local level in former concessions, suggesting that local institutions were undermined during the rubber concession period.

Sara Lowes, *Harvard University,* and
Eduardo Montero, *Harvard University*

Family Planning and Fertility in South Africa under Apartheid

During the apartheid era, all South Africans were formally classified as white, African, coloured, or Asian. Starting in 1970, the government directly provided free family planning services to residents of townships and white-owned farms. Relative to African residents of other regions of the country, the annual share of African women that gave birth in these townships and white-owned farms declined by one-third during the 1970s. Deferral of childbearing into the 1980s partially explains this decline, but lifetime fertility fell by one child per woman. These changes were coincident with increased employment among African women and, decades later, higher income for their children in adulthood.

Johannes Norling, *University of Michigan*

SESSION 11: INEQUALITY IN THE LONG RUN

Long Term Trends in Economic Inequality in Southern Italy

This paper uses new archival data collected by an ERC-funded research project, EINITE-Economic Inequality across Italy and Europe, 1300–1800, to study the long-term tendencies in economic inequality in preindustrial southern Italy (Kingdoms of Naples and Sicily). The paper reconstructs long-term trends in inequality, especially of wealth, for the period 1550–1800 and also produces regional estimates of overall inequality levels in Apulia, which are compared with those now available for some regions of central-northern Italy (Piedmont, Tuscany). As much of the early modern period the Kingdom of Naples was overall a stagnating economy, this is a particularly good case for exploring the relationship between economic growth and inequality change.

GUIDO ALFANI, *Bocconi University*, and
SERGIO SARDONE, *Bocconi University*

Inequality in Wealth: Evidence from Land Ownership in Mid-Ninteenth Century Germany

This paper assesses wealth inequality by using data on village land distributions in mid-nineteenth century Germany. Using a sample of 1,047 different Hessian villages I calculate a Gini coefficient for each village, providing a micro perspective on wealth inequality among the living (unlike estate data). Results show an average Gini of about 0.60, a figure that is comparable to other historical as well as contemporary studies. More striking is the large variation in inequality across villages, with many villages of inequality and many of equality. Multivariate regression estimates show that inequality was higher in densely populated communities as well as ones that practiced impartible inheritance traditions. A panel study of subsample shows that inequality in land wealth increased between the eighteenth and nineteenth centuries.

SIMONE WEGGE, *College of Staten Island and The Graduate Center*

Civil Exams and Social Mobility: Jinshi's Exam Performances and Official Careers in Ming China (1368–1644)

The relationship between civil exam and social mobility in the late imperial China is a long debated question. We try to answer the question by exploring large individual-level jinshi dataset in the Ming dynasty. Our preliminary results show that, upward social mobility, that civil exam system provided, kept falling in the long period. Moreover, we find family background had significant influence on both jinshi's exam performances and official careers. Our study advances existing works and provides better understanding with more detailed data and econometric methods.

SE YAN, *Peking University*

SESSION 12: INSTITUTIONS AND LONG-TERM DEVELOPMENT

Crecimientos: Refinancing the Public Debt in Castile before 1600

The paper analyzes the refinancing of the long-term redeemable bonds (juros) in the sixteenth century Castile under Philip II. In the fragmented structure of the market for juros, refinancing took place not through coupon reduction, with a fixed face value, but through crecimientos that increased the capital of the annuity with a fixed coupon. Using archival sources, we analyze how the Crown took advantage of the declining trend of interest rate to refinance the long-term debt, long before the refinancing under Louis XIV and after the financial revolution in England. This analysis provides information on the cost of public borrowing in a fragmented market where juros were locally serviced by cities. We show that the refinancing was intertwined with the issuance of the unfunded debt, the asientos and had an impact on the cost of these asientos and the amount of debt reductions after financial crises.

CARLOS ALVAREZ-NOGAL, *Universidad Carlos III,* and
CHRISTOPHER CHAMLEY, *Boston University*

Collective Action and Representation in Autocracies: Evidence from Russia's Great Reforms

How do autocratic elites respond to threats of unrest by excluded groups? We explore the relationship between collective action and representation with unique data on peasant disturbances and institutional design during the period of Russia's Great Reforms under Tsar Alexander II. Consistent with a modified version of the Acemoglu-Robinson model of political transitions, and inconsistent with many other theories of regime change and liberalization, we find that peasants were granted less representation in zemstvo assemblies in districts that experienced more frequent unrest in preceding years. Our instrumental-variables estimates suggest that this association is driven by the greater incidence of unrest in regions where serfdom was historically prevalent, which we interpret as consistent with the awareness by elites of disturbances among former serfs following the Emancipation Reform of 1861.

