Abstracts of Papers Presented at the Annual Meeting

SESSION 1A: WHAT MAKES THEM PAY?

Original Sin, Good Housekeeping, and Empire: The Relation between Currency Risk and Default Risk, 1870–1913

We study the interaction between currency stability and sovereign risk. When do countries' exchange rate policies have an impact on the expected ability to repay foreign debt? We first assess the relationship between these currency risk and default risk through a number of event studies, and then compare the estimated relationships across a large number of countries and colonies between 1870 and 1913. We find that currency risk does not always make the perceived risk of default higher.

MICHAEL BORDO, *Rutgers University*, CHRIS MEISSNER, *Cambridge University*, and MARC WEIDENMIER, *Claremont McKenna College*

Clio and the Economics of International Currencies, 1890–1910

How much does history matter? The question, is it fair to say, has never been addressed. This paper takes up the challenge by studying the role of path dependency in the late-nineteenth-century international monetary system. Using network analysis techniques and a new dataset that maps international monetary relations, we provide a study of variables that determine the "position" of the various currencies of the world. Specifically, we are able to test the role of contemporary factors vs. historical ones and find the contribution of the later to be extremely important. To be specific, the fact that London was a sophisticated market way before New York became one, led international bankers to use London as the main place to draw international bills, therefore reinforcing the importance of London. As a result, U.S. currency, despite the success of the U.S. economy in terms of both size and GDP per capita, remained a fairly secondary instrument until very late. It was still on par with Belgian currency in 1890. An implication of our study is to reinterpret the founding of the Fed in 1913 from the point of view of network theory.

MARC FLANDREAU, *Institut d'Etudes Politiques de Paris*, and CLEMENS JOBST, *Institut d'Etudes Politiques de Paris*

Supersanctions and Debt Repayment

Why do sovereign borrowers repay their debts? This paper considers two reasons why nations may have repaid their sovereign debts during the classical gold standard period. We test whether countries repaid because they experienced a persistent decline in trade during and after default (Rose, 2002) or because creditors nations punished defaulter by imposing "supersanctions": military pressure or political control in response to default. Using an augmented gravity model of trade and a new database of nearly 9,000 bilateral trade pairs, we do not find that, in general, trade between creditor and debtor countries fell in response to a default. However, we do find that supersanctions were an important and commonly used enforcement mechanism from 1870 through 1913. Following the implementation of a supersanctions, ex ante default probabilities on new debt issues and yield spreads fell by nearly 50 percent. Conditional on

https://doi.org/10.1017/S0022050706000210 Published online by Cambridge University Press

default, the probability that a country would be "supersanctioned" was greater than a one-third chance.

MARC WEIDENMIER, *Claremont McKenna College*,
and KRIS JAMES MITCHENER, *Santa Clara University*

SESSION 1B: LEVIATHAN IN DEBT

The Net Asset Position of the U.S. Federal Government, 1784–1802: Hamilton's Blessing or the Spoils of War

In 1790 the federal government was 77 million dollars in debt. By 1802 it was still 77 million dollars in debt. These debts were the outstanding liabilities incurred in the fight for independence. Between 1784 and 1802 the federal government also acquired an empire of land gained as the spoils of war in the Treaty of Paris granting U.S. independence from Britain. The states that initially claimed these lands ceded a total of 233 million acres of land assets to the federal government. These two issues, typically treated as independent in the literature, will be reconnected here by estimating the net assets position of the federal government, debt liabilities versus land assets, from 1784 through 1802 to establish the time path of solvency of the federal government. This will be used to evaluate whether early federal financial success was a Hamiltonian miracle or just the spoils of war.

FARLEY GRUBB, *University of Delaware*

How Much did the U.S. Government Value its Troops' Lives in World War II?: Evidence From Dollar-Fatality Tradeoffs in Land Battles

This study uses battle-level data to estimate the rate at which the U.S. Army traded dollars for fatalities in World War II. Using data from 164 engagements, I estimate the effects of American and German troops and tanks on mission accomplishment and U.S. battle fatalities. I supplement these data with cost estimates compiled from archived U.S. Army records. I find that the army could have reduced fatalities by increasing its use of tanks and decreasing its use of grouped tanks. In 2003 dollars, my preferred estimates suggest that this policy would have cost $1 million to $2 million per life saved. This figure appears roughly similar to soldiers' own willingness-to-pay to avoid fatality risk.

