

NEW THINKING



## The Paradox of Productivity and Monetary Policy

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## Productivity is about progress: improving processes and benefitting from innovation.

We at TD Asset Management spend a great deal of time examining productivity trends because productivity is a key component of economic growth and real investment returns<sup>1</sup> are difficult to come by in the absence of productivity.

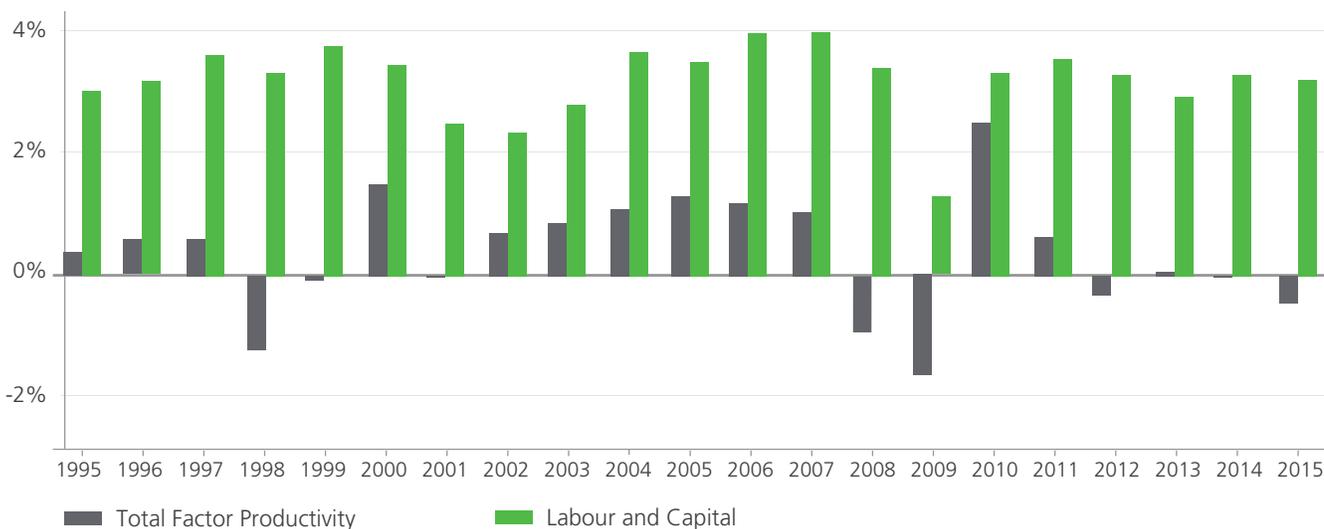
### Post-Crisis Productivity

The discussion of productivity is very complex and far too daunting to address fully in a few pages. We can, however, provide some observations. Productivity gains should be a result of *scarcity* (we strive to be more efficient with resources that are expensive) and *innovation* (businesses develop specialised knowledge and streamline processes to more efficiently serve a market). However, these have both been lacking over the past several years, and we have witnessed a corresponding lag in productivity gains.

As shown in Figure 1, productivity growth has been falling across G20 countries. From 1995 to 2007, total factor productivity grew at about 0.60% per year on average and accounted for 16.6% of G20 GDP growth. From 2008 to 2015 total factor productivity detracted from total G20 GDP growth, averaging -0.03% per year. This is very odd as economic growth has been positive, albeit low, in most countries and normally this would coincide with productivity gains.

Ironically, loose monetary policies designed to stimulate economic growth appear to have been counterproductive in terms of their effects on corporate behaviour and have likely contributed to the lethargic productivity cycle we have been in for the past few years. Surrounded by an abundance of inexpensive capital, there has been little incentive for companies to use it for productive purposes, such as investment or innovation. Instead, many have been using this cheap capital to optimize their balance sheets—they have robbed Peter (borrowed in the bond market) to pay Paul (used the capital to buy back stock). While this has been supportive of equity prices, it has done little to support productivity gains—and, therefore, economic growth.

