



# Why Countries Succeed and Fail Economically

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This study looks at how different countries' shares of the world economy have changed and why these changes have occurred, with a particular emphasis on the period since 1820. As explained in this study, the rises and declines in countries' shares of the world economy occur as a result of very long-term cycles that are not apparent to observers who look at economic conditions from a close-up perspective.

To begin, let's look at how the world economic pie has been divided up over time and why it has changed. The table below shows the shares of world GDP by major countries and/or regions at various points in time going back to 1500. Scan that table to see how these shares have evolved over time.

Share of World GDP. Real, PPP Adjusted.											
Year	1500	1600	1700	1820	1870	1913	1950	1973	1998	2006	2010
Current Developed World	21	23	27	29	46	58	72	70	63	58	53
US	0	0	0	2	9	19	30	25	24	23	21
United Kingdom	1	2	3	5	9	8	8	5	4	4	3
Other Western Europe	17	18	20	18	25	25	26	26	22	19	17
Japan	3	3	4	3	2	3	3	9	9	8	7
Canada/Australia	0	0	0	0	1	3	5	4	4	4	4
Current Emerging World	78	77	73	71	54	42	28	30	37	42	47
China	25	29	22	33	17	9	2	2	8	11	15
India	25	23	24	16	12	8	4	3	5	6	7
Other Asia	13	11	11	7	7	5	3	4	7	8	8
Latin America	3	1	2	2	3	5	7	9	10	9	9
Russia	3	4	4	5	8	9	7	7	3	3	3
Africa	7	7	7	5	4	3	1	1	1	1	1
Eastern Europe	3	3	3	3	4	5	4	4	4	4	4

Though the table goes back to 1500 – i.e., to eight years after "Columbus discovered America" – we won't track the changes since then, but we will track them back to the mid-19<sup>th</sup> century. As shown in the columns starting in 1820 you might have noticed that:

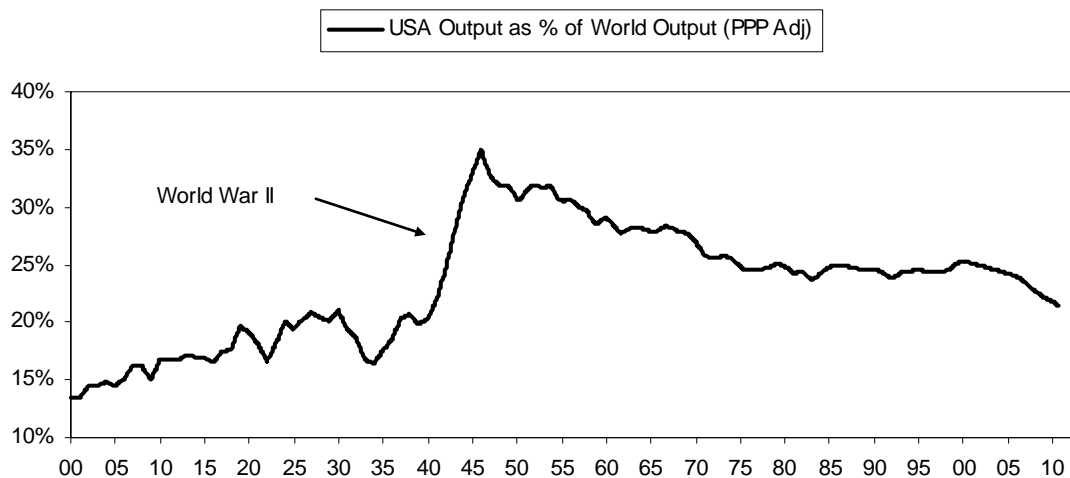
- **In 1820 China and India were the biggest economic powers.** *Their shares declined as they became decadent<sup>1</sup> and overly indebted. As a result they were overtaken, both economically and militarily by the emerging British Empire in the late 19<sup>th</sup> and early 20<sup>th</sup> century.*
- **From the second half of the 19<sup>th</sup> century until the early 20<sup>th</sup> century England and other Western European countries emerged to become the world's dominant powers and the United States moved from being an undeveloped country to an emerging country.** *The emergence of the British Empire and other European powers to dominance was fueled by two big waves of productivity growth called the Industrial Revolution.*

<sup>1</sup> By "decadent" we mean a less strong state arising from a shifting of priorities from working, fighting and competing to avoiding these and to savoring the fruits of life.

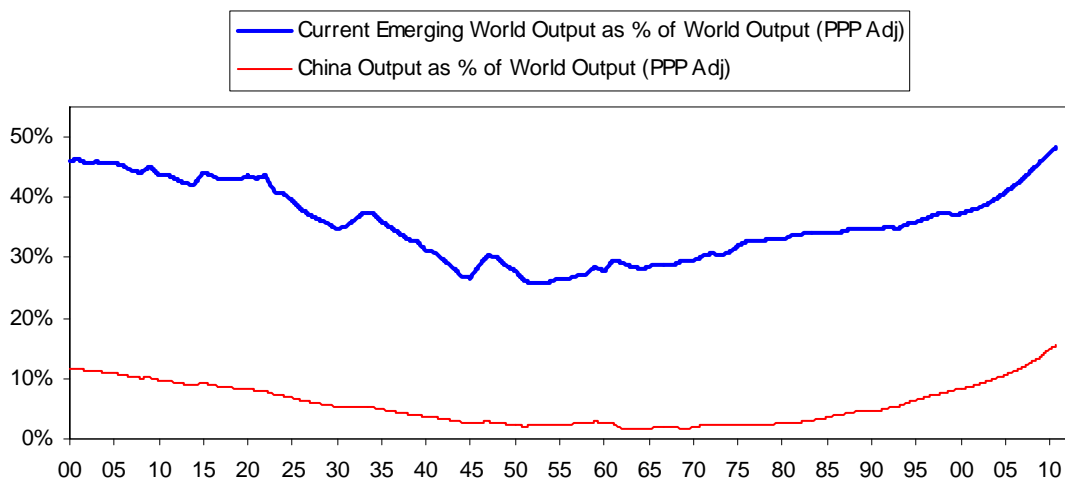
- During the years from 1914-45 the British Empire gained relative to other Western European countries and lost to the emerging American Empire. *In our opinion this was largely the result of 1) European countries' rivalries leading them to two costly wars that left them indebted and crippled, and 2) the increasing "decadence" of the wealthy European powers. Because the British won these wars they benefited in relation to their European rivals (especially Germany); however they became overly indebted and suffered economically relative to the United States because of them. At the same time the United States was an emerging power largely as the result of its great productivity gains.*
- In the mid-20<sup>th</sup> century the United States emerged to become the world's dominant economic power and the British Empire crumbled. *That was primarily the result of World War II because the economic and other setbacks of the war were greatest in England, Western Europe, Japan, China, India and other emerging countries.*
- From the mid-20<sup>th</sup> century (i.e., the immediate post-World War II period of 1945-55) until the beginning of the new millennium (2000-2010) the United States remained the dominant power, though its share declined steadily as other countries reemerged. *From 1950 to 1970 the reemergence of Japan and Germany occurred as they recovered from the war set-backs. In the 1970-80 period, relative growth became strongest in what then became known as "emerging countries" – Latin America (due to the 1970s commodity boom) and the "Asian 4 Tigers" (as they entered the world markets as competitive producers and exporters). Then in the 1980-present period, great productivity gains in China (as a result of its "open-door" and "market-oriented" policies) and India (as a result of reductions in its bureaucracy and its opening up) allowed them to reemerge. At the same time the United States became overly indebted as a result of its "decadence" and its declining competitiveness.*
- Now about half of world GDP (53%) is produced in what we now call the "developed world" (US, Europe, Japan, UK, Canada and Australia) with about equal amounts being produced in the US and Europe, and about half of world GDP (47%) is produced in what we now call "emerging countries" with a bit less than half of that being produced in China and India. Russia produces 3% of global output.
- For reasons explained later, we believe that in another 15-20 years emerging countries will produce about 70% of global GDP, China will produce about 25% and India will produce about 12% as they did in the mid-19<sup>th</sup> century. Russia will produce around 8% as it did in the mid-19<sup>th</sup> century.

