Printed from History Study Center - May 6, 2009

The economic effects of the Great War

O Brien, Patrick. **History Today**. London: Dec 1994. Vol. 44, Iss. 12; pg. 22, 8 pgs

Full Text (5133 words)

Copyright History Today Ltd. Dec 1994

For more than a century before the Great War quantum and qualitative leaps towards the integration of regions and nations into a global economy occurred. Throughout the world people's incomes and working lives came to be affected more and more by exports and imports, by foreign investment, by the migration of labour across frontiers and by fluctuations in rates of exchange between currencies within the imperfectly understood operations of an embryo international monetary system. In short, nineteenth-century industrialisation integrated national, regional and local economies into an interdependent global economy.

During the era of liberalism, (from 1846 to 1914) that process had been supported, more or less enthusiastically, by governments of very different political persuasions, who recognised the baneful effects of aggressive policies pursued against foreign capital and enterprise, and who saw national advantages in co-operating with other states to establish an international economic order, conducive to a relatively free flow of commerce between nations. Their restraint worked because the volume of international trade grew at 4 to 5 per cent a year, compared to around 1 per cent a year during the last century of mercantilism, 1713-1815. Trade also grew much faster than real per capita incomes so that ratios of exports and imports to national incomes rose from 2 to 3 per cent at the beginning of the nineteenth century to roughly a third by 1913.

Global war and its aftermath of financial disorder seriously interrupted a long period of high and stable growth experienced by a majority of nations before its outbreak in August 1914. The economic impact of that momentous political event (apart from marking the end of a boom which began in 1899) is difficult to isolate from long term economic development because the war coincided with the beginnings of the Second Industrial Revolution. That revolution was characterised by the rapid growth of new industries, such as electricity, petroleum, motorised transport, chemicals and artificial fibres, and by the rise of new forms of economic organisation (including business corporations, mass unions and the institutions of the regulatory state). It also witnessed shifts in the locus of economic power, within Europe (away from Britain, France and the Netherlands towards Germany and Scandinavia) and more significantly through the rapid industrialisation of competitors outside the core: Austria, Italy, Tsarist Russia, Japan and above all the United States.

All these trends, visible before 1914, resumed their forward march after the war. What then were the economic effects of war itself? Can its influence be depicted simply as four to six

years of dislocation while belligerent nations first reorientated their systems of production to meet the gargantuan demands of mass mobilisation for war before reallocating resources back again to satisfy normal consumption? Are the effects to be summed up as a series of temporary and often painful sacrifices which took the form of the substitution of 'guns for butter', fiscal and financial chaos, lost generations of dead and wounded servicemen and the destruction of capital; all of which were repaired once hostilities had ceased? Or did the Great War exercise profound and long-lasting influences upon the pace and pattern of twentieth century economic progress?

Economists have attempted to measure some of the more immediate and obvious costs of war. For example, they calculate that the countries actively engaged in armed conflict spent $187 billion in 1913 prices to wage war and that their armed forces destroyed houses, transport equipment, steel mills and other productive assets, valued at $37 billion. That destruction seriously depleted the capital stocks of a small group of countries, especially Belgium, France, Poland, Serbia, and Russia. Estimates for human casualties include: 8.5 million dead, 7 million disabled and 15 million wounded servicemen and women. In addition the premature deaths of 7.5 million civilians have been attributed jointly to the First World War and Russian Revolution. Although the scale of human suffering is horrifying, the numbers involved represent small proportions of Europe's total population and modest shares of its work force. One economist calculated that in the absence of war this 'lost generation' of young men and women might, if they had remained fully employed over their working lives, have produced goods and services worth around $67 billion. He also estimated that the value of the output sacrificed as a result of the reallocation of productive resources to military purposes at around $45 billion.

These visible and ostensibly computable costs add up to a conservative estimate of $336 billion -- a sum equivalent to four to five times Europe's production for 1913. Losses of this magnitude would have taken a generation to make up. But after 1918 European recovery and international economic relations continued to be plagued by the consequences of the Versailles Treaty, by controls erected to wage war and above all the malign legacies of wartime finance.

