

EX-POST CHERRY PICKING

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ABSTRACT

Financial planners and institutional investment consultants are making a mistake. One that is problematic and meaningful. They're basing their forward-looking Capital Market Assumptions (CMAs) unduly on U.S. stock/bond returns during the post-industrial era (i.e., the last 74 years). This is a problem because U.S. returns during this period were exceptional and non-repeatable . . . being the result of relative American exceptionalism during the post WWII era. But this is nothing new, exceptional, unexpected, or in the least sense rare or unexpected. Instead, it's vanilla, normal, and fully expected.

Throughout history (the last 1000 years), there's always been a top-dog nation or economy. The determination of which nation would hold this role was determined by relative comparative advantage . . . defined within the context of current-day technologies and economic structures. India, China, Portugal, Spain, Netherlands, France, United Kingdom, and most recently the U.S. all held this enviable position. But for good reasons, no nation's ever been able to maintain permanent dominance. The U.S. is no different and its rise and inevitable fall are consistent with the last thousand years of economic development. As a consequence, setting forward-looking CMAs on a rare and exceptional period drawn from out of history (essentially, ex-post cherry picking both the geography and time period) is offensive and a clear violation of due diligence and fiduciary duty. We can do better as advisors/consultants to our clients.

This article attempts to lay out the data that supports the argument that American exceptionalism was real, genuine, and vital during the post-industrial era (the last 74 years). That this exceptionalism was driven by clear and unambiguous relative advantages. But these relative advantages are no more. And as a consequence, to forecast that future U.S. investment market returns will continue to be "higher return" and "lower risk" than the rest of the world is unwarranted and lacks foundation.

KEY TAKEAWAYS

- U.S. capital market returns were higher during the post-industrial era (the last "74 years") than during longer time periods.
- Capital market returns for the World-ex-U.S. were lower than for the U.S.
- Superior U.S. returns resulted from American Exceptionalism during the post-industrial era.
- The factors that drove American Exceptionalism were real, genuine, and substantive, but are no more.

KEYWORDS

- Ex-post cherry picking
- Capital Market Assumptions (CMAs)
- Economic incentives

EX-POST CHERRY PICKING

1. INTRODUCTION

This article's objective is to identify and correct three near universal mistakes being made by U.S.-based retail and institutional investors (and their advisers and consultants) as they set their forward-looking Capital Market Assumptions (hereafter referred to as CMAs). Let me back up for a moment. Suppose that you're an adviser or consultant to a retired couple or college endowment.

You recommend a policy asset allocation. Your client asks what you based your recommendation upon. You tell them your CMAs. They ask how you constructed your CMAs. You respond that you: (1) based them on U.S. returns, (2) used the post-industrial era, i.e., the last 74 years, and (3) in order to avoid forecasting bias, assumed that future returns would follow/mimic past returns. If your client is unusually knowledgeable, how might they react to your answer?

The objective of this article is to show that your answer is the worst possible expression of ex-post cherry picking . . . and to suggest practical solutions. What does "ex-post cherry picking" mean?

- First, you selected after-the-fact, the best performing geography (from among all geographies), falsely assuming that your geographic selection would continue to dominate and outperform everyone else. Or worse yet, you didn't even realize that you'd selected the best performing geography from among the many.
- Second, you selected after-the-fact, the best performing time period (from out of history), falsely assuming that your time period selection's historic returns would continue into the future. Or worse yet, you didn't even realize that you'd selected the best performing time period.

If this article's premise is correct, then who's committing these multiple sins? Unfortunately, it's retail financial advisers, institutional investment consultants, and our industry's largest investment management organizations. If true, then the damage done (in a forward-looking sense) could be significant. If we can correct these three mistakes (wrong geography, wrong time period, and being inordinately backward-looking), then we've solved for the lion's share of the problem.

But if this discussion is to be taken seriously, then we must also attempt to answer the quite genuine question of "*How did we get to this unfortunate state of affairs?*" Let's begin an examination of these arguments.

2. WHAT DO WE NEED TO LOOK AT AND WHY

The prior discussion implied that U.S. based returns during the post-industrial era (the last 74 years) are non-representative and non-repeatable. To determine the validity or falsehood of this premise, we must examine the long-term, and not just for the U.S., but for all major markets. And said examination must be conducted in inflation-adjusted terms, since inflation varies to such an extreme extent (e.g., CPI inflation over the 5-years ending May 1933 annualized at -6.0% and for the 5-years ending Jun 1920 annualized at +15.7%). But why do we benefit from the study of long-term history? As several noteworthies put it:

William Wordsworth (English romantic poet) - "*Let us learn from the past to profit by the present.*"

Niccolò Machiavelli (Italian Renaissance man) - *“Whoever wishes to foresee the future must consult the past.”*

Theodore Roosevelt (26th president of the U.S.) - *“The more you know about the past, the better prepared you are for the future.”*

By considering the long-term, we’re able to understand how investment markets performed during world and civil wars, revolutions, pandemics, banking crisis, political crisis, depressions, economic growth/recession, rising/falling inflation, increasing/decreasing interest rates, expansionary/contractionary monetary policy, stimulative/restrictive fiscal policy, terrorism, and during extended periods of peace, prosperity, and technological advance.

The long-run (150 years, not 50 years) must be examined if we hope to understand the risk- and return-pathways followed by stocks and bonds. For example, higher levels of inflation have been associated with lower performance from stocks and bonds. Interest rate hiking and easing cycles have had profound impacts on stocks, bonds, and assorted risk premia. Stagflation has had a particularly pernicious effect on equity, bond, and commodity returns. Recent 60/40 balanced portfolio performance provides a bracing reminder of how investors trusted too heavily in the recent negative correlations between the two assets rather than properly consulting the long expanse of history (Dimson et al 2023).

The CFA Institute recently published a Research Foundation Monograph *“Revisiting the Equity Risk Premium”* (Siegel and McCaffrey 2023). Therein, Thomas Philips while commenting on the development of forward-looking CMAs observed:

“ . . . first weave economic insights into simple models of expected return, and to then estimate these models using robust statistical techniques, because the signal-to-noise ratio in finance is truly awful, as you can see from Exhibit 32. (It’s actually easier to communicate with Voyager than it is to predict financial markets!) So, forget ordinary and generalized least squares, the Gauss-Markov theorem, the consumption CAPM, and above all, forget TensorFlow, which is the modern-day equivalent of “plastics.” The way I calibrate my thinking about expected returns is to start by asking whether I should think about them in nominal, real, or excess return terms. (By “excess return” I mean the return in excess of cash.) And, for reasons I don’t fully understand, nominal returns are far more predictable than real returns and excess returns.”

But the practical question remains: *“Are sufficiently accurate stock and bond returns available over the long-run?”* Although stock markets in 1900 were rather different from today, they were not a new phenomenon. The Amsterdam exchange had already been in existence for nearly 300 years; the London Stock Exchange had been operating for over 200 years; and five other markets, including the New York Stock Exchange, had been in existence for over 100 years. Organized trading in marketable securities began in Amsterdam in 1602, London in 1698, and in New York in 1792 (Dimson et al 2023). But before examining asset class returns, let’s first explore the nature of country exceptionalism, starting with the U.S. - because the U.S. is only one in a long history of truly exceptional nations (the top-dogs throughout history).

3. U.S. EXCEPTIONALISM - PAST AND FUTURE

Consider the global economy, not over the last 80 years, but over the last 800. The world proceeded through different eras, defined by ever more advanced macroeconomic frameworks (the result of innovation, technology, and democracy). These might have been labeled: agrarian, militaristic, mercantile, industrial, consumer, financial, and virtual (Diamond 1999, Diamond 2011).

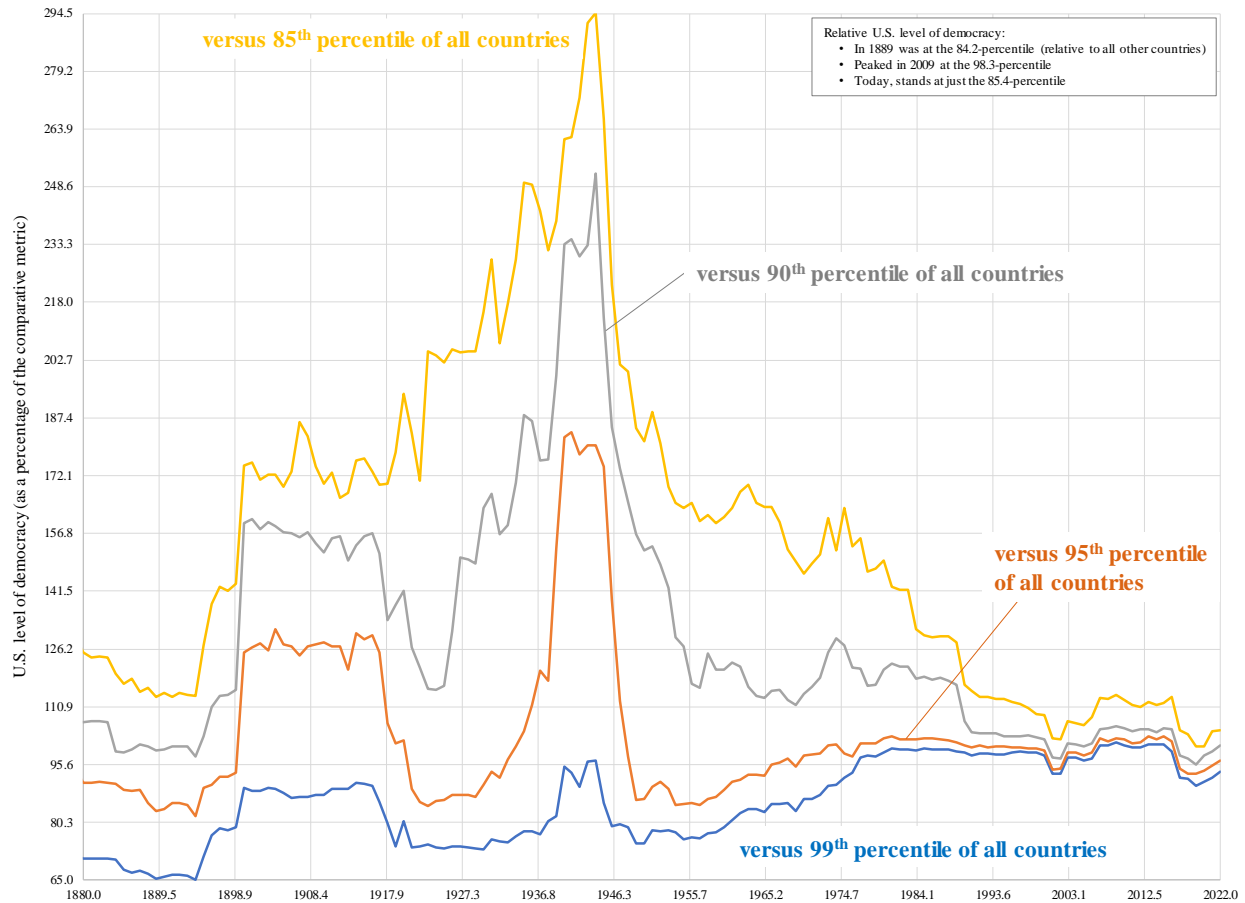
A country's success or dominance during each of these economic eras required different skill/resource sets. For example, nations with superior rainfall, temperatures, and soil quality, dominated during the agrarian era. Countries with superior iron, steel, coal, oil, and ocean ports, dominated during the militaristic era. It immediately follows that different countries would (and in fact did) dominate during the different economic eras. No nation remained top-dog permanently, for no nation had the most advantageous skill/resource sets during all economic eras. In some rough sense, this results in a life-cycle for a nation, i.e., infancy, youth, formative years, adulthood, dominance, decline, and dotage. History is littered with examples.