## Since 1900

While in the past civilizations rose and declined over several hundred years, more recently (over the last couple of hundred years), these cycles have taken 100-150 years. That means to observe a few cycles we'd have to go back a few hundred years. However, that's beyond the scope of this exercise, so we will start in 1900. The chart below shows the US share of world GDP going back to 1900. It shows how World War II catapulted the US relative share to an abnormally high level as the result of a number of the other major countries (e.g., Europe, Japan, China and Russia) being set back by the war and the gradual adjustment back to more normal levels. In addition to the war effects benefiting the relative position of the US, inefficient economic systems and/or political bureaucracies in some countries (China, Russia and India) caused these countries' recoveries to be slower than normal until recent years.



The next chart shows the “emerging countries” share of world GDP going back to 1900 along with China’s piece of it. As shown below, while emerging countries as a whole increased their share of the world economy starting in 1950 it was not until 1980 that China’s share started to increase.



Sources: Global Financial Data & BW Estimates for charts above

## What Caused These Changes?

In order to give you our theories, we are going to have to make some sweeping statements and skip over lots of facts that, while seemingly important up close, virtually disappear when looking at economic history from this very top-down perspective. To be clear, while the facts are the facts, all sorts of people have all sorts of theories about the causes of big economic shifts. While we all think we’re right, some of us must be wrong, so don’t take what we are saying as gospel.

Our view is that the changes previously described typically occurred and are likely to continue to occur for generations into the future, because a) countries ultimately all compete, b) over comparatively short periods of time (lasting decades), shocks and distortions (e.g., wars, political and economic shifts, etc.) often lead to temporary impediments that can hurt or help competitiveness, c) over long time frames the drive for higher living standards motivates people to implement changes to get around these impediments which goes on

until d) people's earnings gravitate toward their potential/equilibrium levels, and e) levels of competitiveness and indebtedness change in ways that shift income growth.

All else being equal, per capita incomes of countries will tend to converge because, in a competitive world, buyers of goods, services and labor shift their demands away from those who are expensive to those who offer better value which creates a *labor rate arbitrage*. But all things are not equal. Differences and barriers often exist that justify income differences. Based on our research, the most important of these differences that account for most income gaps are in culture, education, economic and political systems, savings and investment rates, indebtedness and remoteness of location.<sup>2</sup> Also trade and capital control barriers can stand in the way of economic competition that brings about income conversion. If these economic barriers are temporary in nature (e.g., war damage) the forces behind this labor rate arbitrage will get rid of them (e.g., there will be rebuilding). If impediments are more permanent in nature (e.g., culture, remoteness of location, etc.), the forces behind the arbitrage won't be able to overcome them, even over very long periods. Additionally, long term debt cycles play a big role in driving these cycles. When debt levels are low relative to income levels and are rising, the upward cycle is self-reinforcing until debt levels become too high for this to continue, when the reverse occurs.

For these reasons, when we see big differences in income and indebtedness, we ask ourselves whether the impediments are temporary or more permanent in nature – e.g., are there good reasons that an average Chinese earns 1/10<sup>th</sup> of an average American? – and we imagine the changes that will have to occur to bring this labor rate convergence about (e.g., building infrastructure, changing laws, bringing in capital, etc.) and we try to visualize the ripple effects of these changes (e.g., buying more commodities, creating more pollution) and the likelihood of these things happening. We believe that's where the big investment opportunities of the century lie.

Not all important changes are due to economic influences because not all competition is economic. For example, throughout history war has frequently been an important means of competing and, when wars happen, they typically impede the labor rate arbitrage.

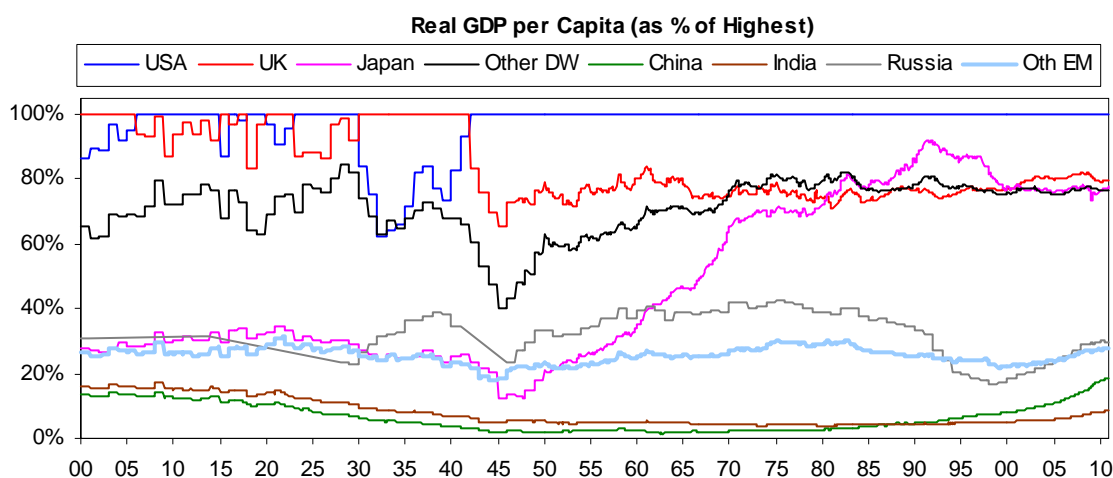
Since the previously shown table and charts are based on both the number of people in the country and their average incomes and average incomes are more relevant in seeing how countries compete, let's look at their relative incomes. The chart below shows per capita GDPs as a percent of the highest per capita GDP since 1900. As shown:

- Until the end of World War II, the UK had the highest per capita income. It was then replaced by the US. This shift represented the end of the British Empire and the emergence of the American Empire. We will examine this later.
- Prior to World War II, developed countries other than Japan typically had incomes that were about 70% of the top income country. For reasons explained later, the country with the greatest total income has also typically been the reserve currency country and has derived income benefit from being in this position; this accounts for a significant part of the gap between the top income earning country (the UK prior to the mid-20<sup>th</sup> century and the US after then) and the other developed countries. Note how the shock of World War II sent other developed countries' incomes down to only 40% of the top earner (the US) and how, in the 25 years that followed World War II, average incomes in these countries normalized to 70%-80% of the top earning country.

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<sup>2</sup> By remoteness of location, we are referring to when some people are in locations that are too removed from their competitors, either geographically or technologically, to allow them to compete. For example, populations that are located down a river, up a mountain or beyond distances that can be cost-effectively bridged to allow these people to compete are too remote. Similarly, people who do not have access to proper resources to compete (e.g., education) are too remote to allow the force of the labor arbitrage to work. In places like China, India, and Africa, large percentages of their populations are too remote to compete, while other portions of their populations are well positioned to compete, so that the average incomes will be affected by both.