Figure 1: Components of GDP – Total Factor Productivity & Labour and Capital Growth, Largest 20 Global Economies 1995-2015

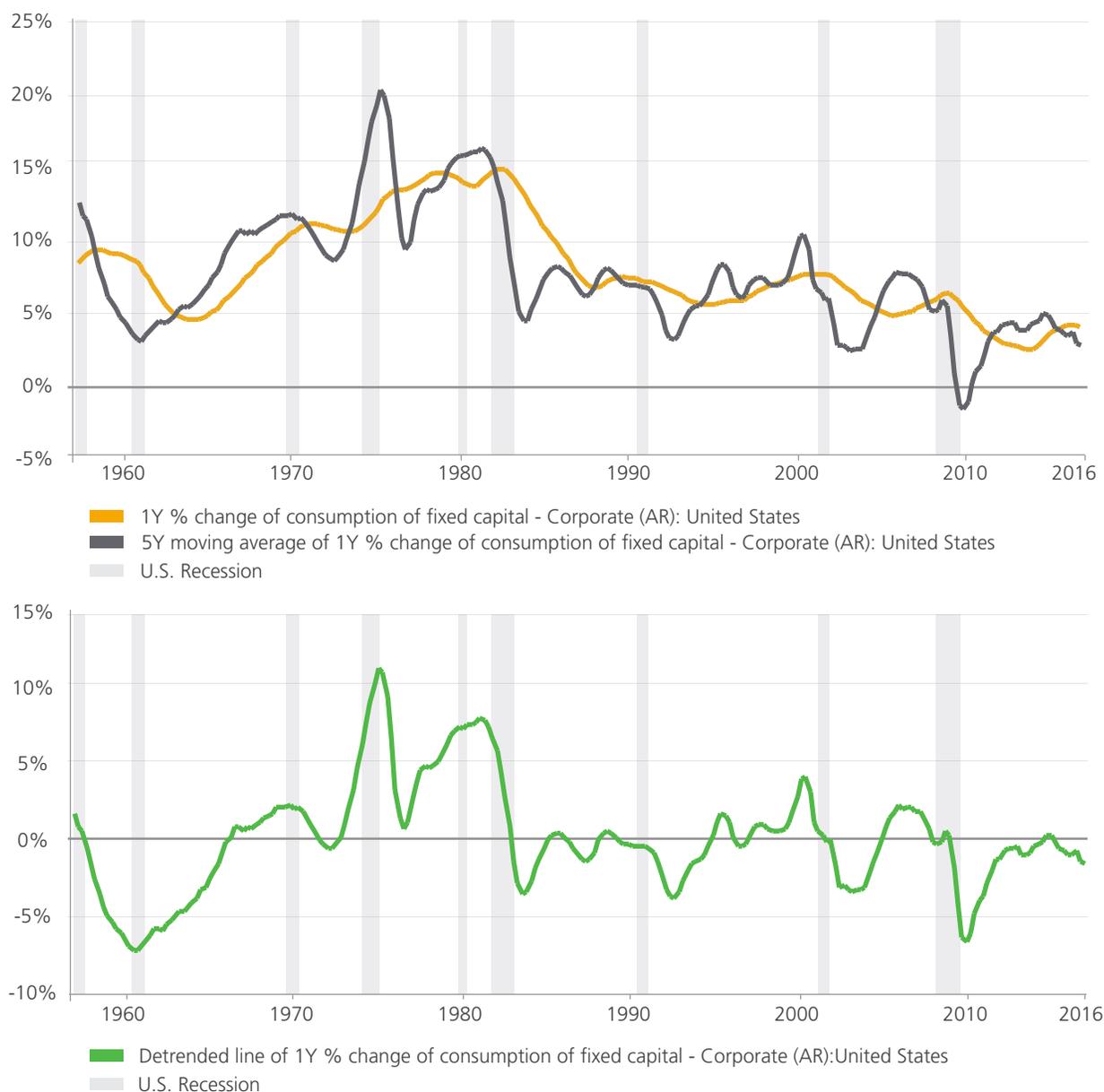


Source: Thomson Reuters Datastream, The Conference Board, 2016. The Conference Board Total Economy Database™ (Adjusted version), November 2016, [www.conference-board.org/data/economydatabase](http://www.conference-board.org/data/economydatabase), TD Asset Management.

