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**Disequilibrium, Trade and the Consequences of  
Adjustment**

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While most shocks to the economy lead to disequilibria that can be anticipated and accommodated, some shocks lead to major disequilibria which are not easily recognized, at least initially, and can have wide-ranging consequences. For some groups in society, these consequences can be life altering in ways which reduce their wellbeing – they bear large costs of adjustment. Some previous shocks of this nature and their consequences are outlined in this article. One source of such shocks is changes in the arrangements under which international trade is conducted. One such event was accession of China to the WTO in 2001. The disequilibrium that followed China's accession is discussed and tied to the political discontent being manifest in many developed countries in the middle of the second decade of the 21<sup>st</sup> century – fifteen years after accession.

Keywords: China, costs of adjustment, disequilibria, international trade, political dissatisfaction

## Introduction

Whilst Italy was ravaged by the Goths, and a Succession of feeble tyrants oppressed the provinces beyond the Alps, the British island separated itself from the body of the Roman empire. The regular forces which guarded that remote province had been gradually withdrawn; all Britain was abandoned without defence, to the Saxon pirates and the savages of Ireland and Caledonia. The Britons, reduced to this extremity, no longer relied on the tardy and doubtful aid of a declining monarchy. ... They expelled the Roman magistrate, who acted under the authority of the usurper Constantine.... The independence of Britain ... was soon confirmed by Honorius himself, the lawful emperor of the West; and the letters by which he committed to the new states the care of their own safety might be interpreted as an absolute and perpetual abdication of the exercise and rights of sovereignty.

Edward Gibbon

Volume III, Chapter 31

*The History of the Decline and Fall of the Roman Empire*, 1781<sup>1</sup>

The economists tell us, to be sure, that those laborers that have been rendered superfluous by machinery find new avenues of employment. They dare not assert directly that the same laborers that have been discharged find situations in new branches of labor. Facts cry out too loudly against this lie. Strictly speaking, they only maintain that new means of employment will be found for *other sections of the working class*; for example, for that portion of the young generation of laborers who were about to enter that branch of industry which had just been abolished. ...

But even if we assume that all those who are forced out of employment by machinery, as well as all the rising generation who were awaiting a chance for employment in the same branch of industry, do actually find some employment: – are we to believe that this employment would pay as high wages as the one they have lost? ... We have seen how modern industry always tends to the substitution of simpler and more subordinate employments for the higher and more complex ones. How, then, could a mass of workers thrown out of one branch by machinery find refuge in another branch, unless they were to be paid more poorly?

Karl Marx

*Wage-Labor and Capital*, 1902, p. 42<sup>2</sup>

Before its accession to the WTO, China's initial domestic reforms involved taking tentative steps towards introducing a market system to its economy.... WTO membership strengthened the hand of reformers seeking to hasten China's movement towards a more developed market economy. The benefits of WTO accession became an added reason for undertaking the domestic reforms needed to join the organization. WTO entry has allowed China's leadership to make more credible commitments towards moving China towards a system that more fully recognizes private enterprise.

The requirements of WTO entry forced Chinese policymakers to confront politically difficult issues. These included reforming domestic banking institutions, subjecting state-owned enterprises to harder budget constraints, and allowing private firms to freely engage in international trade. WTO entry also mobilized domestic firms to become more competitive through restructuring, acquiring new technologies, and forming new alliances and mergers with both domestic and foreign firms.

R.Z. Lawrence

*China and the Multilateral Trading System*

National Bureau of Economic Research, 2006, pp. 8-9

Shocks lead to disequilibrium in societies. Many shocks are small and have only limited effects on a society's internal interactions. Other shocks, however, lead to a fundamental restructuring of those interactions, including wholly new interactions and the demise of others. For economists the aftermath of a shock leads to a state of disequilibrium. The insights provided by the practitioners of economics are most useful when the disequilibrium arising from a shock (or a hypothesized shock) is *small*. In such instances, a convergence toward a new potential equilibrium can be forecast with reasonable confidence. It is often assumed that the path of adjustment to the forecasted equilibrium can be safely ignored – it is a basic assumption of the most common analytical method used in economics, comparative statics. Complex multisector models are often constructed using comparative statics as their basis. It is also the method of analysis that is most widely taught and with which both practitioners and non-practitioners of economics are most familiar and comfortable.<sup>3</sup>

If the disequilibrium is such that the path of adjustment may be analytically important or the endpoint opaque, then an alternative approach is available – dynamics. Dynamic analysis can deal with paths of adjustment moving to new equilibriums, perpetual disequilibrium paths and degenerate paths (Kerr and Anderson, 1991). Dynamic analysis is less accessible due to its mathematical form. The requirements of its mathematical form also constrain its use to a limited set of problems. Despite these limitations, dynamic analysis can often provide useful insights into the effects of a shock and the resulting disequilibrium.

