

SPECIAL REPORT

TD Economics



October 23, 2014

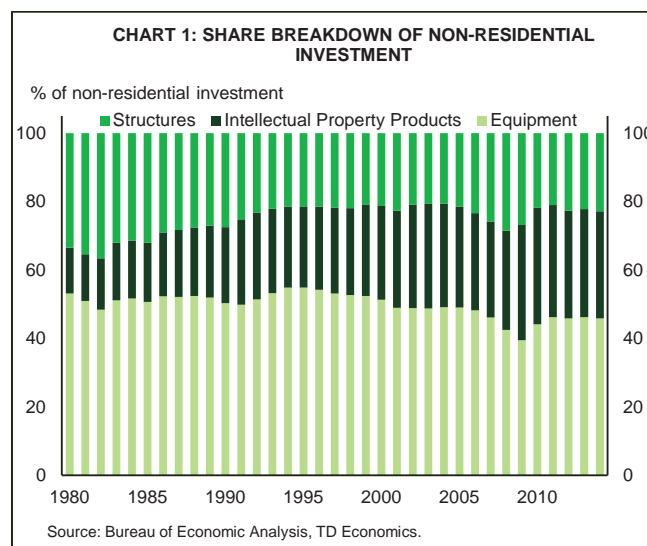
THE LOST YEARS: U.S. BUSINESS INVESTMENT POISED FOR BETTER DAYS

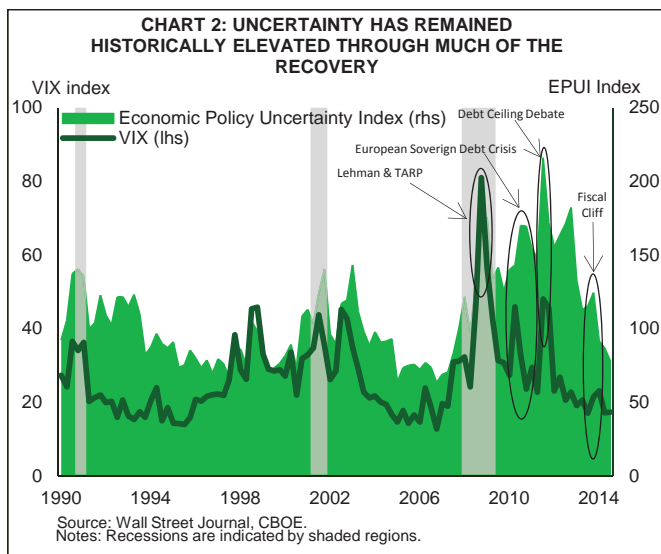
Highlights

- Outside of the stimulus-induced rebound immediately following the 2008-09 recession, investment in equipment and intellectual property products (IPP) has grown at a rate much slower than fundamentals would have predicted. According to our estimates, this underperformance over the last two and half years has led to a cumulative shortfall of roughly half a trillion (inflation adjusted) dollars.
- The underperformance in investment activity reflects a host of factors, mostly cyclical but also some structural. On the cyclical side, sluggish private sector growth, tight credit conditions, and heightened political and economic uncertainty all helped to undermine investment activity.
- Moving forward, cyclical factors will offer more of a boost to investment than earlier in the recovery. However, technological advancements and lower capital investment requirements across industries have fundamentally changed firms' demand for certain types of equipment and software. While stronger growth in both R&D and selected components of equipment will partially offset these forces, we are unlikely to see a sustained return to double-digit growth in business investment.
- Although recent concerns surrounding the sustainability of the global recovery have surfaced, we continue to believe that trend growth for the American economy will be around 3%. For equipment and IPP, this should support an average annual growth rate of roughly 6.5% over the next year and a half – a marked acceleration from the more sluggish pace experienced over the past two years.

