Bubbles, Battles and Crashes:

The Irrational Rationality of War and Economics in the 20th Century

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In the fall of 1993 a colleague and I were discussing talking about the possibility that the two of us might teach an introductory course on Twentieth Century World History. I protested that as someone who specialized in economic history and the American Civil War, I was hardly prepared to teach a course in world history. “Nonsense,” my friend replied, “explaining the twentieth century is all about *war and economics*, and you are certainly well versed in both of those.” The next thing I knew, I had agreed to co-teach History 20 the following spring. Over the next few years my fascination with Twentieth Century World grew so strong that I continued to teach History 20 every year even after I had officially “retired”. By the Spring of 2010 I had become enough of an expert on modern world history that the chair asked me to offer a graduate course on *Materials for the Modern World*. At the time I was just getting started on a long-delayed book project that I had abandoned in 2007. I have always tried to combine my teaching with my research. Teaching History 207 again seemed like a good idea. So I decided to do it “one more time.” This essay puts together some of my thoughts about a particular period of the twentieth century that will be at the center of the course this fall.[1]

In their book *Power and Plenty: Trade, War, and the World Economy in the Second Millennium* Ronald Findlay and Kevin O’Rourke identify “three great world-historical events of the second millennium” which they place at the center of their analysis of the expanding world economy: the Black Death of the fourteenth century and the differing responses to it, the discovery and incorporation of the New World into that of the Old at the turn of the sixteenth century, and the Industrial Revolution at the turn of the nineteenth century.[2] The idea that there are “turning points” where the course of history can be profoundly changed by some significant set of events that occur in a relatively short period of

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[1] I want to thank and give credit the students in the 207 class last fall for their valuable ideas to the theme of war and economics. I also want to thank Tony Yang for the research assistance and encouragement he offered as this draft slowly emerged from the compute. Finally, I should add a note of explanation on my style of presentation in this essay. To increase the usefulness of my remarks, I have deliberately included in the text quotations – often fairly long quotations – from the books that are all easily available and are suitable reading for anyone interested in the period 1914 -1950

[2] Ronald Findlay and Kevin H. O'Rourke, *Power and Plenty : Trade, War, and the World Economy in the Second Millennium*, *The Princeton Economic History of the Western World* (Princeton, N.J. ; Woodstock, Oxfordshire England: Princeton University Press, 2007) xxv.

time appeals to me. Each of the three world-historical events identified by Findlay and O'Rourke kicked off dramatic changes in the demographic, economic, and socio-political structure of societies throughout the world. It is too soon to claim that the changes brought about by the last of these turning points – the industrial revolution – have fully played themselves out. Nevertheless, I believe that it may not be too early to identify a fourth "world-historical event" that began early in the twentieth century: the outbreak of World War I in the fall of 1914.

The First World War poses something of a dilemma for historians trying to teach or write about the twentieth century. The calendar says that the century began in 1900, but everyone agrees that the central event that dominates any "story" of what happened over the next hundred years started in 1914, not 1900. Two views have emerged as to how one should fit the war into the historiography of the twentieth century. Historians who favor the *Long Twentieth Century* approach extend their timeline back into the last third of the nineteenth century in order deal with the events leading up to the outbreak of war in 1914. This view includes the establishment of the German Empire following the defeat of France in 1871; the rise of America as a world power after the Civil War; and the emergence of Japan following the Meiji Restoration as key events that dramatically altered economic, political, and social developments that shaped the twentieth century.[3] I tend to favor this approach when I teach History 20, because I have found that my students know little or nothing about the world before the "first" world war. Having some sense of the years leading up to the war are essential for a reasonable dialogue on what followed.[4] The approach, termed the *Short Twentieth Century* argues that history of the century actually began with the *end* of the Great War. A leading proponent this approach is Eric Hobsbawm, who calls his scheme "a sort of triptych or historical sandwich." The first panel of his triptych stretches from the outbreak of the First World War to the aftermath of the Second World War; a period he describes as an "Age of Catastrophe" for Western Civilization. The next period "can be seen as sort of a golden age" that lasted until the early 1970s. The final years were "a new era of decomposition, uncertainty and crisis".[5]

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[3] An good example of the "long" view is J.A.S. Grenville, *A History of the World in the Twentieth Century* (New York: Belknap Press, 1994). Before he turns his attention to the Great War and its aftermath, Grenville devotes a series of chapters to each of the major political powers that had emerged by 1900.

[4] I am reminded of Eric Hobsbawm's comment that "no one who was once asked by an intelligent American student whether the phrase 'Second World War' meant that there had been a 'First World' can be unaware that the knowledge of even the basic facts of the century cannot be taken for granted." (Eric Hobsbawm, *The Age of Extremes: A History of the World, 1914-1990* (New York: Pantheon, 1994) 3.

[5] ibid., 7. Hobsbawm also wrote a book on the last third of the "long nineteenth century. Eric Hobsbawm, *The Age of Empire, 1875-1914* (New York: Vintage, 1996).

