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The Wealth of Nations – A Historical Quantum Shift

Today's piece is the third (and final) part of our trilogy on economic productivity. In previous writings, we discussed the strong tie between real per-capita productivity growth, the historical track record of productivity growth and the subsequent wealth of a nation. We presented detailed evidence showing that global per-capita real productivity growth rates remained very low until the mid-19th century. As a result of this low productivity growth rate, global GDP growth also remained very low until the mid-19th century.

In our previous piece on this issue, we left with the questions –

- From a national and global perspective, what changed in the middle of the 19th century that radically altered productivity growth and, consequently, the *wealth of nations*?
- Are these changes sustainable? Are they uniform?
- Why does productivity matter? Why is it important for a society to be wealthy?

In this final piece on productivity, we seek to answer these three questions. We will then summarize today's work with a conclusion of why real per-capita productivity matters to a society, and what implications this has on fundamental investment decisions.

The Western World Comes of Age

Given the fact that overall real per-capita productivity growth was very anemic prior to the mid-19th century, what changed at that time to raise productivity, and subsequent economic growth and wealth creation? Some might claim the answer to this question is the start of the industrial revolution. This answer is basically correct, but fundamentally what happened to allow the industrial revolution to take place? What societal changes occurred, over a long period of time, which allowed productivity to rise, leading to significant growth in global prosperity?

In his work *The Birth of Plenty*, William Bernstein makes the assertion that there have consistently been four pre-conditions for any society to generate rapid per-capita productivity growth and the subsequent growth of wealth. These four pre-conditions have prevailed in studies of productivity trends in the United States, Europe, Japan and China. None of these areas of the world showed the ability to grow rapidly until all four pre-conditions were met. When these conditions were met at various times in the past, productivity growth escalated in each case. These four pre-conditions are:

1. **The Social Acceptance of the Scientific Method.** According to William Bernstein, *"Economic progress depends on the development and commercialization of ideas. The*

inventive process requires a supportive intellectual framework – an infrastructure of rational thought, if you will, with a reliance on empirical observation and on the mathematical tools that support technological advance. Only in the last 400 years have Western peoples freed themselves from the dead hand of the totalitarian, Aristotelian mind-set. Even today, particularly in parts of Africa, Asia and the Middle East, honest intellectual inquiry places life and property at grave risk from the forces of state and religious tyranny.”

Let's call this the social acceptance of the laws of physics. In other words, it is the acceptance of the theories that we in the western world accept as facts – how the universe works, the natural laws of gravity, etc. This is such a basic concept that we don't debate the existence of these theories today, at all. Instead, we now call them natural laws. Isaac Newton was one of the fathers of these concepts and we now share an understanding that, regardless of governmental structure or religious beliefs, these laws exist in their own right.

2. **The Existence of Public Investment Markets.** Basically, the ability of a capitalist or government entity to raise large amounts of capital through a reasonably efficient mechanism needs to be in existence.
3. **The Existence of Reasonably Efficient Transportation Systems.** These systems need to include not only the ability to move goods from one location to another, but also the ability to move ideas quickly from one location to another. This includes a reasonable road/railroad/barge transportation system, as well as a society's ability to disseminate information reasonably efficiently. The proliferation of the internet is a modern-day example of this type of system.

And, perhaps most importantly....

4. **The Social and Governmental Recognition of the Rights of Property.** Property rights in this sense include the right to own real estate and other equity holdings, including copyrights and patents. Perhaps, most importantly, property specifically includes workers' and investors' earned income. A person needs to be able to keep and save the majority of his or her "excess" productivity; otherwise, the excess productivity will never be created in the first place and the motivation to create that excess productivity will cease to exist. This also includes the return on investment that risk-takers earn by making risk-based investments. It is of paramount importance that governmental demands on the productivity of its citizens remain rather subdued.

Whenever these four social attributes have come together in the past, regardless of the events occurring in the United States, Europe, Japan or China, "excess" per-capita productivity rates in each of those societies have soared. As productivity has risen, so has societal wealth creation. The absence of any of these four factors is enough to restrict productivity and subsequently, overall economic well-being.

Let's look at how each of these four factors can work together in a simple example.

