Abstracts of papers presented at the 2024 Cliometrics Conference at American University in Washington, D.C.

**Rags to Rags: The Effects of the New Poor Law across Three Generations\***

**Jon Denton-Schneider† Clark University Jennifer Mayo‡ University of Missouri**

We study the intergenerational impacts of cash transfers using the 1834 (“New”) Poor Law, which drastically cut the income support that had been provided to 15 percent of the population in England and Wales and cost 2 percent of GDP. We show that in 1861, cohorts more exposed to income-support declines in childhood held lower-skilled jobs as adults and had fewer of their children in school. Linking these sons to the 1901 census, we find the same results for them as adults and for their children, highlighting the importance of accounting for multi-generational effects in cost-benefit analyses of social programs. Keywords: Welfare programs, austerity, intergenerational mobility, English Poor Laws JEL Codes: H53, I14, I24, I38, J62, N33, O15

**Castilian Wages in the Long Run: Toledo 1517-1800**

**Mauricio Drelichman\* The University of British Columbia**

**David González Agudo Universitat de València**

Abstract The study of the long-run compensation on labour has traditionally focused on a single type of unskilled day labourer: masons. We tap sixteen different archives to expand the scope to 27 different occupations covering all skill levels, from the illiterate and untrained to the universityeducated, with workers drawn from all social strata. We develop a rigorous methodology to account for the role of in-kind payments, the value of which tops 90% of total compensation for low-skill workers on annual contracts during periods of monetary turmoil. We explore the impact of variation in the currency on the real earnings of different kinds of workers, and find that the mix of cash and in-kind compensation provided a remarkable flexible framework to preserve the purchasing power of salaries across the skills and income spectrum. We examine the evolution of the skill premium and of division of labour in the long run, documenting their compression as Toledo declined from the political and urban centre of Castile to a small rural administrative centre. We also provide new data on working days, and explore the difference in the compensation of day labourers and those on annual contracts for the same skill level. Finally, we document the long-run behavior of the gender gap, which was stable in the long run with women earning 80% of male salaries for identical work and productivity levels.

**Charting the Needham Puzzle: A Long-Term Perspective on Book Writing in China**

**Zhiwu Chen1 and Li Duan\***

**Faculty of Business and Economics, The University of Hong Kong**

Abstract Despite its longstanding recognition, the Needham Puzzle still has a core part of it unanswered. While comparative studies have reached a consensus regarding the divergence between China and the West following the Scientific Revolution, more evidence is needed to substantiate the alleged absolute decline in Chinese science during this era. This study investigates the historical trajectory of science, technology, engineering, and mathematics (STEM) knowledge production in China, using a novel dataset of book catalogs spanning over a millennia. We find a significant decline in the publication of STEM-related books from the medieval to late imperial China. In exploring the underlying mechanism, we examine the competitive dynamics within the marketplace for ideas that potentially diverted intellectual efforts away from STEM. By tracking book writings in all the other thematic areas, we identify an escalating focus on statecraft and topics within the curriculum of the Civil Service Examination. Finally, by juxtaposing the shifts in the composition of Chinese knowledge production with the evolution of the state recruitment apparatus, we uncover a previously unexplored potential mechanism: the educational and scholarly tradition fostered by the examination likely promoted a culture of non-original, commentary-centric scholarship. This study casts new light on a plausible avenue for future inquiry into the Needham Puzzle and underscores the value of bibliometric analysis in deciphering long-term historical patterns of knowledge production.