This article argues that the U.S. is no different. American exceptionalism was real and genuine, not for "*all-time*" but for the post-industrial era. As a consequence, U.S. investment market returns over the last 74 years were exceptionally high, higher than during periods before, and higher than for the rest of the world. America's comparative edge/advantage resulted from several mutually reinforcing factors. These included: (a) natural resources, (b) a sizeable "*empty*" land (or one that could be "*made*" empty), (c) protected on the east and west by oceans, and on the north and south by friendly and/or distracted nations, (d) unique geography whereby the U.S. could simultaneously trade with both the "*east*" and the "*west*," (e) internal waterways providing economical transportation that spanned the nation, (f) a nation populated by immigrants who were motivated, desperate, hard-working, resilient, forward-looking, and willing to take risks (they self-selected for success), and (g) because they'd been previously persecuted in their home-country, they were less inclined to persecute others in their new-country (Zeihan 2022).

Why consider this question? Because if true, it explains how the U.S. got here, and it speaks to what comes next. Let's examine the data, and determine whether it supports the arguments described in the Introduction. Exhibit 1 provides a measure of democracy, showing how the U.S. compares to the rest of the world over time (Maddison 2022).

EXHIBIT 1

U.S. Level of Democracy Relative to the Rest of the World



Democracy provides a relative comparative advantage, one nation versus another. Although democracy has no direct effect on economic growth, it does result in higher human capital accumulation, lower inflation, lower political instability, and higher economic freedom (Dizikes 2019).

Exhibit 1 compares the U.S. level of democracy against its key competitors. For example, consider the blue line, which compares U.S. democracy against the level for the 1% of all countries with the highest democratic levels, i.e., the 99th-percentile. Or the yellow line compares the U.S. against the 15% most democratic nations. In a very narrow sense, the U.S. “began” democracy. OK, so that’s a bridge too far . . . we need to give credit to both the Greeks and the Romans (Ehrenberg 1950).

Relative to America’s key competitors, the U.S. edge/advantage perhaps peaked back in the mid-1940s. Versus the entire world (all nations), the U.S. looked its best back in 2009. Although interesting, the relevant comparison is not against “all nations,” but instead, relative to key competitors. Key takeaway . . . the American edge is no more, it is evaporating. This is a natural and organic development, no surprise here. But this is important because it impacts long-term relative investment market returns. Let’s next move to the military and a nation’s ability to project military power, secure resources, and protect interests. Exhibit 2 provides an historical perspective on how the ability to project military might changed radically over time from one nation to the next

(Bienaimé and Rosen 2014, Gregory 2022, Levin 2019, Saraf 2019, TNI Staff 2023, and Young 2022).

EXHIBIT 2

Fifteen Largest Military Powers Throughout History

Country	Description	Estimated active personnel (1,000s)	Date	Notes
China	The Xia Dynasty	12	2000 BC	Believed to have been the first fighting force in history to top 10,000 soldiers
Egypt	The Army of Ramses II	100	1250 BC	Successfully repelled the Hittite armies of Anatolia
Iran	The Persian Army of Cyrus the Great	500	600 BC	Persian empire stretched from Libya to Central Asia, including Egypt and Turkey
India	Mauryan Empire	630	300 BC	Mauryan Empire expanded west across central and western India by defeating the satraps left by Alexander the Great
Italy	The Roman Empire	500	400	Became the dominant western army by 250 BC and reached its peak by 200 AD
China	The Tang Dynasty	634	800	The Tang dynasty or Tang Empire ruled from 618 to 907
Mongolia	Mongol Empire	> 900	1300	The Mongol Empire was the largest in all of human history as measured by geography controlled
China	The Ming Dynasty	1,300	1500	The Ming Dynasty ruled China from 1368 to 1644 AD, during which China’s population doubled
France	French Empire	2,500	1800	Napoleon Bonaparte marched the French army across Europe
Germany	The German Empire of WWI	5,300	1918	WWI lasted from 1914 through 1918
Russia	The Soviet Union in WWII	11,000	1943	Some estimates place Russian troop strength as high as 13.2 million (temporarily)
Germany	The Third Reich	12,100	1944	WWII lasted from 1939 through 1945
U.S.	The U.S. Army in WWII	12,200	1945	Today, the U.S. maintains 480,000 active duty soldiers
Russia	Soviet Military	4,500	1981	The size of the soviet army was boosted to address their invasion of Afghanistan
China	The Modern Chinese Army	2,200	2022	The largest number of active-duty personnel in the world today belongs to China

No nation’s ever been able to maintain military dominance (much less “fortitude”). This is for good and obvious reason. The U.S. is no different. Yes, at this instant in time, the U.S. commands the single most potent military capability. This gives the U.S. (as it has all nations throughout history) the ability to promote its global interests. But, this advantage/benefit is in the process of ending for the U.S. . . . and for quite solid economic reasons. The relevant measure is not absolute strength, it is relative strength. On a relative basis, U.S. military power peaked at the end of WWII and has been in rapid decline ever since.

Let’s next turn to life expectancy. Exhibit 3 provides a comparison of U.S. life expectancy relative to that of its key competitors (Maddison 2022). Keep in mind, that in economics, it’s all about relative comparative advantage . . . so one’s only concerned with who they’re competing against.

EXHIBIT 3

U.S. Life Expectancy (at birth) Relative to the Rest of the World

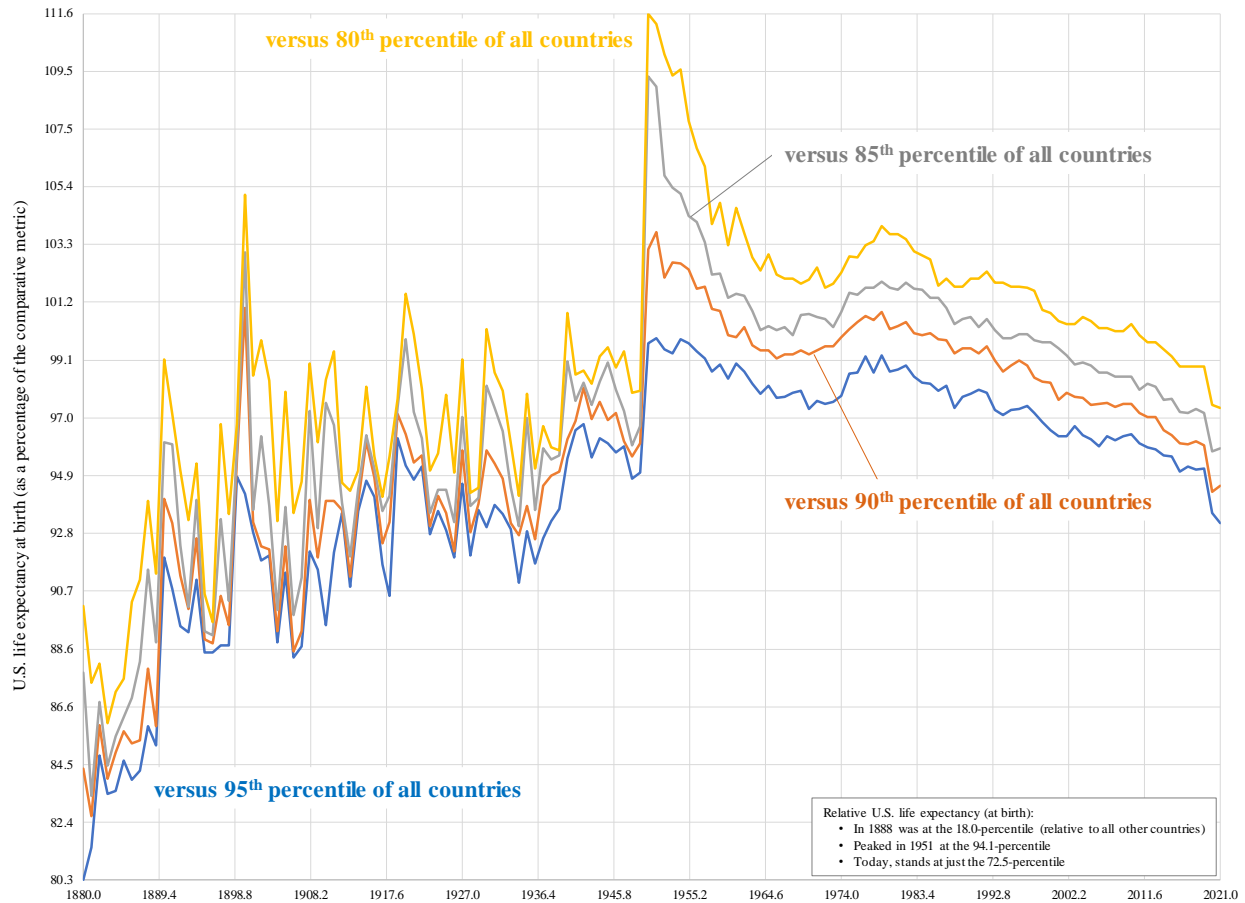


Exhibit 3 compares U.S. life expectancy (at birth) to that of its key competitors as defined by various percentiles for the universe of all countries. For example, the gray line shows U.S. life expectancy divided by the life expectancy of the 85th percentile country (above which, 15% of all nations have a higher life expectancy). One could compare U.S. life expectancy to that of all nations. But such a comparison would be irrelevant, since the U.S. is not competing (economically) against nations with low (much less average) life expectancy.