During the 2008-09 financial crisis, real U.S. business investment suffered its worst decline in recorded history, falling by a whopping 20% peak-to-trough. A trademark of the lasting scars of the recession was the painfully slow recovery, and investment was no exception. Outside of the stimulus-induced rebound that took place immediately following the recession, real investment growth has averaged just 5.2% on a yearly basis. While this may seem like a respectable pace of growth, it is well below what forecasters had previously anticipated, especially given the heightened level of corporate profits and low interest environment that has persisted through much of the recovery. According to our estimates, this underperformance in investment has led to a cumulative shortfall of roughly half a trillion (inflation adjusted) dollars over the last two and a half years.

Indeed, both cyclical and structural factors have helped to restrain investment in recent years. On the cyclical side, sluggish private sector growth, exceptionally tight credit conditions, and heightened political and economic uncertainty conspired to undermine investment outlays among firms. However, with much improvement on all of these fronts, cyclical factors now offer more of a tailwind to investment growth than earlier in the recovery. In contrast, structural factors present a more muddled picture. Technological advance-





ments and lower capital investment requirements across industries have fundamentally changed business demand for specific types of equipment and software. This is not a new phenomenon. Since the mid-1990's, equipment's share of aggregate investment has been in gradual decline, with the difference almost entirely being made up in intellectual property products (IPP). Unsurprisingly, the bulk of the gains in IPP during the 1990's to early 2000's were due to the tech-boom, which saw the share of investment in software based products grow from 31% to 45% in just over a decade. Since 2005, however, gains in IPP are largely a result of increased investment in research & development (R&D) – characterizing the structure and focus of American firms. This report will focus on the influences and outlook for investment within equipment and IPP. Although the days of double-digit gains in these components are likely a thing of the past, we do expect overall investment in equipment and IPP to average 6.5% (annualized) over the next year and a half – a pace that is more than two percentage points stronger than what we have experienced over the past two years.

The Impact of Fiscal & Economic Uncertainty on Investment

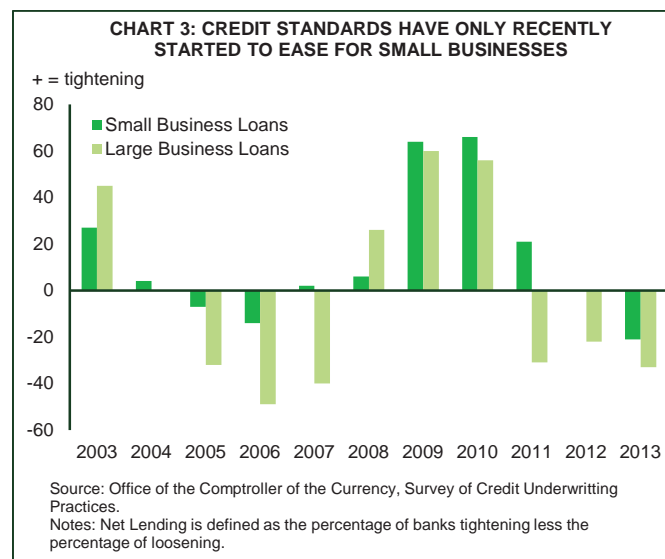
In the early stages of the economic recovery, heightened fiscal and economic uncertainty alongside tight credit conditions were largely blamed for delaying investment amidst an environment that saw non-financial firm profits swiftly recover.

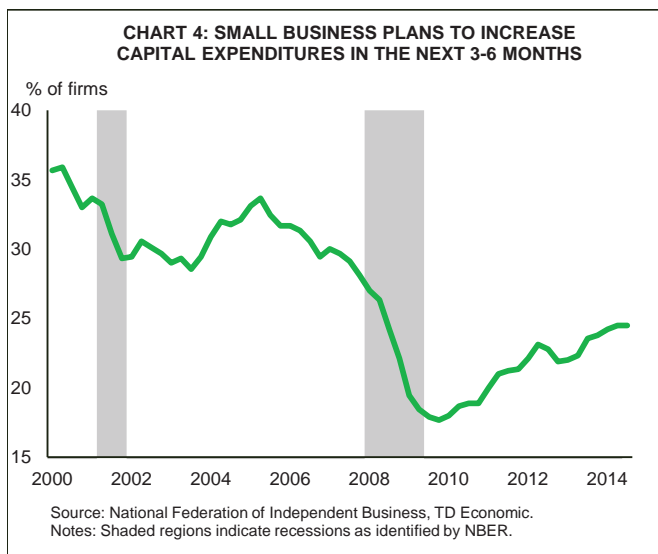
Political uncertainty came in many forms and repeated doses between 2009 and late 2012. Tensions between congressional leaders led to a shutdown of government opera-