While taxes per head collected from the citizens of both the Central and the Allied powers doubled in real terms, most states funded from 75 to 85 per cent of their expenditures by large-scale borrowing, which effectively mortgaged future tax revenues to meet the interest and redemption payments due to people and institutions who had loaned their savings to national governments in wartime. High levels of borrowing to prosecute war implied high levels of post-war taxation. In 1923 the proportions of national incomes taken as taxes had more than doubled compared with 1913. National debts rocketed. For example the nominal value of the United Kingdom's public debt rose from L650 million in 1913 to L7,829 million in 1920 and the Government's interest bill increased pro rata from L24 million to L332 million over the same years. The debt of defeated Germany rose thirty times.

Debt creation on this scale could not have been sustained without full co-operation from

national banking systems. That would have been impossible if bankers had abided by pre-war rules for the issue of paper money or if central banks had continued to regulate supplies of money in order to maintain stable rates of exchange with gold and other currencies. As central and commercial banks monetised ever increasing supplies of government bills and bonds, inflation took off. Between 1913-19 price levels rose by factors of 4.2 in Germany, 3.6 in France and Italy, 3.3 in Sweden, 2.4 in the United Kingdom, and prices just about doubled in Canada, India, Japan and the United States. How to squeeze inflation out of the system and bring national price levels and paper currencies back into some kind of sustainable relationship with one another emerged as a major preoccupation of statesmen and central bankers in the 1920s.

Their difficulties were compounded by the intertwined problems of inter-allied debt and German reparations. During the war years imbalances in payments between the allied economies were settled partly by running down reserves of gold and foreign exchange, partly by selling foreign assets for hard currencies, but mainly by a system of deferred payments negotiated bilaterally between states united in a common cause. By 1918 the accumulated debt of the Allied powers amounted to $16.3 billion. $7.1 billion was owed to the United States (a sum which included $3.7 billion due from the United Kingdom) while some $7 billion was owed by France, Russia, Italy, Belgium and other countries to Britain. At the end of the war these debts led to recrimination among former allies which complicated the task of reconstructing the international monetary system. The American view was that wartime credits extended in good faith must be fully repaid. For the British Government loans between states allied in a common purpose could be considered part of the combined war effort and should be cancelled. If, however, the United States insisted upon repayment then Britain would be compelled to collect from France and other debtors. Meanwhile, the French persistently linked their willingness to meet their obligations to the reparations they had been awarded under the Versailles Treaty. When Germany paid up then France would do the same.

In several ways the war also reinforced tendencies to protectionism; already evident but kept within bounds before 1914. For example, the Versailles Treaty provided for the dismemberment of two large multinational free trade areas -- the Habsburg and Romanov empires -- and for the creation of several new countries, which lengthened frontiers by 125,000 miles. The new nationalistic states of Poland, Estonia, Lithuania, Finland, Yugoslavia and Czechoslovakia were determined to sever links with Russia and Austria and to establish modern and viable national economies. To this end they created their own paper currencies, erected tariffs to protect their farmers and infant industries and seized railway rolling stock belonging to their former imperial overlords. Industries built up on the basis of specialisation (for example between Romanian wheat and Hungarian flour, Austrian spinning and Bohemian weaving and Lorraine ores and Ruhr coal) found the political basis for effective integration pulled from under them.

Secondly, while cut off by naval blockades and exorbitant transport costs from their normal supplies of manufactured imports, a long list of countries embarked upon programmes

designed to produce a wider range of manufactured goods at home. At the close of hostilities governments found their young industries under threat from international competition and raised tariff barriers.

European governments also became far more concerned with national self-sufficiency in foodstuffs. In wartime a rising proportion of food and raw materials had to be satisfied from local sources. That strategic necessity hastened the diffusion of chemical fertilizers, selected seeds and new forms of power and farm machinery among farmers, which reduced the natural advantages of abundant and more fertile lands outside Europe. In the wake of understandable concerns about security, the intensified pressures of agrarian interests on governments to support farm prices against foreign competition found political support.

Of course it is impossible to predict how the world economy might have developed without the catastrophe of the Great War. But from the vantage point of 1900-14 there seemed to be no need to be anything but optimistic about prospects for the future. Growth rates had attained record levels. New technologies and more efficient forms of business organisation appeared year after year. Unacceptable and potentially destabilising aspects of competitive capitalism, including the maldistribution of income and wealth, were coming under political regulation. International economic relations continued to operate smoothly and core economies were adjusting to the realities of foreign competition -- particularly to the rapid rise of the United States already the most important industrial power of the twentieth century.

