

WHAT CREATES WEALTH?

PART 1: PRODUCTIVITY

Wealth creation and wealth redistribution are by far the most important areas in economics, finance and lots of other fields. Wealth creation is complex, but we will try to communicate in simple terms, without losing its essence. To make it simpler and easier to read, we have decided to break this report into two parts.

Wealth can be created or transferred. Rising oil prices, for example, do not create any wealth; they simply transfer wealth from oil consumers to oil producers. Similarly, falling oil prices simply *transfer* wealth from oil producers to oil consumers. The same logic applies to price changes of all other goods and services – rising prices do not create wealth, they simply redistribute it.

Redistribution of wealth often creates major conflicts – within families, in businesses, *within* countries and *between* countries. *Creation* of wealth usually generates peace and prosperity – within families, in businesses, *within* countries and *between* countries. People often conflate *wealth creation* with *wealth redistribution*. This report is about *wealth creation*.

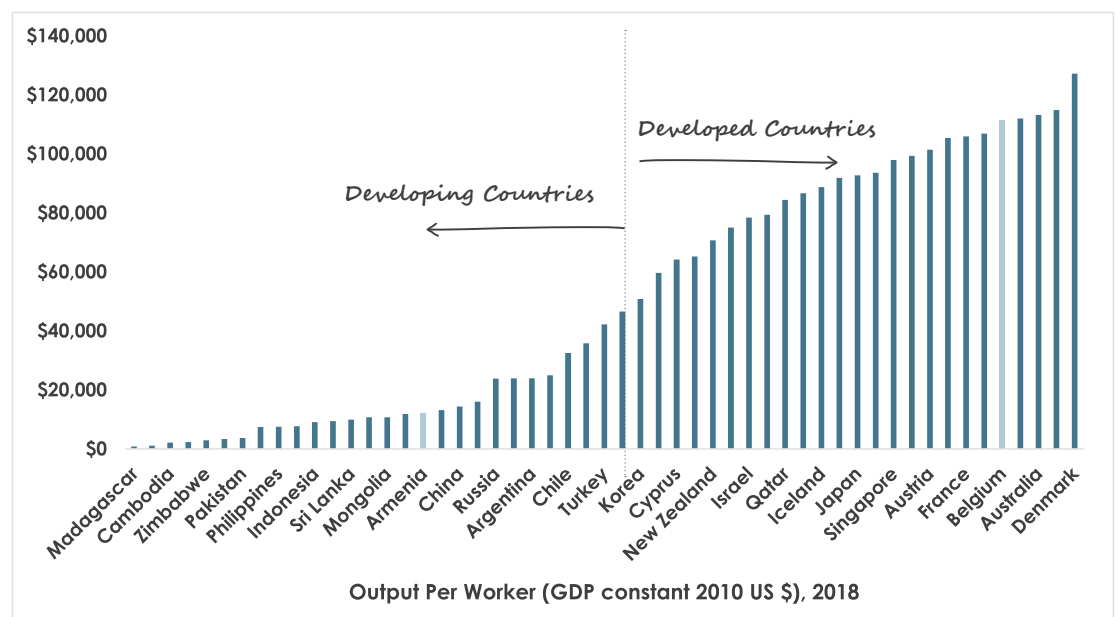
Only *two* phenomena can *create* wealth, without taking away anything from anyone. These two phenomena are called *Productivity* and *Trade*. In Part 1 we will discuss **Productivity**. In Part 2, we will discuss **Trade**.

The Concept of Productivity

It is important to distinguish between *productivity level* and *productivity growth*.

For example, as indicated in Chart 1, an average worker in Armenia produces about \$12,000 of national income (or goods & services) during one year of work, whereas an average worker in Belgium produces \$110,000 of national income during the same year of work.

