

Interaction of Economic Theory with Government Policy: Historical Case of Bretton Woods

Frederick Betz

Global Solutions Inc., Seattle, WA, USA
Email: frederickbetz9@gmail.com

How to cite this paper: Betz, F. (2025). Interaction of Economic Theory with Government Policy: Historical Case of Bretton Woods. *Modern Economy*, 16, 366-384. <https://doi.org/10.4236/me.2025.163017>

Received: December 29, 2024

Accepted: March 23, 2025

Published: March 26, 2025

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Abstract

At the end of the Second World War, economic theoreticians/policy advisors (in particular, John Maynard Keynes and Harry White) wrestled with important financial issues—about success or failure in the post-war world of economic systems. Three basic economic concepts of “*exchange, trade, and capital*”, were central to their thinking. And these same three concepts continue to engage the economics community. Also, after World War II, there was great hope that the economic policy reforms from the Bretton Woods conference in 1944 would “fix” world financial problems—problems about exchange, trade and capital. Keynes and White were the two policy officials, British and American, who dominated the Bretton Woods Conference. Their recommendations led to the founding of the International Monetary Fund (IMF), World Trade Commission (WTC), and World Bank (WB). By analyzing the history of Bretton Woods, we can learn about the limitations of normative economic theory in trying to structure the empirical reality of economic policy, particularly in hazardous times. We will develop graphical models of economic factors to assist in depicting the underlying the theory and policy of Bretton Woods.

Keywords

Economic Theory, Economic Policy, Exchange, Trade, Capital, Resources

1. Introduction

The Bretton Woods conference and its policy consequences remain an interesting topic, even after its policy reasons have faded and its policy impacts have ended. Barry Eichengreen wrote: “Today, nearly half a century after its demise, the Bretton Woods international monetary system remains an enigma. For some, Bretton

Woods was a critical component of the postwar golden age of growth. It delivered a degree of exchange rate stability that was admirable when compared with the volatility of the preceding and subsequent periods. It dispatched payments problems, permitting the unprecedented expansion of international trade and investment that fueled the postwar boom.” (Eichengreen, 2019)

In describing the history of Bretton Woods, I will use underlining to highlight the recurrent appearance of the economic basic ideas of exchange rates, trade balances, capital flows.

But all views on the past of Bretton Woods have not seen its policy recommendations as beneficial. Barry Eichengreen wrote: “Other perspectives on Bretton Woods are less rosy. Ease of adjustment, it is argued, was a consequence rather than a cause of buoyant growth. And the notion that Bretton Woods reconciled exchange rate stability with open markets was largely an illusion. Governments restricted international capital movements throughout the Bretton Woods years. Foreign investment occurred despite, not because of, the implications of Bretton Woods for international capital mobility.” (Eichengreen, 2019)

The economic theory which had underlaid Bretton Woods went back to John Maynard Keynes, particularly to his rejection of the traditional economic theory of “perfect markets”. Keynes wrote: “To suppose that there exists some smoothly functioning automatic mechanism of adjustment which preserves equilibrium, if we only trust to methods of laissez-faire, is a doctrinaire delusion which disregards the lessons of historical experience without having behind it the support of sound theory.” (Keynes, 2021)

Keynes’ ideas about the economic concepts of “exchange-trade-capital” were formulated in the Great Depression of the 1930’s. And thereafter, Keynes’ ideas greatly influenced the economic community. Nicholas Shaxson wrote: “History shows that inequality usually gets properly upended only after large, violent shocks...The financial crisis and Great Depression of the 1930s had discredited the old certainties of free trade, financial deregulation, and laissez-faire economics that had given the market saboteurs like Rockefeller and the Vesteyes such freedom to operate. Workers who had spilled their blood on the battlefields of France were in no mood to pander to moneyed elites anymore; they wanted their countries to give something back to them. The end of the war in 1945 provided a unique political opening to put into practice the progressive, revolutionary ideas of the British economist and polymath John Maynard Keynes.” (Shaxson, 2019)

In terms of foreign exchange rates, the previous British use of gold to back its currency had provided relatively steady currency exchange rates before World War I. Barry Eichengreen wrote: “The interwar (between World Wars I and II) gold standard, was resurrected in the second half of the 1920s, but consequently shared few of the merits of its prewar predecessor. With labor and commodity markets lacking their traditional flexibility, the new system could not easily accommodate shocks. With governments lacking insulation from pressure to stimulate growth and employment, the new regime lacked credibility. When the sys-

tem was disturbed, financial capital that had once flowed in stabilizing directions took flight, transforming a limited disturbance into an economic and political crisis. The 1929 downturn that became the Great Depression reflected just such a process. Ultimately, the casualties included the gold standard itself...When the next effort of Bretton Woods was made in the 1940s (to reconstruct the international monetary system), the new design featured greater exchange rate flexibility to accommodate shocks and restrictions on international capital flows to contain destabilizing speculation.” (Eichengreen, 2019)

We analyze this case of Bretton Woods to understand the interplay between normative economic theory (the ideal) against reality shocks (the empirical) that can happen to an economy. Shocks to an economic system can be catastrophic when national trade and production are shut down (a depression). But when the government also falls, then the economic shock is apocalyptic (a revolution). The scale of the impact of an economic failure upon societal stability is catastrophic when governments do not fall but recover the economy. The scale of the impact of an economic failure upon societal stability is apocalyptic when governments fail, and society cannot recover neither the economy nor the government.

The history actually experienced by Keynes and White included: 1) World War I as partly a consequence of trade imbalances; 2) The World Depression of the 1930s as partly a consequence of lost capital in the U.S. stock market; 3) The rise of Nazism in Germany as partly a consequence of runaway currency inflation due to the sanctions on Germany by the Treaty of Versailles. Keynes and White experienced these histories differently. It was apocalyptic for Keynes and catastrophic for White. For Keynes, the great depression overturned the governments of Germany and Italy into fascism—apocalyptic end. For White, the great depression was solved by the election of Franklin Delano Roosevelt saved democracy in the U.S—catastrophic but recovery. Their difference experiences of the depression (as to its impact as an economic crisis upon different governments’ stability) influenced their thinking about traditional economic policy (ideal theory)—apocalyptic versus catastrophic. Apocalyptic events mark the end of everything; while in catastrophic events, recovery is possible.