Europe's inevitable decline in relative terms became more of a problem after the war which had witnessed: destruction and depreciation of capital (especially in France and Belgium); the exhaustion and pillage of the German and Austrian economies and the chaos which attended revolution and civil war in Russia. Recovery took place slowly and in fits and starts. By 1920 Britain and Italy had regained the levels of industrial production achieved in 1913. Other European powers were still several years off even that modest measure of recovery. War certainly promoted the more rapid rise of the United States and Japan. Even the most flexible of industrial market economies had never found adjustment to the erosion of comparative advantages on world markets easy. Called upon to cope with a discontinuous jump in the competitive position of American industry, at a time of disorder in international monetary relations, heightened levels of protection and exhaustion from the most costly war since Napoleon, proved, in the event, to be doubly difficult.

To restore the international monetary system so that it could once again operate to promote the commerce and development of nations became a top priority of governments and central bankers in the 1920s. Bur unlike their predecessors in power before 1914 they came under increasing pressures (particularly in those societies 'democratised' by the experience of mass mobilisation for war) to attend to other objectives such as structural change, to the protection of industrial workers and farmers from foreign competition, to social welfare and above all to unemployment. As just one among a plurality of demands that confronted governments, 'sound money' could no longer subsume and command other political objectives in the new democratic and populist post war world.

Their very real dilemmas can be illustrated best by considering the case of France. After six years of inflation what exactly was the 'true' international value of the franc in 1920? French capital stocks had suffered badly from the ravages of war. Its mobilised economy needed time to re-adjust to the deterioration in competitive advantages, compared to rival industrial nations, especially the United States, but also Britain. Could the Banque de France stabilise and revalue the franc and allow the country's exports to lose ground to German goods, continuously cheapening on world markets through the persistent depreciation of the mark? Powerful rentier groups in France pressed for deflation and a return to the 'pristine' (i.e. 1913 parity of the franc). At a stroke that would inflate the real value of the interest they received on rentes and raise the capital value of their paper claims on the stare. On the other side a majority of businessmen, industrial employees and peasants felt certain that their interests would suffer from a restrictive monetary policy designed to lower the prices of manufacturers and agricultural produce in the interest of something called 'stability'.

If statesmen 'undervalued' the franc that would stimulate exports and restrain imports, but could lead to retaliation from competitors abroad, who could depreciate their own currencies and erect tariffs in order to offset the 'unfair' advantages gained by a 'cheap' franc on international markets. An 'overvalued' franc would please Frenchmen on fixed incomes but would depress exports and stimulate imports to the detriment of profits, wages and the employment prospects of the productive classes.

Thus a speedy and orderly transition to peacetime conditions in Europe became impossible because the aftermath of war included a major boom from 1919-21 followed by a severe slump and hyper-inflations which raged in Austria, Germany, Hungary, Russia, Poland and elsewhere during the early 1920s. Originating as pent-up demand for consumers goods and in industry's need to restock and re-equip for peacetime production, the boom was fuelled by the continuation of easy credit conditions which had sustained expenditures during the war years. It was brought to an abrupt end when governments balanced budgets, curbed money supplies and raised interest rates. During these two years national price levels moved even further out of line when some states (particularly Britain and the United States) subjected their economies to severe doses of deflation but other governments maintained levels of expenditure way beyond their political capacities to raise taxes.

For a variety of plausible reasons many European governments found it politically inexpedient to raise more in taxation or to implement programmes of retrenchment in public expenditure. Obviously revolutionary regimes consolidating their power against enemies within (Bolshevik Russia) or defending their frontiers against enemies without (Poland, Greece and Turkey) continued to maintain huge military forces. Dismemberment of the Habsburg dominions left the governments of Austria and Hungary with insupportable burdens of obligations to the former civil servants and soldiers of the empire, but bereft of the fiscal resources required to honour their commitments. In Germany the young democratic republic lacked either the will or the political base required for thoroughgoing reform of the fiscal system required to pay interest on a national debt, swollen some thirty times by military defeat and augmented still further by the need to find $31 billion for reparations. All

this came at a time when Weimar needed to reconstruct a defeated and demoralised capitalism, denuded of 90 per cent of its merchant fleet, 17 per cent of its mineral resources, and 13 per cent of its arable land.

