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REVISED FIRST EDITION

MACROECONOMICS

Past and Present

Volume 2

EDITED BY
Thomas Rustici, James Caton, Dima Shamoun, and Theo Shamoun

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“This compilation of key works from the classical tradition in macroeconomics fills a gap that I didn’t know existed, until I saw the table of contents. The book contains an amazing range of classical pieces on macroeconomics as well as the microeconomics underpinnings of money and macro. It’s a great idea to put all of these important articles together in one volume, especially for academics who don’t have the time to waste searching through library catalogs, and who may not even recall where a classic paper first appeared.”

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“In this two-volume collection, Rustici, Caton, Shamoun, and Shamoun have gathered many of the ‘greatest hits’ of macroeconomics, and smartly supplemented them with excellent but less-known pieces and their own helpful contributions. The result is a set of readings that will be extremely valuable for any macroeconomics student—and for any instructor who wants to expose students to the field’s key insights and broad range of approaches.”

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“This read is an excellent compilation of classical articles on macroeconomics and monetary theory as well as some new and original articles. Selections from the reader would be appropriate for a variety of courses from introductory macroeconomics to intermediate macroeconomics and money and banking. Advanced students of macroeconomics will find the reader an excellent companion in a course that emphasizes contemporary critique.”

W. William Woolsey, Ph. D., The Citadel, Military College of South Carolina

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Chapter One

Banking and Monetary Policy

Money, Banking, and Monetary Policy

By Thomas Rustici

INTRODUCTION

The field of macroeconomics encompasses many different models with widely varying assumptions across numerous economic institutions. Microeconomics starts with individual choice theory and four basic assumptions: scarcity, methodological individualism, rational choice and unlimited wants. Price theory then can be applied in an amazing array of situations that allow for scientific understanding about the fabric of our life. Microeconomics is fundamentally barter economics. The graphical tools of supply and demand have the relative or real (barter) price on the y-axis and real quantities of goods on the x-axis. However, once we include a monetary economy, goods and services have two prices: a money price (nominal) and a barter (real) price. Macroeconomics, as distinct from price theory, deals with the entire economy simultaneously. Quite literally everything at some time or place falls under the domain of macro theory. Getting our mental “hands around” the whole economic system requires much more than only the four starting assumptions of basic price theory.

Macro analysis crosses all markets. What happens in the isolated corn market does not stay hermetically sealed-off from the rest of the world. Rather, it affects other markets in numerous and often unforeseen ways. The fact that all

markets are connected is given as a starting point of macro theory. While the editors of this volume believe that “macro without micro” borders on the absurd and nonsensical, there are interesting institutional and structural nuances that require a little more in depth tools than just price theory alone. Furthermore, how macro theory gets tested against the evidence becomes very important.

METHODOLOGICAL ISSUES AND THE SCOPE OF MACROECONOMICS

The microeconomics model of the “pure logic of choice” is clear and open to *a priori* reasoning. From the four basic assumptions it is easy to analytically work through a wide range of expected implications. Take the case of Joe and his preference for 100 foot yachts. He has introspection and logical discursive reasoning fits well with microeconomics. Joe has consciousness and knows he will make choices based on a hierarchical or prioritized structure of subjective values. He looks around and recognizes that all of his needs for yachts that he can imagine cannot be satisfied because the world is always full of scarcity. Every human recognizes this conflict of unlimited needs and budgetary constraints and is forced to make decisions. Exercises in pure logic under this scenario

coupled with a few other assumptions should yield the correct direction of causation through the use of supply and demand tools. Thus, pure *a priori* reasoning and consistent logic can instruct us in what, where and when the causal factors point. For example, suppose it is discovered tomorrow that eating bread suddenly “cures disease”, *ceteris paribus*, it can be logically deduced (and all real world experience suggests) that the relative price of bread will quickly rise. How much the bread price rises is a more complicated matter depending on relative elasticities of the supply and demand curves, as well as the *ceteris paribus* condition—“all else held equal”—actually holding for all other determinates over the given time period. Thus, the **magnitude** of the price shift cannot be settled by logical exercise, any type of *a priori* reasoning, or even with other types of qualitative evidence. Rather, quantitative measurement tools, statistics and econometric testing are also required to isolate this relevant magnitude. However, empirical magnitudes aside, most of the issues in microeconomic theory, can be tested by resort to analytic reasoning and appeals to most of everyday experience. Macroeconomic theory, on the other hand, is a different and a much more complicated animal to say the least.

Macro modeling must be always tested against the statistical data; it cannot rest with just simple introspection, consistent logic and informal observation of everyday experience. Since the choices made by individuals interact with other choices made by others, these decisions cross through *dynamic* system wide institutions (money) and are based on every choice maker’s *expectations*. Therefore, macro models require extra assumptions about other people’s behavior which is largely an empirical issue. How do we know if a macro theory is correct or false? Certainly the model’s internal consistency with microeconomic logic is absolutely critical. If it cannot pass the micro hurdle, it is automatically suspect to being false. If something is happening on the aggregate level that violates microeconomic theory something is wrong—and usually not with price theory. The plausibility of the extra macro assumptions now comes in play. While realistic assumptions are

important for scientific theorizing, they are not the ultimate test of the validity of a scientific proposition, empirical testing gets the final say.¹ So even if a macro model can pass the basic micro test, the question remains, “Is this particular macro model true or not”? A correct theory must be able to make predictions that are consistent and accurate, exhibit a robust nature across various model formulations, and be statistically significant. In the end, science is the process of discovery of truth through conjectures (hypothesis formation) and (attempted) refutations.² Again, the empirical facts always have the final say since the truth is in the underlying data.

A final note on methodology and macro needs to be addressed. The universe is filled with trillions of “facts”. Consider the following facts: Venus is the second planet from the sun, George Washington was the first President of the United States, the atomic number for uranium is 235, and price of bread at the local bakery is \$1, average shoe size in Los Angeles is (let’s say 8) ... what do these objective facts tell us? Nothing! While these certainly are facts that could be proven, they are completely *unrelated* or *irrelevant* facts.³ Theory guides our organization of facts from vast variety that actually exist, down to a manageable handful that have a rational causal relationship. We already suspect that where Venus is located in the solar system probably has nothing to do with either the price of

1 See Milton Friedman, “The Methodology of Positive Economics,” in *Essays in Positive Economics* (Chicago: The University of Chicago Press, 1953), pp. 5–48.

2 See the philosopher of science Sir Karl Popper’s treatise, *Conjectures and Refutations* (London: Routledge, 1963). Popper noted that what separates science from non-science is the idea that at least in theory or principle (although not necessarily in practice) a scientific proposition is open to empirical testing and possible refutation.

3 Ludwig von Mises demonstrates that theory helps organize the facts into a logical and useful framework. In short, the relevant facts examined are established by the theory. See *Theory and History* (Westport, Connecticut: Arlington House, 1969) and *Epistemological Problems in Economics* (New York: New York University Press, 1976).

As a note, I always remind my students that I can make “Pigs can fly wiggling their ears, on paper, if I’m allowed to invoke enough, and enough patently absurd starting assumptions.” While this is nice, the real question remains, “Is it true?”

bread, average shoe size in Los Angeles or anything else in the prior list of facts. There is therefore an “art” to the science of choosing the correct abstract assumptions and their related facts for empirical testing of both qualitative and quantitative information.⁴ Knowing what the relevant assumptions are for testing in macroeconomics is often a major controversy that drives heated debates between various schools of thought in the literature.

The upshot of this methodological journey is that macro brings in vastly more implicit and explicit starting assumptions than micro. This does not mean macro is not science, rather, it is much more problematic in what it attempts to discern—real movements in the entire economic system traced back to their causal factors from their underlying actual micro choices.

MACROECONOMICS AS MONETARY ECONOMICS

Monetary economics is the heart of macro. Money is a very unique economic good in every economy. Money spontaneously arose from a barter system to solve the double coincidence of wants problem, reduce transactions costs and expanded comparative advantages through intensified division of labor. The essays by Carl Menger, “The Theory of Money” and Adam Smith, “The Origin and Use of Money” in our *Monetary Foundations of the Macro Economy* illustrate the micro choice economic underpinnings of this very process. Once a commonly accepted medium of exchange exists we have entered the world of modern “Macroland”.

Money is the only system-wide economic commodity. It enters into virtually every trade in every market simultaneously. By bartering with money, we trade goods and services for money and re-trade that money for other goods and services. Think about this for a moment. Do we see apples

in every transaction? No. Shoes? No. Bowling balls? No. But, we do see money always being present. Goods and services move one direction and money moves the other direction, to the buyer and to the seller respectively. The Classical macro thinkers understood that while fundamentally real goods and services always pay for real goods and services (barter), this happens almost exclusively through the intermediation of money.

Money as a commodity then is the “weigh station” or the middle link in the cycle of trade. What then sets the value or price of money? Here again microeconomics becomes important. Prices come from supply and demand at the margin (equilibrium). If we apply the laws of supply and demand to money we can understand what determines its value. The quantity equation of exchange in the form of $MV=PQ$ was this type of supply and demand framework applied to money. These variables were:

M = money supply

V = velocity of circulation (inverse of money demand),

P = price level

Q = real output.

Ceteris paribus, if M increases but V and Q do not change, P must increase (inflation). As illustrated in Chapter 5 of our *Monetary Foundations of the Macro Economy*, the overwhelming weight of the statistical evidence supports this monetary theory of inflation.⁵ As the Nobel Laureate Milton Friedman noted, “*Inflation is always everywhere a monetary phenomenon.*”⁶

4 Sir Isaac Newton did not include the color of the falling objects into his theory of gravitation and falling bodies.

5 See the data from the tables and charts by S. Hanke, R. Barro and M. Friedman in *Vol. 1*.

6 Milton Friedman and Rose Friedman, *Free To Choose: A Personal Statement* (New York: Harcourt Brace and Jovanovich, 1980) p. 254.

MONEY AND CENTRAL BANKING

The modern world of money has some other interesting institutional features. Almost all money and credit gets created through *central banks* based on *fractional reserves*. The Federal Reserve System in the United States controlled by the Board of Governors uses three “monetary instruments or levers” to influence the volume of money and credit in the economy: Open market operations (OMO), Changes in the Discount Rate, and Changing Legal Reserve Requirements.