These two thinkers were central to formulating post-war global economic policy in the Bretton Woods Conference, they both worried that failures of any one or two or three of the economic activities (exchange, trade, capital) in national/international economic systems, which might again create major crises as in the past. And for a time, the Bretton Wood policies did help stabilize the world economies in the post-war 20th century.

We review Bretton Woods, and we emphasize how in its formulation Keynes’ ideas for it were influenced by his experience of economic crises as possibly apocalyptic. As Benn Steil wrote: “Robust economic recovery in the 1950s and ‘60s served to make Bretton Woods synonymous with visionary, cooperative international economic reform. Seven decades on, at a time of great global financial and economic stress, it is perhaps not surprising that blueprints for revamping the

international monetary system from the likes of hedge fund guru George Soros, Nobel economist Joseph Stiglitz, and policy wonk Fred Bergsten all hark back to Bretton Woods, and the years of Keynes-White debate that defined it. But can the story of Bretton Woods actually light the way?” (Steil, 2013)

We review the history of the policies and organizations resulting from the Bretton Wood Conference (e.g. International Monetary Fund, World Trade Commission, and World Bank) to understand the resulting successes and failures of the three apocalyptic ideas/institutions—*Exchange, Trade, Capital*. Also metaphorically, we add a fourth term which neither Keynes nor White anticipated – OPEC (Organization of the Petroleum Exporting Countries)—*Oil*. *And we will examine the underlying picture (or context) of the economic factors in an economic apocalypse or catastrophe, which is the political context in a time of crisis of an economic system.*

2. Case History—Bretton Woods

Prior to Bretton Woods, a “gold standard” dominated national exchange rates in currencies to facilitate international trade and international capital investments. A gold standard is a monetary system in which the standard economic unit of currency accounts is based on a quantity of gold. The gold standard was the basis for the international monetary system from the 1870s to the early 1920s, and from the late 1920s to 1932, as well as from 1944 until 1971. Then the United States unilaterally terminated convertibility of the US dollar to gold, which effectively ended the Bretton Woods system established in 1946.

Yet the memory of “Bretton Woods” has been a feature in thinking about international finances, even afterwards in the second half of the 20th century and into the 21st century. Benn Steil wrote: “Bretton Woods was a remote New Hampshire town where representatives of forty-four nations gathered in July 1944, in the midst of the century’s second great war, to do what had never been attempted before: to design a global monetary system, to be managed by an international body. The classical gold standard of the late nineteenth century, the foundation of the first great economic globalization, had collapsed during the previous world war, with efforts to revive it in the 1920s having proved catastrophically unsuccessful. Economies and trade collapsed; and cross-border tensions soared. Internationalists in the U.S. Treasury and State Department saw a powerful cause and effect and were determined in the 1930s to create...a ‘New Deal for a New World’.” (Steil, 2013)

In this conference, 730 delegates from all Allied nations gathered at the Mount Washington Hotel in Bretton Woods, New Hampshire, United States, for the United Nations Monetary and Financial Conference (also called the Bretton Woods Conference). This agreement established rules for governments to regulate capital flows into and out of each country. This agreement also established the IMF and the International Bank for Reconstruction and Development (IBRD), which today is part of the World Bank Group.

Bretton Woods was to replace the older system of a “gold-standard” as backing a national currency. Barry Eichengreen wrote: “The Bretton Woods System departed from the gold-exchange standard in three fundamental ways. Pegged exchange rates became adjustable...Controls were permitted to limit international capital flows. And a new institution, the International Monetary Fund (IMF), was created to monitor national economic policies and extend balance-of-payments financing to countries at risk.” (Eichengreen, 2019)

The Bretton Woods agreement worked for a time. Nicholas Shaxson wrote: “The system had a shaky start. From 1945 to 1947, Wall Street interests were forced through a brief financial liberalization, which caused huge waves of capital flight from war-shattered Europe, as rich Europeans sent their wealth overseas to escape having to pay for reconstruction. But fears of a communist takeover in Europe soon focused policy makers’ minds, and the system was at last given teeth...Cross-border financial flows were permitted, if they were to finance trade, real investment, or other accepted priorities. But cross-border financial speculation was discouraged.” (Shaxson, 2019)

That initial success of Bretton Woods was due to several factors; and the establishment of three international financial organizations did provide a real benefit to nations, for a time. Barry Eichengreen wrote: “The Bretton Woods system operated successfully due to three factors: low international capital mobility, tight financial regulation, and the dominant economic and financial position of the United States and the dollar.” (Eichengreen, 2019)

Nicholas Shaxson wrote: “Bretton Woods was a remarkable arrangement and almost unimaginable today. Cross-border finance was heavily constrained, while trade remained fairly free.” (Shaxson, 2019)

Bretton Woods agreements ended two decades later. Barry Eichengreen wrote: “On 15 August 1971, the United States ended the convertibility of the US dollar to gold, effectively bringing the Bretton Woods system to an end and rendering the dollar a fiat currency... The end of Bretton Woods was formally ratified by the Jamaica Accords in 1976.” (Eichengreen, 2019)

But the beneficial vision of Bretton Woods continued into the 21st century as an *ideal*, an ideal of how policy could implement a *normative theory about control of global finance*. Benn Steil wrote: “In late 2008, with the world engulfed in the worst financial crisis since the Great Depression, French President Nicolas Sarkozy and British Prime Minister Gordon Brown each called for a fundamental rethinking of the world financial system. They were joined in early 2009 by Chinese central bank governor Zhou Xiaochuan, who pointed a finger at the instability caused by the absence of a truly international currency. Each invoked the memory of ‘Bretton Woods’.” (Steil, 2013) Bretton Woods meant different things to different people.