There are, however, shocks that lead to disequilibria whose paths of adjustment cannot be reliably foreseen. Some shocks cannot be prevented – natural phenomena such as volcanic eruptions or hurricanes.<sup>4</sup> Many shocks, however, are the results of human decisions. Government policies are often deliberately induced disequilibria. When shocks are the results of deliberate human actions, their potential effects can be analysed and the net benefits or costs tallied up. If the forecast costs exceed the expected benefits, a choice can be made to not pursue the policy.<sup>5</sup> Comparative statics and dynamic analysis are used to inform such choices. The nature of the disequilibria created, however, may be poorly understood and unforeseen avenues of adjustment, and costs of adjustment, manifest over time. In some of these cases the costs of adjustment may be such that the costs of the shock exceed the benefits by a wide margin or that the adjustment costs negatively impact, to a considerable degree, a considerable segment of society. As a result, there may be unforeseen reactions among broad segments of society. While little can likely be done to prevent the disequilibrium coming to pass, there may be ways to lower the costs of adjustment for those feeling disadvantaged by the disequilibrium they are experiencing. This article explores such disequilibria and the associated adjustment costs.

## **Disequilibria**

Disequilibria can arise from a number of sources, such as political instability, technological advances and changes in international trade arrangements as well as natural disasters. Sometimes the initial disequilibria can lead to disequilibria in other areas, leading to a compounding effect that increases the opaqueness of both the adjustment paths and where the process will eventually settle, if at all. In some cases the end point may lead to a general decline in welfare, but in most cases there will be winners and losers arising from the disequilibrium created. While it may no longer be fashionable to call the two or three centuries immediately following the separation of England from the Roman Empire<sup>6</sup> the *Dark Ages*,<sup>7</sup> as Chesterton (1917, p. 15) suggests,

What the decline did involve everywhere was decivilization; the loss of letters, of laws, of roads and means of communications, the exaggeration of local colour into caprice. But on the edges of the Empire this decivilization became a definite barbarism, owing to the nearness of wild neighbours who were ready to destroy as deftly and blindly as things are destroyed by fire. ... [I]t is perhaps an exaggeration to talk, even in those darkest of ages, of a deluge of barbarians; at least when speaking of the old civilization as a whole. But a deluge of barbarians is not entirely an

exaggeration of what happened on some of the borders of the Empire ....  
And on the extreme edge of the world lay Britain.

The new equilibrium reached approximately two centuries after Britain's break with the Roman Empire left the overwhelming majority of the population of Britain worse off than when they were part of the empire (Acemoglu and Robinson, 2012).<sup>8</sup> This new arrangement brought a degree of social stability, based on feudal customs, which changed only slowly until the Elizabethan Age approximately 800 years later. The Middle Ages was characterized by local self-sufficiency, mass illiteracy, an absence of science (including engineering) in daily life and a culture that largely denied social mobility. The process of decivilization was such that within a few generations life in the Roman Empire was almost totally forgotten, so we can never know whether there was a feeling of frustration with the new arrangements or a hankering for a return to the arrangements that existed when Britain was part of the Roman Empire.

While the decision to leave the Roman Empire may have been a rational step given the circumstances, and may have been an inevitable outcome of the Empire's ongoing decline, the consequences following the event could not have been anticipated by the decision makers at the time. The disequilibrium created and the future paths of adjustment were opaque. The costs of adjustment were very large and incurred over a long period.

While the consequences of the disequilibrium created by the exit of Roman Britain from the Roman Empire were overwhelmingly negative, other disequilibria have, arguably, had overwhelmingly positive outcomes. One such source of disequilibrium was the harnessing of the internal combustion engine (in all its variations) for transportation.<sup>9</sup> In the early period of the automobile, when regulators were concerned with how it could be fitted into the existing transportation arrangements – by mandating, for example, that a flagman precede a *horseless carriage* to warn those with skittish horses of the impending arrival of the noisy conveyance – who could have foreseen the far-ranging changes set in motion (Kerr, 2014)? Neither the inventors tinkering with early automobiles nor policy makers attempting to devise regulations could have anticipated vast networks of highways joining virtually every corner of the globe, huge multinational automobile firms, gas jockeys, car washes, drive-in theatres, formula 1 racing, Uber, radial tires, motor inns, car seats, Top Gear, air bags, disk brakes, *blitzkrieg*, air pollution, road rage, auto malls, traffic circles, parking meters, camper vans, RV parks, meals on wheels, rumble strips, pizza delivery – the list is almost endless. A new equilibrium may not yet have been reached, with self-driving cars and electric cars<sup>10</sup> on the near horizon. While not

all aspects of the technologically based disequilibrium associated with the automobile are positive – urban sprawl, greenhouse gas emissions, gridlock – few would wish to return to the pre-car era.<sup>11</sup>

While the harnessing of the internal combustion engine for transportation, and other applications, was overwhelmingly positive, this is not to suggest that there were no losers from the technology. Local transport was dominated by vehicles powered by draught animals. Those associated with that industry – buggy makers, harness makers, farriers, feed merchants, draught horse breeders, knacker's yards, stables, whip makers, teamsters and a host of others saw their livelihoods shrink or disappear entirely. Applications of automotive technology to farming led to major changes, including a loosening of the constraint on farm size imposed by animal-based draught power – literally horse power – and the release of large tracts of farmland from providing food for draught animals<sup>12</sup> to being available to produce food for human consumption. This, in turn, led to decades of low food prices.<sup>13</sup> The latter, of course, was a benefit for consumers, but not farmers.