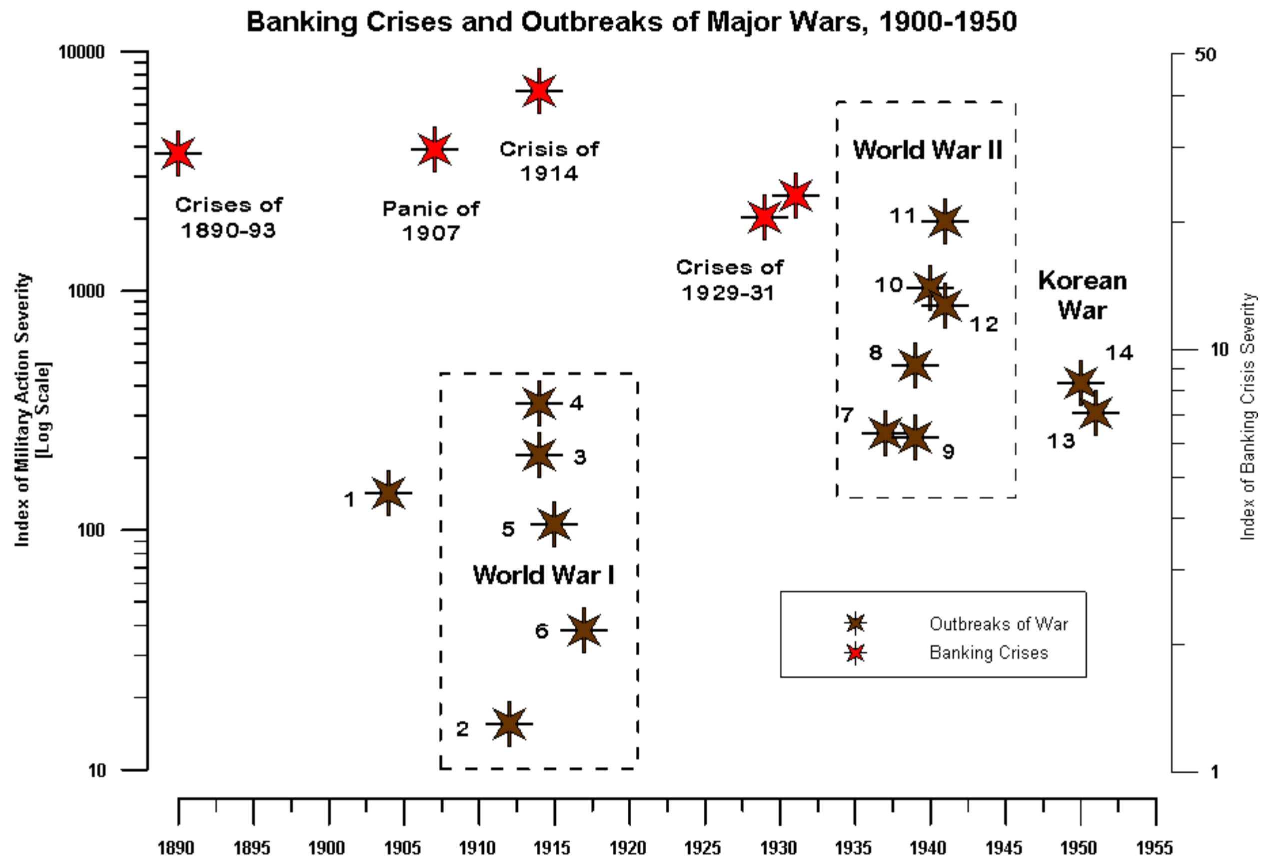

Figure 1

Keys to Military Actions:

1 Japanese attack Russian forces at Port Arthur; August 1904
2 Balkan Allies attack the Ottoman Empire; October 1912
3 Germany invades Belgium; August 1914
4 Russia invades Germany and Austria; August 1914
5 Italy enters World War I; May, 1915
6 United States enters World War I; April 1917
7 Japan invades China; July 1937
8 Germany invades Poland; September 1939
9 Russia invades Finland; September 1939
10 Germany invades France; May 1940
11 Germany invades the Soviet Union, June 1941
12 Japan attacks Pearl Harbor and British forces in the Pacific; December 1941
13 North Korea invades South Korea; June 1950
14 Chinese enter the Korean War; October 1950

Hobsbawm's triptych fits well with Findlay and O'Rourke'sapproach to identifying world changing events during the second millennium. To help understand just how chaotic things were in the period we are covering, Figure 1 provides a visual timeline of the outbreak of major wars between nations and economic crises between 1890 and 1955. The left axis measures the intensity of wars and the right axis measures the intensity of economic crises.[6] The events depicted in the figure include only the major interstate wars or economic crises. At the Versailles Peace Conference French Premier Georges Clemenceau described war that had just ended as "a series of catastrophes that resulted in victory."[7] Clemenceau's side had "won" but it was a pyrrhic victory. The economies and political of all of the combatants – with the possible exception of the United States – were shattered by four years of "total war".

Everyone concedes that these wars fundamentally altered the course of history. Yet, as historian John Vasquez observes, "much has been written on the causes of war; little has been learned about the subject."[8] It is not difficult to uncover instances where countries have long-standing disputes that produced military or diplomatic "incidents" that might lead to war. Yet history clearly shows that most military or diplomatic incidents have *not* resulted in an outbreak of war. As David Singer, who pioneered the statistical approach to studying warfare in the modern period, suggests, "There are quite a few roads to interstate war, and all of them have fairly frequent exit ramps." The difficult part of explaining why nations go to war is figuring out why leaders who choose war ignored all the exits. Unfortunately, this part of the analysis is less suited to the empirical methodology of the social sciences. The tests to find out the causes of most wars "over determine" the outcome because there is more than

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[6] The units of measurement for military intensity are based on estimates of the number of states declaring war at a particular date weighted a measure of total military capabilities calculated by the Correlates of War project [COW]. COW is the largest and best known collection of quantitative evidence dealing with wars from 1816 to the present. The COW website contains numerous datasets and their descriptions that can be downloaded, together with a lengthy bibliography of works on quantitative research on warfare after 1816. For more on the methodology and aims of the COW project, see J. David Singer and Melvin Small, *The Wages of War, 1816-1965: A Statistical Handbook* (New York: John Wiley and Sons, 1972). The data on the intensity of economic crises is based on the work of Carmen Reinhart and Kenneth Rogin detailing several centuries of banking crises. Carmen M. Reinhart and Kenneth S. Rogoff, "Banking Crises: An Equal Opportunity Menace," (2008). The severity index measure the number of economies experiencing banking crises weighted by Angus Maddison's estimate of their share in global Gross Domestic Product in 1939. Angus Maddison and Organisation for Economic Co-operation and Development. Development Centre., *The World Economy*, *Development Centre Studies* (Paris, France: Development Centre of the Organisation for Economic Co-operation and Development, 2006). Both of these measures are still tentative,

[7] Lewis D. Eigen and Jonathan P. Siegel, *The Macmillan Dictionary of Political Quotations* (New York: Macmillan, 1993) 689.