When looked at through this lens, the U.S. started out at a pretty rough & ready spot back in say 1880. But then began making remarkable and consistent progress, reaching a relative peak of comparative advantage in 1951. Since 1951 . . . the U.S. has slowly (very slowly) been losing its relative comparative advantage.

Why is life expectancy such an important metric? Because it allows a nation to: (i) focus on saving and investment instead of immediate personal/family needs (just getting to tomorrow), (ii) provides an extended “investment” time horizon supporting expanded risk-taking and long-lived capital investment, and (iii) proxies for a more holistically robust/dominant society, one characterized by more stable government, societal values, superior income/wealth distribution, greater risk-taking, and most importantly . . . a forward-looking perspective, the luxury of the best well off (He and Li 2020).

Let's turn next to a different issue, that of absolute population. Growth economists generally characterize the question of how fast a nation grows as a function of two inputs, growth of their labor force (population) and growth in productivity (technology and efficiency). The first of these is all about how the raw size of the U.S. population compares to that of its key competitors. Exhibit 4 provides the data (Maddison 2022).

EXHIBIT 4 U.S. Population Relative to the Rest of the World

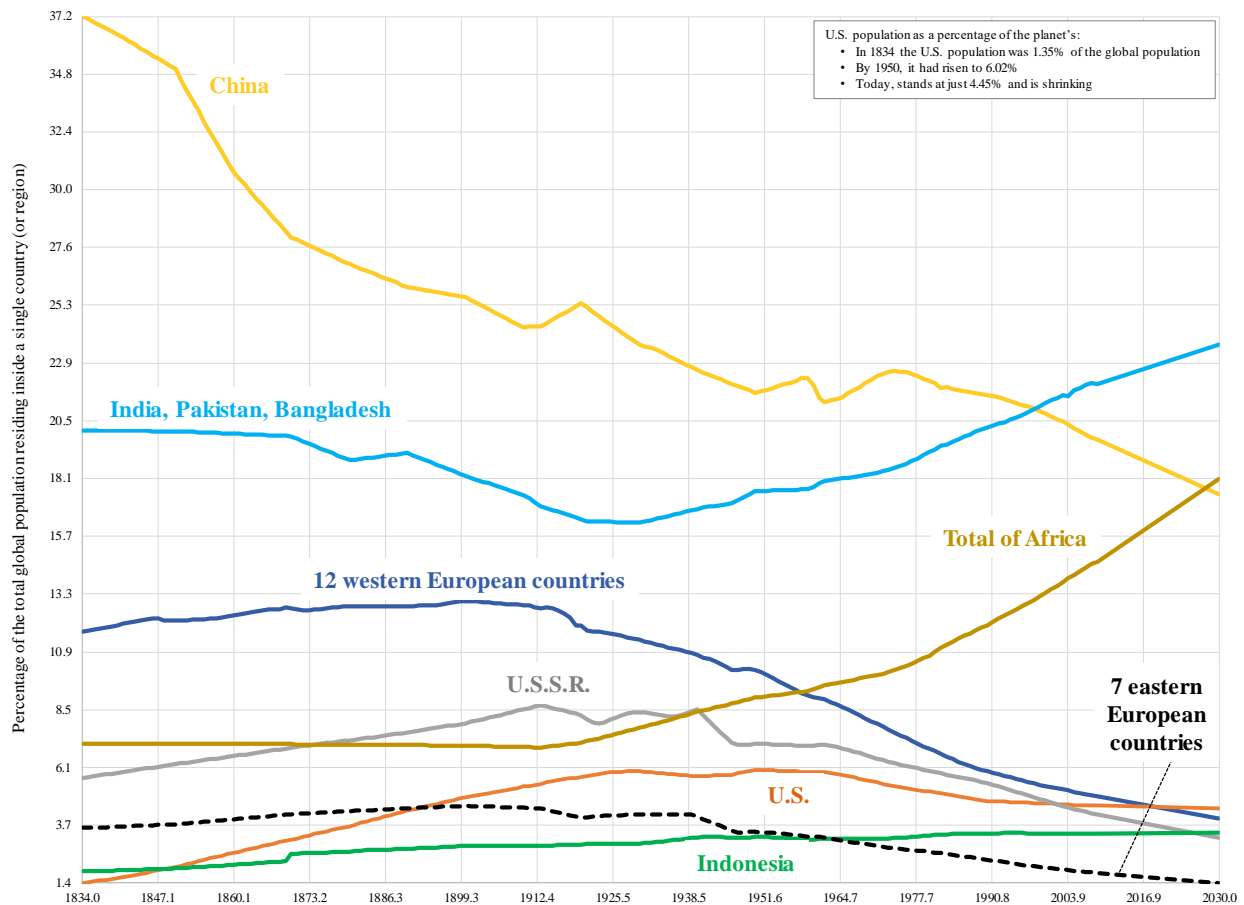
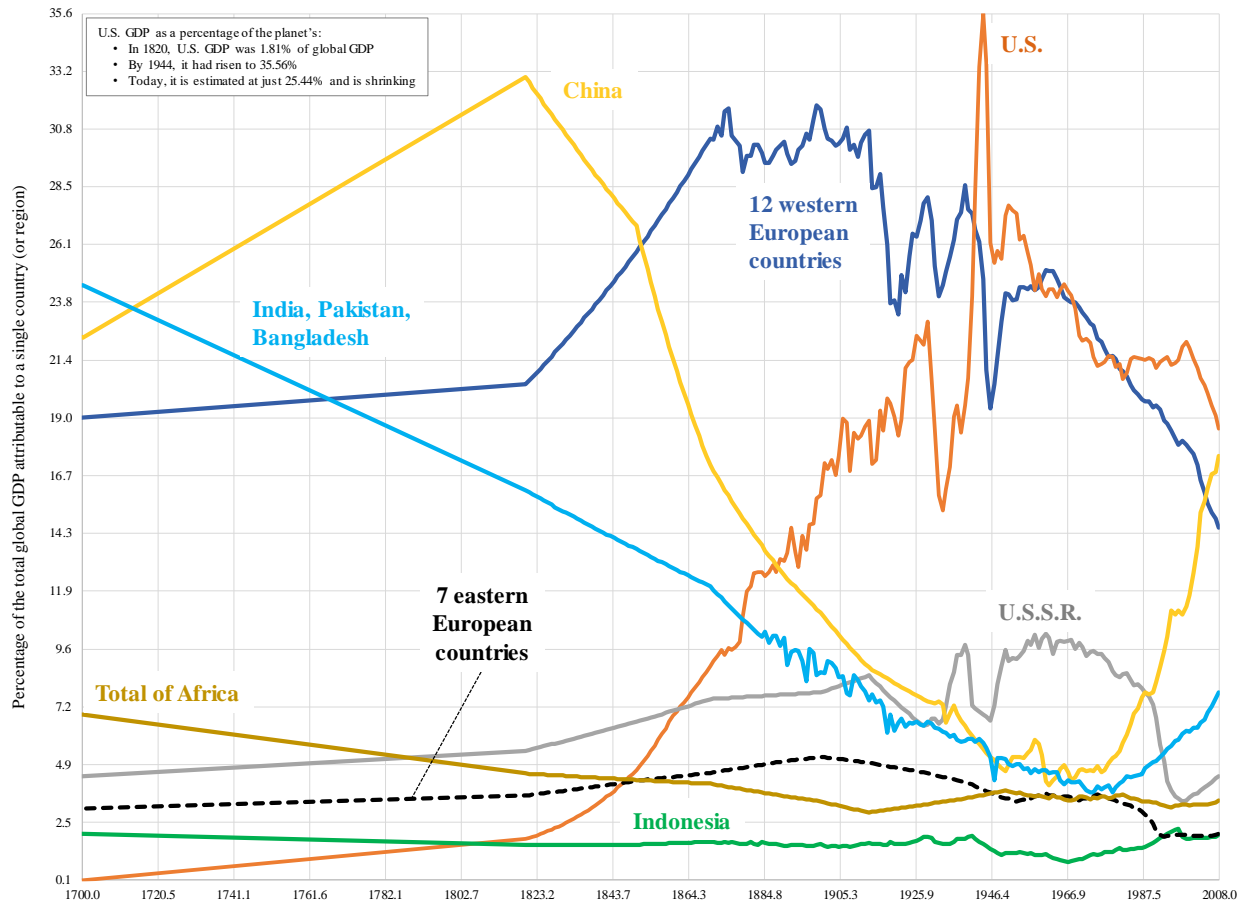


Exhibit 4 makes clear that the U.S. never had a large population, relative to that of its key competitors. America has always been a small nation. Nevertheless, the U.S. experienced a period of improving comparative status . . . and a period of relative decline. From 1834 through approximately 1950, the U.S. improved its relative position, versus the most dominant nations (with respect to the size of their respective labor forces). Unfortunately, since about 1950, the U.S. has been in a period of decline, shrinking its population compared to its key competitors.

Let's next explore raw economic size as defined by annual GDP. Keep in mind that sheer economic size breeds advantage, in terms of carrying capacity, ability to take risk, embracing longer investment time horizons, the ability to negotiate superior terms of trade, and the capability to attract and retain talent. Exhibit 5 provides the comparative results (Maddison 2022).