The negative impacts associated with the disequilibrium precipitated by the advent of the automobile did not lead to a disillusioned segment of the population. The change took place over a considerable period. Further, it led to increases in employment opportunities in everything from road building to fuel distribution to the factory floors of automakers. Many of these new opportunities were low skilled, so those being displaced, including farmers, could find alternative employment. In some cases, particularly in the early period, the skills associated with manufacturing vehicles designed for draught animals could transfer to auto-frame, auto-body and auto-upholstery. Others, such as teamsters, found the transition from managing a team of animals to trucking relatively easy. While some may have looked back with fondness to the era of animal power, few would have wished to return to it. There does not seem to have been any widespread social movement advocating a return to the previous equilibrium.

Other disequilibria that have arisen from the adoption of new technology, while they may have been, on net, beneficial, have led to widespread losses in employment and pushback from those whose livelihoods have been lost. The most well known were the Luddites in Britain in the second decade of the 18th century, although resistance to the replacing of skilled tasks in the textile and other industries extended beyond both the specific concerns of the Luddites and their timespan (Hobsbawm, 1964). During this period of the industrial revolution, one method available to those whose livelihoods were threatened by mechanization was to destroy the machines that were replacing their skills. Whatever one might think of the theories of Karl Marx, he

was a keen observer of the workplace. In *Capital*, Vol. 1, Chapter 15 he devotes Section 5 to the mechanization of production and its effect on employment. He states, “The instrument of labour, when it takes the form of a machine, immediately becomes the competitor of the workman himself” (Marx, 1867). In the same section he goes on to say,

No sooner had Everet in 1758 erected the first wool-shearing machine that was driven by water-power, than it was set on fire by 100,000 people who had been thrown out of work. Fifty thousand workpeople, who had previously lived by carding wool, petitioned Parliament against Arkwright’s scribbling mills and carding engines. The enormous destruction of machinery that occurred in the English manufacturing districts during the first 15 years of this century, chiefly caused by the employment of the power-loom, and known as the Luddite movement . . . . (Marx, 1867).

The disequilibrium wrought by mechanization early in the industrial revolution led to organized reactions against the changes taking place – those suffering from the negative effects of the state of disequilibrium realized their plight and struck back, in some cases by destroying the machinery that was the source of their impoverishment. Of course, the protests and destructive activities came to naught but, at the time, created a great deal of angst for governments. The Luddites were crushed with overwhelming military force and mass *show trials* held in York (Hobsbawm, 1964). Long before the rise of the Luddites in 1811, the British parliament had passed the Protection of Stocking Frames,<sup>14</sup> etc. Act<sup>15</sup> in 1788 which made the destruction of mechanical looms a transportable offence. In 1812, in response to the Luddite destruction of machinery, the act was strengthened by making the destruction of machines a capital offence.<sup>16</sup>

The disequilibrium that arose from the adoption of machinery in textiles and other facets of economic activity led to widespread impoverishment for a considerable segment of the population that had previously been gainfully employed. Again, according to Marx (1867),<sup>17</sup>

When machinery seizes on an industry by degrees, it produces chronic misery among the operatives who compete with it. Where the transition is rapid, the effect is acute and felt by great masses. History discloses no tragedy more horrible than the gradual extinction of the English hand-loom weavers, an extinction that was spread over several decades, and finally sealed in 1838. Many of them died of starvation, many with families vegetated for a long time on 2½ d. a day.

Clearly the costs of adjustment were high for an important and identifiable segment of the population. Of course, this was a time before the displaced workers had achieved the right to vote or had any direct access to the political process.

These types of disequilibria are manifestly different from those arising from other forms shocks. There is no doubt that the crash of the stock market in the United States in 1929 and related events created a shock that moved the global economy into a state of considerable disequilibrium, but it did not alter the economy in any fundamental way. While millions were thrown out of work and there was considerable hardship which extended over a considerable period, the resulting *Great Depression* was considered an anomaly and opinions were that a return to pre-shock norms would be the inevitable result. At first it was thought that the economy would *right itself* and return automatically to what had become acceptable levels of employment, income and economic activity prior to the shock(s). Governments initially took a hands-off approach and, in accordance with the economic thinking of the time, intervened minimally.<sup>18</sup> When, over time, the economy did not appear to be *righting itself*, more interventionist countercyclical economic theories, in particular those of British economist J.M. Keynes,<sup>19</sup> and eventually policies, came to the fore. These interventions were to provide the stimulus for the economy to return to equilibrium, particularly with respect to employment levels. There was neither a resignation to a new, low-level equilibrium nor an expectation of a manifestly better life than had been achieved in the run-up to 1929.