[8] John A. Vasquez, *The War Puzzle Revisited*, *Cambridge Studies in International Relations* (Cambridge ; New York: Cambridge University Press, 2009) 3.

one explanation hat agrees with the data. The problem then is how one chooses which hypothesis is the "best fit" for a particular war.[9]

Historians avoid this problem by emphasizing the *uniqueness* of a particular war rather than illuminating the *similarities* that might exist from a comparison of many wars.[10] The reason for this, according to Michael Howard, is that "the professional historian … usually shudders at the easy analogies drawn by laymen between Napoleon and Hitler, or Hitler and Khruschev, or Pitt the Younger and Churchill." Their skepticism of comparative analysis comes from a conviction that "only certain features in situations at different epochs resemble one another, and what is valid in one situation may, because of entirely altered circumstances, be quite untenable the next time." [11] Viewing this from the perspective of a political scientist, Geoffrey Blainey observes that, "among Historians, most controversies hinge on the detailed causes of particular wars rather than on wider assumptions." [12]

Scholars examining the economic crises detailed in Figure 1 have some of the same problems as those dealing with wars. Economists have been quite successful developing theoretical "models" to explain how modern market economies "work". Unfortunately, they have been much less successful in their efforts to deal with situations where market economies have temporarily "not worked". In the first edition of his book *Panics, Manias and Crashes*, economist Charles Kindleberger remarks that "Econometricians among my friends tell me that rare events such as panics cannot be dealt with by the normal techniques of regression, but have to be introduced exogenously as "dummy variables".[13] Hyman Minsky, whose model of financial fragility has come back into vogue in recent years, observes

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[9] Stephen Van Evera adds an additional problem with quantitative analysis of war by pointing out that "most of the many causes that [the literature] identifies cannot be manipulated (for example, human instinct, the nature of the domestic economic or political systems of states, or the distribution of power among states). … In short, our stock of hypotheses on the causes of war is large but unuseful." Stephen Van Evera, *Causes of War: Power and the Roots of Conflict* (Ithaca: Cornell Universty Press, 1999) 34.

[10] There are many works on the evolution of warfare where the author deals with a series of individual wars over a considerable period. Notable examples include Jeremy Black, *War in the Modern World, 1815-2000*, *Warfare and History* (New York: Routledge, 2003)Robert A. Doughty and Ira D. Gruber, *Warfare in the Western World: Military Operations since 1871* (Lexington, MA: D.C. Heath & Company, 1996). There are also many historians who have become particularly well known for their books on more than one war. A list of authors who have written prominent works on the World Wars would include John Keegan, Martin Gilbert, James Joll, and Nail Ferguson.

[11] Michael Eliot Howard, *The Causes of Wars and Other Essays*, 2nd ed. (Cambridge, Mass.: Harvard University Press, 1984) 191.

[12] Geoffrey Blainey, *The Causes of War*, 3rd ed. (New York: The Free Press, 1988) ix.

[13] Charles Poor Kindleberger, *Manias, Panics and Crashes: A History of Financial Crises*, 1 ed. (New York: Basic Books, 1978) 8.

that "financial instability is a nonevent, something that just cannot happen, insofar as the standard body of today's economic theory is concerned. . . . Standard theory will not do because it ignores essential facts and cannot explain important observations. Therefore there is a need to replace standard theory."[14] Paul Sameulson's oft-quoted remark that "the stock market has predicted nine of the last five recessions" aptly sums up the shortcomings of economists' attempt to explain the uncertainty of economic fluctuations since 1900. Historians have created a large body of literature describing the suffering that accompanies depressions, but they tend to throw up their hands and leave the explanation of the Great Depression to those with an interest in economic theory. Typical of this approach is John Garraty's remark that "it was a worldwide phenomenon composed of an infinite number of separate by related events.[15]

Economic historians – particularly those with training in economics – have looked at both wars and economic fluctuations, but seldom at both the same time. A good of attention has been paid to the impact of war on the economy and the economic impetus created by the mobilization of resources that modern wars create with their emphasis technology and mechanization; much less effort has been spent dealing with the question of why people start wars in the first place.[16] I attribute this to the fact that those of us familiar with the logic of economic theory find that waging war simply does not make a lot of "economic sense"[17] An example of this puzzlement can be seen in the comment by Findlay and O'Rourke, who found the First World War to be "somewhat of a *diabolus ex machina*."[18] While reasons for

[14] Hyman Minsky, "The Financial Instability Hypothesis: Capitalist Processes and the Behavior of the Economy," in *Financial Crises: Theory, History, and Policy*, ed. Charles Kindleberger (New York: Cambridge University Press, 1982), 13.

[15] John Garraty, *The Great Depression* (New York: Harcourt-Brace, 1986) 2. One notable example of a historian who has made a valuable contribution to the understanding the economics of the Great Depression is Michael A. Bernstein, *The Great Depression: Delayed Recovery and Economic Change in America, 1929- 1939* (New York: Cambridge University Press, 1987).

[16] Two notable collections of essays on the economics of the two world wars are: Stephan Broadberry and Mark Harrison, eds., *The Economics of World War I* (New York: Cambridge University Press, 2005)., and Mark Harrison, ed., *The Economics of World War Ii: Six Great Powers in International Comparison* (New York: Cambridge University Press, 1998).