CHRIS ROHLFS, *University of Chicago*

Democratic Deficits and Fiscal Subventions: Economic Policy and Institutional Responses to Terrorism in Northern Ireland, 1969–1990

This paper examines how terrorism influenced Northern Ireland's economic policy and institutional framework. Direct rule, an institutional consequence of political conflict, implied a "democratic deficit" because it replaced political voice with technocratic administration. However, this "deficit" was compensated for in part by the creation of an alternative institutional framework centered on social partnership. Recourse to fiscal subvention in the early 1970s was viewed as a way of protecting the local economy from political violence and global slowdown. Likewise, Thatcherite reforms were postponed for similar reasons, and it was only once the issue of discrimination had been tackled that an institutional/policy convergence, including privatization and union reform, could occur. The economic and institutional effects of political violence were contingent on preceding and underlying features of the economy, policy, and society. In this sense path dependence is arguably relevant to understanding the institutional and economic effects of terrorism.

GRAHAM BROWNLOW, *Auckland University of Technology*

SESSION 2A: WAR WILL GET YOU THERE

War and American Tourism: Abstract

This paper examines the impact of the Civil War on American tourism. Tourism rose from being confined to the elite of American society to what some have described as mass tourism. The rise in travel, both domestically and overseas, appears to have come about largely from several upsurges rather than a steady growth. While the long-term rise in income contributed to the growth in tourism, other factors affecting the demand for and supply of tourist services and facilities were of some importance. Among those factors is war and its aftermath. In this paper we describe the ways in which the Civil War shaped the history of American tourism. That war did not generate a large upsurge in travel, but did create new tourist destinations, altered the nature of tourism, and may have had some positive effect on the volume of tourism in the long run.

ALKA GANDHI, *Lycoming College*, and THOMAS WEISS, *University of Kansas*

Collateral Damage: The Economic Impact of War, 1870–2000

Conventional wisdom in economic history suggests that wars can be enormously disruptive on economic activity, and especially international trade. Yet there is very little known, empirically, even about the forward causality, in large samples. We undertake the largest study to date, covering all known bilateral trade data and all known wars since the 1870s. Using the gravity model, we examine the contemporaneous and lagged effects of international conflict on the trade of belligerent nations, allies, and neutrals, controlling for other determinants of trade. We find large and persistent impacts of wars on trade, and hence on national and global economic welfare. Through a rough accounting we find that such costs can be of an order of magnitude similar to the "direct" costs of war, such as lost human capital and excess government spending on material. Case studies of the key examples, World War I and World War II, illustrate our argument.

ALAN TAYLOR, *University of California, Davis*,
and REUVEN GLICK, *Federal Reserve Bank of San Francisco*

SESSION 2B: CREDIT AND WEALTH UNTERDENLINDEN

Regional Banks for Microcredit Institutions: "Centrals" in the German Cooperative System before the First World War

Nineteenth-century Germany's thriving rural credit cooperatives restricted their operations to small geographic area and made long-term loans that were funded by short-

https://doi.org/10.1017/S0022050706000210 Published online by Cambridge University Press

term deposits. To address the lack of diversification and the liquidity problems inherent in these policies, cooperative leaders create a set of "central banks," regional banking institutions owned and controlled by their member cooperatives. Critics of the rural cooperatives thought the centrals' only purpose was to provide a conduit for state aid. This paper uses primary source material, published reports, and contemporary discussions to consider what the centrals doubtless contributed to the success of the system, although by locking up capital in the rural sector they might have reduced the pace of Germany's structural transformation.

TIMOTHY GUINNANE, *Yale University*

Top Incomes in Germany over the Twentieth Century

The paper presents new homogeneous series on top income and wealth shares in Germany (1891 to 1998). The general pattern is consistent with recent results for France: the secular decline in income inequality is for the most part an accidental, capital income phenomenon. Very top incomes were badly hurt by the major shocks of the period 1914 to 1945 and never fully recovered afterwards. Since 1945, top income shares have been relatively stable, with no rise during recent years (unlike those in the United States). The role of the war episodes in shaping the share of top incomes remains ambiguous: the striking pattern before World War II and World War I and, later Nazi power brought top income shares to rise quickly within a few years before they fell in the chaos that followed both conflicts. The striking result after World War II is that German top incomes are more concentrated within the top decile than in other industrialized countries.