3. Keynes and Bretton Woods

It was during World War II that officials in Britain and the US began to think

about the international finance after the war. Barry Eichengreen wrote: “Planning for the postwar international monetary order had been under way since 1940 in the United Kingdom and 1941 in the United States. Under the terms of the Atlantic Charter of August 1941 and the Mutual Aid Agreement of February 1942, the British pledged to restore sterling’s convertibility on current account and accepted the principle of nondiscrimination in trade in return for U.S. promises to extend financial assistance on favorable terms and to respect the priority the British attached to full employment. Attempting to reconcile these objectives were John Maynard Keynes (by then the grand old man of economics and unpaid adviser to the chancellor of the Exchequer) and Harry Dexter White (a brash and truculent former academic and U.S. Treasury economist). Their rival plans passed through a series of drafts. The final versions, published in 1943, provided the basis for the ‘Joint Statement’ of British and American experts and the Articles of Agreement of the International Monetary Fund.” (Eichengreen, 2019)

Keynes was worried about the impact upon world economies due to the flow of capital around the world, the interaction of “trade” with “capital”. Nicholas Shaxson wrote: “Keynes knew that finance had its uses, but he knew that it could also be dangerous, especially when it was allowed to slosh around the world at will, unchecked by democratic controls. If your economy is open to tides of global hot money—rootless money not tied to any particular real project or nation, that is—then it is harder to pursue desirable policies like full employment. This is because if you try, for instance, to boost industry by lowering interest rates in a country that is open to flows of financial capital, then money will simply sluice out, looking for better returns elsewhere. Capital will become scarcer; the value of the currency will tend to fall; and interest rates will be forced up again. If governments wanted to act in the interests of their citizens, Keynes knew, there was no alternative but to curb those wild, speculative flows.” (Shaxson, 2019)

Keynes made the important distinction between markets of production and markets of finance. In Bretton Woods, Keynes had focused upon the international market of capital—the flows of money around the world. Nicholas Shaxson wrote: “Keynes carefully distinguished between cross-border trade, which was often beneficial, and speculative cross-border finance, which he knew was far more dangerous. It wasn’t just governments at risk; the great crash of 1929 had exposed how cross-border speculative flows could wreak havoc with the private sector too.” (Shaxson, 2019)

This international flow of capital most worried Keynes and also worried the followers of Keynes. When World War II started, Keynes’ ideas had become mainstream in economic thinking. Then as the war was ending in Europe, Keynes (as the British economic spokesperson in the British Treasury) and White (as the U.S. economic spokesperson in the U.S. Treasury) arranged together for a meeting of allied nations in the resort town of Bretton Woods in New Hampshire. Following Keynes’ ideas, the meeting focused upon curbing international flows of finance, after the war.

Although Keynes assisted in the creating Bretton Woods, but he would not see its implication. Nicholas Shaxson wrote: “This was the American dream on a global scale. Rebuilding after the destruction of war was a part of the story...The Bretton Woods system was a vast, explicit, brassy administrative and political antidote to the curse of overweening finance and to the freewheeling policies of the earlier robber-baron age. Finance would be society’s servant, not its master. Keynes never got to see his ideas so thoroughly vindicated—he died in 1946.” (Shaxson, 2019)

4. Harry White and Bretton Woods

Although Harry White and Keynes both agreed on the Bretton Woods conventions, they differed on reasons for it. Benn Steil wrote: “The key insight, Keynes held, was that the very existence of money at the heart of the economy wreaked havoc with the self-stabilizing mechanisms that classical economists believed to be at constant work. The chief barrier to Keynes’s blueprint for the postwar monetary order was, at the time of Bretton Woods, still a little-known U.S. Treasury technocrat, Harry White.” (Steil, 2013)

Barry Eichengreen wrote: “The plans of Keynes and of White differed in the obligations they imposed on creditor countries and the exchange rate flexibility and capital mobility they permitted. The Keynes Plan would have allowed countries to change their exchange rates and apply exchange and trade restrictions as required to reconcile full employment with payments balance. The White Plan, in contrast, foresaw a world free of controls and of pegged currencies superintended by an international institution with veto power over parity changes.” (Eichengreen, 2019)

The politics underlying the policy differences between Keynes and White were their desires each to keep the currency of their own countries dominant in the global world (beneficial exchange rates to assist national trade). Benn Steil wrote: “White’s role as the chief architect of Bretton Woods, where he outmaneuvered his far more brilliant but willfully ingenuous British counterpart, Keynes, marks White as an unrelenting nationalist, seeking to extract every advantage for the U.S. out of the tectonic shift in American and British geopolitical circumstances (away from the British sterling toward U.S. dollar) put in motion by the Second World War.” (Steil, 2013)

We see in the history of Bretton Woods, that the different national allegiances of the two major thinkers behind Bretton Woods, the British Keynes and the American White, did influence the formulation of ideal theory for Bretton Woods’ control of capital flows to regulate currency exchange rates.

5. Decline of Bretton Woods

Similar to Keynes’ view on capital, White’s view (as he worked for Morgenthau) had also focused on international capital flows. Nicholas Shaxson wrote: “One of the overall aims of this giant global safety mechanism was, as the US Treasury

secretary Henry Morgenthau in 1946 had famously declared, to ‘drive the usurious moneylenders from the temple of international finance’.” (Shaxson, 2019)

But government’s regulation over international capital flows would soon fail under the capital needs of European economies’ reconstructions. Barry Eichengreen wrote: “In retrospect, the belief that this system could work was extraordinarily naive. The modest quotas and drawing rights of the Bretton Woods Articles of Agreement were dwarfed by the dollar shortage that emerged before the IMF opened for business in 1947. Postwar Europe had immense unsatisfied demands for foodstuffs, capital goods, and other merchandise produced in the United States and only limited capacity to produce goods for export; its consolidated trade deficit with the rest of the world rose to \$5.8 billion in 1946 and \$7.5 billion in 1947. In recognition of this fact, between 1948 and 1951, a period that overlapped with the IMF’s first four years of operation, the United States extended some \$13 billion in intergovernmental aid to finance Europe’s deficits (under the provisions of the Marshall Plan). This was more than four times the drawing rights established on Europe’s behalf and more than six times the maximum U.S. obligation under the Articles of Agreement...How could American planners have so underestimated the severity of the problem? Certainly, there was inadequate appreciation in the United States of the damage suffered by the European and Japanese economies and of the costs of reconstruction.” (Eichengreen, 2019)