Case Study:

It is in the mid-19th century. You own a buggy-whip manufacturing company. You and your workers have designed and manufactured a new buggy-whip that is lighter and much more durable than any other on the market. Additionally, you believe the buggy-whip is so superior to any in the market that you want to expand distribution of the product beyond local buggy owners. Therefore, you need the ability to tell the entire national (and indeed the international) market about your new product. You also need the ability to ship the product far and wide.

Your company's "research and development" effort is unhindered by lack of physical knowledge and the government or religious powers don't stop you from changing the norm. **Condition #1 from the list above is satisfied.**

You believe this new whip will take the market by storm, making all other whips obsolete. But, you have a money problem. You need to raise the capital to manufacture the new whip in large quantities. You need to upgrade your factory, which will require serious capital. Your local bank does not have the capacity or the willingness to provide *equity* capital into your business to allow you to build your new factory. Prior to the mid-19th century, the public equity markets were not as efficient or as predominant in the financial infrastructure of the western world. However, thanks to the relatively new public equity markets, you're now able to raise the equity capital necessary for the expansion. **Condition #2 from the list above is satisfied.**

Prior to the mid-19th century, it would take months to relay a new development about your product from one part of the country to another. Additionally, it would take months to ship your product from one end of the country to the next. Technology (steam engine, telegraph, etc.) has advanced to a point in the mid-19th century to make distribution of both *ideas and products* to be much more efficient than before. **Condition #3 from the list above is satisfied.**

In the society where you live, governmental policies are fortunately supportive of business risk-taking. Policies are not in place for governmental entities to abscond with your property, be it physical or financial. This includes a tax structure that is not usury. Indeed, the Federal income tax structure is not yet in existence. These policies support risk-taking, including yours. With your new factory, you will be hiring many more additional workers, providing opportunities for those workers and their families. **Condition #4 from the list above is satisfied.**

You go forward with your plans by issuing capital stock through the stock market, raising the capital needed for your expansion. You build your new factory, hire your additional workers, advertise your new buggy-whip and ship it efficiently through well-entrenched distribution channels.

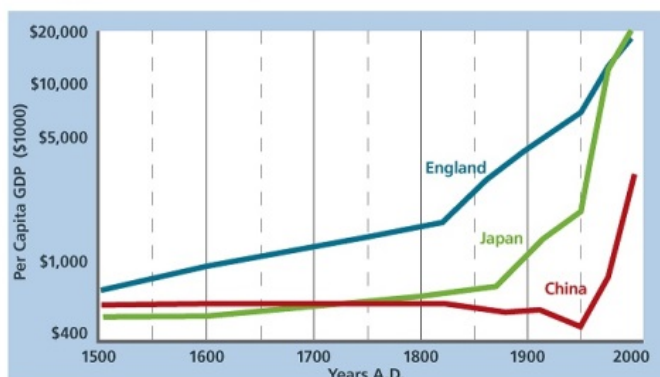
Your new buggy-whip is a success.

If any of these steps were not in existence, you would not have manufactured your new product, capital growth would not have taken place, the new workers would not have jobs, personal profits would not have taken place, and wealth creation would not have occurred.

Global Productivity Gains – Country by Country

Is the parabolic upward shift in productivity that started in the mid-19th century simply a U.S. phenomenon? Not at all. The chart displays per-capita GDP levels, adjusted for inflation, for England, Japan and China. As illustrated, the upward parabolic shift in economic growth occurred at different times for each of these major economies.

Per Capita GDP Inflation Adjusted



Source: Madison, the World Economy: A Millennial Perspective, © OECD, 2001. 264, 276-79

In the early 1800s, England's governmental system was shifting from a monarch-dominated

system to a parliamentary system. This allowed for a system (democracy) where people had more direct control over governmental policies and more indirect control over how much of their productivity they desired to keep. England's growth rate made another positive shift upward in the early 1900s, following the end of World War I. All four pre-conditions of higher growth were finally in place in England by 1920.