- **Prior to World War II**, the average income in **Japan** ranged around 25%-35% of the top earner. Then the shock of World War II brought it down to around 15%. After the war it recovered to about 90% of the top (US) in 1990 (at its bubble's peak). Since then, it has slipped back to about 75% of the top which is also where the UK and other European countries' average incomes are. The long term shift from an average income of 25%-35% of the top earner to about 75% now has largely been due to Japan opening up to the world economy so that it could compete in it.
- Other **emerging countries** have had their average incomes vary between about 25% and 35% of the top since 1900. We believe that this is because of some fairly long-lasting structural impediments that vary by country and that would require too great of a digression to explain here.
- Per capita incomes in **China** have ranged from 2% to 18% of the top earner over the last 110 years and are now growing at a pace that is comparable with Japan's pace in 1950-70 for essentially the same reasons. Because of the remoteness of a large segment of the population, we don't expect per capita incomes in China to reach developed country levels for the foreseeable future; however, we do expect income growth rates to remain strong and reach developed country levels for hundreds of millions of Chinese in another 25 years. Per capita incomes in **Russia** have ranged from 16% to 42% of the top earner over the last 110 years and have increased from 17% to 30% over the last 10 years.



## Shifts in Relative Wealth and Power Tend to Occur via Very Long Cycles Lasting Five Generations or More.

These cycles have occurred through all recorded history going back to Rome and before, though they have become more sophisticated over time. While many influences contribute to these shifts in relative income and power, we believe that the two most powerful of these are 1) the psychology that drives people's desires to work, borrow and consume and 2) war. Throughout history, these two influences have changed countries' competitiveness and indebtedness which have caused changes in their relative wealth and power. Since different experiences lead to different psychological biases that lead to different experiences, etc., certain common cause-effect linkages drive the typical cycle. While we will describe what we believe is the typical cycle, of course no cycle is exactly typical.

## The Typical Cycle

We believe that countries typically evolve through **five stages** of the cycle:

- 1) In the first stage **countries are poor and think that they are poor.**

In this stage they have very low incomes and most people have subsistence lifestyles, they don't waste money because they value it a lot and they don't have any debt to speak of because savings are short and nobody wants to lend to them. They are undeveloped.

Some emerge from this stage and others don't, with culture and location being the biggest determinants of which emerge and which don't, as these influence people's desires and abilities to compete. For example, in China large percentages of the population are too removed to compete and are likely to remain so for the foreseeable future, so while it is reasonable to expect Chinese incomes in the major cities to approach those in other major cities elsewhere in the world, it is unreasonable to expect the average income of a Chinese person to equal that of an American, or for that matter someone in Beijing, in the foreseeable future.

Those that transition from this stage to the next stage typically gradually accumulate more money than they need to survive, and they save it because they are worried about not having enough in the future. Because they have very low incomes, their labor costs are typically low, so when they begin to emerge, their economic growth is led by them producing low value-added goods cheaply and selling to rich countries. Because they are low cost producers, they also typically attract foreign direct investment from companies that want to manufacture in low cost countries to export to the rich countries (if they are politically stable). These low cost countries have to provide high returns to attract these investors because of the perceived risks, but they are capable of providing these high returns because they are very cost-effective producers.

At this stage in their development, their currencies and capital markets are undeveloped. As a result, their governments peg their exchange rates to gold or whatever the obvious relevant reserve currency is (typically of the currency bloc that they want to sell their goods to) and their citizens, who gradually accumulate income in excess of spending, typically save/invest in their businesses and by buying hard assets like apartments as savings. Those in these countries who have more money and a more global perspective typically want to invest some money outside the country just to be safe, so they invest in whatever they perceive to be the world's safest investments, most typically government debt in the world's reserve currencies. Because people in this stage value earning money and building savings more than spending money, their governments generally prefer their currencies to be undervalued rather than to be overvalued, and they like to build up their savings/reserves. How fast countries evolve through this stage primarily depends on their cultures and their abilities. We call these countries **early-stage emerging countries.**

- 2) In the second stage **countries are getting rich quickly but still think they are poor.**

At this stage they behave pretty much the same as they did when they were in the prior stage but, because they have more money and still want to save, the amount of this saving and investment rises rapidly. Because they are typically the same people who experienced the more deprived conditions in the first stage, and because people who grew up with financial insecurity typically don't lose their financial cautiousness, they still a) work hard, b) have export-led economies, c) have pegged exchange rates, d) save a lot, and e) invest efficiently in their means of production, in real assets like gold and apartments, and in bonds of the reserve countries.

Because their exchange rates remain undervalued, their labor rates and their domestic costs are cheap so they remain competitive. Their competitiveness is reflected in their strong balance of payments, and incomes and net worths rising as fast or faster than their debts.

Countries in this stage experience rapidly rising income growth and rapidly rising productivity growth at the same time. In the early stages rapid income growth is matched by rapid productivity growth so inflation is not a problem despite the fast increases in incomes and money in the economy. Because of rapidly rising productivity, these countries can also become more competitive in relation to others. During this stage, these countries' debts typically do not rise significantly relative to their incomes and sometimes they decline. It is a very healthy period.

However, they eventually transition to a stage in which debts rise faster than incomes and incomes rise faster than productivity. Inflation rates rise because rapidly rising income growth leads to rapidly increasing spending on many items that cannot be correspondingly increased in supply via productivity gains. Additionally, by having their currencies linked to reserve currencies, they also link their interest rates to those of the reserve currency countries, who have slower income growth and lower inflation rates. While these interest rates are appropriate for the sluggish growth, low inflation countries, they are too low for the faster growth, higher inflation countries. As a result these emerging countries have interest rates that are low in relation to their inflation and nominal growth rates. This fuels money and credit growth and inflation. Typically countries in this stage maintain their pegged exchange rates and linked monetary policies via changes in reserves until the upward inflationary/bubble pressures and trade protectionist pressures become too great.

The transition from this stage to the next stage is typically signaled by a) accelerating inflation arising from productivity growth not increasing fast enough to offset the increased spending and income growth, b) debt growth significantly outpacing income growth, c) overinvestment, and d) balance of payments surpluses. This mix of conditions eventually leads to movement to independent currency/monetary policies.<sup>3</sup> This transition to an independent currency policy typically occurs as both a practical necessity and an earned right. As previously mentioned, countries in this second stage run basic balance of payments surpluses that either drive up their exchange rates and/or lead their central banks to lower their real interest rates (which fuel bubbles and inflations) and/or drive up their foreign savings/reserves. So, practical necessity motivates these governments to abandon their pegs and appreciate when they want to curtail inflation and/or bubbles; at the same time, international tensions arising from trade imbalances leading to the loss of jobs in the developed country and capital outflows from that country (e.g., as existed in the US in 1970) also motivate the move. Having an independent currency/monetary policy is an earned right because their performance in the previous stages that led up to this point gave them the credibility to be able to float the currency and have it appreciate. Every country wants to have an independent monetary policy because that is the most powerful tool available for managing the economy; it gives governments the freedom to decide how they will balance inflation and growth in light of their own conditions.<sup>4</sup> For these good reasons no major developed economy has an exchange rate that is pegged to another country's exchange rate. Only relatively small and/or emerging economies forgo their independence because of the practical necessities of being unable to engender enough confidence that their currencies will maintain their value or being unable to manage monetary policy in a viable way.

In the transition to the next stage, their domestic capital markets begin to become more widely accepted, private sector lending begins and capital formation occurs with both foreign and domestic investors participating in this investment boom.

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<sup>3</sup> For example, Japan and Germany in 1971.

<sup>4</sup> As recently reflected in the differences in the conditions of sovereigns that have the right to print their own currencies (e.g., the US, the UK, etc.) and those who don't have that right (Greece, California, etc.), this independence can make a world of difference in being able to maintain control over one's growth/inflation trade-offs.

You can tell countries in this stage from those in the first stage because they are the ones with gleaming new cities and infrastructures next to old ones, they have high savings rates, they enjoy rapidly rising incomes and they typically have rising foreign exchange reserves. While countries of all sizes can go through this stage, when big countries go through it they are typically emerging into great world powers. I call these countries late-stage emerging countries.