When the Federal Reserve **buys** bonds on the open market it injects base or “high powered” money into the banking system. Given the fractional reserve nature of the financial structure, excess reserves get loaned and re-deposited and re-loaned over and over again until all of the initial injection is setting in bank vaults as legal required reserves. The deposit expansion multiplier is:

$$D=1/RR$$

where D is equal to the change in total deposits and RR is the percentage of the deposits required as vault reserves. Thus, a \$1 increase through OMO lent fully with a 10% RR, leads to \$10 of total bank loans and credit throughout the economy. Conversely, if by OMO the Federal Reserve **sells** the exact opposite happens and money and credit are contracted by \$10. Changes in the Discount Rate also effect bank reserves and therefore money and credit. When banks cannot meet their legal reserve liquidity requirements (maybe cash-flow sequences problems of deposits and withdrawals) they can do one of two things. First, they can borrow liquidity from other banks (paying interest on the loan) with excess reserves on the “overnight” market to buy time to accumulate deposits and restrain the making of new loans. The other alternative is to go to the “lender of last resort” i.e. the Discount Window and borrow from the Federal Reserve. If the Federal Reserve sets an interest rate at the Discount Window lower than the overnight market rate it *encourages* banks to take out new

loans with it, and this injects more bank reserves into the system. A multiple expansion again occurs. If the Discount Rate is set higher than the overnight rate it then *discourages* borrowing and shrinks bank reserves and causes a multiple contraction through the fractional reserve system. Finally, the Federal Reserve can directly change the legal reserve requirements on banks. If they *raise* the requirement, banks scramble to accumulate more vault cash to be legally compliant, thus contracting loans; if the rate is *lowered*, then every bank has more excess reserves they can now lend at a profit—expanding loans.

Monetary policy is exactly what comes out of these three instruments. However, the general public also plays a role in determining the supply of money and credit. In 1933, economists J.H. Angell and K.F. Ficek demonstrated in two seminal essays this process of monetary expansion or contraction from the **deposit/currency** ratio.⁷ A dollar in your pocket is \$1 in the money supply. However, if that dollar bill gets deposited into a checking account with a 10% legal reserve requirement then there is now \$10 of bank credit supported by that dollar. Money is created endogenously as of the individual decisions to hold more or less cash. What fraction of circulating cash people want to hold directly, as opposed to holding wealth in their checking account becomes very important. While some may draw down their bank accounts to hold more cash, others may deposit more of their money and write checks on it. If these two opposing forces offset each other in the aggregate then the economy moves along relatively smoothly. However, when there are dramatic swings in the deposit to currency in the short run—near catastrophic things begin to happen.⁸ In effect, when the deposit/currency

7 Angell, J.H. and K.F. Ficek, “The Expansion of Bank Credit,” and “The Expansion of Bank Credit II,” *The Journal of Political Economy*, (February 1933), pp. 1–32 and (April 1933), pp. 152–193).

8 Thus, the 1999, the Y2K computer bug problem posed a very serious concern about the stability of the money multiplier. While all bank computers in America were Y2K compliant by the spring of 1999, the fear that people would still “pull all their money out of the banks” for a few weeks at the end of December just to be on the safe side could have

ratio is collapsing, the money multiplier begins to collapse, *ceteris paribus*. The money multiplier is defined as

$$\frac{1 + d/c}{d/c + RR}$$

Where: d/c is the deposit to currency ratio and RR is the legal reserve requirement ratio.

Thus, the inverted credit pyramid has a small amount of base or high powered money (Federal Reserve determines part of this amount, the behavior of banks with respect to excess reserves, and the general public's d/c ratio determine the rest) and this supports the entire stock of money and credit throughout the economy. Small changes in high powered money can cause “big changes” in a fractional reserve banking system. Central banking structures that are organized as a cartel (like the Federal Reserve) are *potentially* unstable. While fractional reserve banking that is monopolized can run into the problems of runaway inflation or severe deflationary collapse (computer glitches, large and sudden changes in the d/c ratio, mistakes by the Board of Governors, or other exogenous shocks) a competitive free banking system that absent a central bank would likely avoid many of worst monetary instabilities. As some of the essays at the end of this volume demonstrate, the largest source of monetary instability is not the fractional reserve *per se*. Rather the monopoly of the monetary authority is typically to blame for the worst cases of economic instability.

been a self-fulfilling prophesy followed by a massive monetary implosion with horrendous consequences. Fortunately the actual d/c ratio change at this time, while real, was relatively small and not as significant as former Chairman of the Board of Governors Alan Greenspan had planned for in November of 1999. See, Suresh Sundaresan and Zhenyu Wang, “Y2K Options and Liquidity Premium in Treasury Bond Markets” *Federal Reserve Bank of New York Staff Paper #266* (November 2006), p. 33. Also, see Federal Reserve Bank of Atlanta, “Exterminating the Y2K Bug in Banking”, *Economic Review* 1999.

MONETARY INSTABILITY: INFLATION

Why is monetary stability important for macroeconomics? Because money is in every transaction and, therefore, anything that changes the value of money unexpectedly will influence the real economy. Rapid expansion of the money supply throughout history has caused runaway and even hyperinflations. Examples include: the Roman Empire, ancient China, Revolutionary France, Weimar Germany ... hundreds more cases. Hyperinflation is not a relic of economic history. Even today in the nation of Zimbabwe, the utterly disastrous consequences that arise from a large collapse in the value of money can be readily seen. When prices perpetually rise, and become expected to accelerate in the future, the demand for holding money falls and velocity quickens—which, *ceteris paribus* pushes prices up even higher. Holding money denominated assets when prices increase puts a real tax on the holder of that money asset. In short, no one wants to pay an inflation tax. If money is spent before the prices increase to escape the tax, this causes the prices to increase even higher. The *store of value* function of money is undermined. In the limit, Ludwig von Mises points out, the demand to hold cash falls toward zero, hyperinflation accelerates, and what remains is the “flight to real goods.”⁹ This reversion to a direct barter system (if no other alternative mediums of exchange are present), renders a complete disintegration of the monetary economy.

Microeconomic price theory is unambiguous here. If anything that is taxed, there will be less of it, and if anything subsidized there will be more of it. Inflation is the tax on holding money. If the government placed a 10000% tax on shoes, many if not most people would walk around barefoot—but life would go on. Put that tax on coffee, and people stop drinking coffee—but life goes on. If the government and its central bank cause too much

⁹ Ludwig von Mises, *Human Action: A Treatise on Economics* (Chicago: Contemporary Books, 1949), p. 427.

monetary inflation, people try to get reduce money holdings as fast as possible.

Microeconomics is also clear about comparative advantage, the division of labor and productivity. The gains from trade are expanded and captured by following David Ricardo's principle of specialization based on comparative advantage.¹⁰ By specializing in what we do best (each farmer grows food for 500 people) and others engaged in what they do best (each shoemaker makes shoes for 1000 people) more total output is available for all. High levels of specialization, and therefore of productivity, are only possible in a monetary economy. As Adam Smith observed as early as 1776, the division of labor is limited by the extent of the market.¹¹ Thus, a reversion to a direct barter economy drastically collapses the division of labor because no efficient mechanism exists to facilitate exchange. If productivity falls because of runaway inflation, output—"Q" in the quantity theory—falls which can then, *ceteris paribus*, force prices, "P", up even faster! At some point the inflation tax self generates and spreads like a wildfire—like a virus that can destroy the foundations of a modern economy.

Additionally, money is also a *unit of account*. Without a functioning commonly accepted medium of exchange, financial accounting becomes next to impossible. As Max Weber demonstrated long ago, accounting in *natura* is fantasy¹². How can business profit-loss calculation proceed without a common measuring rod for all values expressed on an income statement? For all practical purposes, it cannot. Suppose we are in a barter world and **Company XYZ** makes wood products for sale. Let's see the accounting systems records look like:

Accounting Problem for the Barter-based Accountant

- Used to pay for inputs: 24 eggs, 3 shoes, 2 hats, 6 boxes of soap powder, and 8 tropical fish
- Used in production: 10 yards of lumber, 50 nails, 1 hammer, 7 hours of labor and 2 units of capital, and 217 KW of electricity
- Sold to consumers: 5 dog houses, 3 tables, 12 chairs, two sets of book cases
- Received from consumers: 3 video games, 5 light bulbs, 18 facial tissues, 4 pounds of charcoal and 2 packs of bubble gum with baseball cards

Did Company XYZ efficiently allocate scarce resources by making profits or did they waste resources and take losses? We need to know the values of all the inputs forgone and the values of the outputs sold. In a monetary economy, every value of every item is quoted in terms of units of money, so costs and revenues are compared with the common unit of account. In a barter world, every price is relative to every other price. The maze and overwhelming complexity can quickly be seen. Imagine only 3 people and 10,000 possible goods traded. In this setting, a potential vector of 149,985,000 price relationships exists. Now assume you run Walmart with hundreds of thousands of employees, over 100,000 different items for sale and tens of billions of transactions with untold consumers each month. In a world of a trillion quadrillion different price relationships, how many calculations will the barter-constrained financial accountant have to compute and compare for the Walmart Board of Directors to review by next month? For all practical purposes (this is real business here not theory) ***it is just not possible***. Business efficiency stops dead in its tracks.

Instead of monetary accounting, suppose firms use "gut instinct", "animal spirits" or "random guess" to determine if capital and labor have been put their highest valued use? How would any of this be quantifiable? Runaway monetary inflation leads to precisely this scenario. It injects chaotic

10 David Ricardo, "On Foreign Trade," *The Principles of Political Economy and Taxation* (London: Everyman's Library, 1911), pp. 77–93.

11 Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: Modern Library, 1937), pp. 17–21.

12 Max Weber, *The Theory of Social and Economic Organization* (New York: The Free Press, 1947), pp. 204–205.

unnecessary “noise” into information system. In the limit with runaway inflation, accounting becomes useless, productivity collapses and “Q” falls, and *ceteris paribus* “P” rises faster until we reach the flight to real goods.

Questions for Consideration

- Is the modern urbanized world really set up to revert back to direct barter for long periods of time?
- How will you pay the farmers growing your food with what you have specialized in producing?
- Do teachers in New York walk to Kansas and tutor Farmer Jones’ children for an hour to get a couple of bushels of wheat?
- How would he pay for the gas used in his tractor with the tutorial services rendered to his children?
- How long will it take before another medium of exchange becomes widely accepted? What happens? This is an empirical question with literally life and death consequences.