FABIEN DELL, *DIW, Berlin, Germany and Paris-Jourdan France*

SESSION 3A: FIGHT NOW PAY LATER, EUROPEAN FINANCE WAR

Why is it that Europeans Ended up Conquering the Rest of the Globe? Prices, the Military Revolution, and Western Europe's Comparative Advantage in Violence

Data from England, France, and Germany show that the relative price of artillery, handguns, and gunpowder declined between the fourteenth century and the eighteenth century. Prices fell relative to the cost of factors of production, and the price decline suggests that the military sector of western European economies experienced sustained technical change before the Industrial Revolution; a claim in accord both with physical evidence of military output per soldier or sailor and with qualitative evidence from the research that historians have done on the later medieval and early modern military revolution. The price data and the physical measures of productivity shed new light on this revolution and point to a potential political explanation why Western Europe developed a comparative advantage in violence over the rest of the world.

PHILIP HOFFMAN, *California Institute of Technology*

The Origins of National Debt: The Financing and Re-Financing of the War of the Spanish Succession

Financing the War of the Spanish Succession (1702–1713) left each then-great power of Europe (Austria, Britain, France, and Spain) with unprecedented burdens of government debt. The competitive experiments in dealing with the amassed debt that followed over the next decade left Britain alone as holding the key to success in convincing a large and diverse number of individuals to hold onto their claims. We argue this was due to British institutions that allowed individuals to trade their claims with each other rather than being forced to redeem them from the government directly. We support our argument by analysis of thousands of individuals who had acquired various forms of the British government's debt over the course of the War of the Spanish Succession when that debt was largely consolidated into the capital stock of the Bank of England, the East India Company, and the South Sea Company in 1723.

ANN CARLOS, *University of Colorado*, LARRY Neal, *University of Illinois*, and KIRSTEN WANDSCHNEIDER, *Middlebury College*

Credit Rationing and Crowding Out During the Industrial Revolution: Evidence from Hoare's Bank, 1702–1862

Why was growth so slow during the British Industrial Revolution? More than a decade ago, Williamson proposed, "crowding-out," driven by numerous wars as mechanism. Little empirical evidence existed to support it. We argue that examinations of interest rates are misguided because the private loan market, because of the usury laws, balanced through quantity rationing. Using a unique set of observations on lending volume at a London goldsmith bank, Hoare's, we document that almost all loans are made at the maximum legal rate and the adverse impact of wartime financing on private credit markets. Whenever public borrowing rose above trend, private lending declined markedly. We conclude that there is considerable evidence that government borrowing, especially during wartime, crowed out private credit, and that the magnitude of the effect is important enough to explain in least partly why British growth during the period 1750–1850 was relatively slow.

PETER TEMIN, *Massachusetts Institute of Technology*, and HANS JOACHIM VOTH, *Universitat Pompeu Fabra and New York University*

SESSION 3B: CIVIL ACTIONS

Creative Destruction: Technological Change and Resource Reallocation during the American Civil War

This paper provides the first systematic investigation in the nature of invention and innovation in the Civil War. Second, this study investigates the extent and nature of the indirect effects of military conflict in terms of technological change. Third, the analysis is relevant to current discussions of the extent to which the Civil War was a "total war" in the sense of the fraction of resources that were diverted into war-related activities. The conclusions are based on results from a panel of over 8,000 patents that were filed between 1790 and 1870. A sample of 1,200 Civil War inventors was matched with the manuscript censuses of 1860 and 1870 in order to capture changes that occurred in their individual circumstances before and after the war, including occupation, wealth, and the rate and direction of their inventive activity. The preliminary results suggest that the Civil War was indeed a landmark event in the technological life of the nation, but the conflict fell somewhat short of being a total war.

ZORINA KHAN, *Bowdoin College*

Towards a More Perfect Monetary Payments Union

A neglected dimension of Reconstruction is the formation of a more integrated national payments architecture, based on the circulation of bank drafts and deposits throughout the emerging national correspondent banking system anchored in New York. The change in the payments system depended on complementary innovations in transportation-communications and wholesale trade sectors, but also Civil War banking and monetary policies. Our empirical analysis examines the "domestic exchange" market in regional centers, where banks bought and sold clearing balances held in New York banks. In this market the spot prices of New York funds could deviate from par (equal to 1) within bounds set by currency shipping costs. With data from several Midwestern and Southern cities, we describe and date the market's maturation, evidenced in the declining trend in exchange rate volatility, and assess the impacts of the forces of continuity (railroad freight rates) and change (national bank note issues).