Chart 1: Productivity Levels of 50 Countries, 2018



Source: International Labour Organization



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Therefore, Armenia and Belgium have different productivity *levels*. Workers in Belgium are nearly ten times more productive than workers in Armenia. However, this doesn't tell us anything about productivity *growth*. Productivity level of Armenia has increased from \$9,400 in 2013 to \$12,000 in 2018, an increase of 30%. This productivity growth has created wealth. The productivity *level* of Belgium, however, has remained nearly unchanged between 2013 and 2018, which means there was no wealth creation. (All our numbers and calculations are from www.ilo.org)

Therefore, what creates wealth, in addition to existing wealth, is productivity *growth*. Productivity *level* doesn't tell us anything about wealth *creation*. It only tells us about existing wealth. We can, therefore, generalise the answer to our original question – what creates wealth – with the following equation:

$$\text{Wealth Growth (WG)} = \text{Productivity Growth (PG)} + \text{Trade Growth (TG)}$$

or

$$\text{WG} = \text{PG} + \text{TG}$$

Productivity Growth (PG) consists of two components

Let us further break down *PG* (Productivity Growth) into two parts – Innovation Growth (*IG*) & Efficiency Gains (*EG*). This means our original equation can be rewritten as follows:

$$\text{WG} = (\text{IG} + \text{EG}) + \text{TG}$$

IG (Innovation Growth) means we produce more food, more goods and more services with the same number of people working the same number of hours per day. This could be because we have new tractors which help us generate twice as much food or we have better roads which allow us to travel twice as fast or we have a new lifestyle which allows people to be healthier, think better, make fewer mistakes and so on.

Whatever the reason behind *IG*, the result is that production per worker rises. This could simply be that a country such as Armenia, with a productivity level at around \$12,000 buys equipment or gets knowhow from a country such as Belgium – with a productivity level at \$110,000 – and converges towards Belgium's productivity level. It is much easier to converge from \$12,000 to \$110,000 than to rise from \$110,000 to even \$150,000.

We call *IG* "happy productivity" because it almost always generates positive emotions, energy and wealth. Because of *IG* everyone is better off. What if our *PG* (productivity growth) is generated by *EG* (efficiency gains) rather than *IG* (innovation growth)? *EG* (Efficiency Gains) means we produce the same amount of food, goods and services but with fewer people. Note that production per person still goes up, just like it does in case of *IG*, people are getting more efficient, simply because fewer people produce the same amount of goods and services. However, this *EG* (efficiency growth) no longer generates positive emotions, because some people get fired while business owners get richer. This is a subtle point many people misunderstand. Let us explore it for one more minute.

For any business owner, what matters is the net profit, not gross revenues. *EG* (efficiency gains) raise net profits by cutting costs whereas *IG* (innovation growth) raises net profits by raising revenues, without cutting costs. That is why we call *EG* "sad productivity." It creates negative emotions and raises inequalities within societies – regular workers get poorer while capital owners get richer.

Note that in either case, *PG* (productivity growth) leads to economic growth because *PG* is one of the two components of any economic growth, for any country. If we simply look at *PG*, therefore, we won't be able to distinguish between happy or sad productivity growth.

If our *WG* and economic growth are driven by "sad productivity" growth, then it is natural that most people are unhappy. To quote the American comedian Louis CK, "right now everything is amazing and nobody is happy." Well, everything is not as amazing as it looks. Over the last two decades, most of our *WG* has been indeed driven by *EG* or "sad productivity" growth, especially in the developed world.

This is one of the main reasons people have started to question statistics such as GDP growth or GDP per capita. In reality, GDP growth is not the problem. The key is to find out why most of *PG* is driven by sad productivity rather than happy productivity. Why are we having lots of Efficiency Gains (*EG*) instead of Innovation Growth (*IG*)? This is the question behind most problems of rising inequality and unhappiness.

It is easier to generate efficiency gains (*EG*) than innovation growth (*IG*). *EG* are usually achieved by "squeezing more out of people", by making people work faster or longer hours but not counting those extra hours as work.

The trouble is that *EG* often means that equipment and people wear out much faster and profits generated from such gains must be quickly reinvested, to compensate for higher amortisation and depreciation.

EG often implies environmental damage – destroying forests, emitting excessive CO₂ or polluting waters. However, with rising environmental concerns and stricter regulations, it is becoming harder to achieve *EG*. Banks are being forced to invest into compliance, natural resources firms into environmental protection, and so on.

Amortisation, depreciation and regulatory complexity are the main reasons we consider productivity growth rather than productivity level as wealth creation. High productivity levels, with zero productivity growth, may mean high revenues. However, in a competitive economy, high revenues also mean high expenses, and in any competitive economy net profits need to be reinvested to compensate for amortisation and depreciation of plant & equipment.

Therefore, the future of any country's prosperity depends on *IG* (innovation growth) rather than *EG*. However, *IG* requires a complex interaction between better education, an effective legal system, functional infrastructure and so on. For more ideas on modern ecosystems, which allow for higher *IG*, see our report "[What is an Ecosystem?](#)" available on our website.