MONETARY INSTABILITY: DEFLATION

The flip side to a monetary collapse due to hyperinflation arises from a monetary *deflation*. While monetary inflation has been the consistent “norm” throughout most of human history, there are the less frequent but also potentially destructive monetary deflations. And why a deflation arises is also very important. If a price level deflation arises from the increase of “Q” in the quantity equation, this is not a serious macroeconomics problem. When productivity allows the real economy to generate a greater output for human consumption, the standard of living is improving. A falling price level *does not* imply a decreased level of human welfare. In fact, economist George Selgin suggests

a productivity induced deflation is more than likely efficiency enhancing since relative prices reflect their scarcity value more accurately than under a constant price level. In his essay, “Less than Zero: The Case for the Falling Price Level”, Selgin examines the theoretical and empirical literature that undermines the widely held belief among modern macroeconomists that deflation inherently reduces output or even slows the growth rate of output.

A falling price level that arises from a collapsing monetary aggregate such as M1 or M2 is an entirely different story. During America’s Great Depression the money supply “M” declined approximately 29% in 3 ½ years due to the closure of 10,421 commercial banks. When 40% of the banks were in the process of failing waves of “bank runs” shifted money out of bank deposits and into hand to hand cash. The collapse of the deposit to currency ratio dramatically lowered the money multiplier. This implosion of the inverted credit pyramid forced a horrendous monetary contraction and caused a severe unexpected downward adjustment of the price level. Therefore billions of market clearing equilibrium prices and wages were now above full employment levels. The monetary deflation coincided with a collapse of real output of approximately 36% and unemployment on the labor market spiked to over 25%. This historic and worldwide economic event shaped macroeconomic thinking for generations. The belief that any amount of deflation was always harmful (regardless of reason), something to be avoided at all costs—even at the cost of accelerating rates of inflation—became the widely accepted norm. The editors of this book firmly believe this conventional wisdom is mistaken.

There are “**good**” deflations caused by rapid productivity increases, and “**bad**” deflations caused by institutional and monetary collapse. The essay on the Great Depression by Thomas Rustici as well as the data set from Milton Friedman and Anna Schwartz examine the collapse of the deposit to currency ratio, the money supply, and the deflationary price level from October 1929 to March 1933. What the truly bad deflation of the early 1930s suggests is that a central banking system based on a fractional reserve structure is potentially prone

to hard exogenous shocks that can destabilize the monetary foundation of the macro economy. Whether appropriate central bank actions quickly offset these shocks (or inappropriate actions cause them) is open to empirical investigation. A range of essays in this book will discuss this topic and other related issues of monetary instability.

ECONOMIC GROWTH

The classical macroeconomic model outlined in *Monetary Foundations of the Macro Economy* attempted to isolate principles of long-run truth concerning money, its value, and economic growth. Classical theory separated real influences from nominal factors while simultaneously connecting microeconomic price theory to the changes in the macro aggregates. This book (which should be used as a companion to *Monetary Foundations of the Macro Economy*), examines the 20th century history of macro theories. More specifically, since the worldwide depression of the 1930's, the idea of short-run business cycles had come to dominate the attention of economists. Explaining the short run fluctuations of employment, prices and output (booms and busts) from the long run trend rates then rises to the forefront of discussion. The essays in this volume start with John Maynard Keynes' macro model and his rejection of the classical model and its long run analysis. The essays that follow Keynes present more recent models that differ in important ways from his theories and, to some extent, various aspects of the older classical modeling. While 20th century macro was heavily steered by Keynesian thinking, the numerous problems in his model led many macro thinkers back into a version (to varying degrees) of the original classical

macro model. These include models birthed from monetarism, neoclassical synthesis, rational expectations (real business cycles), Austrian and supply-side economics, and even to some extent "new Keynesian" theory. This volume compiles seminal essays across this business cycle literature.

The return of macroeconomists to the aspects of the fundamentals of classical tradition has reoriented attention back to issues of long run economic growth, the point from which classical economists originally began their inquiry. After all, Adam Smith's treatise that launched economic science in 1776 was entitled *An Inquiry into the Nature and Causes of the Wealth of Nations*. After many different macro schools of thought have developed over the last 75 years, and long run growth theory is again of great interest. Thus, the editors have assembled some important essays in this area of study as well as conclude with a section concerning the future of money and alternative monetary regimes.

A NOTE TO THE INSTRUCTORS

While the essays in *Monetary Foundations of the Macro Economy* are generally easy to digest by first year principles of economics students, this book is much more complex and challenging. This book offers students at the intermediate or even graduate level with this provocative and seminal literature that will often be covered in formal lectures and classroom discussion. The editors constructed both volumes as companion pieces and usable in the same one semester economics course. However, each instructor may find it helpful to use one volume rather than the other based on the rigor of their classroom expectations.

The Yellow Brick Road to Ruin

The Managed Gold Standard and Price Path Distortion

By James Caton

The Great Depression represents the greatest contraction in output in the history of the modern world. Not only was it severe, but it was experienced internationally. So what made the Great Depression so “Great”? Before this question can be answered, one must understand the nature of the international gold standard which was the monetary system throughout the developed and developing world. This piece will introduce and examine the international gold standard in order to convey the context from which the Great Depression arose.

While gold had been used by merchants in Europe since the time of the Roman Empire, European kingdoms had generally maintained silver standards since at least the fall of the Byzantine Empire (Hawtrey 1947, 65). Only after trade spread with the rise of the merchant class in England was it generally adopted. The first case occurred in 1663 when Charles II issued the gold *guinea* (66). After 1717, England was on a *de facto* gold standard as the official exchange ratio undervalued silver and drove the metal out of circulation. The practice spread to France less than a decade before the toppling of the French monarchy, but the French did not adopt a monometallic gold standard for nearly another century (68). For most of the 19th century, England alone employed a gold standard. Only after Germany made the switch to gold from a silver standard in 1871 did the rest of Europe follow. By the end of the decade, the western Europe and the United States had demonetized silver as

legal tender in favor the gold standard (Leavens 1939, 30–3). The period that followed is typically considered the classical gold standard.

The demonetization of silver decreased the volume of metallic money available to serve as a base money. As standard microeconomic theory suggests, when consumers experience a decrease in substitutes, the elasticity of demand for the good in question decreases. There was therefore a simultaneous increase in demand for gold and a decrease in the elasticity of demand for gold. This served to push price of gold away from its previous long-run path. A rise in the price of gold being equivalent to a fall in the gold-denominated prices, the next two decades saw a general deflation of an annualized 2.5% per year between 1873 and 1896, a total of 45% (League of Nations, 82–84). Prices finally reversed after new technology, the cyanide process, was discovered in the previous decade and implemented across the gold mining industry.

The process of deflation was not painless. In his article, “The Crime of 1873”, Milton Friedman writes, “it [silver demonetization in the United States] was a mistake that had highly adverse consequences (1990, 1177)”. The demonetization of silver in the United States depressed prices, which made economic life difficult for debtors by decreasing the dollar value of their collateral relative to the debt employed to acquire the collateral. Friedman comments that this was a problem, though to a lesser extent, in England as well, and goes on to note that “the price level would have

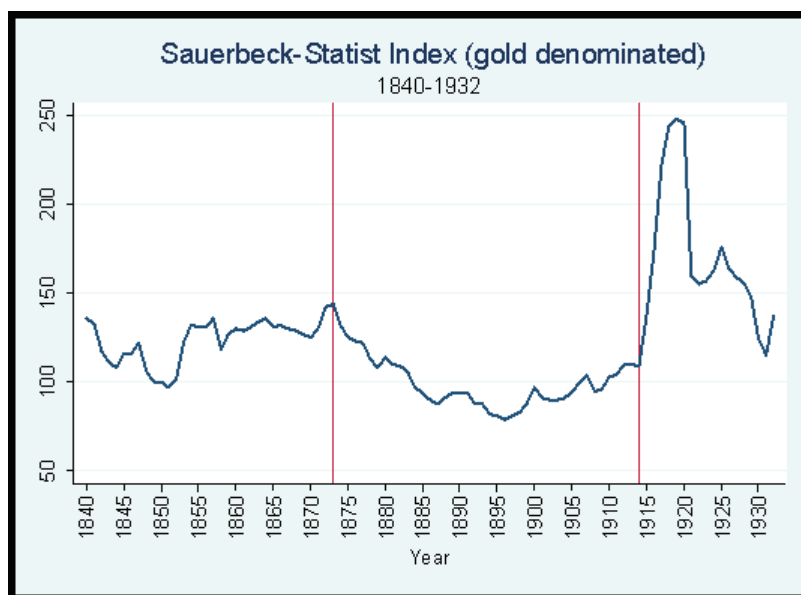


Figure 1: Years 1873 and 1914 are marked. These represent, respectively the year that prices peaked as nations began to demonetize silver en masse and the start of World War I.

Source: (League of Nations 1930; Mitchell 1988) 1930–32 converted to gold terms using exchange rates from (Robbins 1934).

been consistently higher for the rest of the world (1990, 1176).” Legal tender monopoly—as opposed to widespread practice—led to the adoption of a monometallic gold standard which proved burdensome for many, even in its early years.

Throughout the period, central banks amassed a substantial portion of the world’s monetary gold stock. By the start of World War I, central banks held greater than 60% of the world’s monetary gold. After the Federal Reserve consolidated monetary gold within the U.S., the ratio jumped to just below 80% (Board of Governors 1943; U.S. Gold Commission 1982). With only few holders of the only metallic base money in use in the western world, a change in overall holdings had a dramatic impact on the world’s price level. When all nations but the U.S. left the gold standard during World War I, prices in terms of gold skyrocketed. Gold became less valuable because the prime holders of gold decreased their holdings and relied on fiat paper money during and immediately after the war. Prices in terms of gold doubled as even the U.S., for all intents and purposes the only nation that stayed on the gold standard, dramatically

increased the volume of Federal Reserve notes in circulation. The value of gold being essentially equivalent to the value of the dollar at this time, the prices in terms of gold rose further. Between the war’s start and the peak of the inflation in 1920, gold denominated prices more than doubled.