The end of the Bretton Wood agreements approached late in the twentieth century as European reconstruction advanced. Particularly, as the reconstruction of West Germany progressed, the German currency, the Deutsche mark, began to be used in financing international trade. Barry Eichengreen wrote: “The spring of 1971 saw massive flows from the dollar to the Deutsche mark. Germany, fearing inflation, halted intervention and allowed the mark to float upward. The Netherlands joined it. Other European currencies were revalued. But flight from the dollar, once started, was not easily contained. In the second week of August, the press reported that France and Britain planned to convert dollars into gold. Over the weekend of August 13, the Nixon administration closed the gold window, suspending the commitment to provide gold to official foreign holders of dollars at \$35 an ounce or any other price. It imposed a 10 percent surcharge on merchandise imports to pressure other countries into revaluing, thereby saving it the embarrassment of having to devalue. Rather than consulting with the IMF, it communicated its program to the managing director of the Fund as a *fait accompli*.” (Eichengreen, 2019)

After the gold standard in the U.S. was withdrawn, the other national currencies, such as the British sterling, began to float in exchange rates. Barry Eichengreen wrote: “Another attack on sterling, prompted by the inflationary policies of British prime minister Edward Heath, forced Britain to float the currency in 1972. This set the stage for the final act. Flight from the dollar in early 1973 led Switzerland and others to float their currencies...Germany and its partners in the EEC jointly floated their currencies upward. The Bretton Woods international mone-

tary system was no more.” (Eichengreen, 2019)

Bretton Woods’ solution to control international capital flows failed. The 1970s began the withdrawal of any governments’ regulation over capital flows. And by 2024, there was no more capital flow regulation. Nothing, no one, anywhere in the world was controlling international capital flows. And by then, international investor funds (e.g. hedge funds and private equity) dominated international flows through the shadow-banking system—completely outside of the Bretton Woods’ vision.

For example, in January 2025, the Financial Times wrote: “Wealthy individuals have flocked to private real estate and lending funds managed by Blackstone, Apollo, HPS and Owl Rock among others in search of higher yields and diversification into companies not available to public market investors. A record \$120 billion dollars flowed into such funds in 2024...Now private equity...hopes for access to individual savers’ retirement funds...The \$13 trillion dollar industry is hoping a deregulatory push will result in government allowing private equity funds to be included in the professionally managed mutual funds of individuals...Marc Rowan, chief executive of Apollo, has called the trillions of dollars in assets held by US 401k plans an opportunity for his industry.” (Financial Times, 2025)

6. Bretton Woods and Neoliberalism and Oil Shocks

In the economic theory underlying Britton Woods, governments had put currency exchange and trade above capital by regulating international capital flows. But by the 1970’s, capital had reasserted its primacy in policy as the economic factor over the factors of exchange and trade.

This was aided by the return to the traditional economic theory of perfect markets by a school of economists—all in opposition to Keynes’s theory of the instability of capital markets. Nicholas Shaxson wrote: “But Keynes’s ideas would not go uncontested for long. A counterrevolution determined to shackle governments and unleash the full power of money and finance again was already well under way. This pushback from the banks was organized around a simple idea that had come in a ‘sudden illumination’ in 1936 to an Austrian economist called Friedrich Hayek. Within a couple of years, Hayek’s idea had a name: neoliberalism...Neoliberalism is an outgrowth of classical liberalism, which dates back a couple of centuries. There’s political liberalism, which is all about citizens having equal democratic rights in a system of sovereign law, and there’s economic liberalism, which starts from Adam Smith’s ‘invisible hand’, by which free exchanges or trade in properly functioning markets (not sabotaged by government) are supposed to make society better off overall. The more liberal (or free) the exchange, in this view, the better for society as a whole; government’s role is to provide basic functions like defense, to enforce property rights, and to keep a watchful eye out for monopolies, but otherwise to get out of the way.” (Shaxson, 2019)

Historically, just when the “liberalism” of Keynes and White was establishing the Bretton Woods agreements, there was another school of economic theorists

arising to push for a return to the “perfect market normative theory”; and this school came to be called “neo-liberalism”. Nicholas Shaxson wrote: “The neoliberal revolution was born in earnest at a historic meeting of American and European intellectuals at Mont Pèlerin near Geneva in 1947, just a few years after the Bretton Woods summit. The meeting was attended by Hayek and many other famous economists and thinkers, including Milton Friedman, Ludwig von Mises, George Stigler, Frank Knight, Karl Popper, and Lionel Robbins. The meeting was financed by Switzerland’s three largest banks, its two largest insurance companies, the Swiss central bank, the Bank of England, and City of London interests.” (Shaxson, 2019)

The “neo-liberalism” normative theory became a “revived movement” within economic theory. Nicholas Shaxson wrote: “This intellectual momentum morphed and branched into an international chain of think tanks and supporters, which in the United States would be guided by the ideas of extreme antigovernment thinkers like James McGill Buchanan and heavily funded by billionaire members of the family that founded the commodity trading firm Koch Industries. Globally, they would become the backbone of the Atlas Network, a syndicate of nearly five hundred think tanks and institutions promoting libertarian, anti-state ideas, also funded by myriad billionaires, millionaires, and financial and large corporate institutions. This loosely connected coalition would form the engine of neoliberalism and the pushback against the Keynesian consensus.” (Shaxson, 2019)

Also back in 1956, there had begun a new economic policy of governments’ deregulation of banking and international capital flows. It started in Britain when the central bank allowed a Euro-dollar currency market to operate in London and grow—a dollar exchange market outside of the United States. Nicholas Shaxson wrote: “Nobody could guess it then, but in 1956, the year of Britain’s greatest imperial humiliation, a new financial market was born in London that would nurture itself on the City’s old religion of freedom and reinvent the City as a global financial center. This market would grow so spectacularly that it would come to replace and even surpass the empire as a source of wealth and prestige for the City establishment. And this market in London would also create a new offshore financial playground.” (Shaxson, 2019)

