THE WEALTH OF NATIONS

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Summary and Major Conclusions:

More than anything, the Founding Fathers feared the overreach of government in society, and were determined to protect individuals from the confiscatory powers of the state. The US Constitution provided for limited government and comprehensive protection of individual rights. It also established that the new nation would be a unified common market, with no internal tariffs or taxes on interstate commerce. A Constitutional guarantee of property rights, the sanctity of contracts, patent protection, and the rule of law encouraged risk-taking and entrepreneurial behavior.

- How was the US transformed from a small colony of settlers in the 17th century to the mightiest economy the world has ever known? How did the US surpass the UK, Germany, and France by 1915 as the leading world economic power? This week's report provides some basic conclusions on the subject.

- Some economists would point to land mass, natural resources, and immigration as the critical factors. While these are all relevant, the answer, in my judgment, comes down to factors that are far less tangible: The political and economic systems within a nation.

- Britain and America were the first countries to embrace the notion that economies perform best when free market forces are allowed to drive economic decision-making. By contrast, European governments believed that mercantilism was the optimal economic system to maximize wealth.

- Under mercantilism, the central government controls economic activity, while imposing protective tariffs to achieve a trade surplus. Under mercantilism, European economies stagnated from the 16th to the 18th centuries.

- In his pioneering 1776 book entitled *The Wealth of Nations*, Adam Smith explained the power of free markets to regulate themselves by means of competition, supply and demand, and the profit motive, all of which resulted in superior products and services at the lowest possible price.

- Based upon the teachings of Smith, the 19th century witnessed an economic renaissance unlike anything ever seen and led by the US, which was considered an emerging market economy in 1800. The greatest period of economic progress occurred during the years between the Civil War and World War I.

- From 1870 to 1910, America's share of global manufacturing surged from 23.3% to 35.3%, while Britain's share declined from 31.8% to 14.7%. By 1880, the US accounted for roughly 40% of the world's trade in grain and 75% of trade in meat. By 1910, income per capita in the US exceeded that of Britain by more than 25%.

- The roots of America's economic success can be attributed to government and economic policy. The economic failure of many Latin American, Asian, and African countries can best be attributed to ineffective and dysfunctional governance.

- The US Constitution provided for limited government and comprehensive protection of individual rights. More than anything, the Founding Fathers feared the overreach of government in society, and were determined to protect individuals from the confiscatory powers of the state.

- The Constitution also established that the new nation would be a unified common market, with no internal tariffs or taxes on interstate commerce. A constitutional guarantee of property rights, the sanctity of contracts, patent protection, and the rule of law encouraged risk-taking and entrepreneurial behavior.

- The primary economic engine driving wealth creation and rising living standards is labor productivity. Through steady increases in output per hour, workers become more efficient, resulting in steady declines in production costs and selling prices, thereby raising a society's purchasing power.

- Productivity growth in the US in the 19th century exceeded that of all other countries by a wide margin. The primary driver of productivity advances is technological innovation. The period from 1870 to 1900 was the golden age of technology, led by the US.

- The process by which innovation results in a more productive economy is referred to as creative destruction. This process involves displacement of traditional productive assets and their workers with new superior technologies and new workers. As new products and processes are invented, old products disappear.

- Because of its culture, political philosophy, and well-entrenched pro-business attitude during the 19th century, the US was able to accommodate creative destruction to a far greater extent than all other countries.

- Technological innovation is the lifeblood of economic progress and rising living standards, and the US was at the forefront. Between 1860 and 1890, the US Patent Office issued 500,000 new patents, far more than any other country, and a major reason behind America's comparative advantage in so many industries.

- There were numerous examples of creative destruction, which dominated the second half of the 19th century. Arguably the most revolutionary of these was the railroad, which connected the sprawling countryside commercially like never before.

- The economic significance of the railroad cannot be overstated. The railroad was the key driver of mass production and mass consumption, enhanced utilization of natural resources, and the creation of a national market from coast to coast.

- The railroad facilitated an economic boom in the US. By 1860, the US had more miles of railroad than the UK, France, and the German states *combined*. By 1917, more than 35% of the world's railway mileage was located in the US.

- There were other notable inventions during the second half of the 19th century, including a revolutionary process for producing steel; electricity; the telegraph; the internal combustion engine; and the discovery of crude oil, leading to US world leadership in petroleum markets that persisted until the 1960s.