In a similar fashion, the financial crisis of 2008 did not fundamentally alter economic arrangements across the globe. It was a major shock, it did represent a considerable disequilibrium, but a return to pre-crisis norms was the expectation, and for that matter has largely been achieved. The adjustment paths are transparent even if the rates of adjustment are frustratingly slow at times. Thus, not all shocks lead to a disequilibrium that, in the end, will fundamentally alter the economic arrangements in the economy.

## **International Trade**

Changes in international trading arrangements can also precipitate disequilibria whose endpoints are opaque and which impose considerable adjustment costs on some groups. Most trade models that yield the insight that open trade – or more open trade – is welfare enhancing ignore the costs of adjustment. The movement of resources out of less efficient industries and into more efficient industries, which is the basis of gains from trade, is assumed to take place without cost (Kerr, 2007). While trade economists admit that adjustment costs exist in the real world, they are simply



assumed away and not included in the models,<sup>20</sup> or it is assumed that, as the benefits that accrue to *winners* from new trading arrangements will be larger than the costs of adjustment arising for the *losers* from the new trading arrangements, opportunities for compensation exist. Whether compensation actually takes place is not considered relevant. According to Pomfret (1991, p. 89),

The positive assessment of trade over no trade does, of course, depend on the assumed maximand, that is, that the social welfare function from which the community indifference map is derived, and if distributional effects are not compensated for or if the structural change and irrevocably altered lifestyles are undesirable then the assessment may be negative. Even with these caveats the pro-trade argument is very strong.

Of course, one of the reasons that the sub-discipline of trade policy in economics exists is that, for policy makers, potential adjustment costs are important. Trade barriers are largely put in place to prevent adjustment costs having to be incurred by at least some members of society – often identified as vested interests (Kerr, 2010). Policy makers often give different weightings in their decisions to the benefits and adjustment costs arising from potential changes in trading arrangements (Gaisford and Hester, 2007). Global trade remains considerably constrained, with a plethora of tariff and non-tariff barriers in place (Nassar, Arashiro and Jank, 2007; Ghazalian et al., 2007). For the most part changes in trading relationships take place only slowly and in relatively small ways. The process of trade liberalization initiated by the establishment of the General Agreement on Tariffs and Trade (GATT) has been ongoing, in fits and starts, since 1947 and is still a long way from realizing *free trade* (Josling, 2007). Preferential trade agreements such as the North American Free Trade Agreement (NAFTA) and the Association of South East Asian Nations (ASEAN) either have long phase-in periods or accept liberalization in principle but without specific commitments (McLachlan, Apuzzo and Kerr, 1988; Yeung, Perdakis and Kerr, 1999). This iterative approach tends to keep the disequilibria manageable with paths of adjustment that lead to foreseeable endpoints

In some cases, however, changes in trade arrangements lead to a considerable degree of disequilibrium where the potential paths of adjustment are opaque and the costs of adjustment significant. The iterative<sup>21</sup> improvements to seafaring, both technological and in ability, which allowed Portuguese ships to claw their way down the west coast of Africa and eventually to round the Cape of Good Hope, moved European (and Asian) economic relationships into a major disequilibrium – one which would have considerable adjustment costs associated with it.

Once the Cape of Good Hope was cleared, direct trade ties between *the Indies* and Portugal followed fairly quickly. The high-value spice trade dominated. Until the

direct sea route from Portugal to Asia was discovered in the late 1400s, trade between Europe and Asia was dominated by Arab traders on the eastern leg from Asia to the Mediterranean and Italian city states such as Venice and Genoa on the western leg through the Mediterranean and on to western Europe. The Italian city states became very wealthy through their monopolization of this trade.

The same seafaring innovations that allowed the circumnavigation of Africa, along with the desire to escape the Venetian monopoly and the new, rent seeking Ottoman Empire, also spurred attempts to sail west from Spain to reach *the Indies*. The latter, of course, led to the accidental discovery of the Americas. The direct trade between Europe and Asia and the discovery of America radically changed trading relationships. The first broke the Mediterranean route's lucrative monopoly on the spice trade (and other Asian goods) while the latter initially brought a windfall of wealth to Spain as they conquered and subsequently pillaged Central and South America and latterly opened up the resources of the Americas to Europeans. In terms of the spice trade, according to Van der Wee (1990, p. 29),

Between 1510 and 1530 the Portuguese predominance in re-export trade in African and Asian spices to the rest of Europe via Lisbon and the Antwerp market had reached its peak. Half of the revenue of King John III of Portugal in the 1520s came from this re-export trade. By contrast, the revenue that the Mamluk sultan derived from the transit trade in spices from Syria and Egypt toward Italy, still very high in the early 1490s, fell drastically at the beginning of the sixteenth century. Venice's share in the re-export of spices to Lisbon and Antwerp had decreased so much that in 1527 the Venetian Senate, in despair, offered to purchase the spice monopoly of the Portuguese crown, a proposal that was not accepted.