3) In the third stage **countries are rich and think of themselves as rich.**

At this stage, their per capita incomes approach the highest in the world as their prior investments in infrastructure, capital goods and R&D are paying off by producing productivity gains. At the same time, the prevailing psychology changes from a) putting the emphasis on working and saving to protect oneself from the bad times to b) easing up in order to savor the fruits of life. This change in the prevailing psychology occurs primarily because a new generation of people who did not experience the bad times replaces those who lived through them. Signs of this change in mindset are reflected in statistics that show reduced work hours (e.g., typically there is a reduction in the average workweek from six days to five) and big increases in expenditures on leisure and luxury goods relative to necessities.

Countries at this stage and in transition to the next typically become the great importers<sup>5</sup> and have symbiotic relationships with the emerging countries that are the great exporters, especially of low value-added goods. At the same time, the businesses and investors of countries in this stage increasingly look for higher returns by investing in emerging countries where labor costs are cheaper which further supports the symbiotic relationship, and their capital markets and currencies develop blue-chip status and are actively invested in by both domestic and foreign investors. They also attract the money of investors who seek safety rather than high returns because they are perceived as safe, blue-chip countries. In this stage, capital raising and financial market speculation picks up, largely motivated by both the development of these markets and the good returns that they have provided up to this point. With this development of their capital markets, increasingly spending and investing are financed by borrowing as the prior prosperity and investment gains are extrapolated.

Countries that are large and in this stage almost always become world economic and military powers.<sup>6</sup> They typically develop their militaries in order to project and protect their global interests. Prior to the mid-20<sup>th</sup> century, large countries at this stage literally controlled foreign governments and created empires of them to provide the cheap labor and cheap natural resources to remain competitive. Since the mid-20<sup>th</sup> century, when the American Empire ruled by “speaking softly and carrying a big stick”, American “influence” and international agreements provided access for developed countries to the emerging countries’ cheap labor and investment opportunities without requiring direct control of their governments.

In this stage they are on top of the world and they are enjoying it. I call these countries early stage developed countries.

4) In the fourth stage countries **become poorer and still think of themselves as rich.**

This is the leveraging up phase – i.e., debts rise relative to incomes until they can’t any more. The psychological shift behind this leveraging up occurs because the people who lived through the first two stages have died off or become irrelevant and those whose behavior matters most are used to living well and not worrying about the pain of not having enough money. Because the people in these countries earn and spend a lot, they become expensive, and because they are expensive they experience slower real income growth rates. Since they are reluctant to constrain their spending in

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<sup>5</sup> Japan in 1971-1990 was an exception

<sup>6</sup> Again, Japan in 1971-1990 was an exception.



line with their reduced income growth rate, they lower their savings rates, increase their debts and cut corners. Because their spending continues to be strong, they continue to appear rich, even though their balance sheets deteriorate. The reduced level of efficient investments in infrastructure, capital goods and R&D slow their productivity gains. Their cities and infrastructures become older and less efficient than those in the two earlier stages. Their balance of payments positions deteriorate, reflecting their reduced competitiveness. They increasingly rely on their reputations rather than on their competitiveness to fund their deficits. They typically spend a lot of money on the military at this stage, sometimes very large amounts because of wars, in order to protect their global interests. Often, though not always, at the advanced stages of this phase, countries run “twin deficits” – i.e., both balance of payments and government deficits.

In the last few years of this stage, frequently bubbles occur. By bubbles we mean rapidly increasing debt financed purchases of goods, services and investment assets. These bubbles emerge because investors, businessmen, financial intermediaries, individuals and policy makers tend to assume that the future will be like the past so they bet heavily on the trends continuing. They mistakenly believe that investments that have gone up a lot are good rather than expensive so they borrow money to buy them, which drives up their prices more and reinforces this bubble process. As their assets go up in value their net worths and spending/income levels rise which increases their borrowing capacities which supports the leveraging-up process, and so the spiral goes until the bubbles burst.<sup>7</sup> Bubbles burst when the income growth and investment returns inevitably fall short of the levels required to service these debts. More often than not they are triggered by central bankers that were previously too easy (i.e., that allowed the bubble to develop by allowing debt growth to increase much faster than income growth) tightening monetary policies in an attempt to rein them in. The financial losses that result from the bubble bursting contribute to the country’s economic decline.

Whether due to wars<sup>8</sup> or bubbles or both, what typifies this stage is an accumulation of debt that can’t be paid back in non-depreciated money, which leads to the next stage.

I call these countries late stage developed countries. While, countries of all sizes can go through this stage, when big countries go through it they are typically approaching their decline as great empires.

- 5) In the last stage of the cycle they typically go through **deleveraging and relative decline, which they are slow to accept**.

After bubbles burst and when deleveragings occur, private debt growth, private sector spending, asset values and net worths decline in a self-reinforcing negative cycle. To compensate, government debt growth, government deficits and central bank “printing” of money typically increase. In this way, their central banks and central governments cut real interest rates and increase nominal GDP growth so that it is comfortably above nominal interest rates in order to ease debt burdens. As a result of these low real interest rates, weak currencies and poor economic conditions, their debt and equity assets are poor performing and increasingly these countries have to compete with less expensive countries that are in the earlier stages of development. Their currencies depreciate and they like it. As an extension of these economic and financial trends, countries in this stage see their power in the world decline.

These cycles have occurred for as long as history has been written. While no two cycles are identical – they vary according to the countries’ sizes, cultures and a whole host of other influences – the fundamentals of the long term economic cycle have remained essentially the same over the ages for essentially the same reasons that the fundamentals of the life cycles have remained the same over the ages – i.e., because of how man was built. While no two life cycles are the same, and today’s typical life cycle is in some ways different from that

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<sup>7</sup> Japan in 1988/90, the US in 1927/29, the US in 2006/07, Brazil and most other Latin American commodity producers in 1977-79 were classic examples.

<sup>8</sup> Germany in World War I and the UK in World War II were classic examples.

of thousands of years ago, the fundamentals remain the same. For example, while families lived in houses that were different ages ago, the cycle of children being raised by parents until they are independent, at which point they work and have their own children which they do until they get old, stop working and die, was essentially the same thousands of years ago. Similarly, while monetary systems were different ages ago (e.g., gold coins were once money), the cycle of building up too much debt until it can't be serviced with hard money prompting those who manufacture money to make more of it (e.g., reducing the gold content in the coins) is fundamentally the same.

Because these cycles evolve slowly over long time frames – over at least 100+ years – they are imperceptible to most people. They are also essentially irrelevant to rulers who typically have time horizons of a couple of years. As a result, they are not controlled, which is the main reason that they are destined to occur. If human nature was different so that debt growth doesn't outpace income growth and income growth doesn't outpace productivity growth, these cycles would be pretty much eliminated.

### Example: The Ascent and Decline of the British Empire

We will explain our view of the ascent and decline of the British Empire both because it is a good example of the previously described process and because it sets the stage for the rise and early decline of the US Empire and what we believe will be the rise and decline of the Chinese Empire.