In the rest of this note, we suggest another key factor that drives happy productivity growth (*IG*) and therefore wealth creation. We believe this idea should be further researched by academics, governments and legislators.

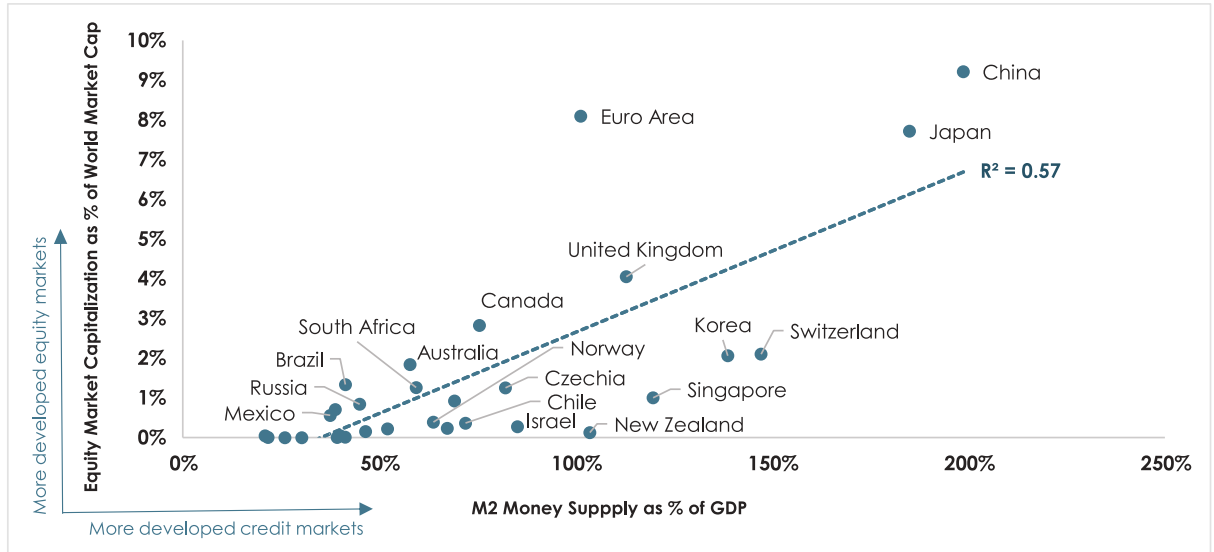
Many central banks – especially in developing economies – can accelerate *IG* by cutting interest rates while governments can work on programs which make financial capital widely available to all businesses (financing research & development, student loan programs...).

To rephrase, central banks can reduce cost of financial capital, by cutting interest rates. However, lower cost of capital doesn't mean that capital will become easily available to various businesses. Governments need to develop special financing programs.

One doesn't work without the other, yet in most developing countries these two forces are often uncoordinated. Governments create programs to make capital more available to businesses, yet the cost of that capital remains too high, because central banks keep interest rates at artificially high levels, and vice versa.

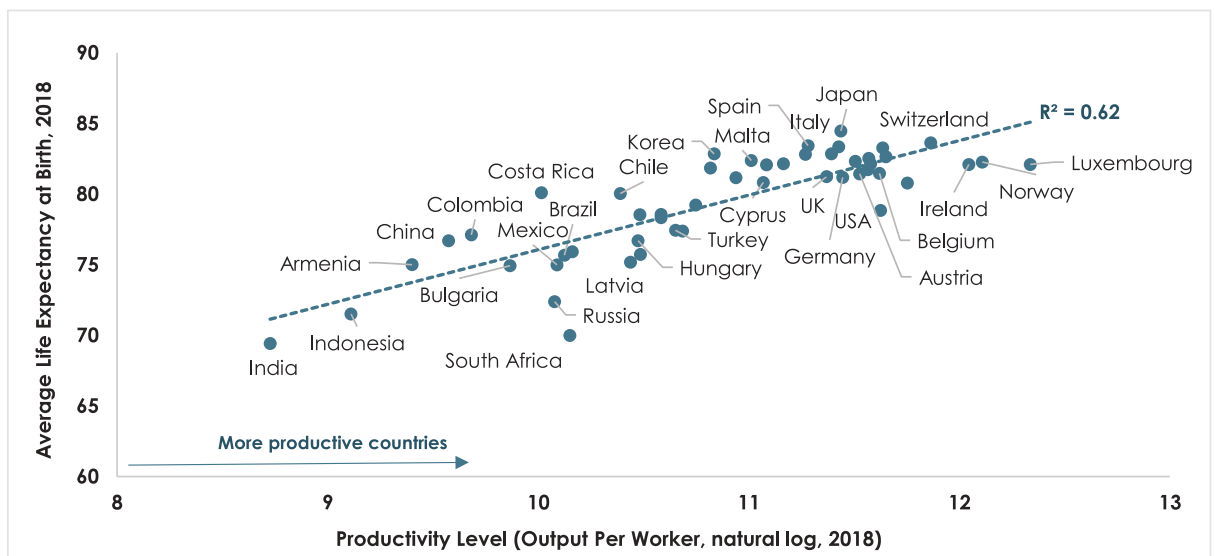
Chart 2 shows how developed a country's financial industry is and therefore how available financial capital is. **Chart 3** shows that productivity affects many aspects of our society, even life expectancy.