**Carol H. Shiue and Wolfgang Keller**

**“Human Capital Strategies for Big Shocks: The Case of the Fall of the Ming”**

April 19, 2024 Abstract This paper employs unique genealogical data to study human capital decisions over seven generations as people in a Central Chinese county responded to the fall of the Ming dynasty which lasted from 1368 to 1644. The setting allows us to focus on the responses of interlinked families, rather than only on conditions in the places in which the families live. The shock reduced China's overall population by some 16%, a scale of destruction mirrored in Central China. Exploiting variation in destruction levels across villages within Tongcheng county, we show that the shock drastically reduced human capital acquisition of men that experienced the shock first-hand in their lifetimes. And yet, human capital acquisition reversed: from the third to the fifth generation, descendants of first-generation men who suffered the heaviest losses acquired more human capital than descendants of those that suffered less in the first generation. Different responses are estimated for these treatment and control observations even though we show that the two were comparable in the pre-shock period. We argue that trauma associated with the loss of land and property led to higher preferences for the relatively portable human capital, and this change in attitudes was transmitted from generation to generation. Evidence on the intergenerational transmission of human capital attitudes comes from finding that sons benefit from the human capital of their fathers among treated but not among control family lines. Furthermore, this higher human capital persistence is stronger for families in which a high overlap in parent and child lifespans gives more opportunities for face-to-face interactions. In addition, the difference in intergenerational human capital persistence exists after the shock but not before. Selective migration is crucial for the reversal in human capital. Comparing historically destroyed with not destroyed regions instead of treated with control family lines gives depressed human capital levels even after five generations, because families that outmigrate immediately after the shock tend to invest more in human capital given their relatively young age and affluence.

**Trade & Urban Recovery**

**Max Marczinek**

Why do cities recover from large shocks? Several theories have been proposed, which have similar implications for population, but differ in their implications for trade. I study cities' recovery after a plague shock using granular trade data at the city-level. Higher wages following the labour supply shock should have led to an export contraction. To the contrary, exports grew and plagued areas conquered new destination markets, particularly in capitalintensive manufacturing. I also document an innovation response, with plagued areas significantly likelier to begin exporting new products. To pin down the mechanisms, I build a Ricardian model. I show two channels, the Malthusian channel, through which lower population leads to higher wages and lower competitiveness, and the productivity channel, allowing sectoral productivities to change over time. I find that productivity growth in plagued areas outweighed wage increases, leading to the observed export boom. I also show that plagued areas employed more capital-intensive production methods and accumulated more capital, in line with an increased capital-to-labour ratio. Through the model, I argue that productivity advances led to long-run wage increases and capital accumulation, beyond the Malthusian component explaining higher wages and lower capital stocks through a decreased population. I find that manufacturing played the most important role and that urbanisation rates increased as a result. I suggest that rural-to-urban migration into manufacturing cities may have been enough to produce cities’ population recovery. In a counterfactual analysis, I shut down the productivity channel and find that the plague would have led to an export contraction in that case, confirming the prediction of Malthusian models. Therefore, I argue that the productivity channel is the missing link explaining an export expansion after the plague. My findings suggest that cities did not mechanically recover but actively adapted. Faced with scarce labour, plagued areas were forced to experiment. Further, my paper argues that trade is a crucial mechanism explaining population recovery, permitting cities to specialise and serve foreign markets. A productivity gain of a given size will produce higher wage increases in areas with higher baseline market access. The same is true for urbanisation rates. Therefore, cities with better market access will see faster wage growth and faster population recovery as a result. In conclusion, this paper argues that instead of a mechanical Malthusian population recovery, plagued areas became more productive and innovative. I show that in the absence of this productivity channel, the observed export expansion cannot be explained. Similarly, I argue that in the absence of productivity gains, cities would appear less resilient to shocks, as their population recovery would take longer.