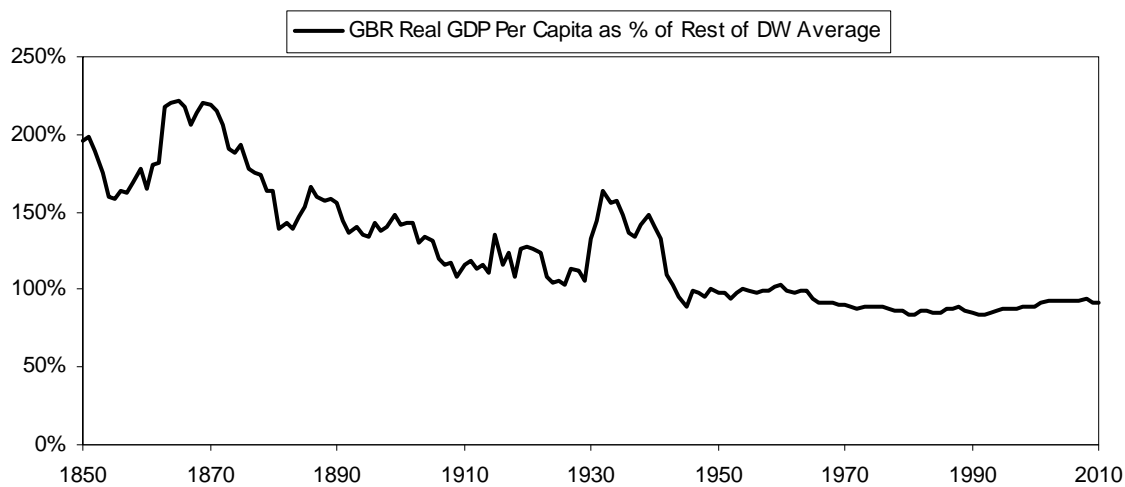
As with all history, different people will attribute the ascent and decline of the British Empire to different causes, so keep this in mind when reading our theory.

It is pretty well agreed that the ascent of the British Empire began in the late 18<sup>th</sup> century when the Industrial Revolution began and the decline occurred in the middle of the 20<sup>th</sup> century when World War II ended, so its cycle took place over 150 years. It is also agreed that the British Empire's decline in the mid-20<sup>th</sup> century was accompanied by the emergence of the American Empire which has been dominant for the last 60 years. But there are disagreements about why these things occurred.

While we won't take you back to when the first wave of the Industrial Revolution began in the late 18<sup>th</sup> century, we will take you back to around 1850. In our opinion, from before then until 1914 Great Britain was in stage 3 of the previously described cycle, from 1914 to 1950 it was in stage 4 and from 1950 until around 1980 it was in stage 5 of the cycle. We will show why we believe this in the charts that follow.

To begin, the chart below shows the geographic size of the British Empire going back to 1860. Note how it rose from 1860 until 1920, flattened out until 1950 and then collapsed. By comparing this chart with the one that follows showing relative incomes, you will note that the size of the British Empire correlated with the level of its relative income. In the charts that follow, you will also see that it correlates with sterling's stature as a reserve currency and that these changed due to the reasons explained in our description of the long term economic cycle.





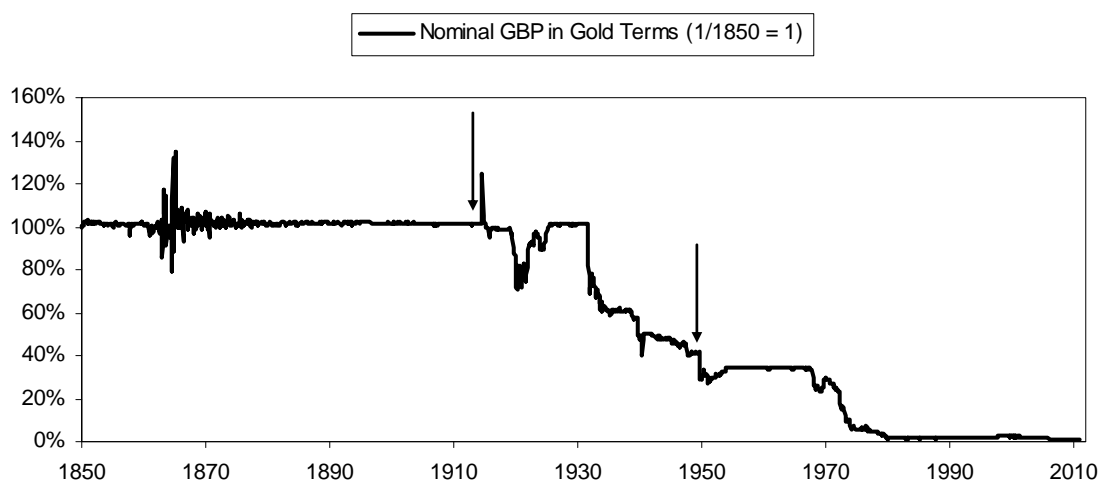
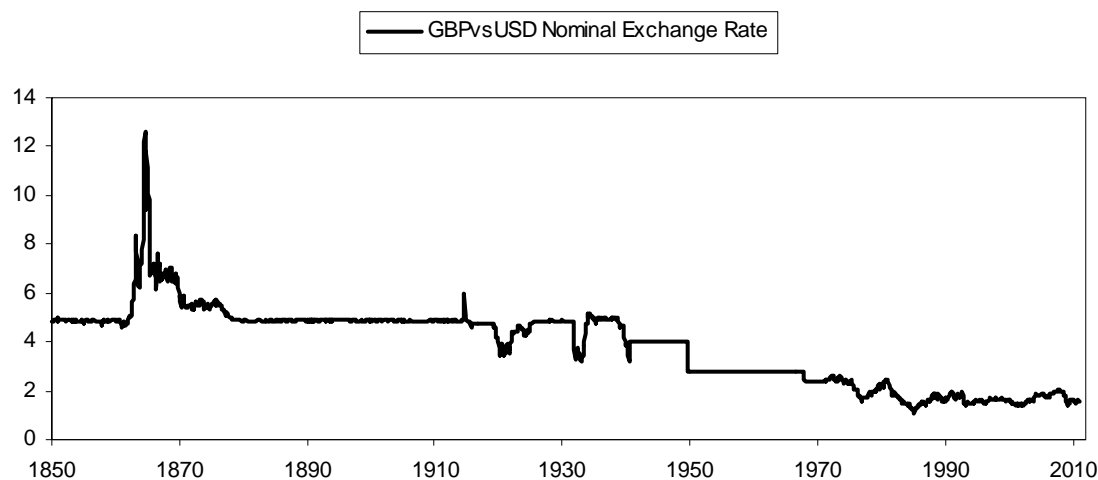
Sources: Global Financial Data & BW Estimates

The chart below shows sterling's share of world currency reserves back to 1900 (when its share was over 60%). Note that sterling's share of world reserves accounted for more than 50% until 1950 and declined to about 5% over the next fifty years.<sup>9</sup> As previously mentioned, when empires are at their peaks, their currencies attain reserve currency status which allows them to over-borrow, which leads to their declines.



As previously explained, in the third stage of the cycle, when growth and competitiveness are strong and indebtedness is low, the currency is strong and the country's reserve currency status is enhanced; however in the fourth stage the reverse is true. In other words, in the fourth stage the currency suffers due to over-indebtedness, increased money creation and uncompetitiveness, and this leads to the reduced desire to hold the currency. The next chart shows the value of sterling against both the US dollar and against gold. Note that sterling was rock solid until World War I and then it was devalued quickly against both the dollar and against gold.

<sup>9</sup> To be clear, we are referring to the currency portion of foreign exchange reserves, as the largest component of total reserves through most of this period was gold.