This new “offshore financial playground” arose, underpinned by the normative theory of neo-liberalism. The policy makers in the Bank of England applied the renewed theory of unregulated financial markets (perfect financial markets) by deregulation of British banking. Nicholas Shaxson wrote: “A few months before the Suez Crisis, some officials at the Bank of England noticed that the Midland Bank was taking US dollar deposits unrelated to any commercial or trade deals. Under Bretton Woods, this was classified as speculative cross-border activity and breached between the separation of national safety compartments and was not allowed... Yet Midland’s new cross-border currency business was unusually profitable, so it pressed quietly on... Meanwhile the Bank of England was constantly anxious about its gold reserves running out, making it hard for Britain to source essential foreign goods if things came to a crunch. Midland’s dodgy activities were

generating healthy dollar fees, bolstering Britain's dollar reserves, So the Bank of England decided to look the other way. Slowly, as more dollar profits tumbled in, this temporary indulgence (of the British central bank) solidified into a permanent tolerance. In effect, Britain had decided to host, but not regulate, a new market for dollars in London. Yet this new business wasn't regulated or taxed by the United States either. So, who was regulating it? The answer was: nobody." (Shaxson, 2019)

Thus, while the Bretton Woods agreements were still in place in the 1950s, a new international capital market in dollars (outside the United States) was beginning to generate new and enormous means of international capital flows through London banks and offshore banks. Nicholas Shaxson wrote: "The Euromarkets in dollars rapidly accelerated financial globalization. They metastasized beyond Britain, beyond dollars, and beyond anyone's control, morphing into a frenzied financial battering ram, which would combine with Hayek's and Friedman's ideological pushback against government intervention to smash holes in exchange controls and the cooperative international infrastructure. More and more cracks were appearing in the walls of the dam, and the massive oil price surges of the 1970s threw everything into further confusion. The Bretton Woods system was rubble." (Shaxson, 2019)

In 1973 after the Yom Kippur War, an Organization of Arab Petroleum Exporting Countries (OAPEC) was founded; and it announced an oil embargo against countries that had supported Israel. Oil price in the United States rose from \$3 a barrel to \$12 a barrel. This resource trade kicked off a major inflation (exchange) in the United States causing a "shock" to the U.S. economy. Next in 1979, a "second shock" to the U.S. economy occurred when the Iranian Revolution nationalized Iranian oil production. **Figure 1** shows the oil prices (adjusted for inflation) due to rise in prices (exchange) from resource sovereign control (trade).

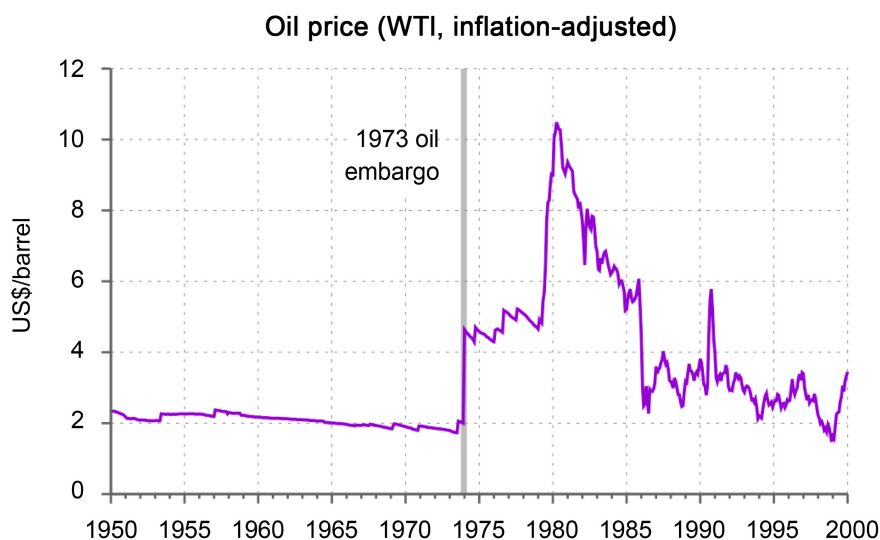


Figure 1. World market oil prices from 1950-2000.

[https://en.wikipedia.org/wiki/1973_oil_crisis#/media/File:West_Texas_Intermediate_oil_prices_1950%E2%80%932000_\(with_1973_highlight\).svg](https://en.wikipedia.org/wiki/1973_oil_crisis#/media/File:West_Texas_Intermediate_oil_prices_1950%E2%80%932000_(with_1973_highlight).svg)

After OPEC was in place, sovereign oil-producing states continued to elevate oil prices through a monopoly agreement. This increase in price level continued to impact economies of nations that were importing oil **Figure 2** shows the daily amount of globally produced oil.