EXHIBIT 5 U.S. GDP Relative to the Rest of the World



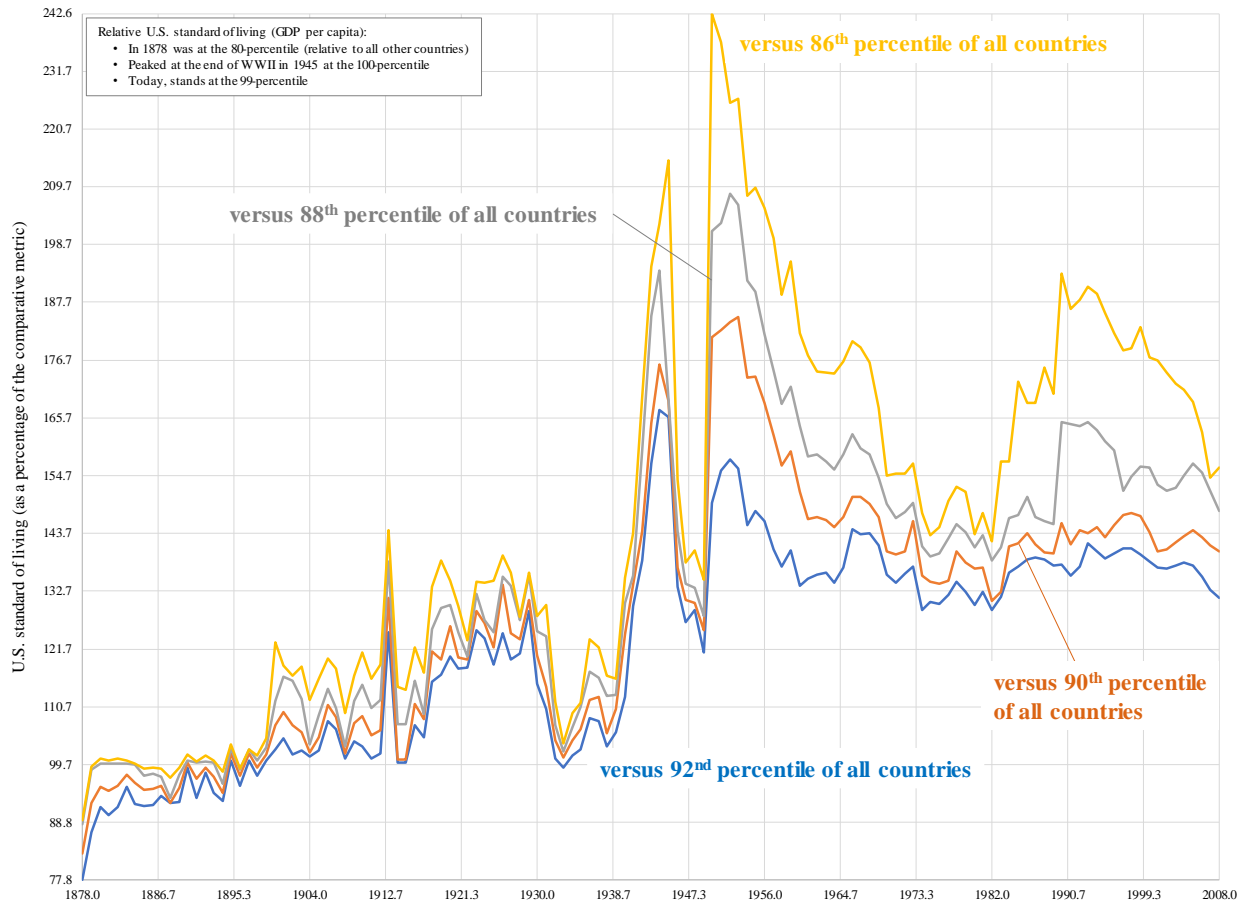
In 1700, India had the largest economy (as measured by GDP). By 1715, India had lost their status as top-dog to China. China maintained their dominance until about 1850, at which point, western Europe took over. But no nation (or region) has ever been able to remain “top-dog” for long.

The U.S. began its existence as a newborn somewhere around 1700. But by approximately 1940 had become the world’s largest economy. Nevertheless, this status has been in relative decline since about 1945 and shows no signs of changing its trajectory. Economic projections suggest that China and India will battle it out for first and second place over the decade ahead, quickly pushing the U.S. into third place.

We next turn to prosperity or standard of living as defined by GDP per capita. This is an important measure because it supports or enables more stable societies, governments, greater risk taking, longer investment time horizons, and enhanced ability to invest in infrastructure and education. Exhibit 6 provides the data (Maddison 2022).

EXHIBIT 6

U.S. Standard of Living (GDP per capita) Relative to the Rest of the World

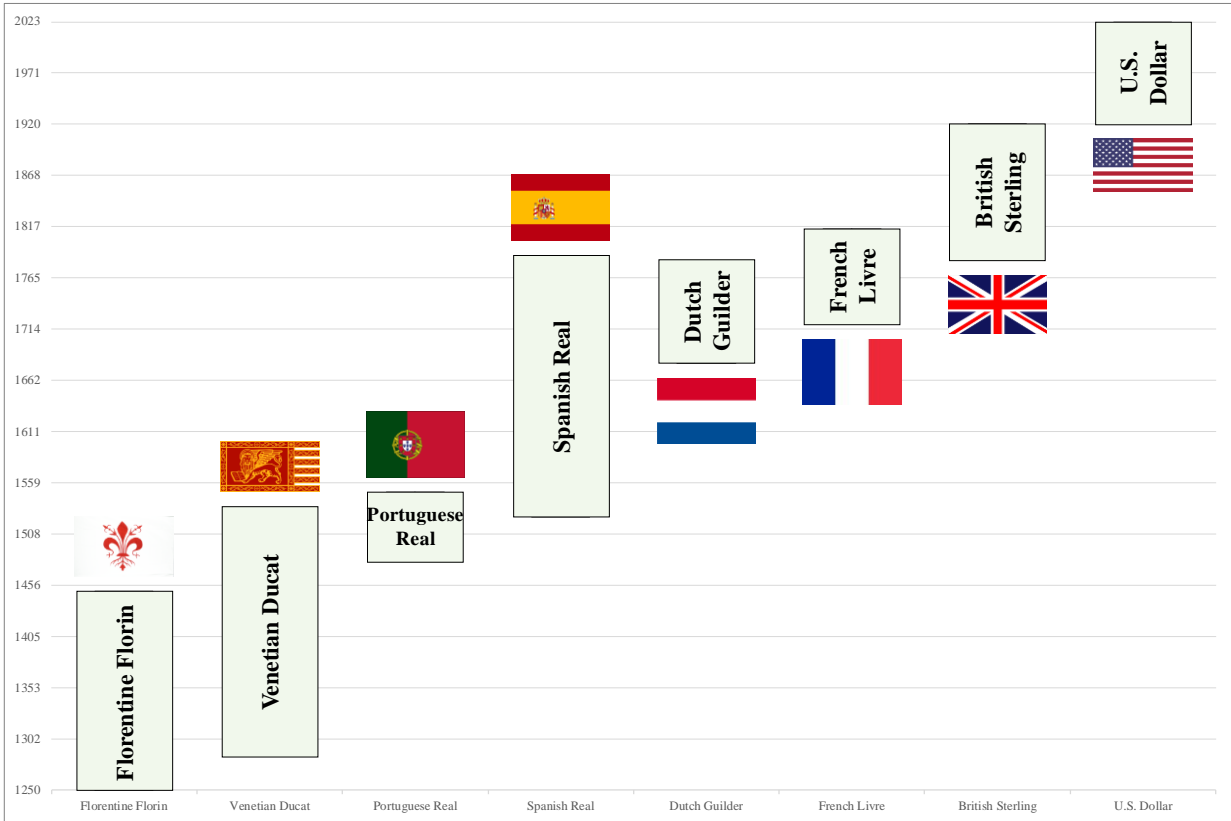


Again, nations with higher standards of living have the capacity (whether exploited or not) to be more creative, innovative, forward-looking . . . and better able to reduce the costs and inefficiencies of social disharmony (Diamond 2011).

It's always about "relatives", and not just against everyone (all other countries), but instead relative to one's key competitors. Exhibit 6 shows how the U.S. standard of living compared to those nations with the highest standards of living (as expressed by various percentile levels). For example, the gold line compares the U.S. versus the 14% of all nations with the highest standards of living, i.e., the 86th percentile. The U.S. reached its greatest comparative advantage (versus its most prominent competitors) back in perhaps "1950". Since that date, the U.S. has been losing its edge. And there's no particular reason to believe that this trajectory will change direction.

We next turn to the topic of global reserve currencies. Having one's national currency hold the position as the globally-preferred store of value, provides incredible economic advantage. The closest thing to an economic freebie. The size and nature of these economic benefits have varied through time, as the nature of "currencies" and global trade have evolved (and will continue to evolve), but the advantages have been significant. Exhibit 7 provides the history of global reserve currencies since 1250 (BTCM 2020).

EXHIBIT 7 Major Global Reserve Currencies Since 1250



No nation's ever been able to maintain its position as the provider of the globe's preferred store of value. In fact, this beneficial status has been remarkably transitory. Today, the U.S. Dollar holds this envied role, but unless the future is radically different from the past, the U.S. Dollar will inevitably lose its position.

In brief, the U.S. benefited from the relative strengthening of several key factors (democracy, military, life expectancy, population, GDP, standard of living, and reserve currency status). But each of these drivers of superior (relative) economic growth are now in remission. If this observation's true, then the consequences will show up in the data . . . let's check the data to see if we have confirmation. Exhibit 8 provides the statistics, highlighting how U.S. economic growth has continued to slow - inexorably.