**Technology Diffusion through Cultural Links: Evidence from Industrial Firms in Late Imperial Russia**

**Tamar Matiashvili**

This paper examines the role of ethnic connections in the diffusion of industrial know-how. We employ the 1894 manufacturing census of the Russian Empire, which includes detailed information on nearly 14,000 private industrial firms. Factory names included owners’ last names, allowing us to identify the likely ethnicity of a firm owner. We develop a machine learning algorithm to assign a most likely ethnicity to each firm owner. We then classify them into one of the five different groups: Russians, Germans, Jews, Other Western (Poles, Lithuanians, etc.), and Eastern minorities. Of these five groups, we regard Germans, Jews, and Other Westerners as culturally “connected” to Europe, whereas Russians and Eastern minorities are “non-connected”. We then compare firms owned by entrepreneurs with likely connections to Europe with firms owned by Russians or indigenous minorities of the Empire. We find that “connected” entrepreneurs played a major role in the adoption of industrial machinery, and advanced management practices from Western Europe. In particular, we find that firms owned by “connected” entrepreneurs were more productive in terms of revenue per worker and TFP, more likely to employ machinery instead of draft animals or human labor alone, more likely to employ machinery that ran on modern types of fuel such, and operated in more mechanically complex industries. They also employed more modern management practices by sharing ownership with partners, employing women, and operating on a more regular basis. By focusing on private firms instead of corporations, we show that these advantages did not stem from access to stock markets or protections of limited liability. We argue that the main source of higher productivity of these “connected” entrepreneurs was their superior knowledge of modern production techniques, and advanced management practices. We test this hypothesis using two different approaches. First, we digitize novel data from the 1893 Chicago World's Columbian Fair, which includes firm-level data on trade operations. We show that “connected” firms were more likely to import and export to Europe. Second, we identify industries in which Germany, one of the leading industrial nations at the time, attained superiority compared to other Western countries, and see whether entrepreneurs of German origin in the Russian Empire also had an advantage in these industries. Indeed, we find that German-origin entrepreneurs in Russia had the largest advantage in the chemicals industry, which directly corresponded to Germany's leadership in this industry at this time. Finally, we rule out salient competing explanations. For example, we show the absence of significant network effects: being surrounded by firms of the same ethnicity operating in the same industry did not confer a productivity premium. We also rule out the in-group effects for the Western groups, as we find that the productivity premium was just as strong for Connected owners when in majority-Russian population districts as in majority-non-Russian districts. Overall, our findings highlight the importance of cultural links in spreading the Industrial Enlightenment from the core to the European periphery.

**American relief and the Soviet famine of 1921-22**

**Volha Charnysh, Andrei Markevich, and Natalya Naumenko**

This paper explores the efficiency of one of the first mass-scale international aid policies -- American relief to Soviet Russia suffering from the 1921-22 famine. We construct a large novel panel dataset and document several new facts. We show that the famine resulted from the combination of grain requisitions during the War Communism and the severe drought and the resulting harvest failure in 1921. We further show that despite Soviet interference and infrastructural difficulties, the American Relief Administration (ARA) managed to distribute the relief based on the severity of the famine, with provinces that collected smaller harvests receiving more food. As a result, birth cohorts from the time window around the famine were more likely to survive in the provinces where the ARA fed more people. To establish a causal effect of American aid on survival, we rely on the arguably exogenous variation in grain shipments to Soviet ports and the location of the first ARA's headquarters in the suffering region. Our analysis shows how effective international aid can be when it is not captured by local elites.

**Engine of Intergenerational Mobility: Typewriter Adoption and Women’s Economic Outcomes**

**Myera Rashid (Northwestern)**

Abstract Women’s economic outcomes changed dramatically over the last century, but there is scarce evidence on the role of workplace technological advances in fueling these changes. This paper studies the effects of the adoption of the typewriter into US workplaces on women’s economic outcomes in the 20th century. Exploiting variation in the demand for typists across industries coupled with the geographic distribution of industries, I document that the adoption of the typewriter caused an increase in women’s labor force participation and a decrease in their likelihood of being married and having children. I show that the mechanisms driving these developments operated through two main channels: there was a direct effect driving White women to leave the household and enter offices, and an indirect crowding-in effect that increased the participation of Black women, who substituted for White women by entering domestic service work. The typewriter also resulted in upward mobility for women through the channel of marriage. Using linked data following women over time, I show that typists were more likely to marry men of higher socioeconomic status compared to women working in alternative white-collar occupations. This result holds in a within-household analysis comparing sisters. This finding is consistent with a hypothesis that typing and secretarial occupations offered women a unique opportunity to work in offices alongside higher earning men.