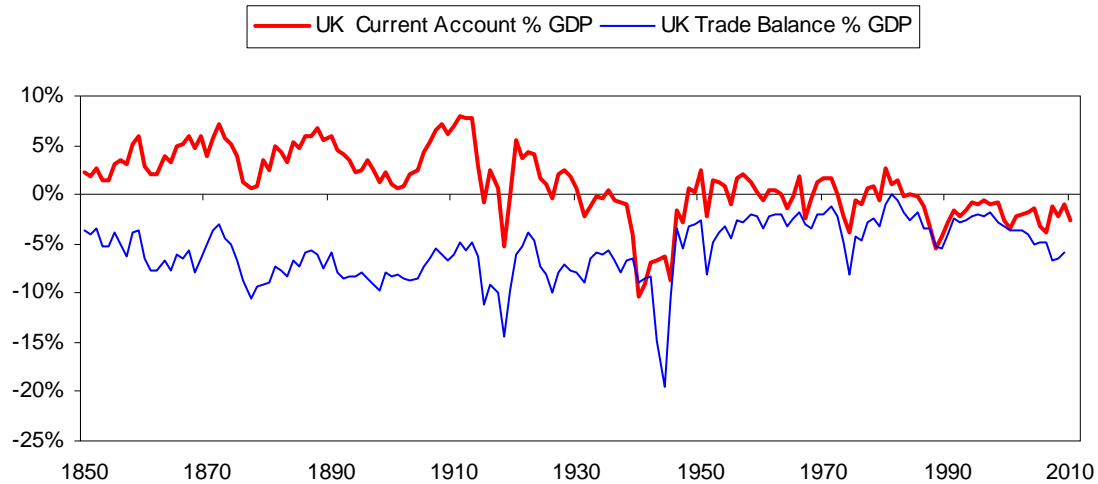


*Sources: Global Financial Data & BW Estimates for charts above*

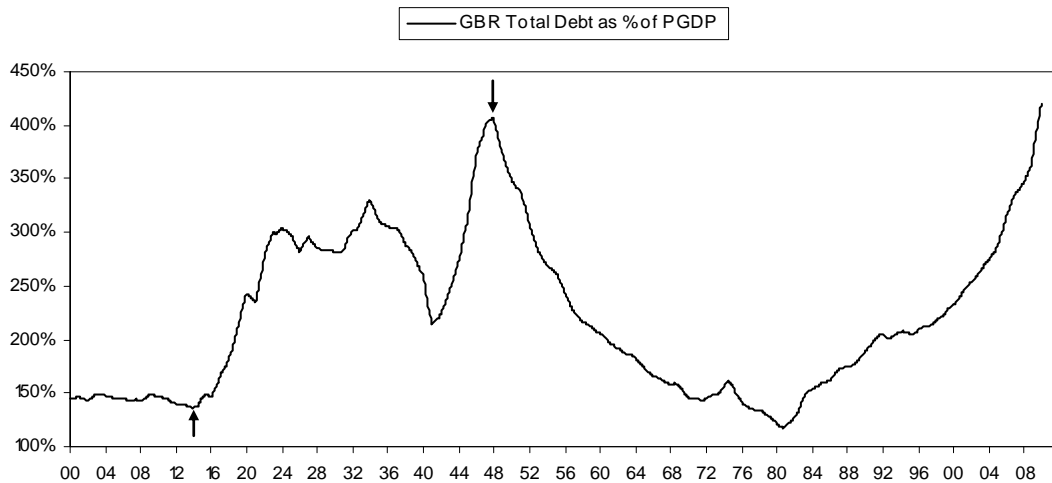
The decline of the British Empire can be seen via the worsening of its twin deficits.

The next chart shows the UK current account and trade balance going back to 1850. Note that:

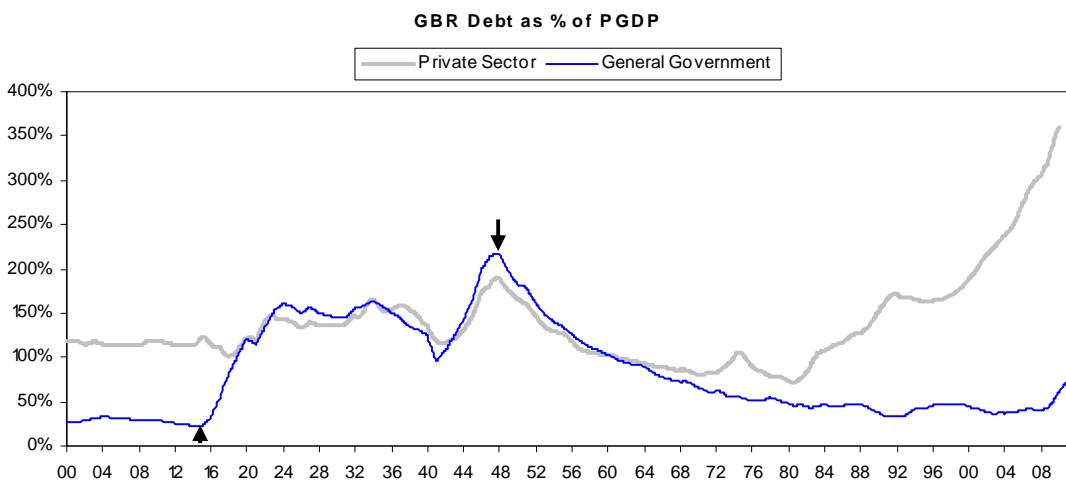
- The UK ran a strong current account surplus of about 8% of GDP until 1913, which was just prior to World War I, and then suffered steady declines worsened by both wars that led it to run large deficits (hitting 10% of GDP) at the end of World War II.
- Through most of this time (which starts in 1850, which was well into its ascent), it ran trade deficits while running current account surpluses because of the significant income earned from global asset holdings (both from colonies, but increasingly in the late 19<sup>th</sup> century from assets in the US) and the profits made from global shipping and financial businesses.
- After the First and Second World Wars, it was left with large debts owed to foreigners and without its colonies, which weakened the current account surplus significantly.



The next chart shows total debt as a percentage of GDP. Notice that it rose in two big waves, starting in 1914 and peaking in 1947 – which marked the period of the decline of the British Empire. As an aside, note how it is now similar.

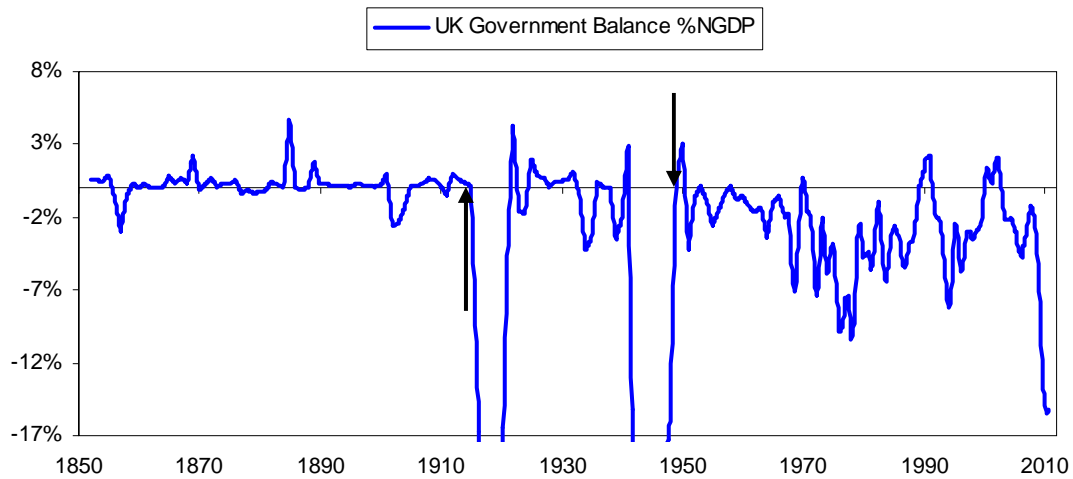


The chart below shows private and public debt burdens separately. As shown, both rose from the First World War through 1947. The increase in government debt was much more substantial and necessary to fund the two world wars.