The economic hardship brought on by double digit inflation during the 1910s was followed by an severe deflation. Between 1920 and 1921, prices in terms of gold fell by 35%: the steepest international deflation over the course of a year on record. The deflation was set off by the Federal Reserve’s increase in demand for gold as expressed by a contraction of Federal Reserve notes. Federal Reserve notes in circulation fell by 31% between October 1920 and January 1922 (Board of Governors 1943). By contracting the portion of the monetary base under its control, the Federal Reserve attracted gold to the U.S. Central banks in Europe had to follow the lead of the Federal Reserve and contract the non-gold components of their monetary bases so as to curb gold outflows. If not stopped, the loss of too much gold would threaten a return to the gold standard later in the decade.

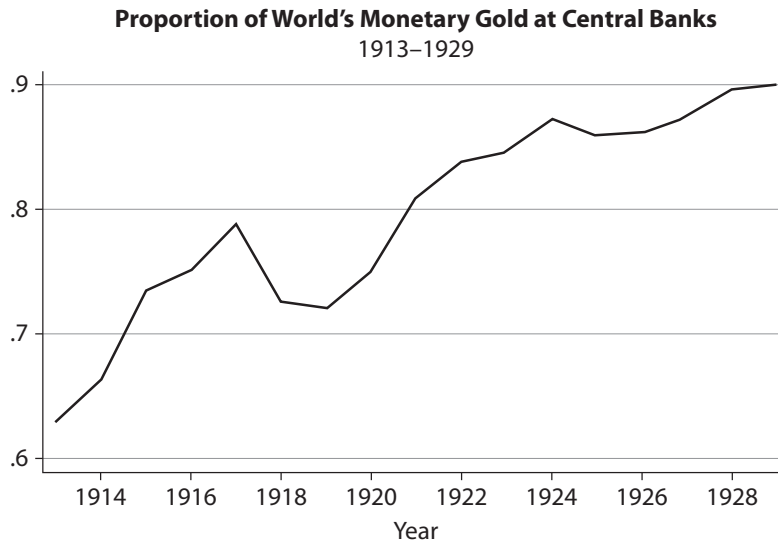


Figure 2

Sources: (Board of Governors 1943; League of Nations 1930)

After the contraction in the early part of the decade, prices remained relatively stable until 1929. Between 1921 and 1929, the gold-denominated Sauerbeck-Statist Index fluctuated between 148 and 160 (League of Nations 1930). During this time, total gold holdings at central banks increased by an annualized rate of 2.8% (Board of Governors 1943). During this period the monetary gold stock increased at a rate of 1.7% while the total gold stock increased at a rate of 1.9%. When France began to accumulate gold after 1927, and the Federal Reserve followed in 1929, the annualized rate of growth of gold reserves at central banks increased to 4.4% while the monetary gold stock grew at only a rate of 2.3% and the total gold stock grew at a rate of 2.0%. In the latter period, central banks accumulated gold at a rate that was 2.1% faster than the monetary stock was growing, and a substantial portion of that increase came at the diminishment of already existing non-monetary gold. Consider that by 1927, central banks held 87% of the world's monetary gold. The proportion breached 90% in 1929. With demand for gold outstripping the supply, prices were forced downward.

This price drop was different than had occurred in 1920–21. This time, prices continued to fall. In

the U.S., a country that stayed on the gold standard throughout the depression, prices fell for four consecutive years (U.S. Gold Commission 1982). Only after President Roosevelt devalued the dollar in 1933 from 1/20th an ounce of gold to 1/35th an ounce of gold did prices finally begin to rise. Gross domestic product in the U.S. followed the same trend, though it lagged slightly behind the movements in prices (Maddison 2008). Compare this to the fall in prices in England where gold was demonetized in 1930. The fall in prices ended sooner and the fall in productivity was far less. It is no coincidence that productivity also recovered sooner. The nature of the correlation suggests that the price changes driven by central bank policies were responsible for the drastic fall in productivity.

Both during and after the classical gold standard, policies of governments and central banks were responsible for unusual changes in prices. First, with the demonetization of silver during the 1870s, prices fell as demand for gold outpaced the growth of the gold stock. The increase in demand, however, was not so severe as to cause an international depression. By the end of the classical era, changes in policies had a much greater impact on prices. Instead of exerting a persistent, but shallow,

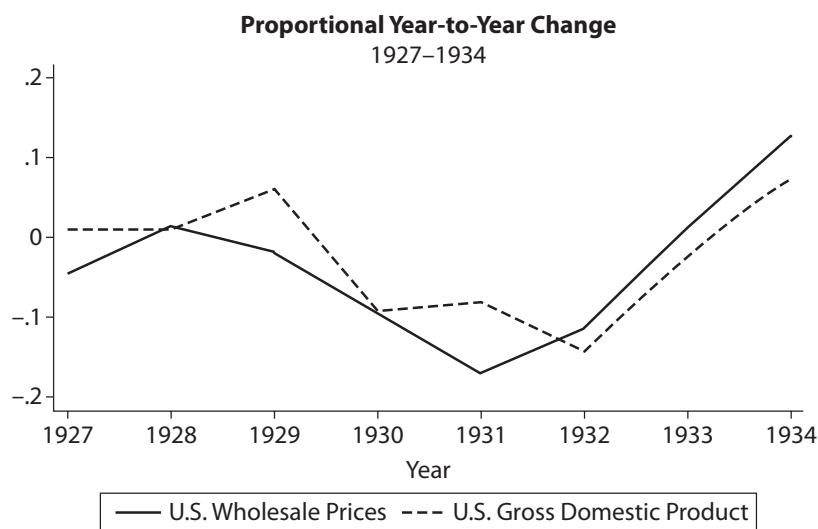


Figure 3

Sources: See text

downward effect on prices, prices in terms of gold became unhinged. Rising rapidly during and shortly after the war, then falling dramatically in two stages. Each of these swings was accompanied by substantial changes in gold holdings by central banks. When central banks had finally consolidated nearly all of the world's monetary gold stock at the end of the 1920s, increased demand for gold pushed down general prices persistently enough

to initiate the Great Depression. By this logic, it appears that the Great Depression was not a glitch, but was the logical end of a monometallic legal tender standard. The elimination of metallic base money substitutes by governments and sweeping consolidation of gold made the international monetary system increasingly fragile until, in 1929, it broke.

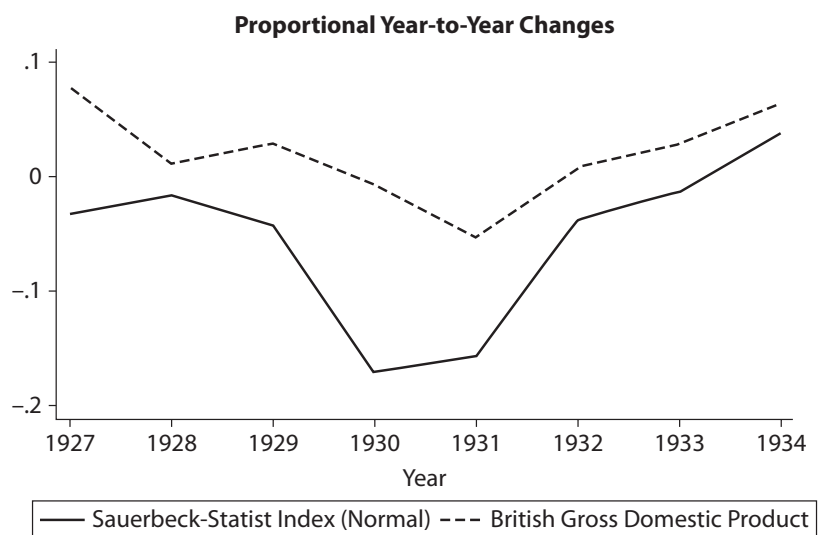


Figure 4

Sources: (Mitchell 1988; Maddison 2008)

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The Post WWI Monetary and Trade Setting

By Thomas Rustici

The Smoot-Hawley tariff was one of the most protectionist tariffs in American history. However, eight years earlier a very high tariff was imposed with the Fordney-McCumber Tariff Act of 1922. Some important conditions preceding the Great Depression were also present at the time immediately following World War I. Wartime inflation followed by post-war deflation coupled with new tariffs in 1921 and 1922.¹ While a major difference between these periods comes from the fact that the earlier tariffs elicited little in the way of retaliation, whereas with Smoot-Hawley it was worldwide and severe.² In fact, the adverse consequences of Smoot-Hawley ended up harming the very interest groups lobbying for its passage unlike the Fordney-McCumber tariff. What can explain this seeming public choice paradox concerning Smoot-Hawley relative to Fordney-McCumber? The answer comes from the unique political and economic context surrounding the end of World War I. The events following the passage of Fordney-McCumber tariff formed the dominant expectations held by all relevant pro-tariff special interest groups at the time of Smoot-Hawley. The peculiar timing of Fordney-McCumber's passage after World War I

emblazoned a set of expectations that would later become Smoot-Hawley.

EUROPE ON THE EVE OF WAR

After the end of the Napoleonic wars in 1815, the European economy experienced a century of economic growth and peace. The free flow of goods and services, foreign capital investments and migration of people tied the fate of countries together.³ France and England signed the 1860 Cobden/Chevalier treaty and ushered in a regime of "free trade" that dramatically lowered tariffs and implemented the "most favored nation clause."⁴ Furthermore, this economic integration was facilitated by the peripheral expansion of the gold standard. In 1873 there were nine countries on the gold standard; in 1890, 22 countries; in 1900, 29 countries; and in 1912, 49 countries.⁵ The adoption of a common medium of exchange, common unit of account with national paper currencies tied to it by fixed rates of exchange created broader more efficient markets. The results were impressive to

1 The Emergency Tariff Act of 1921.

2 There were far fewer interest groups influencing public policy in 1922 as opposed to 1930, and official government actions did not try to add rigidity into the price system in 1922 as opposed to misguided Hoover Administration policies to fix wage rates.

3 Barry Poulson, *Economic History of the United States* (New York: Macmillan, 1981), p. 497.

4 The most favored nation clause means that if one party negotiates a treaty with a third party, the other party automatically receives the lower tariff rates granted to the third party.