Using the U.S. as an example, the following charts highlight that as advancements in productivity have been lagging, the long-term trend of consumption of fixed capital has been declining. It has been well documented that corporate investment has been sub-par over the past few years, and the following charts support that argument. The top panel is U.S. corporate consumption of fixed capital and the second is the de-trended version of the chart. The de-trended version measures the cyclical nature of corporate investment and shows that since 2009 it has not been above 0% on a year-over-year basis.

Thus we can conclude that fixed capital is not being replenished. This may be due partly to the outsourcing of U.S. manufacturing jobs, but if this were the case, we would see large productivity gains coming from China, which has not been happening. In fact, according to total factor productivity statistics from the Conference Board, since 2011 the average has been -0.2%.<sup>2</sup> So why is investment so weak?

**Figure 2: U.S. Corporate Consumption of Fixed Capital 1957-2016**



Sources: Thomson Reuters Datastream. Bureau of Economic Analysis, U.S. Department of Commerce.

## The Monetary Policy Paradox

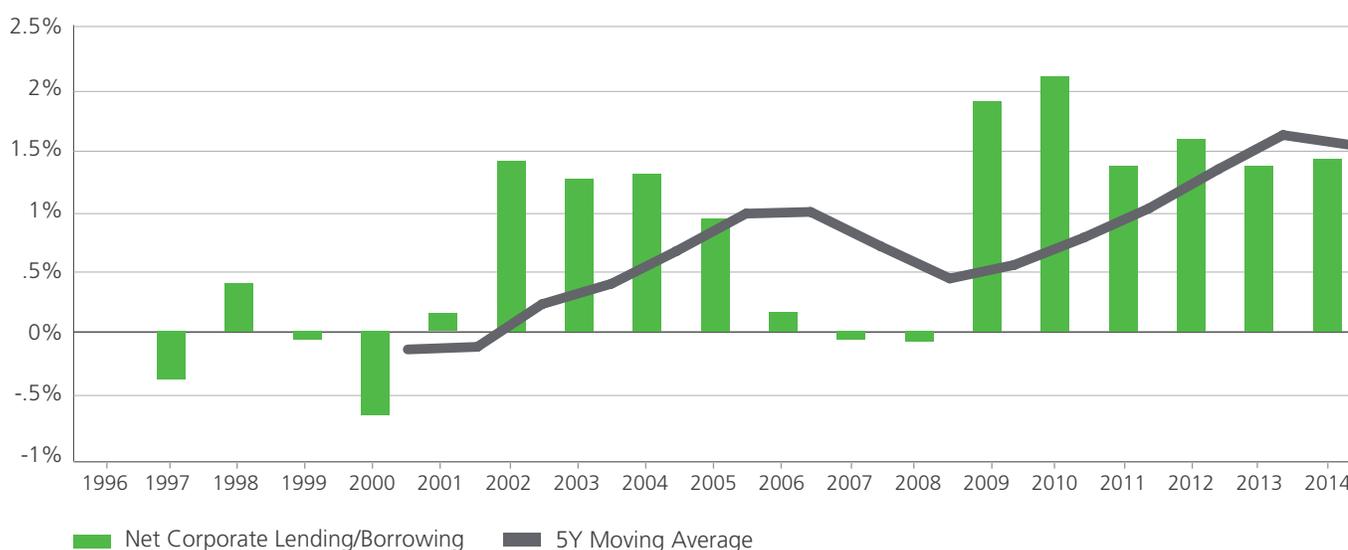
Accommodative central bank monetary policies seem to have had a dubious impact on productivity growth as they have created an abundance of inexpensive capital, thus eliminating the scarcity impetus for productivity. In the wake of the financial crisis and subsequent “great recession,” global central banks have gone to notable lengths to stimulate economic growth and inflation. They’ve lowered rates to emergency levels; in fact, a number of regions have adopted negatives rates. In addition, central bank balance sheets have ballooned over the past 8 years as a result of massive asset purchase programs that have included government bonds, corporate bonds and even equities.

Unfortunately, these policies, which were designed to spur economic activity, actually appear to be holding back corporate investment.