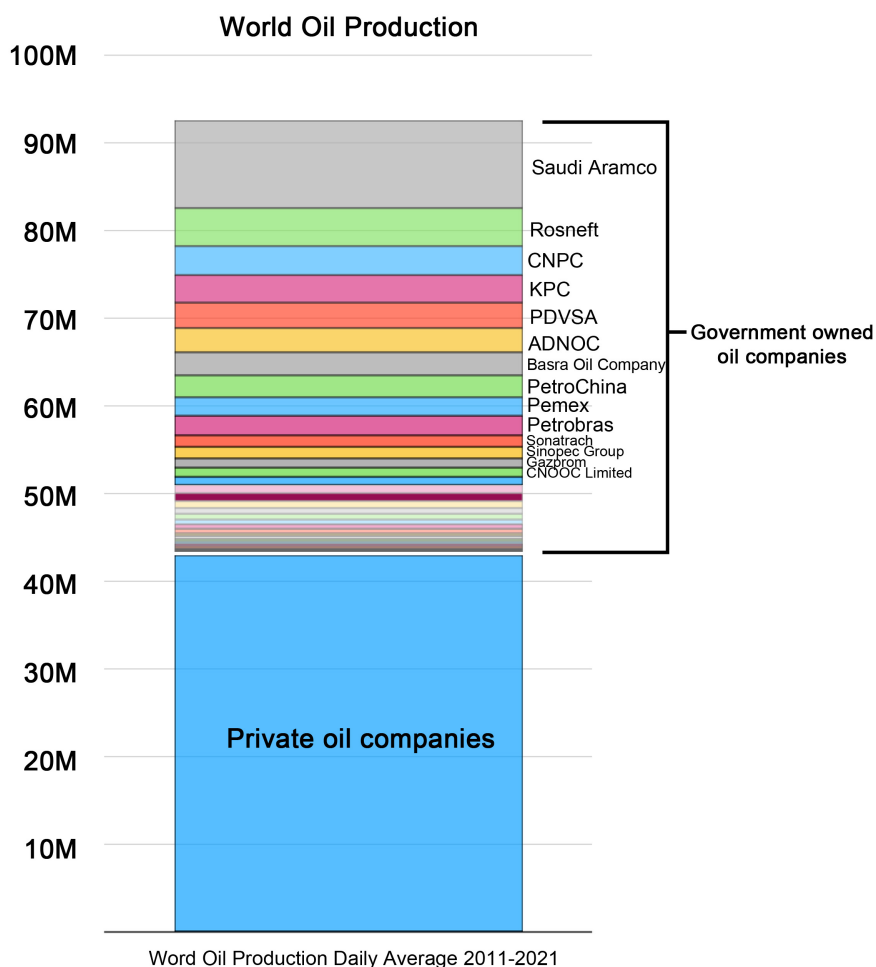


Figure 2. Percentage of production by sovereign oil companies.

Out of 91 million barrels of daily oil production (from 2011 to 2021) about 42 million barrels a day were produced by private oil companies. About 49 million barrels (91 - 42) were produced by sovereign oil companies (government-owned oil companies). This meant that in the early 21st century, 54% of the profits from oil production were flowing to governments owning sovereign oil companies. This injected huge amounts of capital into international flows for investment by the powers controlling petro-governments:

- Petrol-dollars flowing from individuals in government power in the sovereign oil company nations.
- Flowing globally into the shadow-banking network for investment by private equity firms.

The flow of dollars around the world through the shadow banks and the in-

creased flow of sovereign oil revenues (trade) began a new era of neo-liberalism in economic theory—institutionalized as shadow banking around the world. Nicholas Shaxson wrote: “And so began a new era of free finance, engendering massive profits for the financial sector—and in turn much slower global growth, rising inequality, global crime, and more frequent financial crises across the Western world. It was precisely what Keynes had warned about.”

Since the Industrial Revolution, a fourth horseman of the economic apocalypse—“resources” (particularly, “oil”)—needs to be added to the economic factors of “exchange and trade and capital”.

7. Analysis

We can model the interactions between exchange and trade and capital as arrows connecting the concepts, as shown in **Figure 3**.

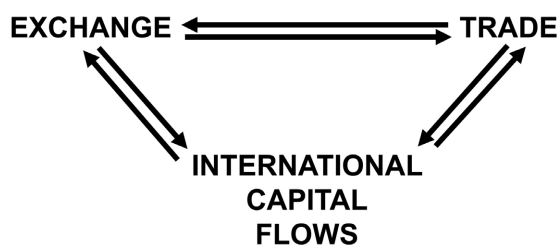


Figure 3. Normative ideal traditional model of balanced economic factors.

It is not just the factors (ideas of exchange, trade, capital) that are important; but also the connections between the factors are equally important—in explaining economic performance.

Hence a model of the interactions is a basic analytical technique for depicting the empirical reality of economic systems and policy.

In this “factors” model, the arrows show the direction of dominance of an economic factor. Arrows in both directions of a connection indicate an interaction of factors with neither factor dominating. This ideal model is a normative theory that all three factors of exchange and trade and capital should be facilitating each other for productive economic performance.

But this normative ideal has not always been empirically real. For example, in the 1800s, the British Empire had its international trade dominate the use of British capital to increase the new industrialization of the English economy. Then the international dominance in exchange of British currency (sterling backed by gold) financed the capital flows for English industrialization in terms of trade of manufactured goods for material resources, to and from British colonies.

Next looking at what Keynes hoped to do with government regulation—to control international flows of capital, having capital benefit trade and stabilize exchange rates. We can model Keynes’ idea for the goal of Bretton Woods in **Figure 4**.

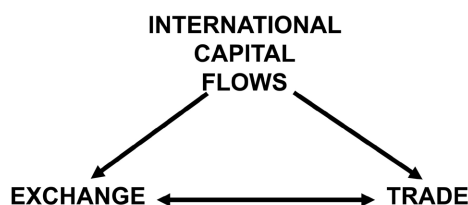


Figure 4. Keynes' model of economic factors relations.

The Keynes' model has exchange rate stability and trade balancing national interests to dominate the international flow of capital, by means of government control of capital flows.

But in the history of the Bretton Woods' regulation of capital flow, such regulation began to slow down after 1951. Then the Central Bank of England had permitted a London bank to establish a financial market in the Eurodollar, outside of the regulation by U.S. or Britain. This encouraged the growth of unregulated international capital flows—through a network of shadow banks flowing capital into and from London banks. International capital flows occurred unregulated by the British Central Bank or any other bank in the world. This is modeled in **Figure 5**.

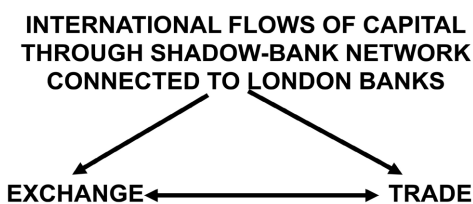


Figure 5. Model of international capital flow through international shadow-bank network.

Why does not regulation always occur? Sometimes factions (groups in a country) can make money by avoiding regulation, even by corrupting a financial system. In the case of London after 1951, large amounts of capital began flowing from off-shore banking into London (and later into the United States), some funded by groups using this financial movement to extract wealth from an economy, rather than creating wealth in an economy. For example, this kind of extraction of wealth occurred in the U.S. in leveraged buy-outs in the 1980s. And the amount of capital flowing in the off-shore world increased dramatically in the 1970s with that major increase of the price of oil.

Next we should add to the general model of the economic factors of exchange-trade-capital a fourth economic factor of resources (oil), as shown in **Figure 6**.