JOHN JAMES, *University of Virginia*,
and DAVID WEIMAN, *Barnard College, Columbia University*

Health, Information, and Migration: Geographic Mobility of Union Army Veterans, 1860–1880

This paper explores how injuries, sickness, and geographical mobility of Union Army veterans experienced while in service affected their postservice migrations. Wartime wounds and illnesses significantly diminished the geographical mobility of veterans after the war. Geographic moves while carrying out military missions had strong positive effects on their postservice geographic mobility. Geographic moves while in service also influenced the choice of destination among the migrants. The farther into the South a veteran had traveled while in service, the higher the probability that he would migrate to the South. Furthermore, these migrants to the South were more likely to settle in a state they had entered while in service. This study suggests that the Civil War reduced the probability of migration by damaging the health of potential migrants. On the other hand, it stimulated their geographic mobility by sending them to distant regions. I discuss the mechanisms through which medical events and mobility while in service affected postservice migration and the roles different types of information in migration decisions.

CHULHEE LEE, *Seoul National University*

SESSION 4A: BOMB, GERMS, AND INVADERS

The Long-Run Impact of Bombing Vietnam

We investigate the impact of U.S. bombing on later economic development in Vietnam. The Vietnam War featured the most intense bombing campaign in military history. We use a unique U.S. military dataset containing bombing intensity at the district level (N = 585). We compare the heavily bombed districts to other districts, controlling for baseline demographic characteristics and district geographic factors. U.S. bombing does not have a statistically significant impact on long-run population density, poverty rates, infrastructure, or literacy in the 1990s. This finding is consistent

https://doi.org/10.1017/S0022050706000210 Published online by Cambridge University Press

with the view that institutions and geography are more important that initial stocks of physical and human capital for long run economic growth.

EDWARD MIGUEL AND GERARD ROLAND, *University of California, Berkeley*

The Black Death of 1348 and Wealth Distribution and Accumulation in Florence, 1250–1450

Between 1348 and 1350, a sudden demographic shock brought death and devastation of unknown proportions in Europe. The plague spread like a fire in most regions of Europe and killed about one-third of the population. Both the historical epidemiology of the pestilence (whether or not a bubonic plague), and its economic effects have been the subject of a vast literature. In this paper I contribute to these data by focusing on three issues: What was the effect of the Black Death of 1348 on marriage markets and dowry values in the city and countryside of Florence? Why did urban and rural marriage markets react in different ways to the same demographic shock? Given that dowries can be used as a proxy for family wealth, what were the short-term and long-term effects of the plague on per capita wealth and wealth equities.

MARISTELLA BOTTICINI, *Boston University and Universita' di Torino*

Did the German Occupation (1940–1945) Ruin Dutch Industry?

Until recently, when anything was written about the Dutch economy during the German occupation, it was about exploitation and destruction, resulting in impoverishment and hunger. In this paper the questions will be, how industry developed during the occupation period and what the actual situation was after liberation. The reason for these questions is that complete new calculations of all macroeconomic statistics for the period 1938–1948 gave quite different impressions of the economic development. From these new calculations it became clear that Dutch industrial production did not decline before the end of 1941. The first year and a half of German occupation was the best Dutch industry experienced in a decade. Until 1942 industry was booming, which resulted in important investments that in older historiography were completely ignored.

HEIN A. KLEMANN, *Erasmus University Rotterdam*

SESSION 4B: MANAGING POLITICAL UNCERTAINTY

Stock Prices, the Stock Market, and the Cost of the Mexican Revolution

This paper explores the costs of the Mexican Revolution by looking at the evolution of the prices of more than a hundred different companies quoted in the Mexican stock exchange. Historians and economic historians have long argued that the Mexican Revolution had negligible effects on economic growth in Mexico (Womack, 1978; Haber, Maurer, and Razo, 2003). We build stock indices for the market and for the different type of sectors in which traded companies operated. We measure the effects of the Mexican Revolution in two ways. First, we analyze the varying number of companies and determine the probability of survival of companies according to the financial information that we have for each of them (before and after the revolutionary period). Second, we also look at the change in the institutional characteristics of the Mexican stock market and its consequences in penetration and integration with stock markets in other countries. We see how the revolution affected the structural relation between the Mexican market and that of the United States using error correction models.