- The patents on many of these revolutionary technologies were issued in Europe, rather than in the US. However, America's genius lay in three areas: Making innovations more user-friendly; commercializing these innovations; and developing management techniques for running these companies successfully.

- One can point to other explanatory factors for America's economic ascendency, including a sprawling land mass; an abundance of natural resources; inheritance of Britain's best institutions and traditions; immigration; and the independence and entrepreneurial qualities of its early settlers.

Adam Smith is considered the father of modern economics. In 1776 he wrote *The Wealth of Nations*, arguably one of the most influential books of the past several centuries. *In this book, Smith asks why some countries have achieved higher living standards than others*. Is it because of a stronger work ethic in those countries? There are many countries throughout the world in which people spend their entire lives working. Is it because of an abundance of land or natural resources? Russia and Brazil were endowed with large land masses and seemingly limitless supplies of natural resources, but remain developing countries. Rather, *the answer appears to involve crucial factors that are far less tangible: The political and economic systems within a nation*.

Central Theme: The central theme of this week's *Economic Perspective* involves the answer to the following question: *How was the United States transformed from a small colony of settlers in the 17th century to the mightiest economy the world has ever known*? How did the US surpass the UK, Germany, and France by 1915 as the leading world economic power? What are the primary explanatory factors? This week's report offers some basic conclusions in addressing this critical question.

Note to Readers: I am greatly indebted to Alan Greenspan and Adrian Wooldridge, whose excellent 2018 book entitled *Capitalism in America* provided an abundance of information and data in support of my research on this topic.

MERCANTILISM VERSUS CAPITALISM

Mercantilism: *Britain and America were the first countries to embrace the notion that economies perform best when government intervention is limited and free market forces are allowed to determine economic decision-making*. By contrast, European governments believed that mercantilism was the optimal economic system to achieve world supremacy.

- **Trade Surplus**: Under mercantilism, the central government dictates and controls economic activity with the single purpose of ensuring that exports exceed imports, thereby resulting in trade surpluses. Most countries implemented ***protective tariffs*** to ensure that imports did not exceed exports.

- **Zero-Sum Game**: The endgame of this positive trade balance was an accumulation of ***gold***, which was believed at the time to be the ultimate measure of a country's wealth. This uninformed mindset — which assumed that both economic output and wealth were finite and that trade was a zero-sum game — dominated economic thinking during the 16th to 18th centuries. *During this period, economic growth throughout Europe was non-existent*.

Adam Smith: Smith argued against mercantilism, positing instead that free trade in particular and a free market economy in general optimized income, wealth, and living standards. He believed that in a free market economy, it is in the best interests of individual businesses to produce the goods and services that are in greatest demand in a society. It is also in the best interest of firms to adopt the most efficient production methods. In short, he believed that resources were allocated most efficiently in a free market economy.

- **Free Markets**: Smith believed in the tendency of free markets to regulate themselves by means of competition, supply and demand, and the profit motive, all of which resulted in superior products and services at the lowest possible price. *He believed that a free market economy is dynamic and promotes growth and prosperity, as opposed to the view of a stagnant, zero-sum-game economy under mercantilism*. Smith concluded that all countries can raise their living standards by specializing in those goods in which they hold a ***comparative advantage***, while importing other goods.

HISTORICAL CONTEXT

Benefitting under Smith's revolutionary doctrines, the 19th century witnessed an economic renaissance unlike anything ever seen, led by the US, which was considered an emerging market economy in 1800. The American economy expanded at a rapid pace during the first half of the century. However, the greatest period of economic progress occurred during the years between the Civil War and World War I. In the words of Greenspan and Wooldridge in their 2018 book, *Capitalism in America*, "America changed more in these years than it did in any other period."

Market Share: From 1870 to 1910, America's share of ***global manufacturing*** surged from 23.3% to **35.3%** — while Britain's share ***declined*** from 31.8% to 14.7%. *By 1910, income per capita in the US exceeded that of Britain by more than 25%*. America jumped to world economic domination in nearly all metrics. By 1880, the US accounted for roughly **40%** of the world's trade in grain and **75%** of world trade in meat.

- **Living Standards**: Although the US enjoys less dominance today, it still accounts for nearly 25% of world GDP, with only 5% of the world's population and 6% of the world's land. Its *per capita income* is the highest in the world, trailing only very small economies such as Liechtenstein, Luxembourg, Qatar, Norway, and Switzerland. *US GDP per capita exceeds those of both Germany and the UK by more than 30% and that of Japan by more than 50%*.