For these reasons several states continued with 'emergency finance'. Ministers funded what they regarded as unavoidable public expenditures by recourse to paper credit.

Once under way the process became difficult to arrest because politicians could claim, with some semblance of truth, that they were merely passive agents in a momentum of spiralling prices and had sanctioned the creation of paper money in order to maintain necessary public services, especially law and order. In their speeches inflation originated in, for example, the breakup of the Habsburg empire, unjust and crippling reparations, attacks across the Soviet border, the occupation of the Ruhr, or whatever else they found to be a real but convenient scapegoat. Furthermore, inflations, even hyper-inflations in their initial stages, generated support: among workers whose wages were indexed, and among merchants and industrialists who had incurred debts at fixed rates of interest in anticipation of a continuous rise in prices. Ministers found inflation to be the solution to the overwhelming burdens of debt which they then serviced in a paper currency depreciating by the day. Rentiers could be silently expropriated with. out incurring the costs involved in the explicit repudiation of wartime debt.

Inflations could not, however, be sustained beyond the point where widespread losses of confidence in paper currencies occurred. Breakdown, when it came, was symbolised by refusals to accept local paper money and the sealing of contracts in foreign currency, in rates of interest fixed by the day and extraordinary falls in rates of exchange. Thus when Austria's currency finally collapsed as an acceptable medium for transactions, prices had risen 14,000 times compared with 1913. Before the war the Deutschmark had exchanged at 4.3 to the dollar. At the height of the inflation in June 1923 the rate stood at 100,000 to the dollar. Similar rates of depreciation afflicted all these countries and inevitably the monetary and fiscal policies of nominally sovereign governments who had presided over these hyper-inflations came under various forms of international control. Stabilisation programmes were implemented involving drastic reductions in public expenditures and the issue of new currencies fixed in value to the dollar or to the pound and backed by inflows of loans from foreign governments or by private credits mobilised by political action to ensure convertibility.

Needless to say hyper-inflations followed by massive deflations left behind a legacy of bitterness among groups who lost out. These awesome examples of hyper-inflations also undermined the confidence of liberal governments to experiment more boldly with fiscal and monetary policies to curb rising levels of unemployment in their own societies.

In a world beset by volatile movements in prices, mistrust among nations, heightened tendencies to protectionism and rapid changes in comparative advantages, states had lost a great deal of the authority they possessed before 1914 to implement policies based upon the

rather simplistic premises of that era. Yet slowly and painfully from 1923-28 they made the ultimately futile attempt to return to normalcy by restoring the gold standard.

Although world trade regained some ground by growing at an acceptable rate during the recovery from 1924-29 and flows of capital began to approach 1900-13 levels, the international monetary system remained far more vulnerable to shocks than it had been since the Napoleonic Wars. Stable exchange rates cannot survive if they impose politically intolerable burdens of adjustment in the form of excess capacity upon national economies. And the issue of unemployment became far more of a problem when the United States Congress shut off Europe's safety valve by imposing drastic limitations on immigration in 1921. Several other governments also placed obstacles in the way of free flows of labour and emigration throughout the inter-war years declined to a mere fraction of its levels from 1899 to 1913.

Meanwhile the exchange rates selected by various governments turned out to be anything but well calculated to reconcile national interests with international objectives. For example, in 1925 the Chancellor of the Exchequer returned Britain's and the empire's monetary systems to gold at the 1913 parities. While Churchill's overvalued pound pleased the City, it imparted a deflationary bias to economic policy, augmented the already high levels of unemployment and formed the background to the General Strike of 1926. A year later Poincare stabilised the franc at a mere fraction of its 1913 purchasing power against the dollar. His grossly undervalued franc protected French industry against imports, promoted exports and allowed the Banque de France to accumulate and sterilise reserves of gold and hard currency. In relation to its economic power enhanced by war the American dollar was also seriously undervalued throughout the 1920s. Other economies found it increasingly difficult to sell to the United States, whose industries continued to enjoy the benefits of relatively high levels of protection. Americans neither opened heir markets to imports, nor did they export capital on the scale required to underpin the kind of boom in trade and capital formation required to carry the world economy forward.