Chart 2: The Relationship Between Availability of Financial Capital and the Development Level of Financial Industry



Source: World Bank, Central Bank and Stock Exchange Websites of Selected Countries

Chart 3: Productivity Affects Many Aspects of Our Society Especially Life Expectancy



Source: World Bank, International Labour Organization

The last and probably the most important point about productivity growth – IG or EG – is that it allows for a rapid non-inflationary economic growth. That was the biggest genius of Alan Greenspan – the former Chairman of the Federal Reserve – when in 1990s he refused to raise interest rates and decelerate the US economic growth because he realised that economic growth was driven by accelerating productivity growth, and, therefore, would be non-inflationary.

This simple insight allowed the Federal Reserve to let US the economic boom run its course, and thereby added trillions of dollars of wealth to the US economy. If Alan Greenspan had panicked – because of rapid economic growth – and had raised interest rates, to prevent inflation, he would have generated a recession and those trillions of dollars of wealth would have dissipated into thin air.

Many emerging economies today are making the mistake, which Alan Greenspan did not make in 1990s. Many emerging economies are keeping interest rates at artificially high levels even though most of their economic growth is driven by noninflationary productivity growth. To add insult to injury, many emerging economies' governments are not creating financing programs either. Both of these are suffocating the IG capacity of many emerging economies.

Conclusion

In conclusion, we would like to leave you with one idea, which will prove useful and easily applicable for at least another decade.

In the contemporary world, most economists have complicated the field of economics, with too much complex math. Because of this, the science of economics and finance have become inaccessible to most people around the world.

Lots of Nobel Prize Laureates and famous economists such as Paul Krugman, Ronald Coase, Thomas Piketty, Joseph Stiglitz or Milton Friedman have openly criticized this phenomenon. Let us share with you one of our "thinking frameworks" which you will almost certainly find very useful.

Any economy in the world has a potential (or a maximum) growth rate, just like any business or any human being. This maximum growth rate, in economics, is called a country's "potential growth rate", which consists of only two components – Population Growth + Productivity Growth.

Let's say country A is growing at 3.0% per year, as measured by its GDP. If the population of that country is also growing at 3% per year, then that country's productivity growth is not growing (0.00%).