tions for a period of 16 days. And, the full faith and credit of the U.S. government was threatened on two separate occasions when the Treasury brushed up against its borrowing limit. While quantifying the perceived uncertainty on both the political and economic front is sometimes more of an art than a science, an often cited measure is the Baker and Bloom Economic Policy Uncertainty index. It is constructed using three types of underlying components: policy related economic uncertainty; federal tax code provisions set to expire; and measured differences between surveyed forecasters. In Chart 2, we can see that long after the recession ended, the index remained elevated and reflected sharp spikes during mid-term elections and debt ceiling debates.

Another measure that captures uncertainty is the market volatility index (VIX), which is based on a weighted mix of prices for a range of options traded on the S&P 500. This index captures the near-term volatility in U.S. equity markets. Here too the index had periods of elevation and spikes corresponding to political events, but not all can be placed at the feet of Congress. Investment intentions were also shaken by the sheer magnitude of the recession, slow improvement in consumer spending and household balance sheets, and the potential knock-on effects to U.S. firms by events in other parts of the world, like Europe's sovereign debt problems.

Indeed, the rebound in equipment and IPP in late 2009 fizzled out after the influence of various government stimulus measures, such as the accelerated depreciation program, were overshadowed by the resurgence in economic and policy uncertainty in late 2010. A strong deceleration in investment activity persisted for the next several years even





though the tendency of both risk measures was to trend downward. In part, this reflected the fact that broad improvement in access to credit took longer to trickle through the economy.

To this day, investment growth remains somewhat restrained by tighter credit conditions among small businesses – those that have fewer than 500 employees – and the legacy of weak firm creation during and following the recession. Regarding the former, although large corporations benefited from a net easing in credit conditions in each of the last three years, a recent survey of credit underwriting practices by the OCC showed that lending conditions only recently started to improve for small businesses (Chart 3). Unsurprisingly, tighter credit conditions have been anything but constructive for capital expenditure planning, and are partly why aggregate small business loans still remain 16.5% below their pre-recession peak. Fortunately, progress has been made on this front in recent months. According to a monthly survey done by the National Federation of Independent Business (NFIB), small business owners are feeling increasingly more optimistic about the real economy. While September’s pullback in both the plans to increase “capital expenditures” and “employment” sub-components cast a shadow over previous month’s gains, the reality is, underlying momentum continues to point to a strengthening in small business confidence.

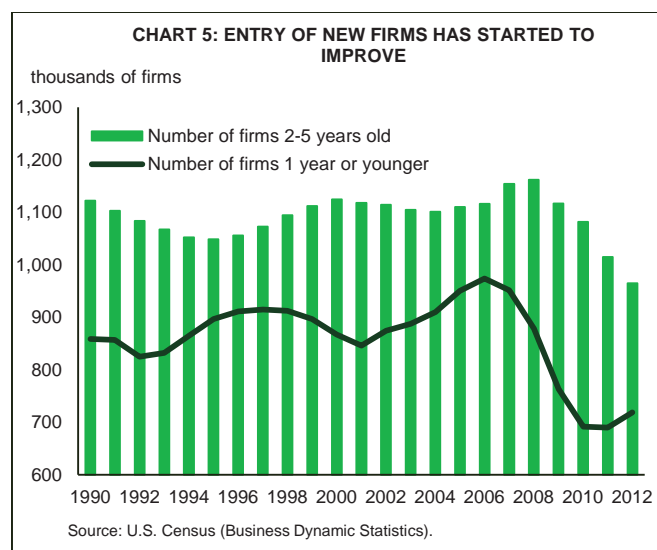
Predominantly characterized as small firms are newly created business establishments. As an economy ages or matures, there is a decline in the share of new firms that tends to naturally occur. However, this pattern accelerated following the recession, with the share of firms that were