Corporate investing behaviour is a key ingredient in total factor productivity, but the current macroeconomic climate and monetary policies have changed corporate behaviour. Central banks, governments and global organizations such as the International Monetary Fund and the World Bank continue to forecast weak global growth, and monetary policy remains extremely loose, all of which may be signalling corporations that aggregate demand will be weak. As explained in Peter Diamond’s behavioural framework, the Diamond Coconut model,<sup>3</sup> people’s expectations of the level of aggregate activity greatly influence the level of aggregate activity. So when corporations expect that economic growth and aggregate demand will be low, they reduce investment as there is little incentive to innovate or invest in creating productivity gains, and the negative forecasts and expectations become a self-fulfilling prophesy.

In the current environment, companies are not replenishing corporate spending; they’re not even keeping up their capital stock. The chart below shows net corporate lending/borrowing as a percentage of GDP. It is clear that since 2009 the corporate sector has been net saving, with the 5-year average at around 1.5%. To put this in context, if the U.S. corporate sector moved from saving 1.5% of GDP back to 0%, this would unleash \$250 billion per year of corporate investment. Imagine the sort of productivity gains that could be realized with that level of investment.

Figure 3: Yearly Net Corporate Lending/Borrowing as a % of GDP



\*Includes: Australia, Canada, France, Germany, Italy, Japan, Korea, Mexico, The Netherlands, Spain, Great Britain, USA  
Weighted by Yearly GDP. For 2014, Weighted Averaged Used for Japan, Australia, Korea and Mexico.  
Sources: Thomson Reuters Datastream, OECD.

## Inflection Point?

The macro-level formula for economic growth is:

$$\begin{array}{ccccccc} \text{workforce} & + & \text{capital} & + & \text{productivity} & = & \text{economic} \\ \text{growth} & & \text{growth} & & \text{growth} & & \text{growth} \end{array}$$

The first component of the formula, workforce growth, appears set to decline in the short- to mid-term. Global demographics, particularly in the West but also in China and other emerging markets, are expected to put pressure on workforces and economies in the coming years as dependency ratios rise. Therefore, if we are to maintain our standard of living and see positive economic growth, the growth must come from advancements in productivity and increasing capital services, including physical plant and technology.

We believe productivity and, by extension, global economic growth will remain sub-par until a new corporate investment cycle begins. Until this occurs, we expect household and government debt burdens will continue to increase, and increasing debt-to-GDP levels will be of particular concern as low productivity will not raise debt capacity.

Investors will note that equity prices have risen over the past few years in spite of weak productivity growth. In many cases, this is a result of companies engineering returns—they've borrowed to buy back shares or increase dividends, but without productivity gains, this is not sustainable. Essentially, companies have simply pulled returns forward, meaning future returns are likely to be muted. Finally, with corporations not actively investing, real interest rates will remain stubbornly low and by extension, equity returns will be muted.

However, while this is the global situation, the election of Donald J. Trump may mark an inflection point for productivity growth in the U.S. In particular, President Trump's planned infrastructure spending and reduction in regulation should boost productivity. This could come from investments in ageing and obsolete infrastructure, smart energy grids and/or technology that is more resilient to cyber threats. A continuation of the U.S. Federal Reserve's rate hiking cycle will increase the cost of money, and hence will alter the decision making of Chief Financial Officers regarding the deployment of capital. Investment in positive internal rate of return projects may become more attractive than share buybacks and dividends if firms are to continue growing. Finally, increased optimism among small and large businesses may lead to an increase in the velocity of money and, as a result, higher inflation. This is important if we are to break the deflationary mindset that has weighed like a thick fog on corporations and households over the past eight years.

## Glossary

Aggregate demand: the total demand for goods and services within an economy

Capital stock: the total shares issued by a company, including both common and preferred equity

Dependency ratio: the number children and the elderly as a percentage of working age adults

De-trended data: data from which long-term trends have been removed

Fixed capital: equipment and facilities used in the production of goods and services

Internal rate of return: a measurement of profitability

Velocity of money: the speed at which money moves through the economy (via transactions)



<sup>1</sup> Real returns take inflation into account.

<sup>2</sup> The Conference Board. 2016. The Conference Board Total Economy Database™, Growth Accounting and Total Factor Productivity, 1995-2015 (Adjusted Version), [www.conference-board.org/data/economydatabase/](http://www.conference-board.org/data/economydatabase/)

<sup>3</sup> Diamond, Peter (1982). Aggregate Demand Management in Search Equilibrium. *Journal of Political Economy*.

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