The Portuguese could not maintain their hegemony along the route to Asia, eventually giving way to the Dutch and English. The Mediterranean as a route for the spice trade did not disappear, but the monopoly had been broken and there was thereafter intense competition between the routes. Without the monopoly rents, Venice declined and could no longer provide the relatively prosperous life its people had long enjoyed. From being at the centre of Asia-Europe trade, as O'Rourke and Williamson (2005, p. 18) observe, "Venice was tucked away in what was to become the backwater of early modern Europe." The adjustment costs for the Italian city states were clearly very high.

The agreement to create an institution to make rules and foster the liberalization of international trade in the wake of the disastrous *beggar thy neighbour* trade policy confrontations during the *Great Depression* – trade barriers that were largely still in place at the end of the Second World War – was a bold step<sup>22</sup> in the more general remaking of the post-war *World Order*<sup>23</sup> engineered by the victors.<sup>24</sup> It was not bold,

however, in implementation, with the lowering of trade barriers accomplished through successive rounds of negotiations that are still ongoing today (Kerr, 2000). In contrast to this gradualist approach to trade liberalization, with its associated small disequilibria, a major change took place in 2001, a shock to the trading system that led to a major disequilibrium in world markets. This was the successful negotiation of China's accession to the WTO.

The accession of China to the WTO allowed, in one step, approximately 20 percent of the world's population the opportunity to fully participate in the global economy (Hobbs and Kerr, 2000). This vast reservoir of labour had been effectively barred from participation in the globalizing market due to the focus on self-sufficiency and fear of foreign entanglements of China's communist led government<sup>25</sup> (Cain and Kerr, 1987). From 1949 until the early 1980s China's economic interaction with the global economy was, by design, minimal. While China had been starting the process of dismantling central planning and its command economy from the late 1970s, and in the process had become more open to allowing enterprises to engage in trade and to garner foreign investment (Kerr and MacKay, 1997), it did so outside the *rules of trade* (Hobbs and Kerr, 2000). This meant that China's access to international markets was largely at the whim of trading partners, where access could be easily restricted; for example China's access to the U.S. market was reviewed each year by Congress. As a result, investments in trade-oriented activities were inhibited due to the uncertainty involved.

Not only was labour in China isolated from the world market, but, under central planning and command, entrepreneurship was actively discouraged. As a result, there was considerable pent up entrepreneurial capacity *bottled up* in China.<sup>26</sup> Further, in the process of liberalization, China began allowing access to its labour by foreign entrepreneurs, particularly those from the Chinese diaspora communities around Asia. Japanese and western firms were also able to tap into the pool of low-cost labour to a more limited degree.

With China's accession to the WTO,<sup>27</sup> much of the risk of investing in production for export was removed and the rules of trade, particularly for exporters, became transparent. Predictably, Chinese-made goods rapidly entered the global marketplace (He and Zhang, 2010; Tingvall and Ljungwall, 2012). The resulting disequilibrium had wide-ranging effects, particularly for manufacturing.

Of course, the presence of Chinese manufactured goods in global markets did not happen all at once, but has grown at a relatively rapid, if not steady, pace since accession. Competition from Chinese goods has had a considerable impact on manufacturing in both developed and developing countries. The impact in developed

countries has been far from monolithic. The manufacture of more technically sophisticated goods expanded in developed countries as global markets adjusted to growing Chinese demand as well as the increased supply of Chinese goods. For example, middle sized German manufacturers of specialized machine tools have prospered.

On the other hand, manufacturing in developed countries based on mid-skill labour has suffered from Chinese competition. The traditional *blue collar* jobs in these industries have disappeared in great numbers. These were jobs that once could be had by individuals with school leaver-level skills, where additional specific skills were learned on the job. Once they became unemployed, there were few alternative opportunities for these individuals where similar incomes could be attained.

In addition, many of the jobs in manufacturing in developed countries that had to compete with labour in China after 2001 had been unionized. In part, heavily unionized manufacturing industries in developed countries were the result of an implicit bargain between employers and workers that arose from the threat of industrial unrest inspired, in part, by the apparent success of communist economies in the middle years of the 20<sup>th</sup> century. The threat of industrial action by militant workers, sometimes Marxist inspired, was considered a serious threat by industrialists. Further, Marxist parties did well at the ballot box in many countries. Sharing the benefits of industrial production with workers, through the mechanism of collective bargaining, was seen as a means for diffusing militant workers' movements. With the collapse of the Soviet Empire and the discrediting of the Communist model that followed, much of what had inspired radical worker movements was no longer to be feared. The degree of unionization in the private sector declined in most developed countries, with one result being growing disparity in incomes.