EXHIBIT 8

U.S. Economy Grows Slower and Slower with the Passage of Time

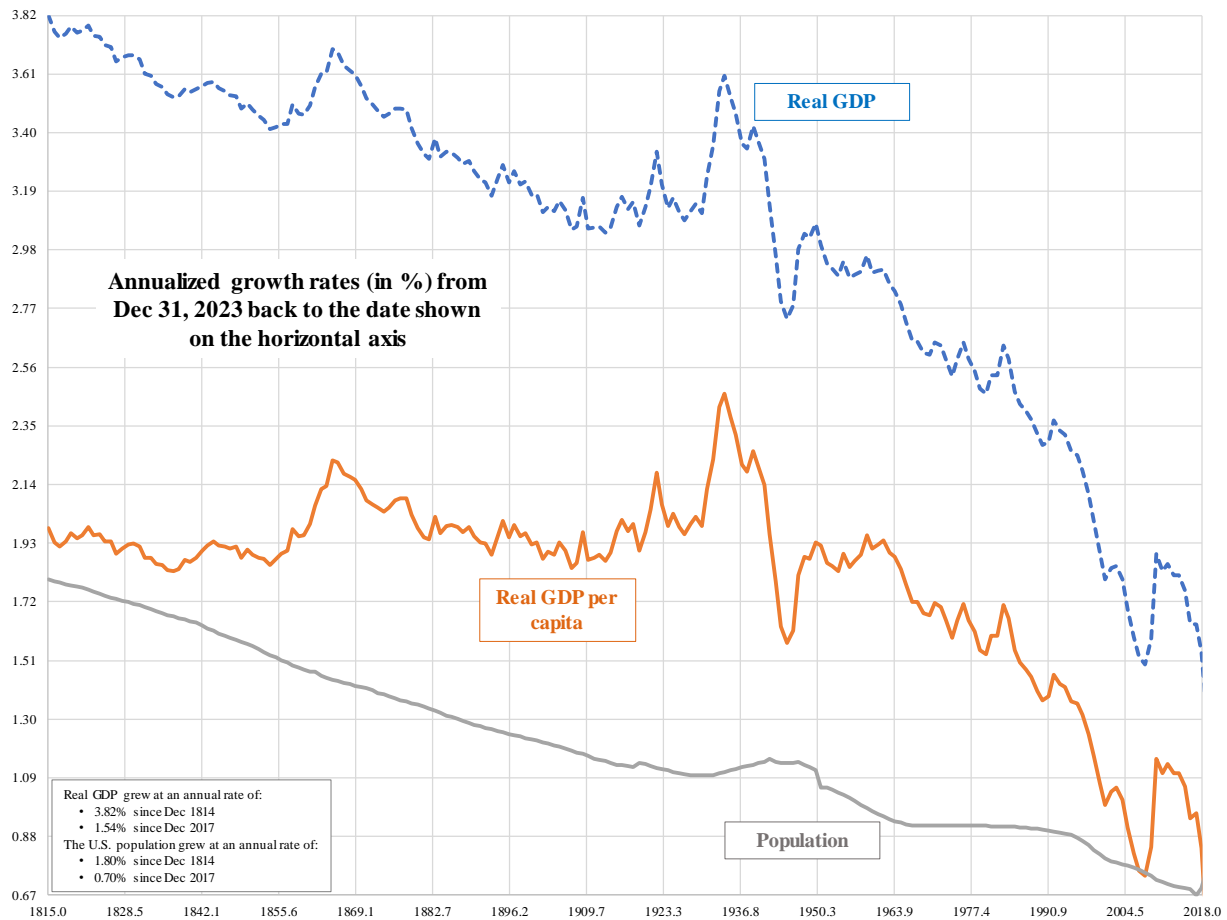


Exhibit 8 provides three growth metrics for the U.S. since 1815, i.e., GDP, population, and standard of living (GDP per capita)¹. In each case, U.S. growth has slowed. This is both natural and expected . . . the same pattern unfolded for every other top-dog nation throughout history. Unless the future works differently than the past, then this pattern of rotation from one nation to the next continues.

An interesting and perhaps more intuitive or familiar analogy is provided by the large cities, those within a single country. Consider how the location of America's largest cities has changed so radically and consistently over the last 250 years. This evolutionary process proceeded (not unexpectedly) at a more rapid pace than for nations as a whole. Exhibit 9 provides the data . . . showing the third, fourth, and fifth largest U.S. cities at critical points in time (Diamond 2011, Gibson and Jung 2005). I focus on the third, fourth, and fifth largest cities because they more clearly express regional change, i.e., the evolutionary process.

¹¹ Data and statistics provided by Global Financial Data, Inc.

EXHIBIT 9

Largest U.S. Cities Changed Consistently Throughout History

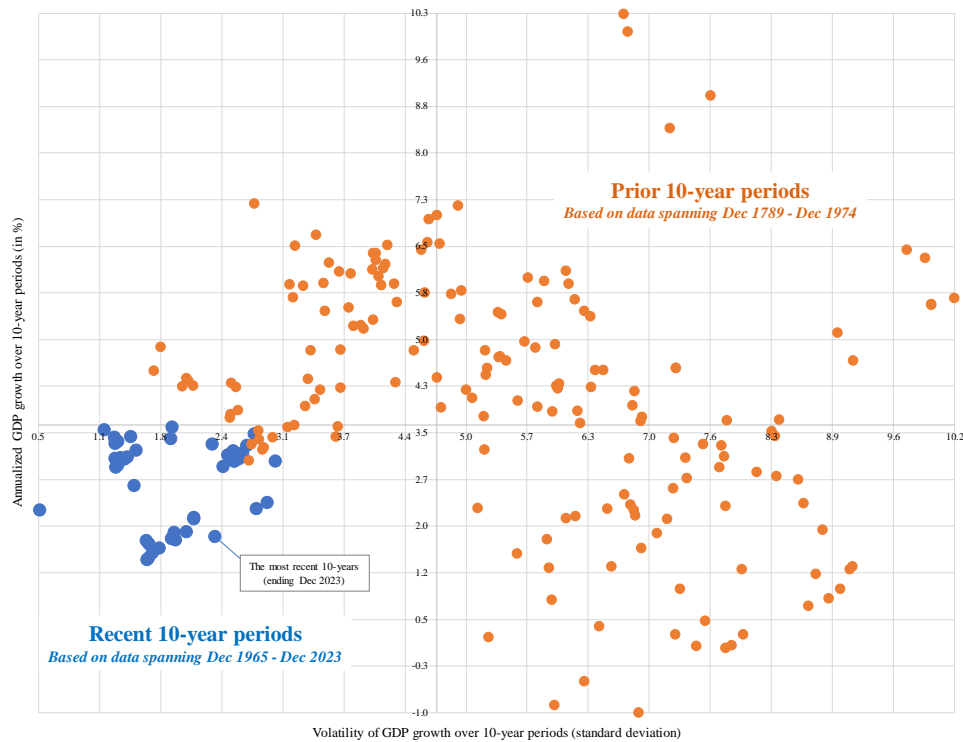
	3 rd largest	4 th largest	5 th largest
1790	Boston	Charleston, SC	Baltimore
1800	Baltimore	Boston	Charleston, SC
1830	Philadelphia	Boston	New Orleans
1840	New Orleans	Philadelphia	Boston
1850	Boston	Philadelphia	New Orleans
1860	Brooklyn, NY	Baltimore	Boston
1870	Brooklyn, NY	St Louis	Chicago
1880	Brooklyn, NY	Chicago	Boston
1890	Philadelphia	Brooklyn, NY	St Louis
1900	Philadelphia	St Louis	Boston
1920	Philadelphia	Detroit	Cleveland
1950	Philadelphia	Los Angeles	Detroit
1960	Los Angeles	Philadelphia	Detroit
1990	Chicago	Houston	Philadelphia
2023	Chicago	Houston	Phoenix

The green shaded region shows the time period during which all major U.S. cities were located on the east coast and/or the gulf coast. The red shaded region shows the period during which the Midwest began to dominate. The blue identifies the episode during which the western states first entered the fray. And finally, the yellow shows the current era, within which all major U.S. cities are located outside of the east coast (other than NYC). This evolution provides a nearer-to-home reminder of how no city (nation) remains dominant for long. The rise and fall of cities (and nations) is the natural order of things . . . and few if anything can stand in the way of such organic transitions (as much as we individually might wish otherwise).

A different understanding of U.S. economic growth (GDP growth²) and the tradeoffs that nations seek, is provided by Exhibit 10. Herein, we explore how recent U.S. growth (all 10-year periods ending after Dec 1974) compare to past U.S. growth (all 10-year periods ending on or before Dec 1974), along two dimensions (average growth and volatility). Exhibit 10 provides the results since 1789.

² Data provided by Global Financial Data, Inc.

EXHIBIT 10
Last Five Decades - U.S. Economy is Growing Slower and with Reduced Volatility



This exhibit communicates how U.S. economic growth evolved over time to something more stable and less volatile, but at the cost of lower/slower growth . . . essentially, a Faustian bargain. If true, this is both normal and natural for mature societies and nations, i.e., a preference for preserving “*what already is*” as opposed to reaching for “*what might be*”. Becoming entrenched instead of remaining risk-taking and aspirational.

Blue dots show the most recent 10-year periods, as based on data spanning Dec 1965 through Dec 2023 (a forecast). Orange dots show the results for all earlier periods (accessing data spanning Dec 1789 through Dec 1974). Yes, the two data sets overlap, but nevertheless, each dot remains unique. Observe how the blue dots (recent U.S. performance) are all located in the bottom lefthand quadrant (lower growth but with reduced volatility, the Faustian bargain).

Macroeconomies are living breathing “*animals.*” As such, they follow highly dynamic paths over time, evolving and responding to stimuli. They benefit from and even require challenges in order to overcome internal deficiencies, rigidities, and misallocations. Forest management provides a helpful analogy.

Long ago (ok, so maybe not all that long ago), it was falsely believed that the best way to manage a forest was to prevent forest fires and windstorms. Eventually, we learned just how incredibly naïve and destructive such a simplistic static view really was. Today, we understand that a healthy, thriving, and growing forest requires regular periodic fires and windstorms.

These “*destructive*” forces serve several invaluable purposes . . . they serve to (1) reallocate forest resources from less productive to more productive, (2) eliminate the slow growing and stagnant, and

(3) remove the diseased and pest-ridden. Without these beneficial perils, the forest eventually becomes sickly, stops growing, and declines.

An economy is no different. A healthy thriving macro economy requires recessions, growing unemployment, and corporate bankruptcies. These are the economy's fires and windstorms. These perils serve to (1) reallocate labor and capital from less productive to more productive, (2) eliminate the slow growing and the stagnant, (3) retire outdated and backward-looking industries, and (4) drive innovative training and education for new types of jobs. Without these painful corrective forces, the economy eventually becomes sickly, stops growing, and declines.

The preverbal buggy whip manufactures (and their laborers) must transition to greater value-added applications. Or more recently, we just don't need to be allocating scarce labor and capital to the production of physical phone books, radio stations, telephone-landlines, and numerous in-person professional services where AI-solutions would unambiguously deliver a superior product, more consistently, with reduced risk, and at a significantly-reduced price.

Numerous mature economies or nations, throughout history, have sought such a tradeoff (Diamond 1999 and Diamond 2011). Examining U.S. fiscal and monetary policy in addition to regulatory oversight over the last 30 years, suggests that America may have strived mightily to prevent forest fires and windstorms, that short-term societal pain must be minimized even at the cost of long-term societal gain.

The U.S. has been exceptional, during the post WWII era . . . Exhibits 5-7 make this observation clear. But this U.S. dominance is nothing more than what's always come before, time and time again. Throughout economic history, there's always been a dominant nation, one that expressed equal (or even greater) economic dominance to that projected by the U.S. during the recent post-industrial era. Bottom line, the notion of exceptionalism has always been fleeting and remarkably impermanent, and there's no reason to believe today is any different from the past. History teaches that relative comparative advantage shifts from one nation or region to another . . . and permanence is an illusion.

U.S. relative economic dominance during the post-industrial era (perhaps the last 74 years) is non-repeatable and non-representative. Basing one's expectations for the future on U.S. performance during this period is frighteningly misleading. As Dimson, Marsh, and Staunton observe "*However, our global body of work makes for a more informed investment discussion, revealing the USA to be the exception and not the rule . . .*" (Dimson et al 2023).

Sure, today, the U.S. stock market is the single largest. But not that long ago, Japan had the largest stock market. At its peak, Jan 1989, Japan accounted for 40% of the world index, versus 29% for the USA. And if one goes back to 1899, the U.K. market was the largest, and twice the size of the U.S. Permanence has never existed . . . change is the natural order (Siegel and McCaffrey 2023).