[17] A notable exception to this aversion on the part of economic historians to towards explaining the causes of war is the plethora of studies claiming that the American Civil War cannot be understood without looking at the economic issues. But that is beyond our current task. For my take on the Civil War issues see Roger L. Ransom, "The Economics of the Civil War," in *Eh.Net Encyclopedia*, ed. Robert Whaples (www.eh.net/ encyclopedia/ contents/ ransom.civil.war.us.php, 2001)Roger L. Ransom and Richard Sutch, "Conflicting Visions: The American Civil War as a Revolutionary Conflict," *Research in Economic History* 20, no. 2001 (2001).

[18] Findlay and O'Rourke, *Power and Plenty* xxv. Niall Ferguson's efforts to explain the two World Wars are probably the best use of economic reasoning to unravel the puzzle of war by an economic historian. Niall

war remain somewhat blurred, Findlay and O'Rourke go on to make an interesting comment on the relation between periods of economic prosperity and the outbreak of wars. "It is natural to suspect that the accumulating economic and geopolitical tensions unleashed in the course of each period of peace, prosperity, and trade culminate in successive rounds of conflict, so that wars, rather than being exogenous or external shocks to the world system, have been inherent in its very nature as it has evolved over the past millennium."[19] In recent years, economists and economic historians have taken a much greater interest in the wars that came after 1919, and particularly in the interrelationship of economic and military events during the interwar years. We will explore this interaction between war and economic activity greater detail when we get to our analysis of the interwar years.[20]

Regardless of their disciplinary backgrounds, historians of all fields of interest will occasionally be called upon to deal with the changing complexities of warfare and market economics in the modern world. Even the most casual observer cannot fail to notice that wars, depressions, and economic booms are intertwined in any story global history. What are the common elements make wars and periods of boom appear to be linked in systematic cycles? A good starting point, which virtually all scholars agree upon, is that these phenomena far from being random events, are the result of conscious choices made by people who thought they were acting in some sort of "rational self-interest". My argument will be that the events that lead to both wars and economic panics are governed by essentially the same "irrational" form of rationality. Consider the following quotes from books by two scholars who have studied these phenomena at some length. The first is from the introduction to John Stoessinger's widely read book *Why Nations Go to War:*

> Mortals made these decisions [to go to war]. They made them in fear and in trembling, but they made them nonetheless. In most cases, the decision makers were not evil people bent on destruction but were frightened and entrapped by self-delusion. They based their policies on fears, not facts, and were singularly devoid of empathy. Misperception, rather than conscious evil design, appears to have been the leading villain in the drama.[21]

Ferguson, *The Pity of War: Explaining World War I* (New York: Basic Books, 1999)NialL Ferguson, *The War of the World: Twentieth Century Conflict and the Descent of the West* (New York: The Penguin Press, 2006).

[19] Findlay and O'Rourke, *Power and Plenty* xxv.

[20] There is a growing literature on this era of world history. For those interested in looking ahead, an excellent place to begin is the book edited by a trio of cliometricians, Charles Feinstein, Peter Temin, and Gianni Toniolo, *The World Economy between the World Wars* (New York: Oxford University Press, 2008). For a short overview of the historical issues, see Richard Overy, *The Interwar Crisis*, ed. Clive Emsley and B. Gordon Martel, Revised Second ed., *Seminar Studies in History* (Harlow, England: Pearson Education Limited, 2010).

[21] John George Stoessinger, *Why Nations Go to War*, 8th ed. (Boston: Bedford/St. Martin's, 2001) 1-2.

Stoessinger's point is clear enough. Fighting a war is not a decision to be taken lightly; and the tensions associated with such weighty decisions plays a major role deciding whether one chooses war or some less violent means of dealing with diplomatic crises. This theme is very prominent among military analysts and historians who have examined the mistakes, miscalculations, and misperceptions that led generals and politicians to consistently choose war over diplomacy often.

Our second quote is an account of the 1929 stock taken from John Kenneth Galbraith's *The Great* Crash:

> No one was responsible for the great Wall Street Crash. No one engineered the speculation that preceded it. Both were the product of the free choice and decision of hundreds of thousands of individuals. The latter were not led to the slaughter. They were impelled to do it by the seminal lunacy which has always seized people who are seized in turn with the notion they can become very rich.[22]

Galbraith follows the pattern of most economists in his reluctance to place the blame on the irrationality and errors of only a few decision makers. Economists firmly believe that manias and panics are part of a systematic – albeit unexplained – tendency in market systems. In the face of such lunacy, they simply regard booms, crashes, and wars as exogenous events – "displacements" – that temporarily throw their model out of its current equilibrium.

These writers are asserting that people are "entrapped by self-delusion" or seized by "seminal lunacy" in the period leading before the outbreak of war or the economic collapse. When I teach Economics 20 I talk to my students about "paradigms" – a term I use to describe widely held beliefs people have about the way the world works.[23] Paradigms play a major role in determining how people behave. John Maynard Keynes stated the power of ideas as eloquently as anyone I have read when he wrote in the closing paragraph of *The General Theory*:

> [T]he ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic

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[22] John Kenneth Galbraith, *The Great Crash, 1929* (New York: Houghton Mifflin 1954) 4.

[23] I first encountered the term paradigm reading the work of Thomas Kuhn as a graduate student in the early 1960s. Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962). Kuhn applied the term only to tightly held theorems in the natural sciences. However economists like me quickly adopted it to describe the competing ideologies of Keynesian economics, "monetarism", and "free market capitalism" (to mention only a few) in the mid-1960s. I use it here in a deliberately vague way to identify loosely defined but very strong views about economics and politics.

> scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas.[24]

Now it so happens that the ideas on economic thought that were firmly planted in Western Europe and especially the United States and Great Britain at the turn of the century rested on an unrelenting belief that markets were stable, efficient, institutions that promoted exchange and specialization throughout the world. At the heart of that paradigm was a faith in the rationality of man.[25]

Nowhere was the faith in the rationality of man more evident than in the sphere of economics. In 1899 the American economist Thorstein Veblen mocked what he called "the hedonistic conception of man" imagined by economists:

> …a lightning calculator of pleasures and pains who oscillates like a homogeneous globule of desire of happiness under the impulse of stimuli that shift him about the area, but leave him intact. He has neither antecedent nor consequent. He is an isolated definitive human datum, in stable equilibrium except for the buffets of the impinging forces that displace him in one direction or another. Self-imposed in elemental space, he spins symmetrically about his own spiritual axis until the parallelogram of forces bears down upon him, whereupon he follows the line of the resultant. When the force of the impact is spent, he comes to rest, a self-contained globule of desire as before.[26]

Veblen's tongue-in-cheek critique is entertaining, but it did little to dissuade economists, political economists or policy makers from assuming rationality as the basis for their decision-making. So long as their rational economic models performed reasonably there seemed no need to tinker with the basic underlying assumptions.

However, by the middle of the 1930s it was becoming painfully obvious to everyone that the time had come to seriously rethink the orthodox explanations that could not explain the economic collapse of the World Economy. In the preface to his modestly titled book, *The General Theory of Employment, Interest, and Money*, Keynes that "if orthodox economics is at fault, error is to be found not in the superstructure, which has been erected with great care for logical consistency, but in a lack of clearness and of generality in the premises."[27] Among the many things Keynes suggested was that economic theorists needed to recognize that much more than mere "rationality" lay behind the

[24] John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (New York: Harcourt Brace and World, 1936).

[25] On the tenacity with which everyone clung to the traditional views of the problems see Peter Temin, *Lessons from the Great Depression* (The MIT Press, 1989).

[26] Quoted in William Breit and Roger L. Ransom, *The Academic Scribblers*, Third ed. (Princeton: Princeton University Press, 1998) 37.

[27] Keynes, *The General Theory of Employment, Interest, and Money*.

decisions that households and businesses made every day. "[A] large proportion of our positive activities" he wrote, "depend on spontaneous optimism rather than on mathematical expectation, whether moral or hedonistic or economic. Decisions to do something positive … can only be taken as the result of animal spirits – of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities."[28] For Keynes, these spontaneous urges were crucial to what he called "enterprise. After assuring his readers that "We should not conclude from this that everything depends on waves of irrational psychology," Keynes provided his version of Veblen's conception of economic man:

> We are merely reminding ourselves that human decisions affecting the future, whether personal, political, or economic, cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist; and it is our innate urge to activity which makes the wheels go round, our rational selves choosing between alternatives as best we are able, calculating where we can, but falling back for our motive on whim or sentiment or chance.[29]

Keynes was writing at a time when the capitalist economic system seemed on the verge of collapse. Ultimately, his conclusion that the pessimism that pervaded Britain in the mid-1930s made it unlikely that the private sector would generate the spending needed for economic recovery led him to reluctantly accept the idea that government intervention was the only way to save the system.[30]

In the years since the publication of the *General* Theory, Keynes' pronouncements on government spending have received far more attention than his remarks on the role of animal spirits. Recent events in the global financial markets rekindled the debates over what motivates human decisions. George Akerlof and Robert Shiller, both eminent figures in the economic profession, complain that contemporary economic theory "fails to take into account the extent to which people are also guided by noneconomic motivations. And it fails to take into account the extent to which they are irrational or misguided. It ignores the *animal spirits.*"[31] Simply put, Akerlof and Shiller want

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[28] Ibid., 149.

[29] Ibid.

[30] Over the years both Keynes' critics and his admirers have tended to forget just how reluctantly Keynes made his endorsement of government in intervention: "Whilst, therefore, the enlargement of the functions of government," he wrote," would seem to a nineteenth-century publicist or to a contemporary American financier to be a terrific encroachment on individualism. I defend it, on the contrary, both as the only practicable means of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative." To which one might add that not much has changed with regard to the attitudes of 21st century American financiers.

[31] George A. Akerlof and Robert J. Shiller, *Animal Spirits : How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* (Princeton: Princeton University Press, 2009) 3. Akerlof won the Nobel Prize in

economic explanations to account for how things work "when people act as *humans*, that is, possessed of all-too-human animal spirits."[32] They update Keynes' definition to fit with modern economics by describing animal spirits as "a restless and inconsistent element in the economy. It refers to our peculiar relationship with ambiguity or uncertainty. Sometimes we are paralyzed by it. Yet at other times it refreshes and energizes us, overcoming our fears and indecisions."[33] Akerlof and Shiller enumerate five "animal spirits": *Confidence*; concerns about *Fairness*; the temptation towards *corrupt and antisocial behavior*; confusion from the *Money Illusion*; and finally "our sense of reality," which they relate to *stories*.[34]

I found Akerlof and Shillers approach to our contemporary economic situation extremely insightful. In my search for an explanatory framework with which to examine war and economics in the first half of the twentieth century, I was particularly drawn to the way in which two of their spirits fit very into the discussion I presented above. "The very term Confidence," they explain, "implies behavior that goes beyond a rational approach to decision making. … When people are confident they go out to buy; when they are unconfident they withdraw, and they sell. Economic history is full of such cycles of confidence and withdrawal."[35] We have already seen that the literature on why people go to war suggests regards overconfidence as perhaps the single most important element in the decision whether or not to take an action that might result in a war. *Stories*, which Akerlof and Shiller regard as an important factory supporting confidence, is of their spirits that fits with our discussion of panics and war. "The confidence of a nation, or of any large group, tends to revolve around stories. Of particular relevance are *new* stories, those that purport to describe historic changes that will propel the economy into a brand new era."[36]

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economics in 2001 for his work on problems in markets caused by problems of asymmetrical information – a situation where one party has more or better information than the other. Shiller is best known for his role in developing the Case-Shiller Repeat Sales Index for the housing market together with his book, Robert J. Shiller, *Irrational Exuberance*, 2nd ed. (Princeton, N.J.: Princeton University Press, 2005).

