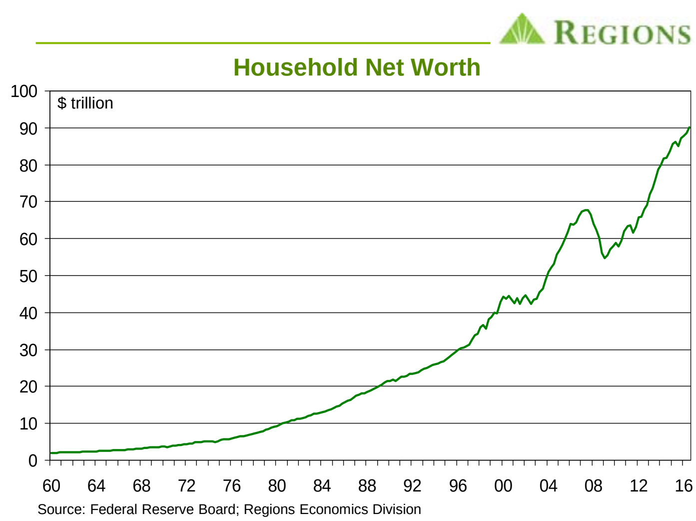
Q3 2016 Flow Of Funds: Higher Interest Rates Loom Over Debt-Heavy Balance Sheets

Each quarter the Federal Reserve produces its "Z1" statistical release *Financial Accounts of the United States* or, as it is also known, the *Flow of Funds Accounts*. The Z1 release provides a detailed look at the levels of assets and liabilities, with an emphasis on financial instruments, held in the various sectors of the economy and the flows of these financial instruments between the various sectors. The broader Integrated Macroeconomic Accounts relate gross domestic product (GDP) to lending, borrowing and investment amongst the public and private sectors, the latter broken down into the corporate and household sectors. In short, the Z1 release is the most comprehensive mapping of financial flows through the economy and provides much useful detail, for instance, detail on household net worth and its underlying components. The data come with a lengthy lag and the Federal Reserve only recently released the Q3 2016 data; what follows is a summary of some of the most relevant findings for the household, business, and government sectors of the U.S. economy. In short, the Q3 data show further improvement in household and corporate balance sheets, though we do remain concerned about the levels of debt in the various sectors of the U.S. economy. It is true that over the past several years extraordinarily low (which is a polite way of saying "artificially low") interest rates have held down debt service burdens, the recent increase in interest rates should be a reminder that those burdens will get heavier as interest rates rise. And, even if there is has been greater utilization of fixed rate debt in recent years, which would limit any increases in debt service burdens as interest rates rise, higher rates nonetheless raise the cost of taking on new debt. To the extent we see further increases in market interest rates over coming quarters, that could be followed by deceleration in the rate of debt growth which, in turn, implies some deceleration in the growth of overall economic activity. While faster income growth would provide somewhat of an offset, we see less capacity for debt to fuel overall economic growth going forward.



Source: Federal Reserve Board; Regions Economics Division

<u>Household Sector</u>: Household net worth rose by $1.59 trillion in Q3 2016 to reach a level of $90.196 trillion which is a new all-time high. Gains in net worth in Q3 mainly reflect rising home values and higher stock prices, while valuations of other types of household assets rose to a lesser extent. In the aggregate, asset holdings of U.S. households stood at roughly $105 trillion while the aggregate level of household liabilities stood at roughly $15 trillion. To be sure, the *Flow of Funds* data show only aggregate totals and tell us nothing about distribution, which can help us reconcile record household net worth and the considerable economic and financial frustration across a wide swath of the American electorate that was on display in the recent Presidential election.

Still, it is worth noting that over the past several quarters increases in household net worth have been spread over a larger number of U.S. households in the form of rising house prices boosting owner's equity in residential real estate. In the earlier phases of the current economic expansion, rising household net worth was mainly driven by rising equity/mutual fund valuations. But, as the expansion has worn on and the housing market has healed further, house price appreciation has strengthened. Given the incidence of homeownership, even at relatively low rates by historical standards, is greater than the incidence of direct stock ownership, it follows that a greater number of households have shared in the gains in household net worth. That being said, renter households facing increasing rent cost burdens are less likely to have seen meaningful increases in their net worth over recent quarters.