To summarize, American exceptionalism was big, real, and genuine . . . but no different from how it'd been for India, China, Netherlands, Spain, France, UK, and Japan, previously . . . each of whom inevitably lost their relative edge/advantage. The U.S. excelled during the post-industrial period (arbitrarily defined as late-1949 to the present). But the data strongly supports the conclusion that such relative dominance has come to an end, i.e., continued relative gains are no more.

4. MISTAKES – GEOGRAPHY, TIMEFRAME, AND VALUATIONS

So, what do these historical trends mean for the development of our forward-looking CMAs? The Introduction observed how U.S.-based retail advisors and institutional consultants generally make three mistakes while formulating their CMAs: (1) base them, exclusively or excessively, on U.S. asset class returns, (2) restrict their view to the post-industrial era, i.e., since about 1949, and (3) assume future returns will follow/mimic historical averages.

To explore these contentions, we must explore the data with due consideration for the underlying macroeconomic and capital market behaviors:

- Over the long-term, i.e., not the last ten years, but instead, over the last 110 years³,
- Adjust for Consumer Price Inflation,
- Incorporate, with equal emphasis, both the winners (e.g., the U.S.) and the most challenged (e.g., Japan, Germany, and Italy), and
- Due to the extreme time series properties and the inherent episodic nature of both stock and bond returns, comparisons must be made using practical real world investment time horizons . . . and not summary statistics covering the aggregate time period (which would mask all such behaviors).

Each of these is addressed briefly, in turn.

Utilizing the Long-Term. A long-term perspective is needed. To adequately understand risk and return, we must examine periods that fully encompass the full range of alternate environments, i.e.: war/peace, inflation/deflation, recession/growth, rising/falling interest rates, inflation/deflation, rising/falling energy prices, restrictive/stimulative monetary and fiscal policy, and higher/lower corporate and individual tax rates.

Consider, for example, an investor at the start of 2000 who looked back at the 10.5% real annualized return for global equities over the previous 20 years and regarded this as “long-run” history, and hence providing relevant/practical guidance for the future. But, over the next decade, said investor would have earned a negative real return on global stocks of -0.6% per annum . . . a painful divergence between expectation and realization.

Adjusting for Inflation. Investors, both retail and institutional, are generally concerned with what they can inevitably “buy” with their investment portfolios⁴. Inflation is a veil that must be passed through on the journey from nominal investment returns to the actual purchase of goods and services (or a standard of living). Consider how inflationary expectations⁵ were at 9.4% in Oct 1977 and then fell to just 1.0% by Apr 2012.

³ Data quality declines rapidly, if ones attempts to go back more than 110 years, from today

⁴ A rapidly shrinking roster of U.S.-based defined benefit pension plans have their liabilities defined in nominal terms, i.e., they are not inflation-adjusted. These are more the exception to the rule.

⁵ Expected inflation over a 7.5-year rolling time period is defined as the actual experienced inflation rate during a 7.5-year interval that starts exactly 3.75 years in the past and ends exactly 3.75 years in the future. As a result, “expected inflation” is 50% backward-looking and 50% forward-looking. This approach is used because it is believed to provide a reasonable estimate of the market’s then current inflationary expectations

Giving Equal-Weight to the Losers. Why must we include “failing” countries within our analysis? Because “failure” is the natural opposite of “success.” One can’t have one without the other . . . or one can’t have a healthy growing forest without regular periodic forest fires and windstorms. Nations rise and fall throughout history. The U.S. is no exception, instead it’s just the most recent example of success and prospective relative-decline (previous examples included India, China, Netherlands, Spain, France, UK, and Japan).

The U.S. is the extreme modern-day outlier, inherently impermanent, non-representative, non-repeatable. Consider past survivorship bias, i.e., contained within returns since 1900. Russia and China are the two best-known cases of markets that failed to survive, and where investors lost everything. Moreover, Russia was a large market back in 1900, accounting for some 6% of world market capitalization (Dimson et al 2023). Austria-Hungary was similarly large in 1900 (5% of world capitalization).

Preserving the Time Series Properties. Investment markets are just not iid, despite the Nobel Prize in Economics being awarded to Harry Markowitz. Instead, markets have profound time series properties, journey through episodic eras of gain and lose, and encounter potent bull and bear markets (Brown 2018, Brown 2022a, Brown 2022b, Brown 2023a, Brown 2023b). For these reasons, we must evaluate practical real-world investment time periods . . . and not the aggregate, total-period summary statistics.

Further emphasizing the time series properties of asset class returns, as observed in a recent CFA Institute Monograph “**Rob Arnott:** *Just a quick observation: Empirically, mean reversion in returns is weak. **Thomas Philips:** It probably doesn’t exist at all. It’s really a reflection of moving from one expected return regime to another. The transition induces a realized return that is different from the return that you expected. It’s not that returns are mean reverting; it’s that expected returns are unstable and move around a lot.*” (Page 51 - Siegel and McCaffrey 2023, Philips 1999).

Bottom Line. The U.S. is the exception and not the rule, i.e., there have always been similar countries in the past . . . over the last 500 years . . . and they’ve always inevitably lost their relative comparative advantage. No nation has ever dominated forever! As observed in the Credit Suisse Global Investment Returns Yearbook 2023 Summary Edition: “*However, our global body of work makes for a more informed investment discussion, revealing the USA to be the exception and not the rule where historical returns are concerned.*” (Page 5 - Dimson et al 2023).

Or consider that same research monograph, their internal Exhibit 12, “*Exhibit 12 shows how markets performed over the 20th century, the 21st century through 2020, the period since the Global Financial Crisis, and last year (2020). The United States “won” the last century. It won this competition against other major groupings such as Japan, Great Britain, Europe, the world ex-United States, and the world. The United States looks great. It looks great in the post-financial crisis period and great over the long term, so the United States has truly been exceptional. If we teach using the assumption that the United States represents the world as a whole, we are **NOT** teaching accurately.*” Emphasis added (Page 10 - Siegel and McCaffrey 2023).

To proceed, let’s compare U.S. returns during the post-industrial era to long-term U.S. returns and against the international arena. Exhibit 11 begins the journey by reporting average asset class returns (stocks, bonds, and balanced) over relevant investor time horizons . . . and not over the

aggregate time period (the last 110 years), since doing so would mask any/all-time series and episodic behaviors.

EXHIBIT 11

Average Returns - Post-Industrial U.S. vs Since-1914 U.S. and International

Portfolio	Region and time period	Investment time periods (in years)					
		1	5	10	15	20	25
Stocks	U.S. post-industrial	9.01	7.97	7.85	7.80	7.77	7.74
	U.S. since 1914	9.08	7.39	7.17	7.11	7.08	7.06
	International since 1914	7.34	5.94	5.76	5.71	5.68	5.66
Investment Grade Bonds	U.S. post-industrial	2.53	2.31	2.28	2.27	2.26	2.25
	U.S. since 1914	2.37	2.14	2.09	2.07	2.06	2.05
	International since 1914	2.73	2.15	2.05	2.00	1.96	1.94
60/40 Portfolio	U.S. post-industrial	6.03	5.63	5.59	5.57	5.56	5.55
	U.S. since 1914	5.93	5.29	5.22	5.19	5.18	5.17
	International since 1914	5.12	4.37	4.27	4.24	4.21	4.20

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023

"Since-1914" spans the time period Aug 31, 1914 through May 31, 2023

All statistics are based on monthly inflation-adjusted total returns

This exhibit provides average returns⁶ for the identified investment time horizons, varying from as short as 1-year to as long as 25-years. And as stated earlier, all returns are inflation-adjusted. The "Post-Industrial" era is defined as Jun 30, 1949 through the present. This selection is an attempt to identify the beginning of America's consumer society, businesses to support such, and the development of the U.S. middle class (it didn't exist prior to this era).

To make sense of Exhibit 11, let's focus in on just a few columns. First consider the returns to stocks (the green shaded area). Consider the last column identifying average results for 25-year investment periods. Post-industrial, U.S. returns came in at 7.74%. But if we go back to 1914, annual returns fall by -68bps. And if we shift to international, returns fall by an even greater - 208bps. If the U.S. experience is non-representative and non-repeatable, then these differences are telling. Sure, post-industrial, U.S. stock returns beat everything else, and by a significant margin.

⁶ Data starts in 1914 because data quality and availability decline rapidly prior to this date. International stocks are defined as an equal-weighted blend of Australia, Canada, Denmark, France, Germany, India, Ireland, Italy, Japan, Netherlands, New Zealand, South Africa, Spain, Sweden, and the UK. International bonds are defined as non-U.S. treasury bonds. U.S. bonds are defined as 50% U.S. Treasury bonds and 50% investment grade U.S. corporate bonds. U.S. stocks are defined as 50% S&P 500 and 50% Dow Jones Industrials. All returns are monthly total returns and were provided by Global Financial Data, Inc. The "60/40 Portfolio" is allocated 10% to commodities (defined as 50% ultra-diversified commodities, 40% gold, 10% silver) and 90% to a 60/40 stock/bond mix (stocks are a 50/50 blend of U.S. and international, as are bonds).

Recall that the premise of this article is that these superior returns were the result of past American Exceptionalism . . . which has rapidly declined (in a relative comparative sense versus America's key forward-looking competitors).

The yellow area shows bond returns. Consider the results for 15-year investment holding periods. Post-industrial, U.S. bonds came in at 2.27%. But if we take U.S. returns back to 1914, they fall by -20bps. Similarly, international returns fall even further, by -27bps.

Finally, the green area shows the results for balanced 60/40 portfolios. For this mixed blend, let's consider an intermediate investment time period, i.e., 20-years. Post-industrial the U.S. came in at 5.56%. But going back to 1914, U.S. returns fall by -38bps. And shifting to international, returns fall by -135bps. Clearly, a focus on post-industrial U.S. stock, bond, and balanced returns constitutes ex-post cherry picking both with respect to timeframe and geography . . . serving to exaggerate return expectations. But let's next shift to risk, and see if the same relationship holds true. Exhibit 12 provides the results.