[32] Akerlof and Shiller, *Animal Spirits : How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* xxv.

[33] ibid., 4.

[34] Ibid., 6.

[35] Ibid., 13.

[36] Ibid., 55. Akerlof and Shiller have this to say about *stories:* "Our sense of reality, of who we are and what we are doing, is intertwined with the story of our lives and of the lives of others. The aggregate of such stories is a national or international, story, which itself plays an important role in the economy". (p.6) The authors also regard the *money illusion* to be a cornerstone of their analysis, noting that "the public is confused by inflation and deflation and dopes not reason through its effect" (p.6). I agree with their assessment of the importance

To these elements of Akerlof and Shiller's economic framework I will two more animal spirits that allow me to expand their arguments to encompass both economic panics and decisions to wage wars. As they note, if people lack confidence, they will be more hesitant and cautious. At some point caution can turn into *fear*. In 1900 Westerners confidently expected that their empires were secure for the future; by 1920 the same group of people was gripped by a fear that would last another thirty years. It reached a point, writes Eric Hobsbawm, "when even intelligent conservatives would not take bets on [their] survival."[37] I think fear is sufficiently different from confidence to warrant attention as a separate animal spirit in the analytical narrative I will develop.

The final animal spirit I want to add to our tool kit is based my own study of war and economics: *the propensity to Gamble*. Gambling, like confidence and fear, excites and exacerbates what might otherwise be quite "rational" tendencies into the sort of sort of psychological euphoria that underlies the behavior of consumers at the height of an economic boom or the minds of politicians and generals during what numerous scholars call the "road to war".

One other phenomenon that is common to both the analysis of war and of economics is the idea of a *displacement* – an event that somehow changes the economic, political, or economic environment in an unexpected way. The displacements that we will examine are those that were significant enough to set loose animal spirits that eventually build to an economic or diplomatic crisis. What interests me are situations where the displacement leads to what I call a *confidence bubble* where animal spirits of confidence, fear and a propensity to gamble come forcefully into play. It will be useful to examine each of our spirits in turn. We have already seen the importance of confidence in creating economic booms. Confidence can be contagious. Every economic boom has some form of "confidence multipliers" that cause a string of successful investments to turn into a speculative stampede for profits. So long as the investors can obtain the funds, the rise in asset prices can continue to build to a point where the market reaches is a speculative bubble. Not every increase in asset prices causes of a "mania" that will turn into a mania that fuels a speculative boom. But as confidence grows and prices out run any reasonable rate of return, confidence turns into *over*confidence financial markets become increasingly unstable. A point will eventually be reached where investors' overconfidence has put them in a position where they

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of the money illusion, but I prefer to postpone a discussion of this animal spirit until we get to the discussion of the interwar global economy.

[37] Hobsbawm, *Age of Extremes* 7.

cannot afford to risk "doing nothing". If they all try to liquidate their holdings all at once, the bubble will implode and there will be a financial panic. At this point the panic turns to fear.[38]

On the face of it, Diplomatic Crises would seem to be very different phenomena from the speculative bubbles I just described. Yet the "road to war" follows a sequence of decisions that is remarkably similar to that of a speculative investment bubble. As Carl Clausewitz noted a long time ago, war is simply an extension of state policy. And policies demand choices. One can imagine a variety of "incidents" that could create tensions between states that could gradually escalate into a diplomatic crisis. Most of the time there are options available that allow the parties to resolve the crisis without resorting to war. (In economic terms, think of this as implementing policies – such as a tightening of credit – to slow down an incipient rise in asset prices that could become a speculative bubble). But like the investors who are implicitly encouraged by the success (profits) of their fellow investors, the politicians and generals are encouraged by the actions of their allies and supporters. The wars we will be looking at did not involve just two nations; they in

This brings us to the problem of *over*confidence. Modern wars involve a great deal of planning. Planning involves what amounts to an assumption that you will win. All too often, however, the planners let their eagerness to win cloud their judgment. Dominic Johnson argues that positive illusions may not be the "all-encompassing explanation for war, but they … offer a compelling extra piece of the war puzzle"[39] He makes the interesting point that the larger the scope of the problem – the more room for positive illusions to foment overconfidence. One can easily identify overconfidence in the eagerness of investors to buy stocks where the returns do not warrant the present price. What is important here is that the overconfidence of leaders or prominent investors is shared by large groups of people. Just as stories of immense profits can fuel the euphoria of a stock market boom, stories of the valor and superiority of "our troops" compared to the "their troops" can fuel the enthusiasm for arms races and war. Both the military/diplomatic and the economic situations I have described involve the evolution of a *confidence bubble*; a situation where *overconfidence* has produced a "bubble" that has been stretched to a point where the slightest dislocation may cause the bubble to "pop". The problem is that no one knows how to gently "deflate" the bubble. We will encounter a number of situations where confidence wavers and fear becomes an ever increasing element in the outcome of the crisis

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[38] It is easier to describe all this *after* the fact than to predict it *before* it happens.

[39] Dominic D. P. Johnson, *Overconfidence and War: The Havoc and Glory of Positive Llusions* (Cambridge, Mass.: Harvard University Press, 2004) 34. Johnson is hardly alone in his emphasis on overconfidence as a cause for declaring war; almost every writer attributes some degree of overconfidence in assessing the reasons for an offensive action.