Owner's equity in residential real estate topped $13 trillion in Q3 2016, and represented just over 57 percent of the aggregate value of residential real estate, the highest reading on either metric since Q2 2006. This leaves owner's equity in residential real estate about 3.2 percent below the peak valuation recorded in Q1 2006, as can be seen in the chart on the following page. It is also worth noting another

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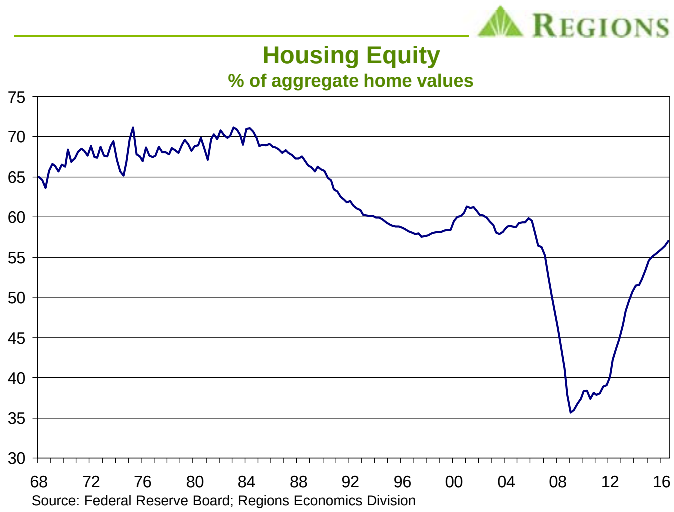
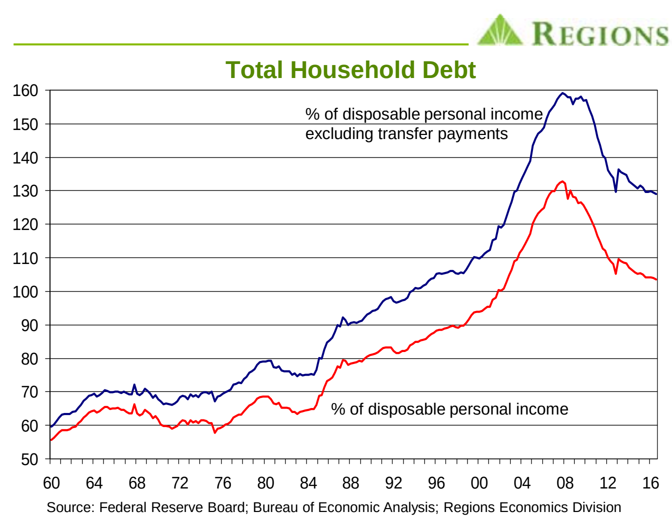
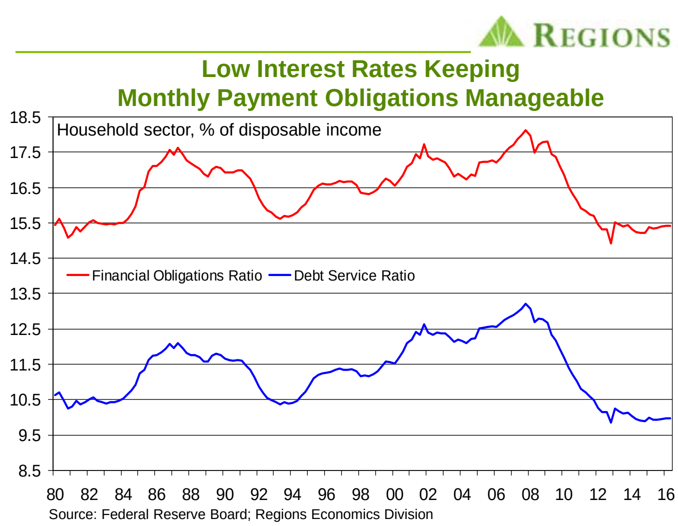


implication of rising house prices contributing to increases in household net worth rather than rising stock prices being the main driver of those increases. While there is considerable talk of how "wealth effects" channel rising asset values into higher consumer spending, empirical work (our own and that of others) shows little, if any, wealth effect stemming from rising stock prices but a much larger wealth effect stemming from rising house prices. Still, we don't believe there to have been much of a boost to consumer spending from the recent acceleration in house price growth. Homeowners must be willing to tap into their housing equity, and lenders must be willing to enable them to do so, in order for any such wealth effects to be significant. Moreover, data from the Census Bureau show over 30 percent of owner occupied housing units had no mortgage debt attached to them, meaning that of those homeowners with mortgage debt, their equity share is below, for many considerably below, the aggregate figure of just over 57 percent.