This “economic-factors” model can assist in the economic analysis of the interactions of the primary factors in the historical events and in the times of a specific society. *In this methodology, the empirical (real) explanation of economic factors can be described and compared to normative theory (ideal) for a given society at a given time.*

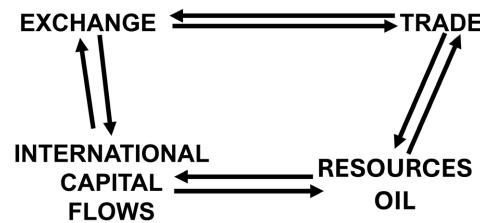


Figure 6. General model of four economic factors interactions.

8. Discussion: Keynes on Employment and Wealth

We have seen in this review of Bretton Woods that economic theorists and policy advisors had focused upon key economic factors of exchange rates and trade balances and capital flows. Yet underlying these concerns, they also were concerned, at least implicitly, with “employment” and “wealth”. In 1935, John Maynard Keynes had written: “The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes.” (Keynes, 2021)

Keynes argued that some equality towards the distribution of wealth had been achieved through taxation. Yet Keynes had not treated “taxation” as an economic factor but as an influence on the growth of private capital. Keynes wrote: “Since the end of the nineteenth century significant progress towards the removal of very great disparities of wealth and income has been achieved through the instrument of direct taxation—income tax and surtax and death duties—especially in Great Britain. Many people would wish to see this process carried much further, but they are deterred by...the belief that the growth of capital depends upon the strength of the motive towards individual saving and that for a large proportion of this growth we are dependent on the savings of the rich out of their superfluity.” (Keynes, 2021)

“Savings by the Rich” has been seen by many economists as a major source of capital for investment in productivity. Keynes also believed this. Yet he also thought there should be some limit to the discrepancy between the rich and poor, not from an economic perspective but from a societal perspective. Keynes wrote: “For my own part, I believe that there is social and psychological justification for significant inequalities of incomes and wealth, but not for such large disparities as exist today.” (Keynes, 2021)

Underlying his concerns about economic factors in the operation of economies, Keynes was also concerned about the societal contexts of factors—the societal contexts of employment, taxes, and wealth distribution.

In particular, “unemployment” was a societal context of special importance. Keynes wrote: “It is certain that the world will not much longer tolerate the unemployment which, apart from brief intervals of excitement, is associated and in my opinion, inevitably associated with present-day capitalistic individualism. But it may be possible by a right analysis of the problem to cure the disease whilst preserving efficiency and freedom.” (Keynes, 2021)

The concepts of “employment” and “taxation” and “wealth distribution” are not concepts of “economic factors” but concepts in the “context of society”—in a societal stasis model.

9. Discussion: Societal Context of Economic Factors: The Case of Trade in Modern China

To see an example of both “economics factors” and “societal context” happening together in a contemporary society, we next briefly review these in the current economy of China. In 2025, Keith Bradsher wrote: “China faces a...problem. Its people could enjoy a better lifestyle if its workers produced more for domestic markets and less for exports.” (Bradsher, 2025)

Historically from the late 1970s to 2020s, economic factors have been very important in the industrialization of China—change in societal stasis. This was the period after the death of Mao Zedong in 1976 and in the next four decades of Chinese leadership by Deng Xiaoping and others. Under Deng’s reforms, a rapid industrialization of China began and grew in the early 21st century. This growth of the Chinese economy happened in a societal context of a mixture of a Communist Government and Free-Market Economics.

Historically, Deng Xiaoping had witnessed Chinese society destroyed in the 1960s Cultural Revolution of Mao. He and his family had suffered under the terror of Mao’s young Red Guards. After Mao’s “Cultural Revolution”, Deng thought that the Chinese Communist Party could not realistically expect to remain in power, unless it reformed Chinese society and solved the real problems of Chinese economic development.

In the process of reform, Deng had to construct a liberal faction of the communist party and then balance it off against a conservative faction. The liberal faction wanted reform, quickly and completely toward a market economy and democratization. Although the conservative faction also wanted no more mass-campaigns (like Mao’s campaigns), they still favored a central command economy of socialized industry and control of the government by the Chinese Communist Party.

Deng was in the middle. He agreed with the liberals, following upon Gorbachev’s reforms in the Soviet Union. Deng favored glasnost (openness) and uskorenije (acceleration of economic development); but Deng did not want demokratizatsiya (democratization). Deng still wanted control of Chinese government by the communist party. He feared a civil war and the breakup of China. Deng’s reform policies focused upon 1) Depolarizing Chinese society from class-based divisions; 2) making market forces work in the economy; 3) Diversifying Chinese industry from solely heavy-industry to light industry (consumer goods); 4) opening China to the world through Hong Kong and Taiwan.

Deng’s reforms worked, and China became a major industrialized nation, exporting manufactured goods to the U.S. and Europe and importing oil from Russia and Iran. Yet problems (about capital-exchange-trade-oil) continued for the

industrialized and communist China.

By 2025 in terms of international trade, China had become the largest manufacturer of consumer goods in the world. Keith Bradsher wrote: “China’s extraordinary volume of exports—up more than 12 percent last year—is swamping over-all world trade.” (Bradsher, 2025)

For example, trade between China and the European Union was balanced toward China. Keith Bradsher wrote: “The European Union buys \$2 worth of goods from China for each \$1 of goods that it sells to China. That left the European Union with a \$247 billion trade deficit with China last year... For developing countries, the discrepancies are even more pronounced, except for a handful of exporters of oil and other natural resources that run trade surpluses with China. African nations as a group buy about \$3 worth of goods from China for each \$2 of goods they sell to China.” (Bradsher, 2025)

As the dominant manufacturer of consumer goods for exports, China’s major imports are for resources. Keith Bradsher wrote: “Most of China’s imports are oil and other natural resources. But 98.9 percent of its exports last year were manufactured goods. Countries with few natural resources to sell end up with especially large imbalances with China.” (Bradsher, 2025)

This illustration of the context of a society for its operation by economic factors means that we need to add to the economic-factor model, the context of nation (a model of its society). This can be done by adding a model of societal systems which underlay any specific model of economic factors in any historical time, as shown in **Figure 7**. See (Betz, 2012) for the derivation of this societal model.