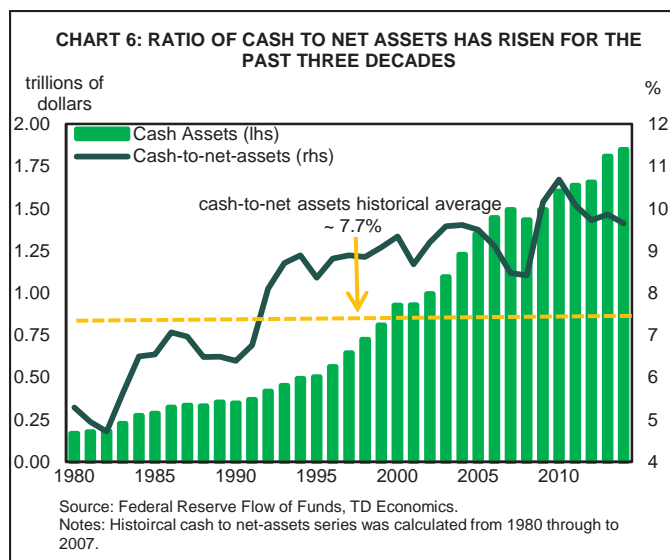
one year or younger (i.e. start-ups) dropping to its lowest level in recorded history (Chart 5). Meanwhile, those in existence for 2-5 years has steadily declined since 2008 and currently sits at its lowest level since the data was first collected in 1977 – despite the U.S. economy being 2.5 times larger today.

The missing generation of younger firms is a legacy of the recession that continues to dampen investment growth. But, here too better news is emerging. Firm creation and survivorship rates are starting to edge back up, albeit from exceptionally low levels. This will offer a stronger foundation to investment demand. Time will also help to further heal this wound, as the environment for credit and consumption continue to improve. There is a large body of research conducted by the Kauffman Foundation and others demonstrating that new and young businesses not only drive job creation, but also enhance business dynamism and productivity within an economy. The churn of businesses being created while others are destroyed is part of a creative destruction process that allows for new and superior ideas, processes, and goods to replace obsolete ones¹.

Corporate Profits Remain Elevated

This brings us to some underlying firm dynamics influencing investment that may be more structural in nature than cyclical. Among those firms that did survive through the recession, softer-than-expected investment in recent years was not a function of weak corporate balance sheets. The slow economic recovery, which was punctuated by elevated political uncertainty, did not prevent U.S. corporations from churning out solid profits. As a share of GDP, corporate





profits rose to a historically elevated 12.7% – nearly double its recessionary low of 6.7%. In addition, U.S. corporations are sitting on record amounts of cash. Excluding financial firms from the measure – mainly because they hold cash for different reasons – non-financial corporations are currently holding almost \$2.0 trillion in cash assets, more than half of which is held by overseas subsidiaries. In order to control for various factors such as firm growth, an increase in the number of corporations, or even inflation, a better measure to look at when trying to gauge the degree of firm liquidity is the ratio of cash-to-total-net assets.