The counterpart to the confidence multiplier which increases with each stage of euphoria, is fear. Like confidence there is a fear multiplier that kicks in when confidence is shaken by the course of events. As fears grow and confidence wanes, decisions become much more geared to the need for some immediate solution to defuse the growing "bubble" of economic speculation or the imminent dangers that some incident could lead to a major war. Less evident than the way fear triggers a panic is the way that fear gradually pervades the decisions that lead up to the Confidence Bubble. In the economic sphere the possibility that the financial bubble that has been growing for some time may burst makes investors increasingly edgy. How likely is a panic if they and others all decide to sell at the same time? The fears of military leaders that their enemies will gain an edge the Arms Race raise the possibility of a preemptive war. One must weigh the increasing costs of the arms race against the uncertainty of winning – or losing – a war. Either of these decisions could in fact be the action that triggers the Disaster!

Fear can also play a major role in determining what happens after the bubble bursts. Consumers or producers trying to recover from the effects a severe fall in demand are discouraged by the pessimistic concerns that pervade markets after the crash. As Franklin Roosevelt so aptly noted in his first inaugural address, "the only thing we have to fear, is fear itself!" Market rallies are met with skepticism that produces selloffs; investors are reluctant to invest. Starting a war – particularly a "preemptive" war – may gain victories in the short run, but wars are seldom decided with the opening blow. Victories set the confidence multiplier spinning upwards. Defeats puncture the confidence bubble, but offer little in the way of suggestions of where to go next. This interplay of fear and confidence brings us to the final element that influences decisions on war and economics: the propensity for humans to make risky gambles.

Gambling is the final element that can make "rational" decisions produce an irrational outcome. Decisions about both war and economics involve the ability to predict events that are subject to varying degrees of risk and uncertainty. Some – but not all – of the probabilities associated with the *risk* that can be estimated using models that forecast the future, or in the case of war by anticipating as many contingencies as possible. But no amount of probability analysis or simulation models can completely eliminate the *uncertainty* that pervades financial markets or military operations. At this point we return to the observation about people acting like humans. All of the "models" which predict financial markets or the outbreak of wars rely on some degree of "rational" decision-making. But as we have already seen, people confronted with a "confidence bubble" do not always act "rationally" – particularly if they

are afraid. One of the more obvious effects of fear is to encourage people to take risks they might otherwise not consider.

Everyone knows that investing in the stock market is a gamble. So it is with war "No other human activity," wrote Clausewitz, "is so continuously or universally bound up with chance. And through the element of chance, guesswork and luck come to play a great part in war."[40] Taking gambles in both financial markets and the outbreak of war have way of exacerbating the effects of confidence or fear on the general public. One problem that emerges from the situation where there is a confidence bubble, is that the gamblers – whether investors or generals and politicians – are faced with a dwindling number of options. For the investor the question is "to sell or not to sell" in the face of a possible panic; for the generals it is "should I hold 'em or should I fold 'em?"

Albert Einstein is alleged to have said that any intelligent fool can make things bigger and more complex, but that it takes a touch of genius and a lot of courage to move in the opposite direction.[41] Much of the research on war and economics I have described above has moved in the direction of making things more complex. The risk of trying to make something simple is that you will try to capture a bridge too far and make it *too simple*. Having quickly introduced you to the ideas of a wide range of methodologies of scholars who study war and/or economics, I need to close by providing some idea of how I want to examine the period I have chosen as the focus of our study.

My theoretical training was in economics; my teaching for the quarter century has been in a department of history. In his book *The Origins of War*, historian Donald Kagan cites a line from the Greek poet Archilochus, who wrote "The fox knows many tricks, the hedgehog only one;/one big one." Social scientists, Kagan argues "are the hedgehogs; they seek to explain a vast range of particular phenomena by the simplest possible generalization." Historians he says, "should, in the first instance, be foxes, using as many tricks as they can to explain as many particular things as accurately and convincingly as possible." Neither group, Kagan cautions, should "expect to find the one big trick that will explain everything:", but they should be able to "draw upon the lesser generalizations and other understandings of the evidence that has been examined." [42] I have no intention of trying to develop a more complex "theory" explaining why wars start or markets crash. I hope to eventually develop an

[40] Carl Von Clausewitz, *On War*, trans. Michael Howard and Peter Paret, *Oxford World's Classics* (Princeton: Princeton University Press, 2008; reprint, 1976).

[41] This is a paraphrase of a several versions of a very popular quote widely attributed to Einstein.

[42] The passages quoted in this paragraph are taken from Donald Kagan, *On the Origins of War and the Preservation of Peace* (New York: Doubleday, 1995) 8-9.

"analytical narrative" that examines as simply as possible the global interplay of wars and economic collapsing markets during the period between 1914 and 1945. The final part of the methodology that feeds into my narrative is the institutional framework within which my analysis and my stories took place. Economic theorists can construct their theories free from the encumbrances of the world that surrounds them. As a graduate student I recall the eminent British economist Joan Robinson telling a bunch of young neophytes to always remember that, "to an economist, time and space are only convenient assumptions to keep everything from happening at the same time and in the same place."[43] Historians – even economic historians – must make sure that their models and their stories happen at a particular time and place.