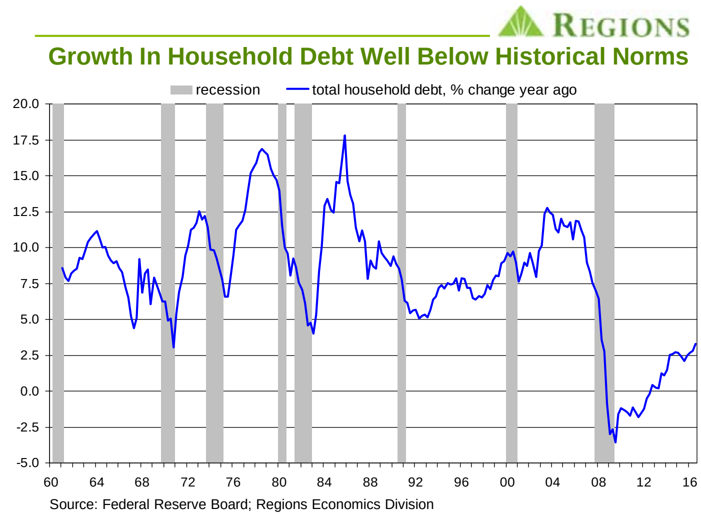
Still, coming quarters could see further increases in house prices generate at least some wealth effects that translate into additional consumer spending. Data from CoreLogic show about 6.3 percent of all mortgage housing units have a negative equity position, significantly lower than the peak of 26 percent seen in Q4 2009 (note the CoreLogic data only go back to 2009, but the current 6.3 percent figure is still likely above "normal"). It is interesting to note that the five states with the highest incidence of negative equity – Nevada (14.2 percent of all mortgaged housing units), Florida (12.5 percent), Illinois (10.6 percent), Arizona (10.6 percent), and Rhode Island (10.0 percent) – account for 30.6 percent of all negative equity mortgage loans but only 16.3 percent of all outstanding mortgage loans, per the CoreLogic data. There are, of course, many households for whom equity positions are positive, but only slightly, so it could take time, and further increases in house prices, before those in this position are willing to begin tapping into equity and lenders are willing to let them do so. It should, however, be noted that to the extent we see further increases in mortgage interest rates and this leads to a pullback in housing market activity, the rate of house price appreciation would surely slow, which would be reflected in slower growth in owner's equity and, in turn, household net worth.





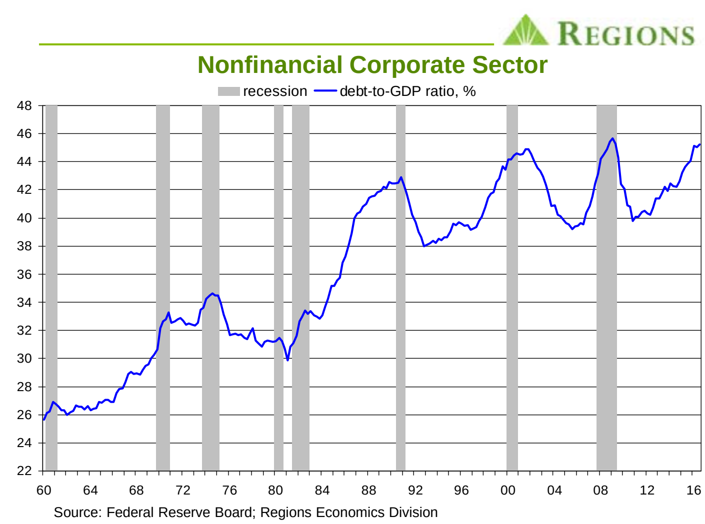
There are other reasons to be mindful of how the household sector could be impacted by further increases in market interest rates over coming quarters, and the two charts above are useful for framing this discussion. The first chart shows the ratio of total household debt to disposable personal income, which as of Q3 stood at 103.64 percent, down slightly from Q2's reading of 103.89 percent and far below the peak of 132.78 percent in Q4 2007. We think a more relevant measure is the ratio of debt to disposable personal income excluding transfer payments, as this is the segment of income from which households have the means to pay down debt. Many items that are booked as transfer payments do not actually entail cash transfers but instead reflect valuations of services provided to recipients, such as health care services, while cash transfer payments are generally spent on necessities rather than on discretionary spending or debt repayment. Based on this narrower measure of income, the debt-to-income ratio stood at 129.11 percent as of Q3 2016 compared to the peak of 159.11 percent in Q4 2016.