EXHIBIT 12

Annualized Standard Deviations - Post-Industrial U.S. vs Since-1914 U.S. and International

Portfolio	Region and time period	Investment time periods (in years)					
		1	5	10	15	20	25
Stocks	U.S. post-industrial	16.49	7.59	5.72	4.74	3.83	2.90
	U.S. since 1914	20.95	8.72	5.38	4.05	2.98	2.20
	International since 1914	19.30	8.22	5.37	4.34	3.44	2.93
Investment Grade Bonds	U.S. post-industrial	7.88	4.18	3.20	2.78	2.45	2.19
	U.S. since 1914	8.43	4.76	3.73	3.13	2.56	2.11
	International since 1914	13.39	7.46	5.86	5.06	4.20	3.49
60/40 Portfolio	U.S. post-industrial	10.02	4.25	3.08	2.55	2.03	1.55
	U.S. since 1914	12.81	5.24	3.36	2.57	1.89	1.43
	International since 1914	14.43	6.60	4.66	3.90	3.17	2.68

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023

"Since-1914" spans the time period Aug 31, 1914 through May 31, 2023

All statistics are based on monthly inflation-adjusted total returns

As with Exhibit 11, let's focus in on only a small segment of Exhibit 12 results. For stocks, consider the far-right column, i.e., the results for 25-year investment time horizons. Recognizing the all-important time series properties of asset class returns (i.e., they are not iid, nor do they follow a random walk), the statistics shown are the standard deviation for the annualized returns during the time periods indicated at the top of this exhibit. For example, the far right-hand-column shows the standard deviation for the annual compound return during all possible 25-year periods. As such, it's expected that the standard deviation falls radically as one progresses from 1-year to 25-year investment holding periods, i.e., time diversification does in fact work. Returning to the 25-year results, post-industrial U.S. standard deviations (volatility) came in at 2.90%. If we consider results

since 1914, U.S. volatility fell by -70bps. However, international volatility came it at a higher level, i.e., +3bps.

Bonds were more problematic. Considering 15-year investment time horizons, post-industrial U.S. volatility came in at 2.78%. But going back to 1914, U.S. bond volatility increased by +35bps. And shifting to international, risk increased by 228bps. Finally, consider the 60/40 balanced portfolios. As before, focus in on 20-year investment time horizons. Post-industrial, the average U.S. experience generated a volatility level of 2.03%. Going back to 1914 reduced this number by -14bps. But shifting to international, increased it by +114bps.

In summary, ex-post cherry picking of both timeframe and geography serves to mislead advisors and clients . . . biasing returns upwards and risks downwards. But let's next focus on absolute results (after inflation) for the relevant investment time periods. This is the most genuine approach, because it's grounded within investor real world objectives. Exhibit 13 provides the results.

EXHIBIT 13

Probability of Reaching Goal - Post-Industrial U.S. vs Since-1914 U.S. and International

Portfolio	Region and time period	Investment time periods (in years)					
		1	5	10	15	20	25
Stocks (earn at least 3% above inflation)	U.S. post-industrial	66.9	71.4	79.0	79.8	88.4	96.3
	U.S. since 1914	63.2	67.7	76.9	82.8	89.4	97.5
	International since 1914	59.2	68.0	71.0	76.9	81.5	80.8
Investment Grade Bonds (earn at least 0.5% above inflation)	U.S. post-industrial	62.7	64.9	65.8	66.6	66.6	69.2
	U.S. since 1914	64.2	62.6	62.6	64.1	61.7	67.4
	International since 1914	58.3	60.0	65.5	64.9	63.6	64.8
60/40 Portfolio (earn at least 2% above inflation)	U.S. post-industrial	68.4	78.1	83.3	88.7	92.4	98.5
	U.S. since 1914	65.0	71.3	79.8	89.9	94.6	99.0
	International since 1914	59.2	67.4	71.2	71.3	78.3	84.0

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023

"Since-1914" spans the time period Aug 31, 1914 through May 31, 2023

All statistics are based on monthly inflation-adjusted total returns

Exhibit 13 requires that we assume an explicit objective for the investor. Doing so is arbitrary, but as such, no less useful. For stocks, we assume that investors require **at least** 3% per annum. For bonds, **at least** an annualized 0.5%. And for the balanced (60/40) portfolios, **at least** 2%. Exhibit 13 reports the historical probabilities of achieving these objectives, given the investment time periods shown at the top of the exhibit.

For stocks (the green) focus in on the 25-year results. Post-industrial, U.S. stocks delivered a 96.3% chance of success (i.e., earning at least 3%). Going back to 1914, raised the likelihood of success to 97.5%. But, moving to international, reduced the probability of success by -15.5% . . . that difference is a pretty big deal.

Bonds are shown in the yellow. Concentrating on 15-year results, post-industrial U.S. bonds delivered a 66.6% chance of success (i.e., earning at least 0.5%). If we take returns back to 1914, the U.S. probability of success falls by -2.5%. Finally, shifting to the international, the probability of success falls by -1.7%.

Balanced portfolio results are shown in blue. Herein, concentrate on the 20-year results. Post-industrial U.S. results have a 92.4% likelihood of success (i.e., earning at least 2%). Going back to 1914 (for the U.S.) increases this by +2.2%. But unfortunately, if we move overseas, the probability of success, falls by -14.1% . . . a shocking differential.

Clearly, basing one’s forward-looking CMAs on post-industrial U.S. stock and bond returns is misleading, non-representative, nonrepeatable . . . and a disservice to the end-client (a fiduciary concern). So, what’s the solution . . . or at least, one possible solution.

5. PROPOSED SOLUTION

To identify a solution, we must correct three existing bad habits. First, avoid selecting an unusually advantageous time period. Second, avoid restricting one’s view to U.S. asset categories (i.e., future U.S. returns are not and cannot be higher than other nations, making such an assumption requires that global capital markets are inherently inefficient and irrational . . . not a plausible assumption). Third, adopt an investment time horizon that matches the client’s spending (gifting) needs/objectives . . . this is mission-critical considering the potent time series properties of asset class returns.

Correcting all three of these “*existing bad habits*” is a high bar. The solution probably depends on the specifics of a particular application. But with that qualification out of the way, let me suggest an initial step in the right direction. First, go as far back in history as “*quality data*” allows . . . perhaps back to 1914 (this provides for the inclusion of two world wars and two depressions). Second, assume a 50/50 blend of U.S. and non-U.S. Third, adopt an investment time horizon that matches your client’s specific needs. Exhibit 14 provides the results.

EXHIBIT 14

Average Returns - Post-Industrial U.S. vs Since-1914 Global

Portfolio	Region and time period	Investment time periods (in years)					
		1	5	10	15	20	25
Stocks	U.S. post-industrial	9.01	7.97	7.85	7.80	7.77	7.74
	Global since 1914	8.17	6.93	6.77	6.73	6.71	6.69
Investment Grade Bonds	U.S. post-industrial	2.53	2.31	2.28	2.27	2.26	2.25
	Global since 1914	2.51	2.23	2.16	2.13	2.11	2.09
60/40 Portfolio	U.S. post-industrial	6.03	5.63	5.59	5.57	5.56	5.55
	Global since 1914	5.50	4.94	4.86	4.84	4.82	4.81

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023

"Since-1914" spans the time period Aug 31, 1914 through May 31, 2023

All statistics are based on monthly inflation-adjusted total returns

Exhibit 14 compares the “*most frequently used*” returns by U.S.-based retail-advisors and institutional-consultants (labeled as the “*U.S. post-industrial*” era) to the long-term experience for a global portfolio (a 50/50 blend going back to 1914). The gaps between U.S. post-industrial and long-term global are somewhat frightening . . . but then that’s the point of this article, in part.

Consider stocks (the green shaded area) during 15-year investment time horizons. Long-term global stocks returned -107bps less than short-term U.S. returns. As Dimson observed, real annualized returns for equities 1900-2022 were 4.3% World-ex-U.S., 5.0% for the World⁷, and 6.4% for the U.S. alone. And from a risk standpoint, only five nations had lower standard deviations than the U.S., i.e., the U.S. was highly non-representative (Page 15 - Dimson et al 2023). Or as stated by Roger Ibbotson (Page 11 - Siegel and McCaffrey 2023) “*I will admit that there’s a selection bias with my data because I was looking at the United States. It’s obviously been one of the best performers over the period and may not be representative of the future of other places around the world, or even the United States, of course. It is one of the stronger performers, no question about it.*”

For bonds (the yellow), consider 5-year investment time horizons, for which long-term global bonds returned -8bps less than short-term U.S. bonds. Finally, consider 10-year investment time horizon 60/40 portfolios (the blue), for which long-term global portfolios returned -73bps less than short-term U.S.-only solutions.

Understand that Exhibit 14 says nothing about how one should invest a specific client’s account at a given point in time, i.e., the extent to which they venture outside their home country. Instead, this exhibit is about adopting a more realistic and accurate basis for forward-looking planning. In other words, is such planning based on something that is non-representable and non-repeatable . . . or is it based on a more balanced and durable set of assumptions.

Sure, American Exceptionalism dominated over the “*last 74 years.*” But that in and of itself, is nothing exceptional or outstanding. One country or another has always dominated throughout history. The U.S. just happened to be in the right place at the right time (just like India, China, Portugal, Spain, Netherlands, France, and the United Kingdom, did before) over the last 74 years. But this too will pass, just as it’s always done. So, what’s to be done? For planning, just embrace all-things “*global.*” But, let’s next examine the risk data, both short-term U.S. and long-term global. Potentially, this risk attribute is more important than many appreciate. Exhibit 15 provides the results.

⁷ Dimson et al examined 23 nations during the time period 1900 through 2022, inclusive.

EXHIBIT 15

Annualized Standard Deviations - Post-Industrial U.S. vs Since-1914 Global

Portfolio	Region and time period	Investment time periods (in years)					
		1	5	10	15	20	25
Stocks	U.S. post-industrial	16.49	7.59	5.72	4.74	3.83	2.90
	Global since 1914	17.96	7.44	4.53	3.51	2.57	1.96
Investment Grade Bonds	U.S. post-industrial	7.88	4.18	3.20	2.78	2.45	2.19
	Global since 1914	9.76	5.88	4.71	4.03	3.33	2.76
60/40 Portfolio	U.S. post-industrial	10.02	4.25	3.08	2.55	2.03	1.55
	Global since 1914	12.27	5.38	3.62	2.94	2.26	1.81

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023

"Since-1914" spans the time period Aug 31, 1914 through May 31, 2023

All statistics are based on monthly inflation-adjusted total returns

Not surprisingly, by restricting oneself to short-term U.S. returns (the post-industrial era) instead of long-term global returns (since 1914) . . . one underestimates forward-looking risk. Time period and geography matter. And to assume that American exceptionalism will continue into the future may be aspirational, unfortunately, it is also inconsistent with long-term history.

Let's end this comparison by examining the best possible measure of success or failure, i.e., a client's specific investment objective. Such an objective is defined by a specific number of years (the investment time period) and a specific real (inflation-adjusted) return (the minimum required return). Exhibit 16 provides the results.