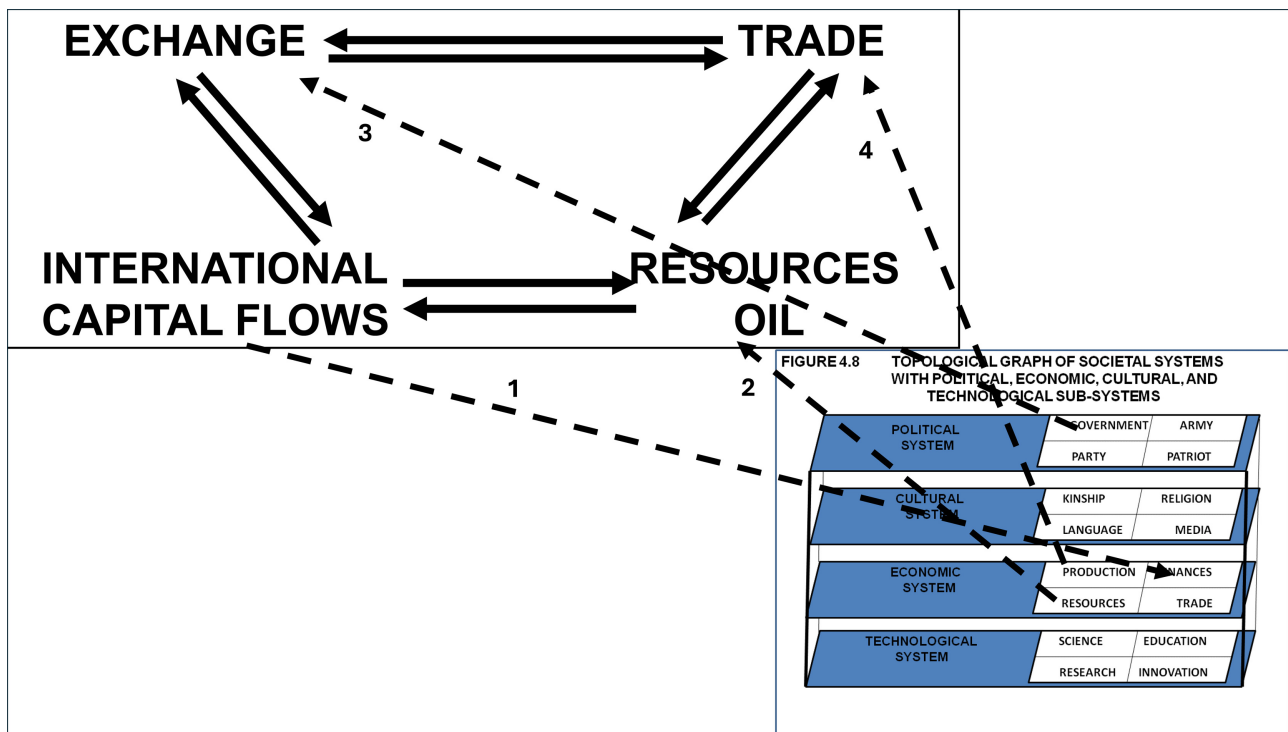


Figure 7. Connections between economic factors model and contextual society model.

The dotted arrows depict the connections between the economic factors and their realization in the context of the systems of a society (at a historical time). The model of a society in stasis (steady state) is constructed from four systems: political, cultural, economic, and technological. These four systems occur in any industrialized society as organizing the four functions of a society: to provide production (economy), family (culture), security (government), and techniques (technology). This model is based upon a sociological description of a society as organization and function. See (Parsons, 1967) and (Betz, 2012).

In the case of the economic factors in modern China, societal context connections are shown by the dotted arrows: 1) Financial income to China from international trade balances; 2) Import of oil from foreign nations into China as fuel resources; 3) Wealth to Chinese government from trade exports of manufactured goods; 4) Production in Chinese economy of manufactured consumer goods for export. The analysis used in this research finds and quotes historians' depictions of real events in the histories of societies.

When applying to a society the analysis (by a graphic model of economic factors), one needs to consider their context of the stasis (steady state) of that society. The societal state impacts how economic factors operate at a specific time in a society.

Connecting (via dotted arrows) a model of economic factors to a stasis model of a historical society, one then can depict how close or far normative economic theory (ideal) appears or deviates from empirical economic conditions (reality)—in a society at a given time.

10. Summary

We have reviewed the history of Bretton Woods and analyzed how three of the basic economic factors (exchange, trade, capital) underlay the thinking and economic theory of the advisors, Keynes and White (who together steered the policy of Bretton Woods). We also expanded the three economic factors into four factors, with the addition of a resource factor (e.g., oil). This was evidenced by the economic importance of oil as a global resource—politically organized as OPEC in the 1970s and which played an important factor in the demise of Bretton Woods agreement.

We have formulated a graphic model to use in analyzing the economic theory and policy which occur in historical events, such as that of Bretton Woods. This graphic model of basic economic factors displays the directional connections between the factors of exchange, trade, capital, and resources.

The factors model is an analytical tool for depicting the empirical importance of both economic factors and their connections in a particular history of a society.

We have also noted that the economic-factors model is incomplete by itself, since it does not directly show the connections of economic factors to employment in a society. For this, we connected two models—a model of economic factors and a model of societal systems. Their connections between models assist in

an analysis of a historical event to understand the societal context of economic factors in that event. In such an event, these factor-societal connections analytically assist in explaining the differences between normative and empirical economic explanations of the event. For an unstable economic event, the societal context of the event determines whether the event is experienced by economic observers as catastrophic or apocalyptic.

We have also noted that in 1935, John Maynard Keynes had made “employment” a focus of his book *General Theory*. But in contemporary economic dialogue (back then and even continuing today), it is still not clear how to connect the concept of “employment” into models of “economic-factors”. The contextual basis of economic-factors (which is the stasis of a society) provides the proper analytical technique to integrate these ideas of “employment/unemployment” with “economic-factors”—within a democracy.

For scientific methodology in economic analysis and theory, the following two points (about models and societal contexts) are important:

1) *Normative economic theory should be methodologically validated by empiricism—by real economic models of historical events of a society.*

2) *A model of economic factors (and their connections) that operate in a society should be methodologically completed by additional connections between the factors model and a systems model as societal context.*

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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