Our narrative begins as a time when most of the world's population either lived in or was controlled by a few European nation states and their empires that stretched around the Globe. Eric Hobsbawm's description the European mindset at this time is worth quoting at length:

> This civilization was capitalist in its economy; liberal in its legal and constitutional structure; bourgeois in the image of its characteristic hegemonic class; glorying in the advance of science, knowledge and education, material and moral progress; and profoundly convinced of the centrality of Europe, birthplace of the revolutions of the sciences, arts, politics and industry, whose economy had penetrated, and whose soldiers had conquered and subjugated most of the world; whose populations had grown until (including the vast and growing outflow of European emigrants and their descendants) they had risen to form a third of the human race; and whose major states constituted the system of world politics.[44]

The confidence with which these people looked to the future 1900 seemed well-founded at the time. The industrial revolution had provided them with an abundance of capital, consumption goods and both economic and political power. A growing volume of trade was facilitated by a financial network operating under the umbrella of a set of rules that became known as the *Gold Standard*. People as well as goods moved all over the world in unprecedented numbers each year. A complex network of treaties between the great and the not-so-great powers had managed to keep the nationalistic rivalries that occasionally created a diplomatic fuss contained. Nothing in the previous century prepared the populations of these European nations – and their descendants scattered all over the globe – for the maelstrom of events that would be unleashed by the outbreak of war in the fall of

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[43] The year was 1962 in a seminar at the University of Washington. I cannot swear these were her exact words, but that is the message I have remembered all these years. Robinson was an early follower of John Maynard Keyes who became one of the most distinguished economic theorists of her day. I should add that she made it clear that her remark was not intended as a compliment.

[44] Hobsbawm, *Age of Extremes* 6.

1914. There had been wars and there had economic crises; some of which given at least a glimpse of what lay ahead. But no one alive in 1900 had experienced anything that remotely approached the catastrophes of 1914 through 1945.

So what went wrong? Why were the “paradigms” and institutional arrangements of 1900 unable to contain the forces of change unleashed by the crisis 1914? It should be apparent by now that we are not likely to come up with a simple or a single answer to these questions. What we can say is that a significant part of any answer[s] will have to consider the extent to which some – or at times all – of the people in one or more country simply “lost their cool” and let things get out of control. That is what the writers we discussed above tended to focus on. Rational people got carried away, and when they did, the result was crises that ended in either war or economic collapse – or both! Not every speculative urge leads to a financial bubble, and the “road to war” has many exits. The events depicted in Figure 1 are what I like to call *anomalies*; events that that challenge not one, but many deep-seated beliefs people about how the world “works”.

Clearly for this interval of history, things were not “working”. The world in 1900 had numerous checks and balances that had evolved over the past century and a half. Things worked well enough so long as there were no major “displacements” that required significant adjustments to the *status quo*. The gold standard had been able maintained a global “equilibrium” in the international economy so long as the adjustments required to “follow the rules” regarding monetary/fiscal policies did not impinge too heavily on one group of national economies.[45] The treaty system that evolved after 1871 worked reasonably well so long as there were not major displacements that would disrupt the “balance of power” among the great powers. But if there *was* a major displacement – a war that threatened to get out of hand or a financial crisis in one of the global financial centers – then all Hell might break loose. For all the checks and balances, there was *no overriding institutional governance* that could resolve the disequilibrium caused by major displacements. In political terms this meant that there was not a national “superpower” powerful enough to enforce treaties if they were broken. When the crisis between Austria, Serbia, and Russia threatened a war between those three countries in 1914, there were no institutional arrangements that allowed some sort of an intervention by a neutral party to

[45] The best account of the problems posed by the Gold Standard in the years before and during the Great Depression is Barry Eichengreen, *Golden Fetters: The Gold Standard and the Great Depression, 1919-1939* (New York: Oxford University Press, 1995). For a quick look that is tailored especially for those who are historians, see Barry Eichengreen and Peter Temin, "The Gold Standard and the Great Depression," in *NBER Working Paper Series* (National Bureau of Research: Working Paper 6060, 1997).

maintain peace. The treaty system that was supposed to guarantee peace did exactly opposite.[46] Major powers took sides and eventually expanded the conflict into a world war. In economic terms the absence of any truly international banking authority meant that there was no way to enforce the rules of the gold standard. When the war ended, the efforts to get back to antebellum equilibrium intensified the economic problems of nations recovering from war. When the financial bubble of 1928-31 imploded, the absence of a lender of last resort to stem the financial panic throughout the international community meant that the system simply collapsed. By 1939 both the international political system and the global economy were in complete chaos. Without any international "anchor" to stabilize things, the events cascaded into an ever deepening catastrophe that seemed beyond peoples' ability to understand. By the end of 1945 we had a "brave new world" – for better or for worse. Does this mean that the *Age of Catastrophe* was "bound to happen"? Not at all. None of this was inevitable. What happened was the result of decisions people made in the context of the world *as they saw it*. Unfortunately their vision was not as perfect as ours is 100 year later. Had they advantage of hindsight, things could have turned out very differently.

Describing, explaining, or analyzing why it all happened the way it did in whatever format you find most comfortable is what this course is all about.

[46] There are dozens of books dealing with the failure of the treaty system. My favorite is Joachim Remak, *The Origins of World War I*, Second ed. (New York: Harcourt Brace, 1995).

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Rational and irrational bubbles. Robertshiller. Explaining World War I; citation_author=Ferguson, Niall. Pity. War. Panics and crashes: a history of financial crisis. Article. Jan 1996.Â In the twentieth century economic fluctuations were not empirically regular and modern macroeconomics abandoned attempts to interpret them by means of deterministic cycles. Yet the persistent recurrence of economic crises in the economic history of last two centuries may suggest that they are phases of a cyclical pattern ingrained in the development dynamics of capitalist economies.Â In particular, it contends that realistically, market rationality needs to be defined so as to allow investors to be uncertain about the characteristics of other investors in the market. Bubbles and crashes are understood and described qualitatively and quantitatively in terms of the classical phase transitions. When the in-teractions among traders become stronger and reach some critical values, a second-order phase transition and critical behaviour can be observed, and a bull market phase and a bear market phase appear. When the system stays at the bull market phase, speculative bubbles occur in the stock market.Â of psychological factors and irrational factors in explaining historical nancial euphoria.Â For a related study see also [20]. They study phase transitions in the social Ising models of opinion formation. 2.