5 Melchior Payli, *The Twilight of Gold 1914-1936: Myths and Realities* (Chicago: Henry Regnery, 1972), p. 8.

say the least. The increase of total European Gross National Product from 1830–1910 increased by 1.7% per annum, while the per annum per capita GNP increased .9%.⁶ While this may seem low by modern rates of growth, it must be remembered that the maximum upper boundary of economic growth from 1500 to 1800 could not have exceeded .2%.⁷ In addition, international trade among European countries expanded as the volume of European exports increased 10-fold from 1835 to 1900.⁸ Economist Oskar Morgenstern has commented about these events:⁹

The international gold standard was thus, historically, one of the most important adjuncts to the opening of the world to settlement and development ... this creation of a world economy constituted one of the great (and beneficial) turning-points in the history of mankind.

WAR DESTRUCTION AND THE PUBLIC CHOICE SETTING

The prewar European economy was characterized by growing international economic interdependence with the Austro-Hungarian Empire functioning as a large integrated free trade zone

in the Danube basin.¹⁰ World War I lasted from 1914–1918, surpassing the destructiveness of any war in human history. The estimates of the damages included: 20 million direct military and civilian casualties, 20 million indirect civilian deaths from war-caused famine and disease, 20 million seriously wounded, total military war expenditures ranging 180 to 230 billion dollars (1914 purchasing power), and property damage exceeding 150 billion dollars.¹¹ When the fighting ended on November 11, 1918 the European economy was completely destroyed.

The war caused immense physical destruction of the European capital structure. France lay in ruins. The war destroyed at least 85% of its farmland, in addition to the 700,000 buildings, 9,000 factories, 200 coal mines, one half of all roads, 6,000 bridges, 1,500 miles of railways and 700 miles of canal infrastructure.¹² Great Britain lost 40% of its shipping tonnage, Belgium and northern Italy ravaged by military conflict, and Germany where little combat took place was burdened by a harsh peace treaty.¹³ The Versailles Treaty compelled Germany to lose the following: 10% of its population, 15% of its arable land, 25% of its coal reserves, $\frac{3}{4}$ of its iron deposits, most of its zinc ore, its navy and merchant fleet, 5000 locomotives, 150,000 railroad cars, 5,000 trucks. More significantly, in April 1921 Germany was also ordered by the Reparations Commission to repay 132 billion gold marks to the Allied powers. This translated into about \$33

6 Paul Bairoch, "Europe's Gross National Product: 1800–1975," *The Journal of European Economic History* Vol. 5, Number 2 Fall 1976, pp. 276. The European per capita GNP in 1960 U.S. dollars goes from \$240 in 1830 to \$534 in 1913, p. 301.

7 Ibid, p. 277. At .9% growth rates, the real standard of living doubles ever 80 years; at a .2% rate it takes 360 years! Bairoch estimates the real per capita income increased about \$10 from the beginning of the 16th century to the beginning of the 18th century.

8 Cameron, p. 278.

9 Oskar Morgenstern, *International Financial Transactions and Business Cycles* (New York: National Bureau of Economic Research, 1957) pp. 17–19.

10 Rondo Cameron, *A Concise Economic History of the World: From Paleolithic Times to the Present* (Oxford: Oxford University Press, 1989), p. 349.

11 Cameron, pp. 345–346.

12 Shepard Clough and Charles Cole, *Economic History of Europe* (Boston: D.C. Heath and Company, 1941), pp. 737–738

13 The classic essay outlining the economic dangers of the Versailles Treaty is found in John Maynard Keynes, *The Economic Consequences of the Peace* (London: Macmillan, 1920). However, there have been forceful challenges to Keynes' proposition that it was impossible for Germany to comply war reparations. See, Melchior Palyi, *The Twilight of Gold 1914–1936* (Henry Regnery: Chicago, 1972) pp. 261–262; and, Etienne Mantoux, *The Carthagian Peace or The Economic Consequences of Mr. Keynes* (1946).

Table 1: Index of Physical Volume of Production for 1920.

Per capita of the total population 1913 = 100		
	Agriculture	Industrial
Germany	62	61
France	83	66
England	89	88
Belgium	78	91
Italy	73	74
United States	112	114

billion dollars purchasing power or twice the German national income!¹⁴

The war destroyed an enormous volume of capital assets and productive capacity. Relative to 1913=100 levels of production (per capita) the major belligerents had not recovered by 1920.¹⁵ The United States is the only exception as illustrated in Table 1.

14 Cameron, pp. 348–351.

15 Clough and Cole, *Economic History of Europe*, p. 738. For a corresponding index for Germany, see Dietman Petzina's "Was There a Crisis Before the Crisis? The State of the German Economy in the 1920's." In Jurgen Brown Von Kruedener, ed. *Economic Crisis and Political Collapse: The Weimar Republic, 1924–1933*. (New York: Berg Publishers, 1990), p. 6:

Year	Index of Industrial (1928 = 100)
1913	98
1914	81
1915	66
1916	63
1917	61
1918	56
1919	37
1920	54
1921	65
1922	70
1923	46

NEW BORDERS, OLD NATIONALISM AND SOCIALISM

With wartime economic planning by governments all across the world,¹⁶ other serious problems emerged after the Armistice in November 1918. The experience of war planning gave intellectual impetus to a proliferating array of socialist schemes. The European prewar anti-capitalistic intellectual climate surrounded the protectionist and interventionist ideas of German economist Friedrich List.¹⁷ Post-war ideas on the continent, however, were dominated by various central planning schemes attempting to abolish the market including: Bolshevism, guild socialism, syndicalism, Nazism, and fascism.¹⁸ As Ludwig von Mises observed, "For more than seventy years the German professors of political science, history, law, geography and philosophy imbued their disciples with a hysterical hatred of capitalism, and preached the war of "liberation" against the capitalistic West."¹⁹ The groundwork had been laid for a reversion back toward pre-1860 mercantilism and nationalistic

16 Clough and Cole, *Economic History of Europe*, p. 701. For a thorough examination of wartime economic planning by the U.S. government and the special interest groups apart of this process, see James Weinstein, *The Corporate Ideal in the Liberal State 1900–1918* (Boston: The Beacon Press, 1968) pp. 214–254.

17 Ellsworth, pp. 366–371.

18 Ludwig Von Mises, *Socialism* (Indianapolis: Liberty Classics, 1981) pp. 226–232, pp. 525–528, pp. 528–532.

19 Ibid, p. 530.

autarchy. Economic historian Rondo Cameron summarizes the consequences of this policy shift.²⁰

Even more damaging to the economy, in the long run, than the physical destruction, the disruption and dislocation of normal economic relations did not cease with the war itself but continued to take its toll in the interwar period. Prior to 1914 the world economy had functioned freely and, on the whole, efficiently. In spite of some restrictions in the form of protective tariffs, private monopolies, and international cartels, the bulk of economic activity, both domestic and international was regulated by free markets. During the war the governments of every belligerent nation and those of some non belligerents imposed direct controls on prices, production, and the allocation of labor. These controls artificially stimulated some sectors of the economy, and by the same token artificially restricted others. Although most of the controls were removed at the war's end, the prewar relationships did not reestablish themselves either quickly or easily.

The peace treaties dissolving the Austro-Hungarian Empire created an additional 8,000 kilometers of political borders throughout central and Eastern Europe.²¹ The redrawn boundaries artificially segmented markets that had served broader economic functions. The newly created states generated and outbreak of nationalism with its subsequent political pressures for economic protectionism.²² The economic landscape changed

20 Cameron, p. 346.

21 W.A. Sollohub, "The Plight of Foreign Trade," *The American Economic Review*. (September 1932) Vol. XXII, p. 404.

22 P.T. Ellsworth, *The International Economy: Its Structure and Operation* (New York: The Macmillan Co., 1950) pp. 447–448; also see Abraham Berglund's, "The Reciprocal Trade Agreements Act of 1934," *American Economic Review* (September 1935), Vol. XXV pp. 412–413.

dramatically from the prewar period. As Eduard Marz and Fritz Weber noted that the, "post-war world, especially its variant in the Danubian Basin, was indeed radically different from the familiar liberal or laissez-faire model. It abounded with protective tariffs, administrative trade barriers, foreign exchange restrictions and all sorts of other devices designed to strangle international trade."²³ This nationalism also played itself out in the monetary sphere with the spread of central banking. According to P.T. Ellsworth:²⁴

As a further factor tending to promote nationalism, we must list the spread of central banks after the war. The need for effective institutions to cope with monetary problems, the increasing prominence and refinement of monetary theory, and the opinion of experts all combined to bring this about. The International Financial Conference at Brussels in 1920 recommended in one of its resolutions that "in countries where there is no Central Bank of Issue one should be established." Although formerly confined to a few countries, England, France, Germany, Belgium, Norway, central banks arose all over Europe, in several Latin American countries, and in Australia Mid South Africa.

WARTIME INFLATION AND POST WAR PROBLEMS

World War I caused almost every country in the world to abandon its commitment to the gold monetary standard. The wartime finance gave

23 Eduard Marz and Fritz Weber, "Commentary," in *International Business and Central Europe, 1918–1939* ed. Alice Teichova and P.L. Cottrell (New York: St Martin's Press, 1983) p. 432.

24 Ellsworth, pp. 480–481.

Table 2. Money Supply and Wholesale Prices.

Country	Money Supply* 1913 = 100	Wholesale Prices 1913 = 100
United States (May 1919)	173	206
Japan (May 1919)	223	214.6
Switzerland (June 1919)	230	250**
Denmark (July 1919)	240	212**
United Kingdom (August 1919)	244	257.2
Netherlands (September 1919)	270	203**
Sweden (April 1919)	275	339
Norway (May 1919)	305	271**
France (June 1919)	365	330
Italy (April 1919)	440	329.9
Spain (September 1919)	185	199.4
Germany (December 1919)	826	803

Source: Melchior Payli, *The Twilight of Gold*, p. 33

* M1 currency plus demand deposits

** Retail prices 1914 = 100

belligerent nations easy recourse to the “inflation tax” on the monetary cash-balances held by their population. This helped governments divert an enormous volume of real resources from the private sector to the war effort. Without any domestic or international gold convertibility constraint on governments, very high rates of inflation are unleashed across the world. Table 2 illustrates this point.