Competition from China also provided a spur for investments in the development of labour-saving technologies, such as robotics, in manufacturing. This, in turn, led to further reductions in mid-skilled manufacturing jobs.

The results of the disequilibrium arising from China's accession to the WTO, after fifteen years, are large groups of dissatisfied individuals in most developed countries. Unlike with previous examples of major negative impacts from disequilibria,<sup>28</sup> democratic processes are available. The result is widespread dissatisfaction with the political establishment, which has been either unable and/or unwilling to deal effectively with the negative impacts. This dissatisfaction has been manifest in a number of ways. A general dissatisfaction with the conduct of international trade is one – leading, for example, to both Hillary Clinton and Donald Trump espousing doubts regarding both newly negotiated and existing trade agreements; clear

pandering to the perception of trade as a source of misery by some voters. Many of the supporters of Donald Trump and Bernie Sanders, Hillary Clinton's rival in the Democratic Party, perceive international trade arrangements as a source of disadvantage.

In the United Kingdom, this dissatisfaction was a factor in the positive vote for Brexit which arose from both the right and left of the political spectrum.<sup>29</sup> Disaffected members of the Labour Party in Britain, fed up with the Labour Party establishment and the (not so recent) loss of manufacturing jobs, voted for anti-establishment and left wing Jeremy Corbyn to lead the party. Across the European Union there has been a rise of anti-establishment parties on both the left and right. In many cases they comprise the types of individuals who have seen their economic opportunities suffer as the global economy accommodates the entry of China.

Donald Trump has been able to tap into this discontent. In his speech accepting the Republican Party's nomination he stated (Trump, 2016),

I have visited the laid-off factory workers, and the communities crushed by our horrible and unfair trade deals. These are the forgotten men and women of our country. People who work hard but no longer have a voice.

I am your voice.

Given the state of disequilibrium in global markets and those whose lifestyles and prospects have been negatively affected, political discontent should not be unexpected. Return to the previous equilibrium is not possible, but a great deal of damage could be done in attempts to *turn back the clock* or utilize more radical solutions from either extreme of the political spectrum. The first step, however, is to better understand the sources and natures of the current disequilibria and then consider ways to influence the paths to the next set of equilibria.

## Conclusions

Historically there have been a number of shocks that have moved economies into considerable and long running disequilibria. The sources of these shocks can have a basis in political instability, technological advances, and changes in international trade arrangements. These disequilibria often, but not always, can negatively impact large segments of society, and for long periods of time. The accession of China to the WTO is, arguably, one such shock. The disequilibria created in the global economy from having to accommodate the Chinese economy have been significant, and continue after fifteen years. The costs of adjustment have been high for some members of society. This is, in part, the source of the discontent shown by voters in many developed countries in 2016. Politicians and others have found dealing with the

impacts challenging, and solutions elusive. Economics, with its focus on equilibrium, has offered few insights. The first step, however, is to recognize that the global economy is in a state of a major and ongoing disequilibrium. Once the point of reference is understood, appropriate responses are more likely to be devised.

## References

- Acemoglu, D. and J.A. Robinson (2012) *Why Nations Fail*, New York: Crown Publishers.
- Cain, S.R. and W.A. Kerr (1987) China's Changing Development Strategy: The Case of Rural Electrification. *Canadian Journal of Development Studies* 8(1): 81-96.
- Ceko, T. and W.A. Kerr (2000). *Accommodating a Square Peg: China's Accession to the WTO*. EPRI Report No. 00-01, Excellence in the Pacific Research Institute, Lethbridge: University of Lethbridge.
- Chesterton, G.K. (1917) *A Short History of England*. London: John Lane Company, <http://www.ourfavouritebooks.co.uk/downloadindiv/chesterton/A%20Short%20History%20of%20England.pdf>.
- Gaisford, J.D. and A. Hester (2007) Why Are There Trade Agreements? In *Handbook on International Trade Policy*, eds. W.A. Kerr and J.D. Gaisford, 57-70. Cheltenham: Edward Elgar.
- Gibbon, E. (2008) *The History of the Decline and Fall of the Roman Empire*, Vol. III. The Project Gutenberg eBook No. 892, <http://www.gutenberg.org/files/892/892-h/892-h.htm>.
- Ghazalian, P., L. Tamini, B. Larue and J.-P. Gervais. (2007) *A Gravity Approach to Evaluate the Significance of Trade Liberalization in Vertically-Related Goods in the Presence of Non-Tariff Barriers*. MPRA Paper No. 2744. Quebec: Université de Laval.
- He, D. and W. Zhang (2010) How Dependent is the Chinese Economy on Exports and in What Sense has its Growth been Export-led? *Journal of Asian Economics* 21(1): 87-104.
- Hobbs, A.L. and W.A. Kerr (2000) Is the WTO Ready for China? *Current Politics and Economics of Asia* 9(4): 262-278.
- Hobsbawm, E.J. (1964) *Labouring Men: Studies in the History of Labour*. London: Weidenfeld and Nicolson.
- Josling, T. (2007) Overview of Trade Agreements: The Multilateral System. In *Handbook on International Trade Policy*, eds. W.A. Kerr and J.D. Gaisford, 71-81. Cheltenham: Edward Elgar.
- Kerr, W.A. (2014) The Trade System and Biotechnology. In *Handbook on Agriculture, Biotechnology and Development*, eds. S.J. Smyth, P.W.B. Phillips and D. Castle, 217-229. Cheltenham: Edward Elgar.