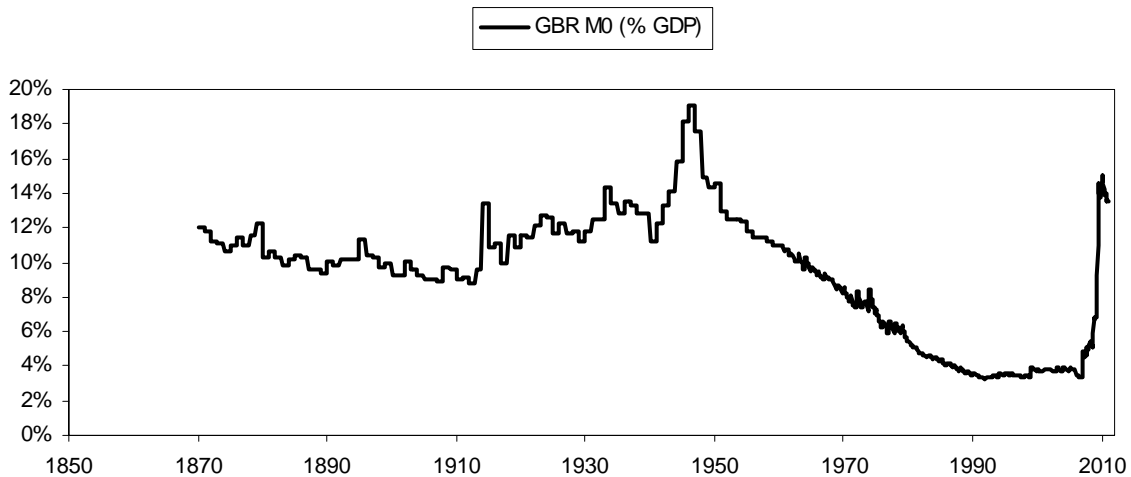


Sources: Global Financial Data & BW Estimates for charts above

The next chart shows the government's budget deficits as a percent of GDP since 1850. Government budget deficits typically shoot up for two reasons - 1) in deleveragings when increased government spending needs to make up for decreased private sector spending, and 2) in wars. Note the effects of the two wars. Also note that the budget deficits as a percent of GDP are now the highest since World War II (because of the deleveraging).

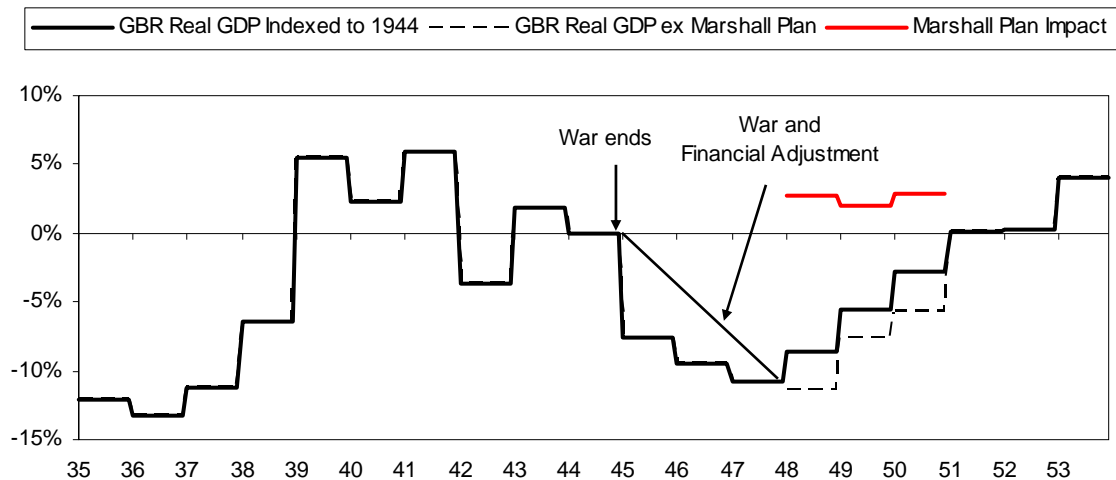


In the charts below you will note the printing of money to help monetize these deficits and debts. Note how it recently has been similar.



*Sources: Global Financial Data & BW Estimates for charts above*

In a nutshell, at the end of World War II Great Britain was bankrupt and the US was in a strong financial condition. As a result, the US provided the Marshall Plan, the British Empire collapsed and the UK began a long deleveraging. The chart below shows the collapse of the economy and the impact of the Marshall Plan in helping to soften it.



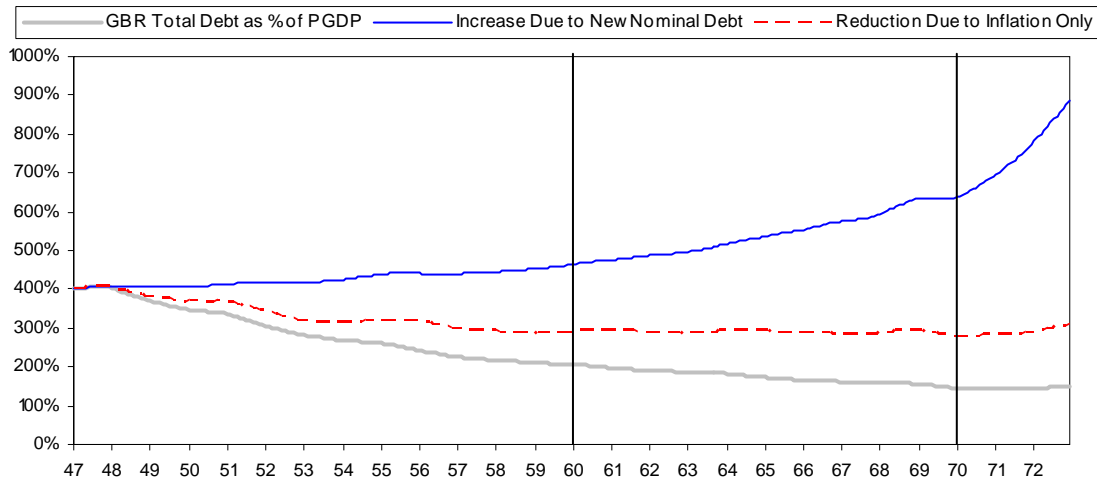
## How the UK Deleveraging Transpired

As shown in a previous chart, the debt to GDP ratio fell from about 400% of GDP in 1947 to about 150% of GDP in 1970. How did that occur? As mentioned, in deleveragings, nominal interest rates must be kept below nominal GDP growth rates (otherwise debt to income ratios would rise even without debt growth financing increased spending) and real interest rates must be kept low, so that the rates of money growth and currency depreciation that are required to bring that about will occur. The table below shows how the most important part of this deleveraging occurred. We broke it up into two parts – from 1947 to 1959 and from 1960 to 1969 because they were a bit different.