KEY EXPLANATORY FACTORS

What explains America's meteoric climb to greatness? For some unexplained reason, this question is asked only infrequently*; and when asked, economists invariably give differing reasons to explain this phenomenon*. The following sections provide an analysis of the primary factors that explain America's rise to economic greatness.

POLITICAL AND ECONOMIC SYSTEMS

The roots of America's economic success can be attributed to government and economic policy. Similarly, the economic success of Canada, Germany, and the UK can be best understood in the political and economic systems within which these economies operate. The economic failure of many Latin American, Asian, and African countries over many centuries can be attributed to ineffective and dysfunctional government philosophy and structure. Russia, North Korea, Venezuela, Iran, and Cuba are extreme examples of poor governance, wherein the factors of production are under total control of the central government, rather than private individuals.

The US Constitution: More than anything, the Founding Fathers feared the overreach of government in society, and were determined to protect individuals from the confiscatory powers of the state. The US Constitution provided for limited government and comprehensive *protection of individual rights*, along with protection from government infringement on the lives of its citizens.

- **Unified Common Market**: *It also established that the new nation would be a unified common market, with no internal tariffs or taxes on interstate commerce*. *A constitutional guarantee of property rights, the sanctity of contracts, patent protection, and the rule of law encouraged risk-taking and entrepreneurial behavior*.

- **Patent Protection**: Patent protection was built into the Constitution through Article I, Section 8, to allow inventers to reap the benefits of their creativity and labors. *The key point is that these political and individual freedoms encouraged a culture of entrepreneurship and scientific research*, whereby enterprising citizens need not fear that their profits would be confiscated by the government or other individuals.

- **Comparative Advantage**: Technological innovation is the lifeblood of economic progress and rising living standards, and America was at the forefront of this trend. *Between 1860 and 1890, the US Patent Office issued 500,000 new patents — far more than any other country* — and a major reason behind America's comparative advantage in so many industries.

TECHNOLOGICAL INNOVATION

The primary economic engine driving wealth creation and rising living standards is ***labor productivity***, defined as output per hour. Through steady increases in output per hour, workers become more efficient, resulting in declining production costs. In a competitive market economy, lower production costs are passed along to consumers in the form of lower prices, thereby expanding ***purchasing power*** in a society. <u>*Productivity growth in the US during the 19th century exceeded that of all other countries by a wide margin*</u>.

New Technologies: The primary driver of productivity advances is technological innovation. In particular, advances in machinery and capital equipment provide workers with better tools to achieve higher levels of output with less input. The period from 1870 to 1900 was arguably the golden age of technology, led by the US. <u>*Unlike any other country at the time, the US possessed the crucial ingredients — the economic and political institutions, culture, and people — needed to capitalize most effectively on the massive and widespread technical innovation of the time*</u>.

Creative Destruction: The process by which innovation translates into a more efficient and productive economy is referred to as creative destruction, a term coined by the economist Joseph Schumpeter. <u>*This process involves displacement of traditional productive assets and their workers with newer superior disruptive technologies and new workers*</u>. It is the hallmark of a dynamic economy.

- **Uniquely American**: <u>*Because of its culture, government philosophy, and well-entrenched pro-business attitude in the 19th century, the US was able to accommodate creative destruction to a far greater extent than other countries*</u>. A good example in recent decades is the substitution of digital photography for the old silver halide chemical film process — a superior and far less costly form of picture-taking.

- **The Bessemer Process**: The pinnacle of creative destruction was the period between the Civil War and World War I, and was dominated by the US. One of the best examples of creative destruction during this period was Henry Bessemer's novel technology for the production of steel. Between 1867 and 1900, the unit cost and wholesale price of steel plunged by nearly **85%**. <u>*By 1880, the US became the world leader in the production of steel*</u>.

The Railroad: Of course, there were numerous examples of creative destruction, which dominated the second half of the nineteenth century. Arguably <u>*the most revolutionary*</u> of these was the railroad, which connected the sprawling countryside commercially as never before. ***The economic significance of the railroad cannot be overstated***. <u>*The railroad was the key driver of mass production and mass consumption, the optimal utilization of natural resources, and the creation of a national market from coast to coast*</u>.

- **World Dominance**: The superiority of the US railway system gave the young country a massive _competitive advantage_ versus Europe. Between 1860 and 1890, the cost of shipping product in the US plunged by more than **95%**. In the words of the authors, "railways were the greatest prosperity-producing machines of the age." _By 1860, the US had more miles of railroad than the UK, France, and the German states **combined**_. By 1917, more than **35%** of the world's railway mileage was located in the US.