EXHIBIT 16

Probability of Reaching Goal - Post-Industrial U.S. vs Since-1914 Global

Portfolio	Region and time period	Investment time periods (in years)					
		1	5	10	15	20	25
Stocks (earn at least 3% above inflation)	U.S. post-industrial	66.9	71.4	79.0	79.8	88.4	96.3
	Global since 1914	63.4	67.8	77.6	83.3	92.0	95.6
Investment Grade Bonds (earn at least 0.5% above inflation)	U.S. post-industrial	62.7	64.9	65.8	66.6	66.6	69.2
	Global since 1914	62.2	62.2	64.5	63.7	62.1	66.5
60/40 Portfolio (earn at least 2% above inflation)	U.S. post-industrial	68.4	78.1	83.3	88.7	92.4	98.5
	Global since 1914	64.4	73.6	77.7	82.5	89.9	94.5

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023

"Since-1914" spans the time period Aug 31, 1914 through May 31, 2023

All statistics are based on monthly inflation-adjusted total returns

Consider stocks, the green shaded area. If the client's investment period is 25 years and they must earn at least 3% real return, then mis-characterization by relying upon post-industrial U.S. returns probably misstates the likelihood of success by 0.7%.

In a similar vein consider bonds (the yellow) assuming a 15-year investment period and a minimum required return of 0.5%. Mis-specification likely distorts the likelihood of success by 2.9%. Finally, look at the balanced 60/40 portfolio (the blue) and assume a 20-year investment time horizon and a 2% minimum required return. Mis-characterization potentially misstates the probability of success by 2.5%.

But is this an important issue? The Exhibit 16 probability of success results may feel small, but they mask the harm done in real world situations. The next section addresses this issue and makes it real.

6. IS THIS AN IMPORTANT ISSUE?

To identify the impact of assuming post-industrial era U.S. returns (non-representative and non-repeatable) instead of long-term global returns (representative and repeatable), we examine three different investor realities.

College Savings. \$1,000 is deposited once each month for 213 months. Immediately thereafter, a fixed-dollar amount is withdrawn (to pay for college) once each month for 45 months. The previously described 60/40 balanced portfolio is utilized. All numbers are inflation-adjusted. The investor's objective is to maximize the monthly withdrawal, while still satisfying the stated probability of success requirement.

Retirement Spending. The investor begins retirement with \$1 million. At which point, they withdraw a fixed-dollar amount once each month for 360 months. The previously described 60/40 balanced portfolio is utilized. All numbers are inflation-adjusted. The investor's objective is to maximize the monthly withdrawal, while still satisfying the stated probability of success requirement.

Pension Savings. The employee is saving for retirement. They deposit \$1,000 into their defined contribution pension plan once each month for 480 months. The previously described 60/40 balanced portfolio is utilized. All numbers are inflation-adjusted. The investor's objective is to maximize the size of their portfolio at the end of 480 months, while still satisfying the stated probability of success requirement.

Exhibit 17 provides the results.

EXHIBIT 17

Consequences of Ex-Post Cherry Picking - Three Practical Examples

Case	Cashflow description	Investor's goal	Probability of success	Time period and geography selected as basis	
				Post-Industrial U.S. returns	Since-1914 Global returns
College Savings Plan (529 Plan)	Deposit \$1,000 per month for 213 months. Immediately thereafter, withdraw a fixed-dollar amount (inflation-adjusted) each month for 45 months.	Maximize the fixed-dollar amount that can be withdrawn each month during the 45-month withdrawal period (while still meeting the probability of success requirement)	99%	\$4,917	\$3,632
			96%	\$5,142	\$4,409
			80%	\$7,270	\$6,220
			75%	\$7,890	\$6,547
Retirement (withdrawal and spending years)	Start retirement with \$1 million of savings. Immediately thereafter, withdraw a fixed-dollar amount (inflation-adjusted) each month for 360 months.	Maximize the fixed-dollar amount that can be withdrawn each month during the 360-month withdrawal period (while still meeting the probability of success requirement)	99%	\$3,546	\$3,049
			96%	\$3,739	\$3,417
			95%	\$3,779	\$3,455
			90%	\$4,034	\$3,606
Defined Contribution Plan (saving years)	Deposit \$1,000 each month for 480 months. Same time, same place.	Maximize the dollar amount that one ends up with at the end of the 480-month contribution and investment period (while still meeting the probability of success requirement)	99%	\$867,065	\$631,291
			97%	\$986,251	\$744,183
			75%	\$1,462,889	\$1,103,681
			70%	\$1,562,058	\$1,165,416

"Post-Industrial" spans the time period Jun 30, 1949 through May 31, 2023. "Since-1914" spans the time period Aug 31, 1914 through May 31, 2023.

All statistics are based on monthly inflation-adjusted total returns. It is assumed that all deposits and withdrawals are inflation-adjusted. The 60/40 portfolio (previously described) is used in all cases.

Let's explore each of these in turn, starting with the College Savings Plan. The "*Probability of success*" column shows four different percentile levels, ranging from 75% to 99%. The \$Dollar figures directly to the right of these percentiles show the amount (inflation-adjusted) that can be withdrawn each month without running out of money during the 45-month withdrawal period (the paying for college period). For example, based on global 60/40 returns since 1914, there is a 99% chance that one can withdraw/spend \$3,632 per month (inflation-adjusted) for 45 months, without running out of money.

The results are startling. Focus in on the 96% "*Probability of success*". Using long-term global returns, one could safely withdraw \$4,409 monthly. This compares to \$5,142 based on short-term (post-industrial era) U.S. returns. These results suggest that a reliance on recent U.S. returns may overstate the investor's expected results by 16.6%.

Let's next turn to the retirement example (shaded yellow). Consider the results for a 96% "*Probability of success*." Based on post-industrial U.S. returns, the retiree can withdraw \$3,739 each month. In contrast, using long-term global returns generates a reduced monthly withdrawal of \$3,417. These results suggest that reliance on recent U.S. returns likely overstates the retiree's actual forward-thinking experience by 9.4%.

Finally, consider the saving for retirement case (shaded blue). At the 97% "*Probability of success*" level, use of post-industrial U.S. returns results in an account balance of \$986,251 at the end of the 480-month employment period. In contrast, application of long-term global returns delivers a lesser \$744,183. Potentially, reliance on U.S. returns exaggerates the expected retirement saver outcome by 32.5%.

This is a serious issue. How could any financial advisor or institutional consultant provide forward-looking advice . . . if they're basing their analysis on non-representative and non-repeatable history. Sure, the U.S. was exceptional during the post-industrial era, as were a dozen other nations

beforehand. But the relative advantages that the U.S. commanded since the end of WWII are no more. So why would anyone expected that exceptional past U.S. returns/risks will continue into the future? Especially after the precedent setting monetary and fiscal stimulus executed by the U.S. federal government over the last 23+ years (since the beginning of the great tech wreck). Keep in mind that all nations in similar top-dog positions (i.e., their currencies were the global reserve currency) followed similar precedent-setting stimulative and beggar thy neighbor efforts . . . and subsequently lost their top-dog status. So, what's the push back to this line of reasoning?

7. WHAT'S OUR INDUSTRY'S PUSHBACK

Our industry's response to this challenge is the claim that their CMAs are forward-looking and therefore escape the trap of relying on past U.S. returns drawn exclusively/predominantly from the post-industrial era. But this response is suspect. The payoff for the most brand-focused and reputation-driven investment management organizations favors hugging historical averages instead of seeking seriously forward-looking CMAs. This is the argument made by Brown (Brown 2023c).

There are exceptions to this historical average-hugging behavior. Examples might be found with the more daring, yet quantitative and deeply grounded in inherent economic and capital market relationships. Examples might be found with GMO, Research Affiliates, and Hussman (GMO 2023, Hussman 2023).

8. CONCLUSIONS

This article's about how best to construct forward-looking CMAs, those that're used for planning purposes, whether for retail or institutional application. The U.S. economy experienced unqualified "*exceptionalism*" during the post-industrial era (essentially since mid-1949). This exceptional economic success translated into profoundly superior capital market returns for both stocks and bonds. Returns were higher and risks were lower than for other geographies and for alternate time periods.

Unfortunately, there is nothing unique, unusual, or durable about American Exceptionalism. Throughout history, there's always been a nation that grew "*exceptionally*," eventually becoming top-dog. Looking back over the last several hundred years, India, China, France, Portugal, Spain, Netherlands, France, United Kingdom, and the U.S. have traded places as the preeminent economic power. These changes were due to transitory opportunities, risks, superior/inferior structures, old age, and the types of resources required by the world's then-current level of economic "*technology*." Nothing remains constant, nor does national dominance and superiority. For Americans (and I'm one of them), this hurts. But as they say "*denial is not a river in the Nile*."

Moreover, the data suggests that the many factors that drove U.S. exceptionalism in the past are all in current decline. Such drivers of exceptionalism are all about relatives, i.e., how does the U.S. stack up against its key competitors. Such relative comparisons suggest that (1) the level of democracy, (2) military power, (3) life expectancy, (4) population, (5) GDP, and (6) standard of living all peaked (relative to the rest of the world) between 1945 and 2009 . . . and are now in profound decline.

This relative trend appears to be reflected in absolute growth rates. As reported in Exhibit 8, U.S. growth rates for GDP, population, and standard of living are declining rapidly and consistently. Finally, the historic relationship reported in Exhibit 9 supports the argument that U.S. policy makers

have struck a Faustian bargain . . . one that trades slower economic growth and general aggregate prosperity in exchange for reduced volatility (attempting to mitigate push-back from the less well off). Such a tradeoff has been seen throughout history and is not in the least unusual or unexpected . . . it's normal and organic.

The conclusion drawn from these observations is that forward-looking CMAs should not be based on the unlikely continued dominance of the U.S. over the rest of the world. Especially, since the drivers previously driving American exceptionalism appear to be in irreversible remission.

The proposed solution is to start with historical returns. But in doing so, to remain geographically neutral and unbiased (strictly so). And with respect to time period, utilize data as far back as quality-data allows, e.g., back to 1914 . . . thus enabling the inclusion of an additional global war and a second economic depression. But such historicals are only the starting point and should be overlaid with as forward-looking a perspective as remains prudent (preserving humility at all times).

Finally, nothing herein is intended to suggest or recommend how a client's portfolio should be invested at this instant in time. That's a different issue. But setting and utilizing forward-looking CMAs is an important issue, and myopic reliance on what others do, or staying offensively insular, relying instead on what feels familiar and comfortable . . . well that's just a violation of fiduciary duty.

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