- Kerr, W.A. (2010) What is New in Protectionism?: Consumers, Cranks and Captives. *Canadian Journal of Agricultural Economics* 58(1): 5-22.
- Kerr, W.A. (2007) Introduction to Trade Policy. In *Handbook on International Trade Policy*, eds. W.A. Kerr and J.D. Gaisford, 1-8. Cheltenham: Edward Elgar.
- Kerr, W.A. (2000) A New World Chaos? – International Institutions in the Information Age. *Journal of International Law and Trade Policy* 1(1): 1-10.
- Kerr, W.A. and C.L. Anderson (1991) Multinational Corporations, Local Enterprises and the Political Economy of Development – Some Basic Dynamics. *Journal of Economic Development* 16(1): 105-124.
- Kerr, W.A. and E. MacKay (1997) Is Mainland China Evolving into a Market Economy? *Issues and Studies* 33(9): 31-45.
- Keynes, J.M. (1936) *The General Theory of Interest, Employment and Money*. London: Macmillan.
- Kwaczek, A.S. and W.A. Kerr (1986) A Note on the Current Chinese Experience with Gresham's Law. *Economic Notes* 15(1): 134-148.
- Laing, L.R. and J. Laing (1990) *Celtic Britain and Ireland, AD 200-800: the Myth of the Dark Ages*. Dublin: Irish Academic Press.
- Lawrence, R.Z. (2006) *China and the Multilateral Trading System*. NBER Working Paper No. 12759. Cambridge: National Bureau of Economic Research.
- Leger, L.A., J.D. Gaisford and W.A. Kerr (1999) Labour Market Adjustments to International Trade Shocks. In *The Current State of Economic Science*, 4, ed. S. Bhagwan Dahiya, 2011-2034. Rohtak: Spellbound Publications.
- Marx, K. (2000) *Wage-Labor and Capital*. Socialist Labor Party of America, [http://slp.org/pdf/marx/w\\_1\\_capital.pdf](http://slp.org/pdf/marx/w_1_capital.pdf).
- Marx, K. (1867) *Capital*, Vol. I. Harmondsworth: Penguin.
- McLachlan, D.L., A. Apuzzo and W.A. Kerr (1988) The Canada-U.S. Free Trade Agreement: A Canadian Perspective. *Journal of World Trade* 22(4): 9-34.
- Nassar, A.M., Z. Arashiro and M.S. Jank (2007) Tariff Spikes and Tariff Escalation. In *Handbook on International Trade Policy*, eds. W.A. Kerr and J.D. Gaisford, 222-236. Cheltenham: Edward Elgar.
- O'Rourke, K.H. and J.G. Williamson (2005) *Did Vasco da Gama Matter for European Markets?: Testing Frederick Lane's Hypotheses Fifty Years Later*. Working Paper 11884. Cambridge: National Bureau of Economic Research.
- Pomfret, R. (1991) *International Trade*. Cambridge: Basil Blackwell.
- Sandbach, F. (1978) The Rise and Fall of the Limits to Growth Debate. *Social Studies of Science* 8: 495-520.
- Smyth, S.J., P.W.B. Phillips and D. Castle (2014) Introduction to Agriculture, Biotechnology and Development. In *Handbook on Agriculture, Biotechnology and Development*, eds. S.J. Smyth, P.W.B. Phillips and D. Castle, 1-22. Cheltenham: Edward Elgar.