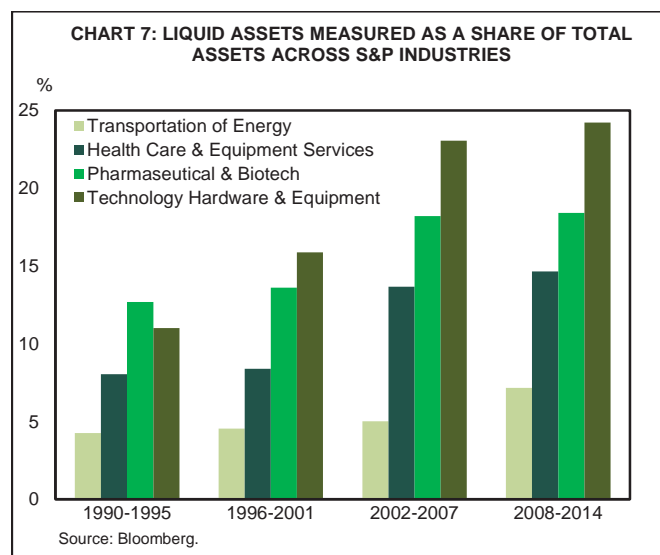
From Chart 6, we can see that since the mid-1980s, the ratio of liquid assets relative to total net assets has trended higher. Part of the increase in cash holdings reflects the behavior of multinational firms in response to corporate taxes on repatriated earnings. In general, subsidiaries of U.S. multinational corporations are taxed based on the laws of the host country. However, if the firm decides to repatriate any of the foreign earnings back to the U.S., then it will be taxed at a rate determined by the difference between what they already paid abroad and the current corporate tax rate applied in the U.S. With U.S. corporate tax rates currently sitting at some of the highest in the world, corporations have a strong incentive to keep foreign earnings abroad, even in times of low investment opportunities. While arguments in favor of a one-time repatriation tax holiday have been made, there is little evidence to support that such a move would actually boost capital investment. In fact, just the opposite occurred in 2005, following the enactment of the American Job Creation Act of 2004. The legislation allowed firms to repatriate foreign earnings back to the U.S. at a flat tax

rate of 5%. The end result? Over \$300 billion dollars was brought back to the U.S., the majority of which was used in the repurchase of shares and returned cash to the shareholders rather than for purposes of investment.

However, be it abroad or domestic, businesses hold cash and equivalent liquid assets because it provides flexibility in transactions, and acts as a hedge to potential uncertainty and credit constraints. Firms that face uncertainty about future transactions, either because of company specific or aggregate economic factors (e.g. heightened political uncertainty, slowdown in economic growth, etc.) likely find it beneficial to stockpile cash. In doing so, they give themselves more flexibility to act fast when things like new company acquisitions become possible or the demand environment shifts.

This is especially true for firms that spend significant resources on R&D and therefore have relatively uncertain future cash flows. R&D driven innovation is particularly difficult to finance through traditional external sources due to its intangible nature, uncertain outcome and problems related to asymmetric information. Furthermore, with domestic and international competition having increased so rapidly across many U.S. sectors over the past several decades – especially across R&D intensive sectors – firms may be holding on to more cash purely for strategic purposes.

Looking across the S&P 500 sectors, this is exactly the pattern that has emerged. Sectors that are particularly R&D intensive have steadily increased their cash holdings (Chart 7). For example, in the early 1990s, the Health Care & Equipment Services and Technology & Hardware Equipment sectors had cash-to-assets ratios of 6.3% and 7.9%,