Electricity and the Motor Car: There were other monumental inventions during the second half of the 19th century, including electricity; the telegraph and telephone; the internal combustion engine; and the discovery of crude oil and emergence of a world-class petroleum industry. ***The US dominated the world oil market for more than a century***, beginning with Edwin Drake's oil discovery around 1860 and lasting until the rise of the Gulf States in the 1960s. _In each of these instances, no country in the world was as successful as the US in commercializing these inventions and integrating them into the fabric of society_.

America's Genius: The patents on many of these revolutionary technologies were issued in Europe, rather than in the US. However, ***America's genius lay in three areas: Making innovations more user-friendly; commercializing these innovations; and developing management techniques for running these companies successfully***. According to Greenspan and Wooldridge in *Capitalism in America*, "America cannot claim the patents on many of these great inventions. But America can claim to have ***democratized*** these general-purpose technologies more successfully than any other country."

OTHER CRITICAL FACTORS

America's political and economic systems — along with technical innovation, organization skills, and an entrepreneurial culture — were the most significant factors explaining its economic success. However, there are other factors that contributed to the rapid rise of the US to become the mightiest economy in the world by 1910. Although I believe that the culture of risk-taking and technological innovation was first and foremost, there were numerous other explanatory factors that contributed to the meteoric rise of the US to world economic supremacy:

- **British Heritage**: The new country benefitted greatly from its strong connection to Britain, a political role model far preferable to Spain, Italy, Portugal, or France. A high percentage of early immigrants came from England. Later, these expatriates returned to England to visit its factories, returning with industrial secrets. America also inherited many of England's best traditions, including limited government, respect for individual rights, and the rule of law. The US stock and commodity markets and patent protection evolved from British models.

- **The Corporation**: The US was founded by business corporations such as the Virginia Company and the Massachusetts Bay Company. Chartered corporations offered the feature of limited liability by treating a business as a legal entity that was separate and distinct from its managers. Chartered companies were crucial to the expansion of the economy by offering inventors, entrepreneurs, and investors legal insulation from their businesses.

- **Original Settlers**: While impossible to prove, one can make a credible argument that the new democracy benefitted from the *unique personal qualities* of its early settlers and later immigrants, in several respects. First, the early settlers were risk-takers and highly motivated to achieve economic success. These settlers made the decision to leave behind all their possessions to seek a better way of life. Second, these people were strong-willed, optimistic, and independent — eager to run their own affairs as they saw fit. It can also be assumed that they brought a strong work ethic to their new country.

- **National Security**: In their pursuit of commercial success, US businessmen and entrepreneurs had the unique benefit of *geographic isolation* derived from the Atlantic and Pacific Oceans. These natural barriers rendered the new country relatively immune from foreign invasion. By 1890, the British army had four times as many soldiers as that of the US while the British navy was larger by a factor of ten. The result: A minimal need to maintain a large and expensive military, meaning that scarce resources could be directed to commerce and capital formation.

- **Land Mass**: Another economic advantage of the emerging economy was a large land mass. *At six people per square mile in 1800, the US enjoyed the lowest population density in the world*. One of the reasons for the US leadership and dominance in railroads was the abundance of cheap land. It was far easier for American railway companies to expand compared with their counterparts in Europe because the federal government either gave land outright to railroad companies or sold it at a very low price.

- **Natural Resources**: America was endowed with an abundance of natural resources that provided a distinct ***comparative advantage*** versus other countries. The new country had more miles of navigable rivers than the rest of the world combined. It was also rich in coal (West Virginia), metals (Montana), crude oil (Texas), lumber (Pacific Northwest), and fertile agricultural land (the Great Plains).

- **Immigration**: From the first census in 1790 through 1860, the US population increased at a rate four times greater than that of Europe and six times faster than the world population. During the nineteenth century, the US population increased at a 2.5% annual rate, one-third of which was derived from immigration. A large percentage of American entrepreneurial leaders were immigrants or children of immigrants, including Alexander Graham Bell, Nikola Tesla, and Andrew Carnegie.

Pulling it all together, the ascendency of the US economy from a small collection of colonies in 1775 to the mightiest economic power the world had ever known in 1915 can be attributed to several plausible factors. While many economists have different explanations, I believe that the most important factor was the *unique* political and economic systems created by the Founding Fathers, paving the way for an entrepreneurial and inventive society within which technological innovation could thrive.

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