- Tingvall, P.G. and C. Ljungwall (2012) Is China Different? A Meta-analysis of Export-led Growth. *Economics Letters* 115(2): 177-179.
- Trump, D. (2016) Full text: Donald Trump 2016 RNC Draft Speech Transcript. Politico, July 21, <http://www.politico.com/story/2016/07/full-transcript-donald-trump-nomination-acceptance-speech-at-rnc-225974>.
- Van der Wee, H. (1990) Structural Changes in European Long-Distance Trade, and Particularly in the Re-Export Trade from South to North, 1350-1750. In *The Rise of Merchant Empires*, ed. J.D. Tracy, 14-33. Cambridge: Cambridge University Press.
- Williams, A. and W.A. Kerr (2011) Wishful Thinking in Energy Policy: Biofuels in the US and EU. *Energy Politics* 25: 34-46.
- Yeung, M.T., N. Perdikis and W.A. Kerr (1999) *Regional Trading Blocs in the Global Economy: The EU and ASEAN*. Cheltenham: Edward Elgar.

## Endnotes

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- <sup>1</sup> An accessible version of Volume 3 of Gibbon's classic can be found at Gibbon (2008).
- <sup>2</sup> An accessible version of Marx's work can be found at Marx (2000).
- <sup>3</sup> Of course, the vast majority of society's members have had no formal education in economics.
- <sup>4</sup> They can, however, be anticipated to some extent and mitigating their effects planned for.
- <sup>5</sup> Of course, decision makers may assign subjective weights to the costs and benefits, which can alter the decision.
- <sup>6</sup> This might be referred to as the first Brexit.
- <sup>7</sup> See, for example, Laing and Laing (1990).
- <sup>8</sup> Even the local warlords (sometimes styled kings) and their entourages were worse off than a well off member of the elite in Roman Britain.
- <sup>9</sup> Including such adaptations as its use for draught purposes in farming.
- <sup>10</sup> Of course, the advent of modern electric cars transcends the original internal combustion technology that kicked off the disequilibrium in transportation.
- <sup>11</sup> The future without the automobile, however, may have been less tenable than with it. Sandbach (1978, p. 499), in his discussion of the *Limits to Growth*, reports that "N. Macrae has, for example, suggested that projection of trends of the 1880s might have shown cities of the 1970s buried under horse manure."
- <sup>12</sup> Anywhere from a quarter to a third of farmland was used to produce animal feed.
- <sup>13</sup> The move to power on farms based on the internal combustion engine instead of animals led to the replacement of a renewable biofuels industry with a non-renewable petroleum-based industry. This change in fuel source adds a new dimension to the debate over food versus fuel surrounding the expansion of biofuel production (e.g., corn-based ethanol and biodiesel) in the early 2000s (Williams and Kerr, 2011).
- <sup>14</sup> A form of mechanical loom.
- <sup>15</sup> The full name of the act was: An Act for the better and more effectual Protection of Stocking Frames and the Machines or Engines annexed thereto or used therewith and for the Punishment of Persons destroying or injuring of such Stocking Frames Machines or Engines and the Framework knitted Pieces Stockings and other Articles and Goods used and made in the Hosiery or Framework knitted Manufactory or breaking or destroying any Machinery contained in any Mill or Mills used or any way employed in preparing or spinning of Wool or Cotton for the use of the Stocking Frame. Its formal citation is 28 George III, c. 55.



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<sup>16</sup> The 1812 act's formal citation is 52 George III, c. 16.

<sup>17</sup> Chapter 15, Section 5.

<sup>18</sup> And sometimes counter-productively through balancing budgets and raising trade barriers.

<sup>19</sup> Spelled out in his famous 1936 treatise: *The General Theory of Interest, Employment and Money*.

<sup>20</sup> For one example where adjustment costs are explicitly included in trade models see Leger, Gaisford and Kerr, 1999.

<sup>21</sup> As opposed to transformative technologies such as the development of the automobile discussed above. See Smyth, Phillips and Castle (2014) regarding transformative technologies.

<sup>22</sup> But not as bold as it could have been given the institution originally negotiated, the International Trade Organization (ITO), never came into being. Of course, one of the ITO's sub-agreements was accepted, the General Agreement on Tariffs and Trade (GATT), and became the *de facto* multilateral trade institution (Josling, 2007).

<sup>23</sup> The oft called *New World Order* consisted of international institutions specifically designed to deal with sources of conflict – the United Nations for political conflict; the International Monetary Fund to deal with strategic devaluations; the World Bank to deal with differences in resource endowments; and the International Trade Organization to deal with international trade disruptions (Kerr, 2000).

<sup>24</sup> Primarily the United States.

<sup>25</sup> Fear of foreign entanglement was particularly acute due to the many *unfair treaties* (at least in Chinese eyes) that the Chinese Empire had been forced to sign in the 19<sup>th</sup> and early 20<sup>th</sup> century (Ceko and Kerr, 2000).

<sup>26</sup> See Kwaczek and Kerr (1986) for some examples of illicit entrepreneurship in China.

<sup>27</sup> After fifteen years of negotiation.

<sup>28</sup> Even if the net benefit is positive.

<sup>29</sup> The Brexit vote was complicated by the disequilibrium created by the integration of Central and Eastern European economies into the EU and the opportunities for the movement of factors of production – labour in particular – resulting from the single market.