**Gaining Steam: Incumbent Lock-in and Entrant Leapfrogging**

**Richard Hornbeck**

**Shanon Hsuan-Ming Hsu**

**Anders Humlum**

**Martin Rotemberg**

April 2024 Abstract We examine the long transition from water to steam power in US manufacturing, focusing on early users of mechanical power: lumber and flour mills. Digitizing Census of Manufactures manuscripts for 1850-1880, we show that as steam costs declined, manufacturing activity grew faster in counties with less waterpower potential. This growth was driven by steam powered entrants and agglomeration, as water powered incumbents faced switching barriers primarily from sunk costs. Estimating a dynamic model of firm entry and steam adoption, we find that the interaction of switching barriers and high fixed costs creates a quantitatively important and socially inefficient drag on technology adoption. Despite substantial entry and exit, switching barriers remained influential for aggregate steam adoption throughout the 19th century, as water power required lower fixed costs and therefore was attractive to relatively low productivity entrants. These entrants then became incumbents, locked into water power even if their productivity grew.

**Inheritance and Inequality in a Pre-Modern Economy**

**Sheilagh Ogilvie1 and Felix Schaff**

**All Souls College, University of Oxford European University Institute**

April 2024 Abstract How did inheritance institutions a↵ect wealth inequality in a pre-modern economy? We address this question by exploiting a sharp border between partible and impartible inheritance areas in southwest Germany, together with household-level data from the registers of the 1545 Turk Tax. We find that partible inheritance — the practice of dividing parents’ wealth at death equally among all o↵spring — substantially increased wealth inequality. This result reflects a three-part mechanism, working through the family, the land market, and the structure of the economy. First, partibility allows more poor people to marry and form households, because of the expectation that married couples will support themselves independently. Under impartibility, by contrast, non-inheriting o↵spring seldom form households and often emigrate, reducing the number of poor households locally. Second, partibility fragments land, leading to a re-concentration in the hands of large landowners at the top, and to a larger group of land-poor and landless households at the bottom. Third, land fragmentation in partible areas induces people to undertake risky non-agricultural by-employments, increasing their vulnerability to economic shocks and their incentive to sell land to avert starvation. In the pre-modern context, the seemingly egalitarian institution of partible inheritance can counter-intuitively increase broader inequality. Keywords: Inequality, Poverty, Wealth, Inheritance institutions, Development. JEL Classification: D31, N33, N43, N93, P48, Z01.

**Financial Scarring and the Failure of the Freedman’s Savings Bank**

**Vellore Arthi (UC Irvine & NBER), Gary Richardson (UC Irvine & NBER), Mark Van Orden (UC Irvine)**

Abstract: The failure of the Freedman’s Savings Bank (FSB), one of the only Black-serving banking institutions in the early post-bellum South, was an economic catastrophe and one of the great episodes of racial exploitation in post-Emancipation history. Can events like these permanently alter financial preferences and behavior? To test this, we examine the impact of FSB collapse on insurance-holding, an alternative savings vehicle that was both accessible and extremely popular over the late 19th and early 20th centuries. We document a sharp and persistent increase in insurance demand in affected counties following the shock, driven disproportionately by Black customers. We also use FSB migrant flows to disentangle place-based and cohort-based effects. In so doing, we provide evidence identifying psychological and cultural scarring as a distinct mechanism underlying the shift in financial behavior induced by the bank’s collapse. Horizontal and intergenerational transmission of preferences further help explain the shock’s persistent effects on financial behavior.

**The Effects of Immigration in a Developing Country Brazil in the Age of Mass Migration**

**David Escamilla-Guerrero**

**Andrea Papadia**

**Ariell Zimran**

Abstract We study the effects of immigration in Brazil during the Age of Mass Migration, focusing on the country’s agricultural sector in 1920. The combination of the widely recognized value of historical perspective in studies of the effects of immigration and of Brazil’s unique position among major immigrant destinations of the period as a low-income country with a large agricultural sector and weak institutions imply that studying this context sheds light on the effect of immigration in countries at an early stage of development. Instrumenting for a municipality’s immigrant share using the interaction of aggregate immigrant inflows and the expansion of Brazil’s railway network, we find that a greater immigrant share in a municipality led to an increase in farm values and that the bulk of the effect was the product of more intense cultivation of land. Finally, we find that it is unlikely that immigration’s effect on agriculture slowed Brazil’s structural transformation.