PAUL DOWER, *New Economic School-Moscow*,
EVGENY FINKEL, *George Washington University*,
SCOTT GEHLBACH, *University of Wisconsin-Madison*,
and STEVEN NAFZIGER, *Williams College*

Mapping and Economic Development: Spatial Information Matters

Maps, which record spatial information, are critical for all activities. This paper evaluates the impact of mapping on development. Military leaders need maps for planning movement, combat, and supply. Thus, maps had been considered as military secrets. However, mapping was also critical for cadastral (land tax) purposes. Europeans collected geodetic data for cadastral purposes and linked them to military maps. However, military secrecy still pervades in many developing countries. In most Latin American countries, military forces hold the legislated monopoly in mapping. The military finances itself by charging high prices for maps. Before GPS systems, triangulation was the best method in measuring long distances. Technical procedures of triangulation (large-scale maps are produced first, and then small-scale maps are produced referring the large-scale maps) suggest that endogeneity issues (good mapping is the result of development) are not very severe. Empirical estimates suggest that mapping is an important institutional foundation of development.

DONGWOO YOO, *West Virginia University*

SESSION 13: MIGRATION IN ECONOMIC HISTORY

Evaluating a Great Migration: Chain Migration and its Influence on Housing Prices in New York City, 1880–1950

This paper presents new archival evidence on housing rents in New York City, for the period 1880–1910. Rental information taken from newspaper advertisements was linked to information on local amenities and disamenities using historical GIS maps of Manhattan Island. This allowed additional linkage with ward and district-level census and health study data. With this comprehensive dataset, a quality-adjusted index of rents is developed and the capitalized value of each feature could be estimated, adjusting for spatial correlation at the sub-city level. A separate index is constructed for each neighborhood. We then use Ellis Island passenger records to construct an instrument for immigrant inflows across neighborhoods, based on detailed place of origin at the sub-country level and the historical distribution of immigrants across neighborhoods and estimate the impact of immigration on neighborhood housing rent indexes.

ROWENA GRAY, *UC-Merced*

Refugees from Dust and Shrinking Land: Tracking the Dust Bowl Migrants

We construct longitudinal data from the U.S. Census records to study migration patterns of those affected by the Dust Bowl of the 1930s. Our focus is on the famous "Okie" migration of the Southern Great Plains. We find that inter-county and interstate migration rates were much higher in the Dust Bowl than elsewhere in the United States. This "excess mobility" is due to the fact that individuals who were otherwise unlikely to move (e.g., those with young children, those living in their birth state) were equally likely to move in the Dust Bowl. While this result of elevated mobility conforms to long-standing perceptions of the Dust Bowl, our other principal findings contradict conventional wisdom. First, relative to other occupations, farmers in the Dust Bowl were the least likely to move; this relationship between mobility and occupation was unique to that region. Second, out-migration rates from the Dust Bowl region were only slightly higher than they were in the 1920s. Hence, the depopulation of the Dust Bowl was due largely to a sharp drop in migration inflows. Finally, migrants from the Dust Bowl were no more likely to move to California than migrants from other parts of the United States, or those from the same region ten years prior. In this sense, the westward push from the Dust Bowl to California was unexceptional.

JASON LONG, Wheaton College,
and HENRY SIU, *University of British Columbia*

Making the Move: The Impact of the 1906 Disaster on Business Relocations and Industry Clustering

This paper studies the impact of the 1906 San Francisco earthquake and fire on business relocations and the spatial distribution of industries in the city. The disaster disrupted normal business activity through the destruction of more than 28,000 buildings on more than 500 city blocks. Using data gathered from historical business directories, this study estimates the impact of a large-scale disaster on relocations. Evidence reveals that burned-out businesses were more likely to move to different city blocks after 1906 relative to businesses on unburned blocks, so that the fire significantly increased the likelihood of relocating by at least 30 percentage points. Additionally, the average post-disaster move was nearly one-half mile in length, and hence spatially significant. The study also provides an analysis of industry localization before and after the disaster, revealing a large impact of the disaster. These early outcomes of the paper imply that large shocks that destroy fixed investments can have significant impacts on business location patterns.