While the inflation rates experienced in Table 2 are certainly high, they pale in comparison to the hyperinflation that later plagued many countries in Europe. All the successor states of the prior Habsburg Monarchy collapsed into hyperinflation. Bulgaria, Poland, and Greece destroyed their currencies. In Austria, runaway inflation caused the crown to collapse from a prewar par value of 5 to the dollar to 83,600 to the dollar by August 1922.²⁵ No country destroyed its monetary system like Weimar Germany.²⁶ Germany ran large fiscal budget deficits which it quickly monetized in

alarming amount. From 1921 to the fall of 1923 the German central government raised less than 1% of all spending by direct taxes or borrowing from the private sector. The *Reichsbank* operated 300 paper mills and 2,000 printing presses to create a continuous outpouring of worthless German marks.²⁷ The German money supply expanded from 25 billion marks in 1918 to reach 518 quintillion marks by 1923.²⁸ The demand to hold cash-balances collapsed to zero in “the flight to real goods,”²⁹ a re-

Hyperinflation: A Study of Currency Depreciation in Post-War Germany (New York: Augustus Kelly, 1931).

27 Hans-Joachim Braun, *The German Economy in the Twentieth Century* (London: Routledge, 1990), p. 39.

28 Jerome Smith, *The Coming Currency Collapse* (New York: Books in Focus, 1980), p. 177.

29 Ludwig von Mises, *Human Action: A Treatise on Economics* (New Haven: Yale University Press, 1949) The German central bank argued that hyperinflation caused a “shortage” in the real purchasing power of money, therefore, they were forced to accelerate the production of new marks. This reversed causation spelled disaster for Germany. See, Thomas Humphrey, “Eliminating Runaway Inflation: Lessons From the German Hyperinflation,” in *Essays on Inflation* (Richmond: Federal Reserve Bank of Richmond, 1986) pp. 237–241.

25 Cameron, p. 352.

26 For the classic study of this economic disaster, see Constantino Bresciani-Turroni's *The Economics of*

Table 3. Hyperinflation.

Country	Austria	Germany	Hungary	Poland	Russia
Approximate beginning month of hyperinflation	Oct. 1921	Aug. 1922	Mar. 1923	Jan. 1923	Dec. 1921
Approximate final month of hyperinflation	Aug. 1922	Nov. 1923	Feb. 1924	Jan. 1924	Jan. 1924
Approximate number of months of hyperinflation	11	16	10	11	26
Ratio of prices at end of final month to prices at first of beginning month	69.9	1.02×10^{10}	44	699	1.24×10^5
Ratio of currency at end of final month to quantity at first of beginning month	19.3	7.32×10^9	17	395	3.38×10^4

Source: Phillip Cagan, "The Monetary Dynamics of Hyperinflation," in Milton Friedman ed. *Studies in the Quantity Theory of Money* (Chicago: University of Chicago Press, 1956), p. 26.

version to direct barter from the disintegration of the monetary economy. This created an explosion of nominal prices. From August 1922 to November 1923, the price level rose by a factor of more than 10 billion!³⁰ Something that cost 5 marks, 15 months later cost 50 billion marks. The official foreign exchange rate declined from 8 marks to the dollar in 1919 to 4.2 trillion marks to the dollar in 1923, while on the free "spot" market the conversion rate stood at 11.7 trillion marks to the dollar.³¹ Table 3 contains a sample of this hyperinflation experience.

THE DAWES PLAN AND WAR DEBTS

During the war Great Britain had loaned her weaker allies billions of dollars of assistance, and

America loaned Great Britain and our other allies billions. These countries such as France, Belgium etc. could not pay back their war debts to the United States until Germany made its reparations payments, and the flow reparations payments had largely stopped by 1924. The reason for the breakdown in the circuit of payments was primarily due to the protectionist U.S. tariff policy. In 1913, President Wilson passed the Underwood-Simmons Tariff which lowered rates about 25% and simplified the rate structure.³² However, the Harding Administration's Emergency Tariff Act of 1921 and Fordney-McCumber tariff reverted to a more protectionist policy.

The effect of these tariffs exacerbated the debt repayments problem. The internal contradiction built into an economic policy requiring European countries to repay nearly \$10 billion while simultaneously raising barriers to their exports to the United States to earn dollars, never seemed to get the attention of the Presidents' Warren Harding, Calvin Coolidge or Herbert Hoover. Coolidge

30 R. Glenn Hubbard, *Money, the Financial System and the Economy* (New York: Addison-Wesley, 1997), p. 736.

31 Bresciani-Turroni, p. 24.

32 Poulson, p. 508.

compartmentalized the two issues. On the one hand, the tariffs were necessary, “for the prosperity of American industry, for American wages to be paid, and for the American standard of living to be maintained.” On the other hand, when confronted with the inability of these debtors to repay the United States, he remarked, “They hired the money, didn’t they?”³³

In 1924, an international effort was made to stabilize the European postwar monetary crisis. A committee representing the governments of Great Britain, France, Italy, Belgium, Germany and the United States met to help Germany balance its budget, stabilize its currency and restructure its reparations payments. Charles Dawes, investment banker and later vice-president of the United States, designed a package of loans totaling \$200 million dollars to help Germany resume reparations payments and return to the gold standard. The first year’s 1924–1925 reparations payment was one billion marks (\$250 million), none of which was to come from the budget of the German government. This amount was scheduled to increase to 1,200 million marks in 1926–27, 1,750 million marks in 1927–1928 and reach 2.5 billion 1928–1929 and continue at this rate thereafter.³⁴ Germany, however, soon found itself in trouble. The rapid erection of tariff walls in Europe and America prevented Germany from accumulating foreign exchange through exports of goods and services.³⁵ Germany then turned to foreign borrowing to make reparations payments. From 1924 to 1930, Germany paid 10.3 billion marks in

reparations, but borrowed 17.5 billion marks from abroad,³⁶ Germany was paying off one debt with another increasingly shorter-term debt.

During the war years a fundamental transformation occurred in the American and world economy. As a late entrant into the war, the United States was in a unique position to supply European countries with a vast quantity of exported goods (both agricultural and manufactured). According to Frank Taussig:³⁷

The war of 1914–1918 turned everything topsy-turvy. To American manufacturing industries it served as protection more effective than any tariff legislation could possibly be. Not only was foreign importation of competing products completely eliminated, but American goods such as previously had been made at home only under the shelter of high duties were exported to neutral markets. And the years immediately following the war were no less abnormal.

The total value of U.S. exports of goods and services increased from 2.4 billion dollars in 1914 to 10.2 billion in 1920, while imports increased from 2.3 billion dollars to 6.7 billion respectively (Appendix 1). Because of wartime capital movements from the U.S. to Europe, America was transformed from a net debtor in 1914 of 3.7 billion dollars to a net creditor of 9.6 billion dollars in 1920.³⁸ Post war Europe was in a fragile economic position. The vast majority of Europe’s productive capital was destroyed by war. The allies were also indebted to the U.S. and their repayment ability was linked to German war reparations outlined by the Versailles Treaty. The inter-allied war debt of major European countries to the U.S. is illustrated in Diagram 1.

33 Edward Kaplan, *American Trade Policy, 1923–1995* (London: Greenwood Press, 2000), pp. 4, 10.

34 Benjamin Anderson, *Economics and the Public Welfare; A Financial and Economic History of the United States, 1914–1946* (Indianapolis: Liberty Press, 1949), pp. 118–120. Even this schedule of payments would not be sustainable for long. In 1929, the Dawes plan was replaced by the Young plan, named after Owen Young Chairman of General Electric and lead U.S. negotiator. The plan set up a payment schedule of 59 yearly payments of \$487 million. In little over a year, a dramatic spread of banking crisis across Europe forced Hoover to call for an international moratorium on all debt payments.

35 Edward Kaplan, *American Trade Policy, 1923–1995* (London: Greenwood Press) pp. 10–13; Clough and Cole, p. 751.

36 M. Payli, *The Twilight of Gold*, p. 165.

37 Frank Taussig, *Tariff History of the United States* (Augustus Kelly: New York, 1967), pp. 448–449.

38 Jeremy Atack and Peter Passel, *A New Economic View of America History: From Colonial Times to 1940*. (Norton: New York, 1979, p. 570–571.

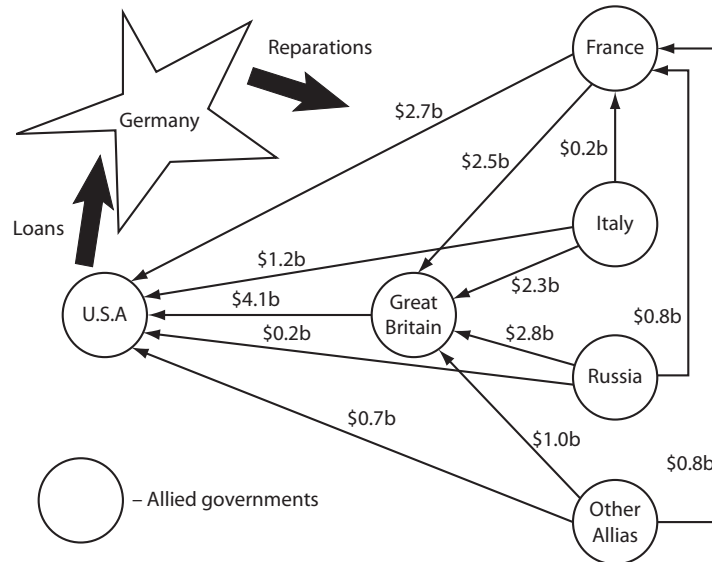


Diagram 1. Inter-Allied Governmental War Debt and the Question of Reparations.

World War I and the lower tariff rates in the 1913 Underwood-Simmons Act brought about an absolute reduction in U.S. customs receipts. In addition, there was a relative decline of customs revenue as a percentage of total collections (Appendix 2). A dramatic increase of income taxes occurred during the war offsetting any tariff revenue reductions. Income tax rates increased from 4 percent to 8 percent, with top marginal rates set at 77 percent; corporate taxes were increased, and the “excessive profits tax” doubled from 20 to 40 percent.³⁹

THE RETURN TO THE GOLD STANDARD

World War I was characterized by widespread inflationary finance with the abandonment of the international gold standard. In the middle of the monetary and debt repayment/ reparations chaos, the major European economies tried to restore stability by resuming the gold standard. From 1924 to 1929 the number of countries on some version

of the gold standard increased from 13 to 45. Only 9 countries in this group actually adopted a gold coin standard. All the rest instituted either a gold bullion or gold exchange standard.⁴⁰

In theory, the gold standard domestically worked as follows. Governments fix their paper currency in units of weight (grains) of gold. Banks hold actual gold reserves for depositors. If a government resorts to monetizing budgetary deficits, domestic inflation occur raising nominal money prices of goods in terms of gold. Domestic depositors convert cash (losing value) into gold coins by withdrawing gold deposits. Banks run up against the constraint of reserves for convertibility. The credit structure contracts to shut off the inflation process.