AURORA GOMEZ GALVARRITO, *Centro de Investigacion y Docencia Economicas*, and ALDO MUSACCHIO, *Harvard University*

The Nazi Squeeze on the Capital Markets in Occupied France

Most studies of war finance have focused on how belligerent powers have funded hostilities by using their own resources. Although incurring huge expenses, warring governments are usually assumed to attempt some optimization of revenue generation on behalf of their population. However, war finance in France during World War II was quite different. The collapse of the Third Republic left Berlin in control of a powerful industrial economy. This paper examines the methods used by the German occupation to extract financial resources from France. It provides a contrast to other studies of war finance, which have not focused on how capital market were exploited in occupied countries. To pay for occupation costs, German imports of French goods, and other indemnities and requisitions, bond finance was the preferred mechanism for raising funds; when it failed, inflationary finance was employed. Effective bond finance required capital controls on the equities market; these were strengthened in 1942 when bond prices softened. The burden imposed on the French economy was unsustainable and contributed to the rapid shrinkage of the economy. We assess the combination of policies employed by the occupation authorities, although the optimal rate of extraction would also depend on the German policies at home and in the rest of occupied Europe.

EUGENE WHITE, *Rutgers University*, and KIM OOSTERLINCK, *Universite Libre de Bruxelles*

Sons of Something: Nobility, Taxes, and Local Political Control in Sixteenth-Century Castile

The Spanish petty nobility, the famed *hidalguia*, vastly increased in numbers throughout the sixteenth century. I document this increase using a new database of nobility lawsuits constructed from the entire population of cases in the archive of the Royal Chancery Court of Valladolid, characterizing its so far unknown temporal distribution. It is commonly assumed that the tax-exempt status of *hidalgos* was the main reason behind widespread ennoblement; I use tax rolls and cost of lawsuits to show how this explanation, while important, is not sufficient to explain the vast majority of cases. I propose that the preferential access to municipal offices enjoyed by nobles constituted an equally attractive additional payoff. I document this claim using court cases in which nobles and commoners jostled for control of two governments. I also show that, when litigation erupted, losses through rent seeking far exceeded the distributive transfers either party could hope to receive.

MAURICIO DRELICHMAN, *University of British Columbia*

SESSION 5A: INSTITUTIONS AND UNEQUAL PAY

Unequal Opportunities: Segregation, Monopsony, and Racial Wage Discrimination in the Twentieth Century

This paper draws on the insights from the recent theoretical literature on labor-market search and monopsony to offer a new interpretation of historical labor-market discrimination against African-Americans. I argue that racial wage discrimination was profitable in segregated markets because job search costs created monopsony power for employers. This framework ties together a number of historical facts in a way that is consistent with the assumption of profit-maximizing behavior of other firms. For example, it helps explain why racial wage differentials were greater in skilled occupations, and why black unemployment rates exceeded white unemployment rates. Although the emphasis of the paper is on reinterpreting and synthesizing the existing historical literature, I also analyze census and other data to provide evidence in support of the argument.

WILLIAM A. SUNDSTROM, *Santa Clara University*

Wage Strikes in 1880s America: A Test of the War of Attrition Model

This paper test how well the game-theoretic "war of attrition" model fits characteristics of wage strikes that occurred during the 1880s in the Northwestern and Midwestern United States. We relate the probability that workers were victorious in such strikes to the magnitude of the wage increase or wage cut over which the parties fought, and to measures of the cost of continuing disputes faced by the workers and firms involved. To carry out these tests, we rely on an extraordinarily rich source of quantitative data on strikes, the Third Annual Report of the Commissioner of Labor: Strikes and Lockouts (1886). We find that the "war-of-attrition" framework describes 1880s wage strikes better than do alternative strike models.

THOMAS GERAGHTY, *University of North Carolina*,
and THOMAS WISEMAN, *University of Texas, Austin*

Who Should Govern Congress? The Salary Grab of 1873 and the Coalition of Reform

The "Gilded Age" following the Civil War spawned incredible riches for entrepreneurs. Some of these entrepreneurs attempted to use the political system to sustain, augment, or even create their wealth. According to the press, bribery was rampant in Congress, culminating with the Credit Mobilier scandal. Congress passed a 50 percent salary raise for themselves. The press dubbed the pay increase the "Salary grab." The bribery in Congress galvanized a reaction amongst some Congressmen to reform Congress. We analyze the voting behavior of individual Congressmen on several reform issues: the investigation of the Credit Mobilier scandal; the salary grab; the abolition of the franking privilege; and civil service reform. The votes on these measures cut across party lines. We collected data on the wealth of individual Congressmen along with their educational attainment. The "coalition of reform" consisted of elite Congressmen, both highly educated and wealthy. Though the coalition never succeeded, it re-emerged in a similar guise with the progressive movement.