James Siodla, *Colby College*

SESSION 14: SLAVERY: THE TERMS OF ENTRENCHMENT

Side Effects of Immunities: The African Slave Trade

The resistance of Sub-Saharan Africans to diseases that were plaguing the southern United States contributed to the establishment of African slavery in those regions. Specifically, Africans' resistance to malaria increased the profitability of employing African slave labor, especially that of slaves coming from the most malaria-ridden parts of Africa. In this paper, I first document that African slavery was largely concentrated in the malaria-infested areas of the United States. Moreover, I show that the introduction of a virulent strain of malaria into U.S. colonies greatly increased the share of African slaves, but only in states where malaria could thrive. Finally, by looking at the historical prices of African slaves, I show that enslaved individuals born in the most malaria-ridden African regions commanded higher prices.

Elena Esposito, *European University Institute*

The Impact of the 1850 Fugitive Slave Act on Slave Prices

In the antebellum South, slave transport between the Upper and Deep South was profitable due to a persistent gap in slave prices between the two regions. The gap has been attributed to agricultural productivity differences. This paper examines another potential explanation: regional variation in the chance of successful escape. To do so, the Fugitive Slave Act of 1850 is exploited as a natural experiment. The Act strengthened slave-owners' property rights reducing the likelihood of successful escape. Providing identification, the Act had a bigger impact in border states, where escape to the Free states was arguably easier. Using data from probate records, estimates suggest a large fraction (between 20 and 30 percent depending on specification) of the observed price difference disappears after the 1850 Fugitive Slave Act. Estimates are robust to changes in sample restrictions, spatial composition effects, and placebo tests on the Act's implementation date. The findings are also supported by a reduction in the rewards offered and frequency of advertisements for runaways from newspaper advertisements at the time.

Conor Lennon, *University of Pittsburgh*

The Cotton Boom, Slavery, and Land Inequality in the Nineteenth-Century Rural Egypt

The "staples theory"—argues that labor institutions in a rural environment could be explained by the technology of production of its crops, where slavery is likely to emerge in "effort-intensive"—crops, such as cotton, rice, and sugarcane. This paper provides novel econometric evidence on the theory using a unique natural experiment from nineteenth-century rural Egypt, the cotton boom that occurred because of the American Civil War in 1861–1865. Employing the newly digitized Egyptian individual-level population census samples from 1848 and 1868, I find that rural districts that were favorable to cotton cultivation witnessed greater increase between 1848 and 1868 in their slave population share and percentage of hamlets than cotton-unfavorable districts. Historical evidence suggests that the cotton boom marked the emergence of large-scale agricultural slavery (before its abolition in 1877) and large landholdings in Egypt's Nile Delta, and the beginning of Egypt's dependence on cotton exports for over a century.

Mohamed Saleh, *Toulouse School of Economics*

SESSION 15: TRANSMISSION OF CULTURE

Backlash: The Unintended Effects of Language Prohibition in US Schools after World War l

Can forced assimilation policies successfully integrate immigrant groups? As cross-border migration surges, more countries must grapple with this question. A rich theoretical literature argues that forced integration can either succeed or create a powerful backlash, heightening the sense of cultural identity among the minority. This paper examines how a specific integration policy—namely language restrictions in elementary school—affects integration and identification with the host country later in life. I focus on the case of Germans in the United States during and after WWI. In the period 1917–1923, several U.S. states barred foreign languages from their schools, often targeting German explicitly. Yet rather than facilitating the assimilation of immigrant children, that policy instigated a backlash. In particular, individuals who had two German parents and were affected by these language laws were less likely to volunteer in WWII; they were also more likely to marry within their ethnic group and to choose decidedly German names for their offspring. These observed effects were greater in locations where the initial sense of German identity, as proxied by Lutheran church influence, was stronger. These findings are compatible with a model of cultural transmission of identity, in which parental investment overcompensates for the direct effects of assimilation policies.

Vasiliki Fouka, *Universitat Pompeu Fabra*

Assimilation and Economic Performance: The Case of Federal Indian Policy

Throughout the nineteenth century, Federal Indian policy oscillated between two extremes positions: assimilation and separation. While the overarching goals of Federal policy were often elucidated with specific legislation, implementation was rarely universal. Therefore, using the legislative record alone to identify which tribes were exposed to Federal assimilation laws is fraught with difficulties. To remedy these problems, I introduce a novel measure of assimilation: the relative prevalence of traditional Indian verses European-influenced names. I have collected the names, locations, and ages for all of the approximately 260,000 American Indians enumerated in the 1900 United States Census. I find that 1900 levels of assimilation are correlated with levels of reservation economic development today. The pattern follows an inverted U-shape, with higher levels of assimilation leading to initially higher levels of income and lower levels of unemployment. Eventually, however, the effect diminishes.