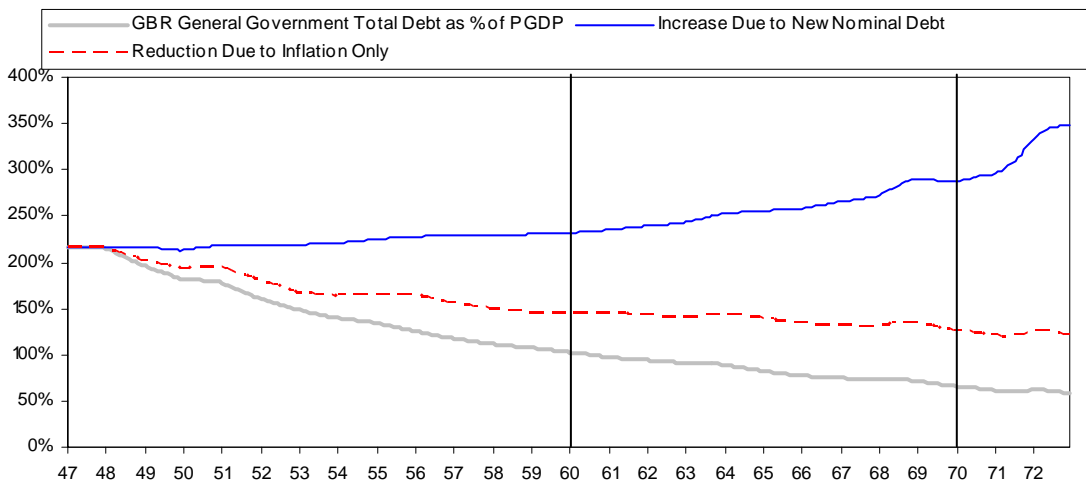
	1947-1959	1960-1969
<b>Overall Economy</b>		
GDP Growth, Avg. Y/Y	7.0%	6.8%
Of Which:		
GDP Deflator	4.0%	3.6%
Real	2.9%	3.1%
Productivity Growth	2.4%	2.6%
Labor Force Growth	0.5%	0.6%
Source of Demand Contribution:		
Domestic	5.6%	5.6%
Foreign	1.4%	1.2%
<b>Government Sector</b>		
Gov't Bond Yield, Avg.	4.2%	6.5%
Nominal Growth - Gov't Bond Yield	2.8%	0.3%
Real Yield	0.2%	2.9%
Gov't Borrowing % GDP, Avg. Ann.	0.7%	2.0%
Gov't Debt Level as % GDP, Avg. Change per Year	-9.0%	-3.1%
<b>Private Sector</b>		
Private Borrowing % GDP, Avg. Ann.	2.1%	3.6%
HHD Savings Rate, Avg. Y-Y Change (+ Means higher rate)	0.3%	0.4%
Pvt Sector Debt Level as % GDP, Avg. Change per Year	-7.2%	-2.3%
<b>External</b>		
GBP vs USD, Avg. Y/Y	-3.0%	-1.5%
Change in Reserves % of GDP, Avg. Ann.	0.5%	0.1%
Change in Current Account Level, Avg. Y-Y	0.3%	0.1%

Sources: Global Financial Data & BW Estimates

As a result of these policies, the decline in total debt in the post-war period occurred via a rise in nominal GDP which outpaced more modest increases in the amount of new borrowing. Inflation of around 4% from 1947-1970 drove nearly 2/3 of the decline in debt to GDP that is attributable to GDP growth. This is shown in the chart below.

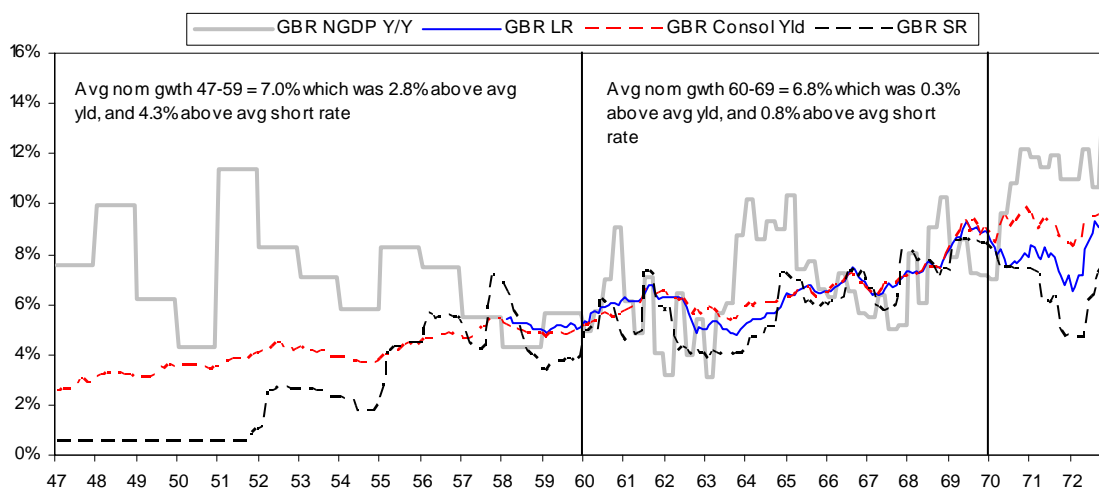
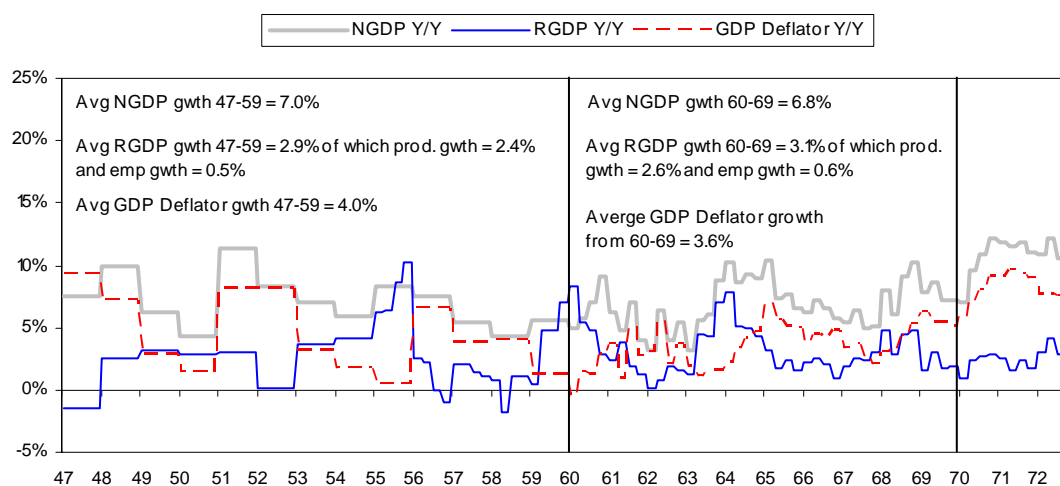
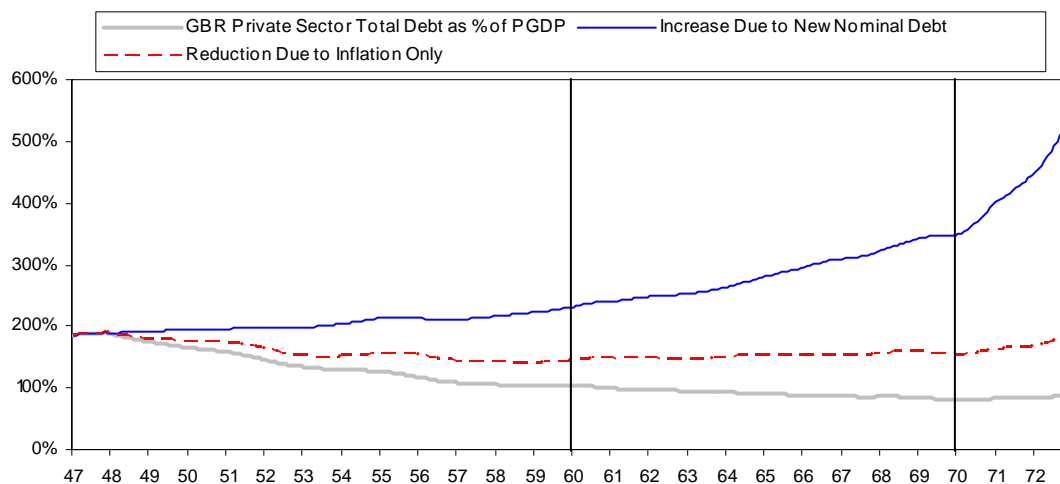


The same is true for both the government and the private sector. The new borrowing by the government was relatively small through the period, particularly from 1947-1960. The charts below show the attributions of the changes in the debt ratios.



Sources: Global Financial Data & BW Estimates for charts above





Sources: Global Financial Data & BW Estimates for charts above

## Disclosures

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