Before 1914 the openness of the British economy and the extraordinary volume of loans and credits made available through the City of London relieved potential monetary restraints on the expansion of international trade. War accelerated the deterioration in Britain's industrial competitiveness. Compelled to sell foreign assets in order to obtain hard currency to fund strategic imports in wartime meant that income from interest and dividends declined. Her balance of trade ceased to be strong enough to support high levels of foreign investment. Indeed the City only maintained its position as a leading international creditor because British banks borrowed short (especially from France) and then lent long to debtor nations.

America began to act as the chief source of loans and credit for transactions around the globe. That country's investments abroad grew from $7 billion in 1919 to $17 billion by 1930. But for several reasons the United States did not assume the 'hegemonic' responsibilities exercised by Britain for several decades before the war. Firstly as a large economy it depended far less on trade. The American banking system was not adapted to

cope with the intricacies of international finance and was politically far weaker than the City of London to exert pressure on the Federal Government to take a more 'internationalist' stance in economic policy and thereby, wherever necessary, to override the interests of organised industry, agriculture and labour. Indeed counter pressures on Washington to be anything but internationalist built up after the Great War -- popularly regarded as a costly venture into European power politics which had left American taxpayers holding a burden of uncollected debts from its former allies. Above all the large and booming American economy continued to absorb investible funds (domestic and foreign) upon a mammoth scale from 1919-29. During the stock market bonanza at the end of the decade not only did American investors turn sharply away from foreign securities, but European capital flowed into New York to push equity prices and the temperature of speculation to untold heights which eventually culminated in the great crash of 1929.

Formal adherence to a set of conventions governing the monetary and exchange rate policies of sovereign states had never been sufficient to ensure the smooth operation of the system, but it had survived even when buffeted by cyclical downturns and financial crises. Central banks had traditionally responded pragmatically to inflows and outflows of specie. Nevertheless, their monetary and interest rate policies had been used from time to time to bring about needed adjustments in imbalances in the payments systems among the nations. From 1925 to 1931 and with unemployment at record levels, deflation became a less acceptable policy for central banks losing reserves to pursue in the interest of external balance and stable rates of exchange. At the same time the central banks of countries such as the United States and France, with healthy surpluses on current, accumulated far too much gold at the expense of debtor states attempting to run import surpluses on credit.

Without proper support from other key currencies Britain attempted to manage the restored monetary system much as it had done before the war. But the real political and economic conditions which had made the hegemony of London feasible had passed away. Britain's balance of payments position continued to worsen. While the City could still borrow from some countries in order to lend to others, it was no longer the dominant financial centre. Other banking sectors in Paris; Zurich, Berlin and above all New York competed with London for deposits of foreign currencies.

These liquid balances of mobile money became increasingly 'hot' and began to move with alarming alacrity in response not merely to variations in short-term rates of interest, but also in relation to the perceptions of investors as to the stability of an exchange rate with respect to other currencies. As usual London continued to manage its sterling credits on minuscule specie reserves. That strategy depended upon foreign confidence in the Bank of England's capacity and willingness to maintain the pound at a fixed par value with gold. Not only was the whole edifice subject to domestic pressures for some kind of reflation within the United Kingdom but vulnerable to external shocks leading to the withdrawal of foreign balances and a run on the bank's inadequate reserves of gold. Both pressures appeared during the Great Depression of 1929-32 and their simultaneous intensification led to the collapse of the system in the summer of 1931, but whether historians or economists can actually quantify

the long term economic effects of the Great War seems entirely doubtful. Counterfactual assumptions are implicit in the whole question and predetermine the type and scale of economic effects imputable to the war and to other developments that may or may not have occurred with or without hostilities from 1914-18.

Impatient with history, several economists have cut through the gordian knot by positing pre-1914 trends in rates of growth for national incomes, industrial outputs and consumption per head. Then they simply assume that in the absence of the Great War economies would have continued to grow at historical rates. Deviations from a postulated growth path are imputed to the malign influence of the war and its longer term significance assumed to be at an end once an economy is back on trend. This 'labour saving' methodology enabled Arthur Lewis to suggest that the world 'lost' an equivalent of four and a half years of industrial production and five years of agricultural output from the war. Basically, the same technique allowed Simon Kuznets to distinguish countries that did well from global war from those that did badly. However, the enduring effects of such a profound political perturbation need to be investigated country by country, step by step, with proper attention to distinctions between short run dislocations and long term consequences.