MELINDA MILLER, *U.S. Naval Academy*

Racial Segregation in the Interwar United States: A Dynamic Segregation Approach

Between 1910 and 1950, more than 3.5 million African Americans migrated from the south, largely to northern, urban areas (Collins 1997). Yet when they arrived, they found themselves often limited in their choice of neighborhoods via racially restrictive covenants (Brooks 2011). This paper follows the dynamic segregation literature of Schelling (1971) and Card, Mas, and Rothstein (2008) to explore whether neighborhoods in interwar cities in the United States demonstrated "tipping behavior"—and how these tipping points evolved over time. We accomplish this using census-tract data from both the 1930 and 1940 U.S. Census via the NHGIS as well as data collected from various Real Property Inventories from 1934. Preliminary results suggest that tipping behaviour did occur with the tipping points typically lower than those found in the modern era in Card , Mas, and Rothstein (2008).

TREVOR KOLLMAN, *RMIT University*

SESSION 16: U.S. POLICY EFFECTS IN THE GREAT DEPRESSION AND WORLD WAR II

Means-tested Old Age Support and Private Behavior: Evidence from the Old Age Assistance Program

A major source of the expansion of governments over the last several decades has been their role in operating social insurance programs. Most of these programs are implemented at the national level and in the recent past have been only rarely subject t o large reforms, creating a major challenge for learning about their effects. In this paper, we investigate the Old Age Assistance Program (OAA), a means-tested and state-administered pension program created by the Social Security Act of 1935. OAA was the primary source of government old age support through the 1930s and 1940s, remaining much larger than Social Security until the 1950s. Using newly available complete-count Census data from 1940, we exploit the large differences in OAA programs across states and the detailed rules that governed eligibility for OAA within states to estimate the labor supply effects of OAA. We find that OAA significantly reduced labor supply, with our main estimates indicating that OAA led to a 5.7 percentage point reduction in labor force participation among men aged 65–74, or 11 percent relative to the base of roughly 50 percent participation. Estimating a standard model of life cycle labor supply, we find that about three-fourths of the OAA-induced reduction in late-life labor supply was due to income effects and about one-fourth was due to substitution effects from OAA's earnings test. Simulations of the model suggest that Social Security (the Old-Age and Survivors Insurance program that continues to this day) had large effects on retirement once it started making payments, and that substitution effects from Social Security's earnings test accounted for about 40 percent of the effects of Social Security on labor supply.

Daniel K. Fetter, *Wellesley College*, and
Lee Lockwood, *Northwestern University*

Why Does Recovery from Mortgage Credit Crises Take So Long? Institutional Causes of Delay in Liquidation of Troubled Building and Loans During the Great Depression

The housing sector was rocked by a major mortgage crisis during the Great Depression of the 1930s, as decreases in income and housing values caused unprecedented numbers of defaults and foreclosures. The institutional features of Building and Loans (B&Ls), the leading home mortgage lenders at the time, helped mitigate the crisis, in part because borrowers had more impact on a B&L's decisions. B&Ls were mutual organizations in which both borrowing and nonborrowing members had ownership claims. To dissolve a B&L required a two-thirds majority vote of the members and each member had one vote no matter how many shares he owned. Using a newly constructed panel dataset from New Jersey between 1930 and 1940, we estimate that the probability that the B&L would close rose 37 percent when the share of nonborrowing members rose above the two -thirds mark. This voting rule appears to have slowed the timing of dissolution of troubled B&Ls by about one year on average. The delay in liquidation provided B&L borrowers with forbearance that enabled one-fourth of the borrowers in the troubled B&Ls to pay off their loans and three percent to avoid foreclosure. The delay came at the expense of the remaining members who suffered further decreases in the liquidation value of their shares and earned lower returns than they could have gained by shifting their investments B&Ls into other assets. The net cost of this delay was roughly –0.26 percent of New Jersey income in 1938 or –0.67 percent of the value of all New Jersey B&L assets in the mid-1930s.

Sebastian Fleitas, *University of Arizona*
Price Fishback, *University of Arizona*, and
Kenneth Snowden, *University of North Carolina, Greensboro*

World War II and the Industrialization of the American South

When private incentives are insufficient, a big push by government may lead to industrialization. This paper uses mobilization for WWII to test the big push hypothesis in the context of postwar industrialization in the American South. Specifically, I investigate the role of new manufacturing capital and find that despite a boom in output during the war, mobilization failed to generate the production-side spillovers that facilitate industrialization and lead to regional development in the long run. The South industrialized in the second half of the twentieth century, but this was not the result of a WWII big push.

TAYLOR JAWORSKI, *Queen's University*

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