At the international level the exchange of gold serves to settle balance of payments between countries on the gold standard with fixed exchange rates between currencies. If a domestic inflation occurs (monetizing budget deficits or net gold inflows from capital investment from abroad) the domestic price level rises relative to the rest of the world. Under the Purchasing Power Parity principle,⁴¹ domestic goods are more expensive

39 Edward Kirkland, *A History of American Economic Life* (New York: Appleton-Century-Crofts, 1969), pp. 466–467.

40 M. Payli, *The Twilight of Gold*, pp. 116–117.

41 The Purchasing Power of Parity essentially states like goods in different countries should cost the same absent

than foreign goods. Consumers buy more foreign goods relative domestic goods creating a merchandise deficit on the Current Account. Gold bullion flows to foreign central banks in net payment for imports. This creates two effects. The decrease of domestic gold reserves lowers the monetary base (money supply) and therefore stops the domestic inflation of prices. The increase of foreign gold reserves increases their monetary base and causes an increase in inflationary pressures. When foreign and domestic price levels are equalized, the flow of gold stops movement. This is called the price-specie flow mechanism.

The automatic adjustment mechanism to maintain fixed rates of exchange on a gold basis often crashes on the rocks political reality. Governments find it very difficult to sustain the “rules of the game,” especially during a deflationary phase when special interest groups dominate the political marketplace. After the war one government after another engaged in short-run political manipulations of the constraining features of the gold standard. Some central banks substituted interest earning assets denominated in other national currencies for actual gold holdings (creating an international pyramid of reserves) while others often made gold convertibility not in smaller coins but in heavier gold bullion, and some actively tried to sterilize the gold movements.⁴² At best, the post war system could be called a “dirty” gold exchange standard.

Germany was the first major European country to return to the gold standard in September 1924. Britain soon followed May 1925 and France August 1926-June 1928. What is significant for world events is that Britain overvalued the pound

Sterling while France undervalued the franc. In Britain, the pound had depreciated because war-time inflation from its prewar parity of \$4.86 to \$3.18 by 1920. By 1925, the pound regained much of its value setting at \$4.40. To return to gold at the prewar rate required a deliberate deflation of an additional 10%. For a flexible economy this should have possible, but the post war British economy was anything but flexible. Militant unions and lavish unemployment benefits prevented any wage reductions on the labor market. Price-fixing in industry cartels rigidified the commodities market.⁴³ The result was continued stagnation for the British economy.⁴⁴

Raymond Poincare assumed power in France in July 1926 and changed the course of monetary events. He aggressively eliminated fiscal deficits that had caused the rapid monetary growth and inflation from 1923–1926. In addition, he abandoned the practice of pegging nominal interest rates through the central bank. The change in the French monetary regime squelched inflationary expectations, and wholesale prices in France fall 20% between June 1926 and October 1927.⁴⁵ With increased money demand arising from monetary reforms and political stability, the Economist estimated that the franc was undervalued by 25% on a purchasing power basis. The gold stock in France dramatically increases 76% between December 1926 and December 1928, draining enormous gold reserves from the rest of the world.⁴⁶ In fact, in 1925 France held 8% of all the world’s central bank reserves, this goes to 31% in 1931 and 38% in 1932. The combined gold share held by the United

transactions cost, tariffs etc. The countries experiencing the higher relative rates of inflation see their money lose value of the foreign exchange against other currencies.

42 Anna Schwartz, “Alternative Monetary Regimes: The Gold Standard,” in *Alternative Monetary Regimes* ed. Colin Campbell and William Dougan (Baltimore: The Johns Hopkins Press, 1986), pp. 60–69. Also, see Harold James, “The Gold Standard, Deflation, and Financial Crises in the Great Depression: An International Comparison,” pp. 75–76, in *Essays on the Great Depression*, ed. Ben Bernanke (Princeton: Princeton University Press, 2000). Murray Rothbard, *America’s Great Depression* (Kansas City: Sheed and Ward, 1972), p. 136.

43 Anderson, p. 172–17.

44 The British government obviously forgot the warning of David Ricardo in 1821. Ricardo pointed out that, “I never should advise a government restore a currency, which has depreciated 30 per cent to par. I should recommend ... that the currency be fixed at the depreciated value,” in Gottfried Haberler, *Prosperity and Depression* (New York: Atheneum, 1963) p. 469. Given the political obstacles to freely moving prices in 1925 Britain, were he alive, Ricardo would probably think 10% was impossible.

45 James Hamilton, “Monetary Factors in the Great Depression.” *The Journal of Monetary Economics*. Vol. 19 (1987), pp. 146–147.

46 Ibid.

States and France is 63% by 1932.⁴⁷ Furthermore, while the gold francs increased from 29 billion to 82 billion from 1928 to 1932, the inflow to the French monetary base was sterilized by the Bank of France as francs in circulation only increased 22 billion.⁴⁸ The “lopsided” gold distribution, coupled with restrictive French monetary policy sets up the gold standard for a fall. In the backdrop of a world of rapidly escalating trade barriers, the adjustment mechanism burdens Britain tremendously. By the late 1920’s Britain experiences large current account trade deficits.

THE FORDNEY-MCCUMBER TARIFF

Public choice theory predicts that trade policy is driven primarily by the special interest group model.⁴⁹ When government policy skews the distribution of costs and benefits it encourages the formation of special interest groups. Once formed, these organizations use the political system to capture “rents” at the expense of “rationally ignorant” consumers. The organized special interest groups disproportionately influence policy formation relative to their share of the population. Tariff code revision is a prime breeding ground for special interest influence.⁵⁰

The 1920 American elections caused a significant shift in the pro-tariff balance of power in both executive and legislative branches of government. Pro-tariff candidate Warren Harding was swept into the White House in 1920 in an election landslide. The Democrats (more free trade than Republicans) had held only slight majorities in

both the House and the Senate during the war years. However, after 1920, the Democrats were minority in Congress and remained so for the rest of the decade. With a pro-tariff Republican Party in control of both the legislative and executive branches of government, large tariff increases were inevitable.

The House Ways and Means Committee began hearings on tariff revision early in 1921. A temporary “Emergency Tariff Act” was passed to aid agriculture. Then the Fordney-McCumber bill was introduced in the House on June 29, 1921, and passed on July 21st.⁵¹ The Senate Finance Committee held hearings on the bill in April 1922 and eventually the bill passed through the full Senate on August 19th. The tariff, as amended by the Senate, raised tariff schedules even higher than the very high rates passed by the House. On September 19th the tariff became law.⁵² The combined effect of both the Emergency Tariff Act and Fordney-McCumber increased average duties by 55%. Table 4 demonstrates these increases.

Fordney-McCumber raised tariffs on a wide variety of agricultural and manufactured products. Agricultural prices were in a severe decline from 1920–1921. Farming in war-torn Europe resumed production,⁵³ and large agricultural suppliers including Canada (wheat), Argentina (meat), Cuba (sugar) flooded the world market. Wheat, which had sold for \$2.58 a bushel during the war was at 92 cents by 1921, corn prices dropped from \$1.85 a bushel to 41 cents, and hog prices fell from 19 cents a pound to 6 1/2 cents.⁵⁴ As a result of the collapse of farm prices, the average net income per farm

47 M. Payli, *The Twilight of Gold*, p. 181.

48 Thomas Hall and David Ferguson, *The Great Depression* (Ann Arbor: The University of Michigan Press, 1998), p. 60.

49 Charles Rowley, Willem Thorbecke and Richard Wagner, *Trade Protection in the United States*. (The Locke Institute: Fairfax VA., 1995), pp. 111–147.

50 E.E. Schattschneider, *Politics, Pressures And the Tariff* (New York: Prentice-Hall, 1935).

51 Taussig, pp. 453–454.

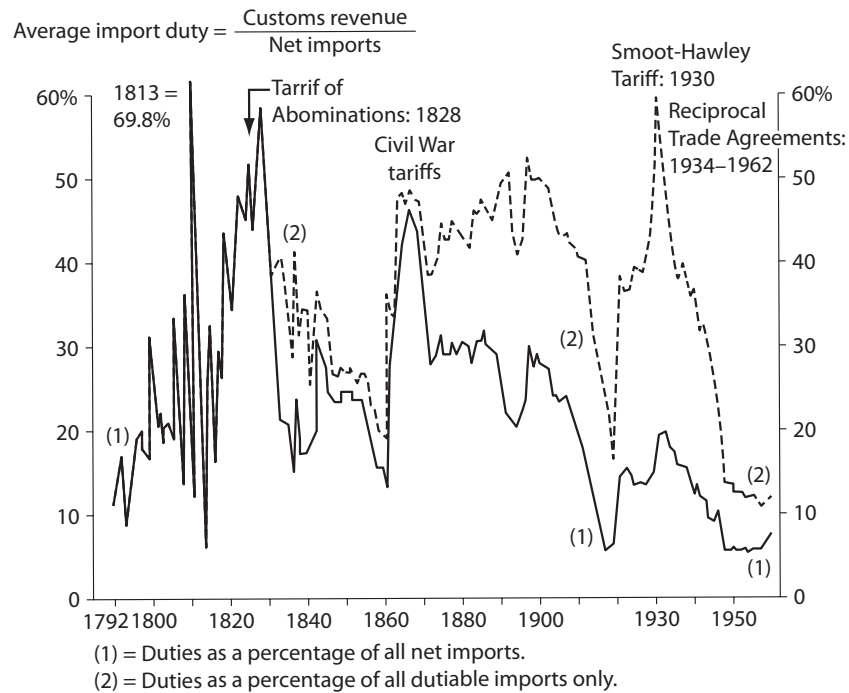
52 The Congress passed an earlier Emergency Tariff Act of 1921.

53 In late May 1920, an article appeared in the journal *Export Trade* gives a first-hand account of the pace of reconstruction in France, England and Belgium. According to Howard Winne:

I observed ruined towns, shell torn and shattered, being replaced by one-story wooden houses, temporarily sheltering the returned inhabitants. Farms are being reoccupied. Many of the fields are cleared, and a large percentage planted, while others contain fine herds of cattle peacefully grazing.