LEE ALSTON, *University of Colorado*, JEFFERY A. JERKINS, *Northwestern*,
and TOMAS NONNENMACHER, *Allegheny College*

https://doi.org/10.1017/S0022050706000210 Published online by Cambridge University Press

SESSION 5B: GROWTH AND CONFLICT

War and an Economic Miracle: The Dutch Republic in Comparative European Perspective, c. 1570–1700

This paper studies the actual consequences of the expense caused by warfare in the Dutch Republic during a prolonged period of time (c. 1570–c.1700). In placing the findings in a comparative setting (generally seventeenth-century Europe) it analyzes how the war sums were spent and what the consequences were of those transactions. In the line of the New Institutional Economy, which explains economic performance by existing institutions, the paper aims to complement this theory by relating economic performance to those institutions that are linked directly to warfare. It is expected that much of the Dutch war-related expenses did not entail capital-destruction at all. On the contrary, much of the war costs contributed directly or indirectly to the over efficiency of the settings of the Dutch Republic that harbored a miraculous economic growth.

MARJOLEIN T' HART, *University of Amsterdam*

Colonialism, Warfare, and Industrialization: Manufacturing Productivity of Colonial Korea, 1913–1945

This paper examines the consequences of military investments by the Japanese government on the industrialization of colonial Korea. Unlike other colonial economies, Korea experienced a rapid industrialization during its colonial period. Many scholars have argued that the industrialization of colonial Korea mainly occurred from 1930 through 1945 as a result of Japanese military projects in Manchuria and China. However, recent studies emphasize expansion of manufacturing production before 1930. We explore these two hypotheses by measuring manufacturing productivity. Our estimation confirms that the manufacturing productivity started to grow faster from 1930. However, the level of productivity growth before 1930 shows that the industrialization before 1930 had gone beyond a simple expansion of traditional producers. This result sheds new light on the nature of the industrialization during the colonial period and impact of colonial legacies on the Korean economic growth since the 1960s.

DUOL KIM, *University of California, Davis*,
and KI-JOO PARK, *Naksungdae Institute of Economic Research*

The First World War and the Emergence of National Markets in Canada

The First World War caused major disruptions for the Canadian economy in terms of factor mobility and diversion of resources. European immigration and British capital imports stopped, and over a quarter of military-aged men served in the armed forces. The war appears to have had long-term effects on regional wage and price structures within Canada, and relative to the northern United States. This paper uses federal government records listing expenditures across the country by the armed forces to study changes in supply patterns and prices by region over 1914–1923. We also compare government purchase prices with reported retail prices for Canadian and northern U.S. cities. Distribution networks within Canada underwent substantial transformation as a result of wartime demand.

MARY MACKINNON, *McGill*, and CHRIS MINNS, *Trinity College, Dublin*

SESSION 6A: AMERICA AT WORK

Enabling the Visible Hand: Female Labor Force Participation and Industrial Concentration in the Early Twentieth Century

This paper investigates the relationship between the adoption of a new organizational structure, associated with the movement towards more concentrated industries, and the movement of women in the workforce. Input demand equations derived from generalized Leontief cost functions are estimated using industry specific data from a sample of Ohio manufacturing industries in the period 1923–1937. By disaggregating the data by both gender and type of employment, we find that female clerical workers were substitutes for physical capital and that technology adoptions saved on the employment of capital, male labor, and female production labor, and increased their use of female clerical labor. This evidence suggest that technological change may have been biased in favor of female clerical labor. In order to test the hypothesis that firms reorganized in order to take advantage of the increase in skilled workers, we divide the sample into three groups of industries, identified by their degree of vertical integration, and find that industries that were fully integrated took advantage of the availability of skilled female workers in the way characterized by the change in organizational structure described in the model. The preliminary results presented in this paper are consistent with the view that U.S. manufacturers respond to the increase in educated female labor in a way in that simultaneously expanded the demand for those workers.