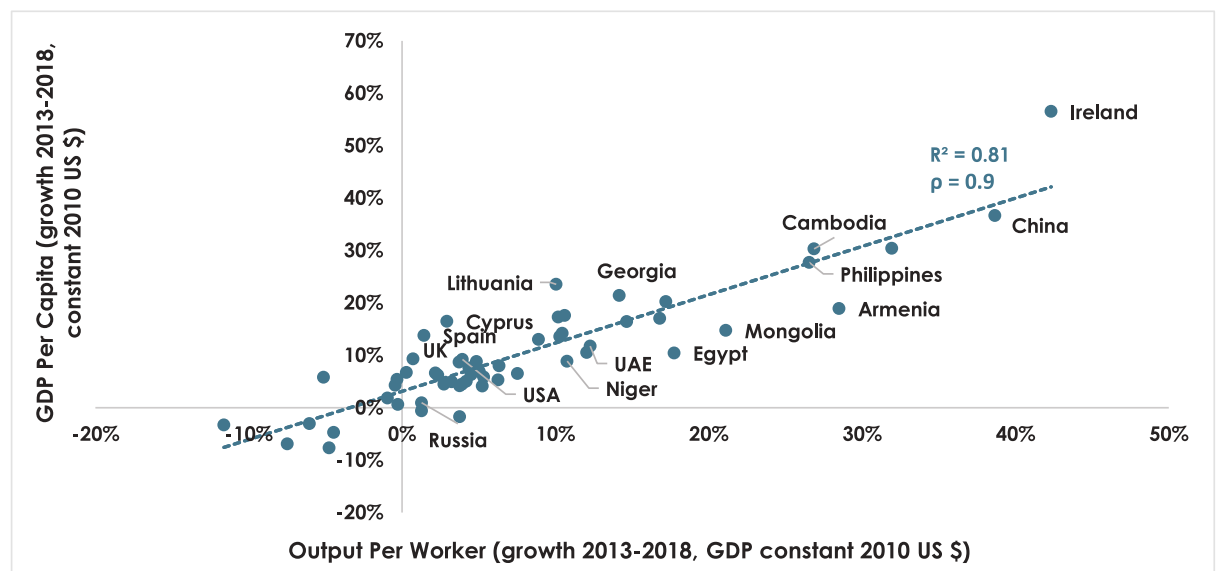
Potential Growth Rate of 3.0 % = Population Growth Rate of 3.0 % + Productivity Growth Rate of 0.0 %

This further means that this country's GDP per capita or also known as National Income per Capita is not growing. To put it differently, this country's entire economic growth is driven by its population growth rate, which means people of that country are not getting any richer and that economy is not creating any wealth.

When we talk about long term economic growth, of any country, we are really talking about the "potential growth rate".

Chart 4 shows that GDP per capita growth is highly correlated with productivity growth, which means whenever we want to measure PG (productivity growth) we can simply look at GDP per capita growth over a period of time, usually between 5 and 15 years.

Chart 4: GDP Per Capita Growth is an Alternative Measure of Productivity Growth



Source: World Bank, International Labour Organization

Economists have turned productivity growth calculations into a rocket science. In reality, a simple GDP per capita growth almost perfectly approximates any country's productivity growth (PG) rate. Anyone can use this simple approximation, with full confidence, for at least another decade.

David Tavadian, CFA
Founding Partner

Appendix 1

For our curious readers, we have created a table that should give several ideas for intellectual discussions on subjects such as productivity per sq. km. of land and other indicators.

Table 1: 72% of World GDP is Produced by 50% of World Population Living in 33% of Productive Land

Economy	GDP (in tril. \$)	% of World GDP	Population (in mil.)	% of World Population	GDP per capita	Land (in mil. km ²)	GDP per km ² (in mil. \$)	Equity market cap (in tril. \$)*	% of World equity market cap
USA	\$ 20.6	23.8%	326.7	4.3%	\$ 62,997	9.1	\$ 2.2	\$ 30.4	44.3%
China	\$ 13.9	16.1%	1392.7	18.3%	\$ 9,977	9.4	\$ 1.5	\$ 6.3	9.2%
Euro Zone	\$ 13.7	15.8%	341.8	4.5%	\$ 39,966	2.7	\$ 5.1	\$ 7.8	11.4%
Japan	\$ 5.0	5.7%	126.5	1.7%	\$ 39,159	0.4	\$ 13.6	\$ 5.3	7.7%
India	\$ 2.7	3.1%	1352.6	17.8%	\$ 2,006	3.0	\$ 0.9	\$ 2.1	3.0%
UK	\$ 2.9	3.3%	66.5	0.9%	\$ 43,043	0.2	\$ 11.8	\$ 2.8	4.1%
Brazil	\$ 1.9	2.2%	209.5	2.8%	\$ 9,001	8.4	\$ 0.2	\$ 0.9	1.3%
Canada	\$ 1.7	2.0%	37.1	0.5%	\$ 46,313	9.1	\$ 0.2	\$ 1.9	2.8%
Total	\$ 62.3	72.1%	3853.4	50.8%	\$ 31,558	42.2	\$ 1.5	\$ 57.6	83.9%
World Total	\$ 86.4		7591.9		\$ 11,382	127.3	\$ 0.7	\$ 68.7	

The data is for 2018
*capitalization of listed domestic companies (2018)

Source: World Bank

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