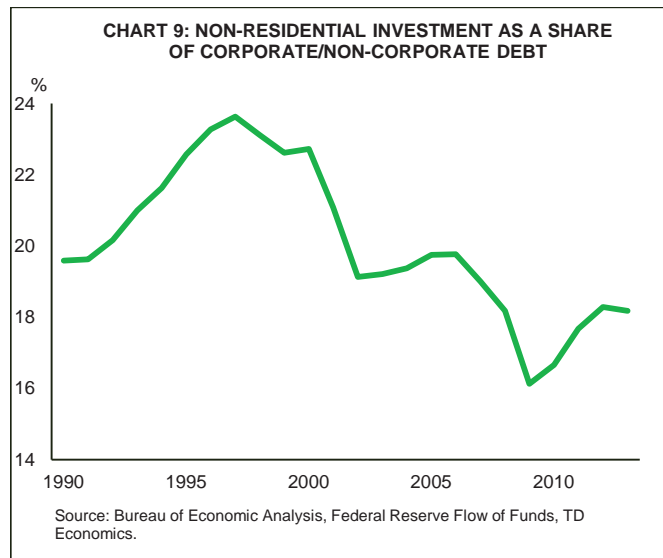


respectively. As of 2013, companies in these sectors had respective cash ratios which were almost 3 times higher relative to 1990. The same holds true in other R&D intensive sectors such as Transportation of Energy, Pharmaceuticals & Biotech, Software & Services and Telecommunications, all of which have experienced two to six fold increases in their cash holdings relative to total assets in the last two and half decades.

Changing Factors of Investment

The move towards more R&D driven investment is not only specific to the sectors shown in Chart 7. In fact, it represents a broader shift in how businesses are investing, especially given the fact that an increasing amount of U.S. manufacturing is moving towards high-tech manufacturing. As a share of non-residential investment, R&D currently accounts for 13.5% of the aggregate measure – nearly double its contribution of the early 1980s – while equipment’s contribution has shrunk by a little over eight percentage points during that same time period. To a large extent, a structural decline in demand for computers and information processing equipment was behind this.

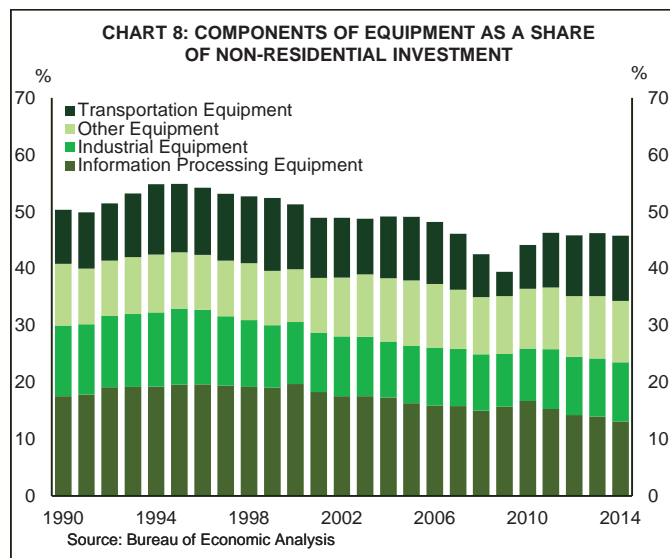
During the 1990’s, technological advancements were happening very quickly, ultimately putting downward pressure on the price of computing power. However, by the early 2000’s, slower advancements in the pace of technological development helped to slow investment in computer and other information processing equipment dramatically. While innovations in technology have continued since the “dot.com” period, the pace of advancement has been much slower. This has helped lift the lifespan of things like

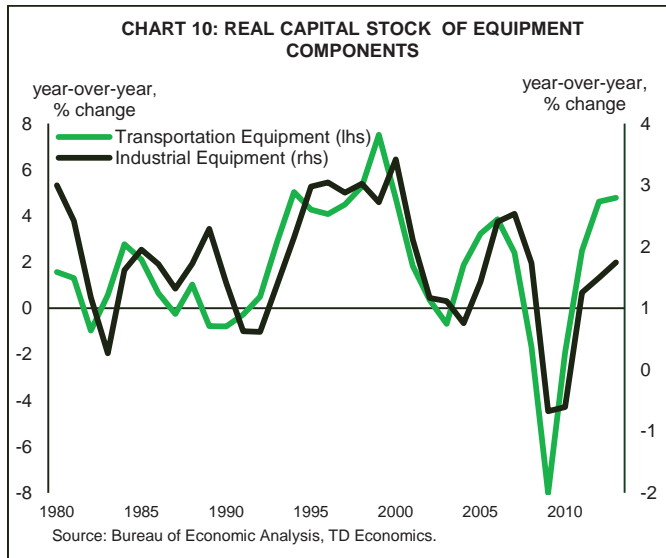


computers and software, thus reducing the need to replace as frequently.