MARINA ADSHADE, *Dalhousie University*, and IAN KEAY, *Queen's University*

The Wage Gains of African-American Women in the 1940s

The weekly wage gap between black and white female workers narrowed by 15 percentage points in the 1940s, primarily during World War II. We employ a semi-parametric technique to decompose changes in the distribution of wages, based on Census data. We find that changes in worker characteristics (such as education, occupation and industry, and region of residence) can account for a significant portion of wage convergence between black and white women, but that changes in the wage structure, including large black-specific gains within regions, occupations, industries, and educational groups, made the largest contributions. The single most important contributing factor to the observed convergence was a sharp increase in the relative wages of service workers (where black workers were heavily concentrated) even as black women moved out of domestic service jobs. We also use individual, retrospective work histories to shed light on women's job transitions during the 1940s.

MARTHA J. BAILEY, *Vanderbilt University*,
and WILLIAM J. COLLINS, *Vanderbilt University*

The Impact of the New Deal on the Diffusion of Tractors in the 1930s

The mechanization of the American farm in the first half of the twentieth century had profound impacts on both the agricultural sector and the U.S. economy as a whole. In this paper we explore what role New Deal agricultural policies had in the adoption of tractors on American farms during the 1930s. The literature suggests that by providing farmers with access to cheap credit, the Farm Credit Administration (FCA) may have increased the rate of mechanization. The Agricultural Adjustment Administration (AAA) also put cash into the hands of credit-constrained farmers, but at the same time decreased the scale of farming. We develop a simple behavioral model exploring the impact of these policies on the capital adoption choice of a representative farmer. Predictions are tested empirically using instruments variables. We find evidence that FCA spending increased the diffusion of tractors, the AAA decreased adoption.

PRICE FISHBACK, *University of Arizona*,
SHAWN KANTOR, *University of California-Merced*,
and TODD SORENSEN, *University of Arizona*

SESSION 6B: ALL QUIET ON THE WESTERN FRONT?

The Economics of World War I: A Comparative Quantitative Analysis

We draw on the experience of the major combatant countries in World War I to analyze the role of economic factors in determining the outcome of the war and the effects of the war on subsequent economic performance. We demonstrate that the degrees of mobilization for war are explained largely by differences in the level of development of each country, leaving little room for other factors that feature prominently in narrative accounts, such as national differences in war preparations, war leadership, military organization, and morale. We analyze the effects of the war on subsequent growth performances in term of the scale of destruction of physical and human capital. Although there was some rebound after the war, it was not enough to undo the negative effects of the capital destruction and the damage to the international institutional framework caused by the war.

STEPHEN BROADBERRY, *University of Warwick*,
and MARK HARRISON, *University of Warwick*

The Pity of Peace: The German Economy at War, 1914–1918 and Beyond

Economic history has displayed little interest in the economics of World War I. This paper looks into the seemingly uninteresting economics of World War I on the German side, and argues that the German war economy was more stable than previously thought. Conventional wisdom has maintained that war profiteering led to redistribution of incomes towards capital and thus contributed to revolution in 1918/19. We find no evidence of such redistribution once all industries are taken into account. War finance appears to have been hardly more inflationary than in Britain, although money circulation grew faster. We also find that the decline in output was less dramatic than previous research would suggest. We argue that the roots of the later difficulties lay not in the effects of the war on the German economy nor in the harshness of the peace agreements but rather in the incompleteness of the Allied victory against Germany.

ALBERCHT RITSCHL, *Humboldt University of Berlin*

Guns and Butter: World War I and the Canadian Economy

The Canadian economy was particularly disrupted by the First World War, but substantial impact of this shock has not been fully explored in economic histories of Canada. Of all the countries mobilized during the war, both European and non-European, Canada seemed to benefit most from the wartime boom and experienced the deepest postwar recession. During the war several sectors expanded dramatically, prairie grains ("butter") and chemicals/munitions ("guns"). We note the elastic response both of output and of the allocation of factors of production to these booming sectors and their contribution to GDP growth. Agricultural prices remained inflated immediately after the war, and the reallocation of factors was delayed. When world agricultural supplies finally adjusted and prices fell, the impact on the Canadian economy was all the stronger leading to a tremendously sharp decline in output unmatched prior to the Great Depression in its length and depth.

BYRON LEW, *Trent Univerity*, and MARVIN MCINNIS, *Queen's University*