Japan was ruled by the emperor until the end of WWII. People had little ability to demonstrate self-determination and control their own destinies. Following its defeat in 1945, a new constitution was written and Japan's diet (congress) was established through free elections, providing the ordinary citizen, including women, the right to vote. Democracy reigned. **All four pre-conditions of higher growth were in place in Japan. As its per-capita productivity starting ramping to the upside, wealth was created and the society advanced.**

Finally, as illustrated by the chart, China's per-capita GDP growth did not start to rise until the latter half of the 20th century. The increase in GDP growth didn't become conclusive until the 1970s, when then-leader Deng Xiaoping led the country toward a more market-economic friendly model, allowing for the ownership of property. As we all know, China has been leading the world's economic growth (in percentage terms) for the last several years. While not complete, **the market-based economic reforms in China have been so pervasive that serious strides have been taken for all four pre-conditions of higher growth to come into place in China.**

Productivity and Longevity

So, are productivity and wealth creation only useful to make people's lives easier as societies become more prosperous? Are there other social benefits to rising productivity and private wealth creation? The answer to this last question is yes, there are other very valid reasons for societies to pursue policies that enhance productivity. Please note the chart, which shows world life expectancy or how long people have historically lived. Note the time when life expectancy rose significantly – in the 19th and 20th centuries. This was the same time when global productivity, savings, investments and wealth were rising rapidly.

Is this similarity between rising life expectancy and rising productivity a coincidence? Not at all. As we outlined in our first chapter of our trilogy, excess productivity (economic output above what is consumed) leads to rising savings, which leads directly to rising investments, which leads to higher levels of productivity.

One area of historical investment has been health care and the desire of humans to not only live better, but also longer lives. Excess productivity, savings, investment and wealth creation allows research and development of all types to take place, including investments that are centered on enabling humans to live longer by conquering diseases and providing for clean, sanitary living conditions. Without excess productivity growth, these types of investments would be impossible.



The Critical Variable

In this trilogy, we have outlined in some detail how the world's market-based economies work. It is important to understand Bernstein's four pre-conditions that a society must offer its citizens for sustained strong economic growth to be in existence. We have shown why economic growth and prosperity started accelerating in the western world in the mid-1800s.

It is also important to understand that, historically, *the final piece of the four-part puzzle is that a non-authoritarian, representative government has to be in existence. It is highly important that the governmental powers in place recognize the positive aspects of private-property ownership. We are referring to not only ownership of real estate and business interests, but also the "property" of one's labor. Labor is a finite resource. We all only work for a limited number of years, days and hours. If governmental demands (taxes) are so high as to take a significant portion of our finite resource (labor or capital) then national productivity and growth will eventually fall – it is inevitable.*

Where Next?

Areas of the world where the four factors mentioned above are dominant in economic activity include the entire developed western world, Japan and China. As the four factors become more highly emphasized by additional countries, those countries stand the chance of more rapid economic growth in the future and subsequently a higher level of social wealth than is present today. Which countries, both developed and developing, appear to be moving toward further emphasis on the four factors?

China is one of the obvious winners in this regard. Further emphasis on better economic infrastructure appears to be forthcoming. Additionally, the raw ability of a communist regime to improve the economic lot of society can be accomplished through liberalization of private property laws. This has started in China and has further to go.

Within the developed world where democratic states exist, the U.K. currently stands out as a society where growth of governmental activities and debt structure is much lower than other parts of Europe. Officials in England made the decision during the 2008-2009 recession to cut the growth in government spending, which at the time was highly criticized by more socialist-biased commentators. Currently, the U.K. is showing GDP growth in excess of 2.5%, as compared to the rest of Europe, which in many cases is still digging its way out of recession.

What about the United States? Infrastructure spending has been lacking, as has overall investment spending, within the United States for a number of years. There has been a strong drive over the last five to ten years to view the government as a force for change – and this force needs to be financed. Tax rates have risen broadly and, in some cases, the ability of businesses to operate freely has been on the wane, with higher levels of centralized social controls. These are not good signs for productivity growth in the United States and subsequent wealth creation on a society-wide basis. Perhaps these restrictive policies will be aggressively addressed in the future.

The areas of real opportunity over the next few generations include many areas of Asia and Eastern Europe. Societies that have the opportunity to embrace the four pre-conditions and strive for improvements in productivity should, over the long-term, be winners on a global scale.

In today's world, just as in the 1800s and 1900s, where the four factors flourish, so does society-wide prosperity. Areas of the world where the four factors have become more widespread are where today's investors need to focus capital allocation.

We hope you found this trilogy helpful in understanding how the world's economies work from a grass-roots standpoint. We sincerely believe rising real productivity leads to better, longer lives for the world's citizens. Our political and business leaders need to understand this basic fact of economic life – policies that emphasize the four factors mentioned in today's report need to be embraced and encouraged.

We will be back next week.



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