Clearly the destruction of capital and labour and the 'misallocation' of resources contingent upon mobilisation for the Great War took place upon an enormous scale that would be interesting to compare (if and when similar estimates could be constructed) with the subsequent and not unrelated global war from 1939-45; as well as with the 'big' wars against Revolutionary France and Napoleon 1793-1815 or the infamous Thirty Years' War which ended in 1648. Obviously the economies of all belligerent powers suffered from the costs of the Great War in different degrees and in various ways. Some, for example the United States and Japan, may even have gained in the sense that their levels of gross national product and potential for future growth were on balance probably greater in 1929 than they might otherwise have been. In relative terms there can be no doubt that the positions in international league tables of numerous industrialised and underdeveloped nations altered significantly as a result of this war.

Nevertheless, the Great War almost certainly acted to seriously constrain The growth of almost all national economies -- combatants and neutrals alike -- through less obvious mechanisms than the direct destruction and depreciation of physical and human capital and the massive re-allocation of resources from civil to military purposes. In entirely predictable ways the Great War interrupted and dislocated international commerce. Navies and armies blockaded and attacked foreign trade. Armed conflict promoted autarky. Flows of capital, labour and technology dried up in wartime. Fiscal and financial processes deployed by belligerent states to fund military expenditures effectively closed down a functioning international monetary system.

From 1893-1913 trade had expanded at an unprecedented rate of around 5 per cent per annum. Almost all parts of the global economy and especially the Third World participated in and gained from an extraordinary upswing that was not to be repeated before the long

boom of 1948-73.

Military disruption followed by political interference with international flows of commodities, capital, credit, labour and technology during the Great War persisted right down to and beyond the Second World War. The fragility of the international monetary system as reconstructed between 1924-29 contributed in no small way to the diffusion, severity and persistence of the Great Depression between 1929-32. Perhaps the greatest and least reparable of the many malign economic consequences that flowed from the Great War was the damage inflicted to the liberal international economic order that had sustained development down to 1914. Thereafter, and until the construction of a new system under American hegemony in the wake of a second global conflict, 1939-45, the loss of potential but unrealised gains from international commerce and competition across frontiers probably cost many if not most national economies more dearly than the destruction of their productive assets and labour power during four bitter years of fighting from 1914-18.

When historians consider outcomes rather than the causes of the Great War, they think of the Russian Revolution, the rise of fascism and their connections to the Second World War. Their perceptions of economic costs are often summed up as obvious lists of painful but temporary sacrifices (the destruction of capital, lost generations of dead and wounded servicemen, fiscal and financial chaos etc.). They sometimes forget that the war and its aftermath seriously disrupted a highly successful liberal international economic order that took about three decades to put together again. The losses that flowed from that disruption are not calculable but infinitely more serious than anything that can be added up from balance sheets constructed to expose the human and fiscal costs incurred to wage war.

FOR FURTHER READING:

T. Balderston, The Origin and Course of the German Crisis 1923-32 (Berlin 193); K. Burk, Britain, America and the Sinews of War 1914-18 (London 1984); B. Eichengreen, Gold Fetters: the Gold Standard and the Great Depression 1919-39 (Oxford 1992); A.G. Kenwood & A.L. Lougheed, The Growth of the International Economy 1820-1990, 3rd ed. (London 1992); A. Maddison, The World Economy in the Twentieth Century (Paris 1989); A. Offer, The First World War. An Agrarian Interpretation (Oxford 1991); D.P. Silverman, Reconstructing Europe after the Great War. (Cambridge, Mass. 1982); M. Tractenberg, Repatriations in World Politics: France and European Economic Diplomacy (New York 1980); G. Zieburg, World Economy and World Politics (Oxford 1990).

PATRICK O'BRIEN is Director of the Institute of Historical Research and Professor of Economic History at the University of London.

Indexing (document details)

Subjects:	World War I, International relations, History, Economics
Author(s):	O Brien, Patrick
Document types:	Feature

Publication title: History Today. London: Dec 1994. Vol. 44, Iss. 12; pg. 22, 8 pgs

Source type: Periodical

ISSN: 00182753

Reproduced with permission of the copyright owner. Further reproduction or distribution is prohibited without permission.

Copyright © 2001-2009 ProQuest LLC.
All rights reserved.
Printed from History Study Center © 2001-2009 ProQuest LLC. All Rights Reserved.