In addition to increasing longevity, innovations have also increased economies of scale. A good example of this is cloud computing. Proprietary information that may have previously been stored in-house by a corporation is now uploaded to a server(s), “The Cloud”, which are managed by a handful of highly specialized IT companies. Due to the clouds scalable nature, demand for things like computers, software and other peripheral equipment is likely to remain lower than what we would have seen even a decade ago. The other modern-day phenomenon is that the amount of capital required by today’s start-up companies – especially in the tech industry – is considerably lower than what it was a decade ago. Consider WhatsApp – an interface messenger system for smartphones. It sold to Facebook for a whopping \$19 billion, and it did so having very little in terms of capital investment. This captures what Larry Summers refers to as the “changing character of productive activity”. To some extent, the downward trend in debt-financing relative to non-residential investment offers some evidence of softer demand for information processing equipment (Chart 9), as investment shifts to being more R&D driven.

With that being said, we do expect increased momentum to come from other areas of non-residential investment, including industrial (engines, fabricated products, metal working machinery) and transportation (trucks, autos, aircrafts, ships, etc.) related equipment. Both components were hit particularly hard during the financial crisis, with their respective capital stocks falling by 1.3% and 11.2%. Five years after the recession, there is still room for each of





these stocks to grow, especially on the transportation side. Even though it has risen nearly four-fold since the recession trough, the real capital stock of transportation equipment (as of the end of 2013) remains below its pre-recession peak. Once it has surpassed that level, the fact that much of the capital accumulated leading up to the financial crisis is now coming to the end of its lifecycle – typically lasting for roughly 7 years – provides additional runway for growth in the years that follow.

Investment from the more non-traditional sources will also play more of a role moving forward. For example, mining and oilfield machinery has more than tripled in size over the last several years, as breakthroughs in drilling technology such as hydraulic fracturing and horizontal drilling have substantially increased production capacity. Moving forward, ongoing developments in the Shale Gas industry should continue to support increased investment in mining and oilfield machinery equipment. Moreover, the need to build infrastructure and increase pipeline capacity – particularly in the Northeast – will take on increased importance over the coming years, as the Marcellus and Utica oilfields continue to ramp-up production.

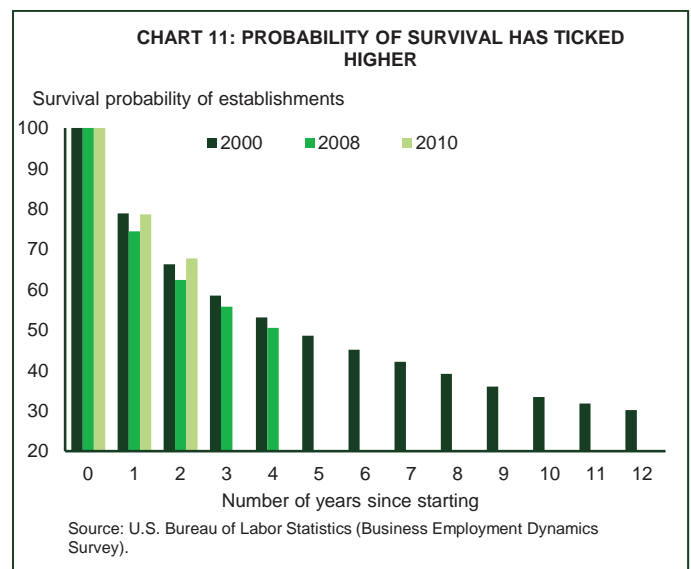
Also encouraging has been the recent surge in investment activity in construction machinery. During the recession, real investment in this sector declined by a whopping 60.1% as the housing market suffered its worst downturn in recorded history. However, since bottoming out in the fourth quarter of 2009, investment in construction machinery has been on a tear, averaging annual growth of 30.8% in each of the last four years. While this breakneck pace is unlikely to be sustained going forward, a strengthening housing recovery