54 Atack and Passel, p. 574.

Table 4: Average Import Duties, United States: 1792–1960.



fell from \$1,395 in 1919 to \$517 in 1921.⁵⁵ Farm foreclosures increased from 3.2 per thousand average from 1913–1920 to 10.7 per thousand average from 1921–1925.⁵⁶ Whatever the plight of farmers, tariffs will not raise prices of goods that are largely export goods on net. As Benjamin Anderson pointed out at the time, America exported 60% of its cotton, 40% of its lard, 40% of its tobacco, and more than 20% of its wheat.⁵⁷

The peculiar financial and physical condition of post-war Europe effectively prevented it from retaliating against Fordney-McCumber to any significant extent. The main U.S. trading partners in Europe in 1921–1922 were England, France and Germany (Appendix 3).⁵⁸ None of these countries were in a position to effectively respond to our tariff act. Two other important factors could have

lead U.S. policy makers to expect Great Britain would not retaliate. First, Great Britain had historically maintained a regime of free trade since the repeal of the Corn Laws in 1846. Second, the tariff schedules targeted at Great Britain were small in number and relatively mild in rate increases.⁵⁹ The expectation that Britain would not retaliate was correct. Britain's average import duties marginally increased from 5.5 to 8% in the years immediately following Fordney-McCumber.⁶⁰

The situation in France was also predictable. The largest concentration of war damages occurred in France. The U.S. was the only major industrialized country that could supply France with the important capital goods and mechanized machinery needed to rebuild its economy. Furthermore, France became the second largest debtor to the United States government during the war to the

⁵⁵ *Historical Statistics of the United States*, p. 483.

⁵⁶ Kaplan, *American Trade Policy*, pp. 1–2.

⁵⁷ Anderson, *Economics and the Public Welfare*, p. 103.

⁵⁸ For U.S. exports of goods and services over the period 1920–1921; Great Britain received 2.76 billion dollars worth, France bought 901 million dollars, and Germany purchased 683 million dollars.

⁵⁹ James Foreman-Peck, *A History of the World Economy* (Totowa, New Jersey: Barnes & Noble Books, 1983), pp. 193–194.

⁶⁰ Michael Rukstad, *Macroeconomic Decision Making* (New York: The Dryden Press, 1992), p. 464.

tune of 2.7 billion dollars.⁶¹ Given the political nature of debt repayment, France's ability to retaliate against Fordney-McCumber was also out of the question.⁶² Finally, the French price level increased by 5.5 times its pre-war level, While the U.S. price level averaged 2.5 times higher. The net result was a great disparity in prices, currency values, and exchange rate volatility.⁶³ As a result, French imports of U.S. goods continued to increase years after the passage of Fordney-McCumber (Appendix 3).

Likewise, Germany was not in a retaliatory position. Destroyed by the war, Germany owed 33 billion dollars in war reparations to the rest of Europe. In addition, the Versailles Treaty took from the German economy 13 percent of its territory, 10 percent of its population, 15 percent of farmland, 75 percent of its iron-ore deposits, and 33 percent of its coal reserves.⁶⁴ Another factor that inhibited Germany's retaliatory ability was its disastrous episode with hyperinflation from 1921–1923.⁶⁵ The policy of hyper-monetary expansion created economic chaos of such immense proportions that the entire middle class was destroyed and industrial production collapsed.⁶⁶ Out of sheer necessity, Germany was forced to continue its trade activity with the US. The importation of US goods into Germany increased in every year following Fordney-McCumber until 1926 (Appendix 3).

The Republican landslide, Europe's inability to retaliate, and a wide variety of other forces helped to pass Fordney-McCumber. First, an unusual sense of nationalism swept across America after World War I. Second, by increasing tariffs Republicans would be in a position to lower the very unpopular high income tax rates. The costs of tariffs are somewhat 'opaque,' and rational ignorance dominates the consumer. However, income taxes are 'Visible'

and politically costly. Third, the Republican tariff made a direct appeal to distressed farm interests facing mounting rates of foreclosure.⁶⁷ Fourth, the tariff also appealed to traditional pro-tariff constituencies such as the National Association of Manufacturers,⁶⁸ and labor unions in fear of "low foreign wages."⁶⁹ Senator Arthur Capper of Kansas expressed their sentiment clearly claiming that, "under the policy of protection we have built a great industrial nation and the same protection cannot now be withheld from agriculture if we would preserve the balance between industrial and agricultural growth."⁷⁰

Another influential lobbying group in favor of Fordney-McCumber was the American Protective Tariff League. The League was founded in 1885 by a group of business executives from the northeastern United States representing iron, coal and steel industries. The League used its widely circulated monthly called the *American Economist* to agitate for higher tariffs. By 1918, 6316 newspapers received the *American Economist* and were at liberty to reprint any of its editorials, articles or cartoons. Through its media campaign the League claimed it reached 24 million readers per week.⁷¹ In addition to its "Commercial Travelers Bureau" (10,000 traveling salesman) spreading its literature in hotels, offices and trains, the League also frequently distributed tens of millions of pages of presidential campaign material for the Republican National Committee.⁷²

Domestic opposition to Fordney-McCumber was scattered and relatively weak. Some in the business community tried to oppose the tariff.

61 Atack and Passel, p. 571.

62 After the war the French actively tried to get the Congress to separate its "commercial debt" from its "political debt" which it wanted canceled. See, Anderson, pp. 291–295.

63 Cameron, p. 348. For French exchange rate volatility, see, Dennis Appleyard and Alfred Field, *International Economics* (Boston: Irwin, 1992), pp. 736–738.

64 Foreman-Peck, p. 189.

65 Costantino Bresciani-Turroni, *The Economics of Inflation* (London: George Allen and Unwin, 1937).

66 Anderson, pp. 107–110.

67 Atack and Passel, pp. 574–575.

68 Platform for American Industry, National Association of Manufacturers of the United States of America (May 18, 1920), p. 11.

69 "Representative Fordney Demands Duty High Enough to Protect America Workman From Effects of Low German Wages", *New York Times*, July 3, 1922, p. 20.

70 Arthur Schlesinger, Jr., *The Crisis of the Old Order, 1919–1933* (Boston: Houghton Mifflin Company, 1957), pp. 105–106.

71 Wilford Eiteman, "The Rise and Decline of Orthodox Tariff Propaganda," *The Quarterly Journal of Economics* Vol. XLV (1931), pp. 24–25.

72 *Ibid.*, pp. 26, 28.

American bankers that lent heavily to Europe during and after the war recognized the tariff as a severe barrier to repayments.⁷³ Henry Ford opposed Fordney-McCumber because it would make the expansion of foreign sales of automobiles more difficult.⁷⁴ *Export Trade*, (a weekly periodical of export shippers), opposed various technical features of the tariff bill in a series of editorials.⁷⁵ Export merchants were more vocal and bitterly complained that the editors of *Export Trade* needed to “Carry a Message” to President Harding.⁷⁶ Other domestic opposition came from the editorial pages of the *New York Times* and the *New York Herald*. In particular, The *New York Herald* compiled a series of editorials on specific tariff schedules to highlight the costs of Fordney-McCumber’s agricultural rates. The essays were cleverly titled: “The Tariff on Your Hands” (imported gloves), “The Tariff on Your Feet” (shoes), “The Tariff in Your Coffee Cup” (sugar).⁷⁷ In spite of its scathing editorials, the *New York Herald* did not oppose the idea of a protective tariff.⁷⁸

73 P.T. Ellsworth clearly understood the contradiction between high tariffs and repayment of inter-Allied debts. *The International Economy*, p. 478

One of the most significant aspects of this restoration of high duties is that it was utterly inconsistent with our position as an international creditor. For the United States to receive not only interest payments on its loans, but also, and in particular, repayment of war debts, the maintenance of low duties would have been the appropriate policy. With high and rising incomes in this country, the transfer of war debt payments and of the reparation payments with which they are linked might have been made comparatively easy. But our reversion to a Mercantilist trade policy compounded the difficulties of our debtors.

Murray Rothbard sees this contradictory position as unfortunately being resolved by the government policy to encourage increased foreign borrowing from the U.S. for a deliberate domestic inflation. See, *America’s Great Depression*, pp. 128–129.

74 Kaplan, *American Trade Policy*, pp. 12–13

75 *Export Trade*, July 9, 1921, p. 26; October 22, 1921, pp. 22–23, February 18, 1922, pp. 22–23, April 22, 1922, pp. 22–23, August 26, 1922, pp. 2021.

76 *Export Trade*, September 16, 1922, p. 16.

77 “The Tariff in your Pocket-Book,” *The New York Herald* 1922.

78 *Ibid*, p. 1.

The *New York Herald* reflecting the protective principles and convictions of its owner is a *consistent and steadfast* advocate of the America tariff system. But the owner of the *New York Herald* cannot stand for damn fool protectionism and the *New York Herald* will not stand for it.⁷⁹

The immediate international protest over the tariff was relatively small. The main retaliatory threats came from Cuban protests⁸⁰ over increased in the sugar duty from 1 cent per pound to 1.6 cents per pound. The primary European countries retaliating against U.S. products were Norway and Denmark,⁸¹ since the tariff increased Danish butter prices by 50%. Both of these countries escaped the destruction of World War I and were in a position to carry out their retaliatory threats. However, by 1925 Europe was stabilized financially and its economic situation had changed. Edward Kaplan points out the repercussions of Fordney-McCumber.⁸²

After failing to convince the United States to lower its tariff duties, many European and Latin American countries decided to retaliate and raise their duties. Between 1925 and 1929 there were 33 general revisions and substantial tariff changes in 26 European nations, and 17 revisions and changes in Latin America. In August 1926 both Bulgaria and Czechoslovakia protested against the Fordney-McCumber Tariff; these countries threatened immediate retaliation unless the United States cut its rates.

79 There must be some categorical difference between a steadfast advocate for protective tariffs and damn fool protectionism.

80 “Cuban Delegation Reported To Have Filed Protest With US State Department,” *The New York Times*, August 17, 1922, p. 14.

81 “Increased Tariff for Norway” and “New Danish Import Restrictions,” in *Export Trade*, August 26, 1922, pp. 20–21.

82 Kaplan, *American Trade Policy*, p. 14.