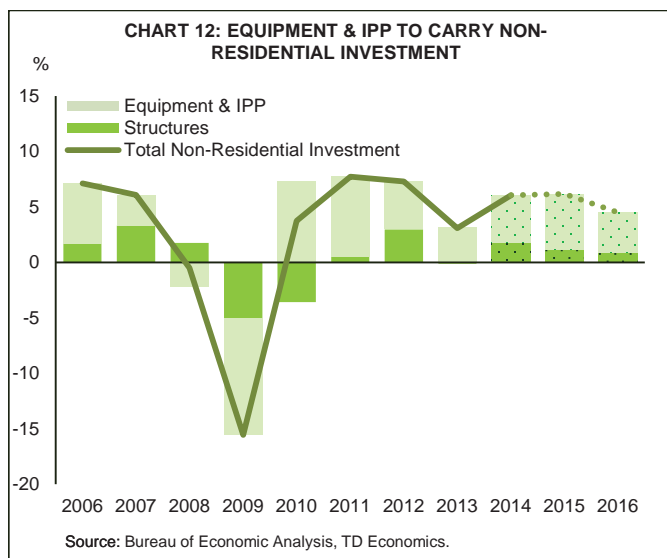
will continue to support residential construction over the coming years, ultimately supporting ongoing investment in construction machinery.

Economic Factors Are Gaining Momentum

While these non-traditional drivers will help to offset some of the structural decline in equipment, the days of sustained double-digit growth in equipment and IPP are likely a thing of the past. Still, there is plenty of good news to still be had for the investment outlook. The extent to which elevated uncertainty and a serially weak economy stymied investment intentions in the past is now coming to a close. Economic growth was north of 4% in the second quarter and is tracking roughly 3% for the second half of this year. High cash holdings allows firms to respond to the changing economic conditions, while both firm survivorship rates and firm creation are on the rise again. In addition, years of underinvestment across most major good producing sectors has led to a rise in capacity utilization rates – a measure that captures the rate at which potential output is being met. For example, since the beginning of 2010, capacity utilization rates in the durable (primary metal, machinery, computer and electronic products, etc.) and non-durable (textile, chemical, paper, etc.) manufacturing sectors have increased by 10.9 percentage points (pp) and 5.3 pp, respectively. Both sit north of their historical averages. All this speaks to further increases in investment, be it R&D or physical equipment, as strengthening domestic demand pushes firms to expand capacity, infrastructure, technology and equipment.

The investment environment will be further assisted by easier credit conditions. As reported in the Federal Reserve’s





Conclusion

Outside of the stimulus induced rebound immediately following the 2008-09 recession, business investment has grown at a much slower pace than fundamentals would have predicted. The reasons for the weaker growth are not hard to find. Heightened political and economic uncertainty, sluggish private sector growth, and exceptionally tight credit conditions are all the normal suspects. However, mixed in with these factors has been a structural decline in demand for some of the more technological driven components of non-residential investment (i.e. computers and other information processing equipment), resulting from both a slower pace of innovation and reduced capital needs across industries.

Stronger growth in R&D and other components of equipment will help to partially offset the slower pace of investment in information processing equipment. We expect growth in investment of equipment and IPP to average 6.5% (annualized) over the next year and half – a pace that is more than two percentage points stronger than what was realized over the past two years.

July Senior Loan Office Survey (SLOS), banks continue to ease their lending policies through reduced costs of credit lines, decreased use of interest rate floors, eased loan covenants, and reduced risk premiums for both commercial & industrial (C&I) and commercial real estate (CRE) loans. While looser credit conditions should help spur investment across all businesses, small to medium sized businesses are likely to benefit the most due to their heavy reliance on external financing.

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END NOTES

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