The path of the debt-to-income ratio, regardless of which measure of income you use, has been a point of considerable contention between those, including us, who have argued it is not sustainable at its current level, and those who argue the level of debt in essence does not matter as long as households can service their debts. Thus far, we've been on the wrong side of this argument, having expected the ratio to descend at a much faster rate than has been the case. This is where the second chart above comes into play; despite a still-elevated level of debt, monthly debt service burdens are hovering at historical lows, while the broader financial obligations ratio (which includes lease payments and other forms of monthly payments) remains near its historical low. For this, households have an extended period of ultra-low interest rates to thank. The question going forward, however, is how rapidly these monthly debt service burdens will rise as market interest rates rise. To be sure, the ratios are well below historical averages, so rising from current low levels doesn't in and of itself suggest a spike in financial distress in the household sector. But, this is where we believe the level of debt could become a more meaningful constraint in any additional growth in household debt. It's one thing to service existing debt that carries a low fixed rate, but it's quite another thing to take on higher-cost debt, and we do expect rising interest rates to curb growth of household debt.

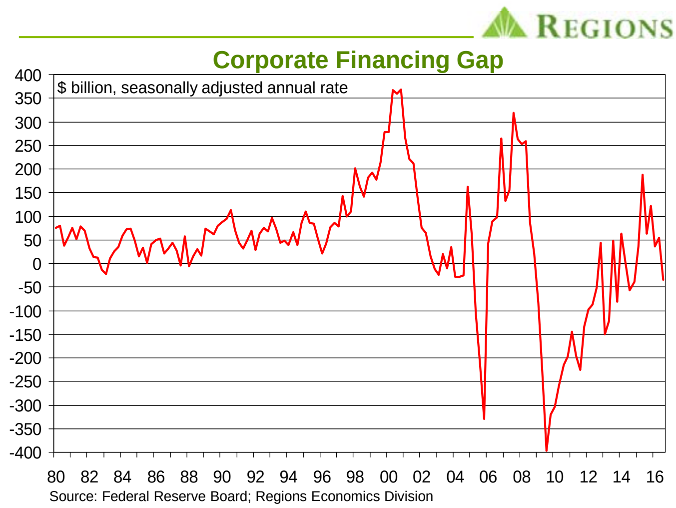


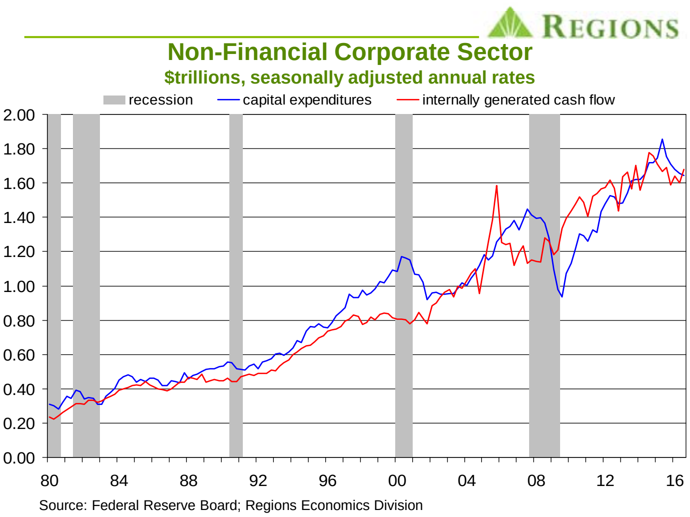
Then again, household debt hasn't exactly been growing at anything approaching a robust rate, low interest rates or not. As seen in the chart to the side, growth in household debt remains notably slow, not only in relation to historical averages but also in relation to growth rates seen at prior cyclical troughs. To be sure, in the first few years after the 2007-09 recession household debt continued to decline, which was more a reflection of lenders writing off bad debt than genuine deleveraging but as time has passed households have, at least to some degree, been deleveraging. While there has been rapid growth in auto debt and student loan debt, total mortgage debt has been growing at a fairly slow rate, reflecting a sluggish housing market recovery, the absence of cash-out mortgage refinancing, and households not tapping into housing equity, while growth in revolving consumer credit has also been notably slow, as consumers have been disciplined in the use of credit to finance current consumption spending. This restraint in the use of debt to facilitate current consumption is one key reason trend growth in consumer spending in the post-recession period has lagged that seen prior to the recession. The broader point here, however, is we think there is room for doubt as to how much we can expect to see growth in household debt accelerate in the face of rising interest rates. If we are right on this point, consumer spending and housing market activity may advance at slower rates than many analysts are now expecting, and this may be the case even if we do see a faster rate of income growth over coming quarters.

Corporate Sector: The *Flow of Funds* data also contain details on financial flows through the corporate sector of the U.S. economy, though here our focus will be on the nonfinancial corporate sector. In a parallel to the household sector, low interest rates have been blunting the impact of an elevated level of debt in the nonfinancial corporate sector. At least at present, debt service is not posing a cumbersome burden on U.S. corporations but we have the same concerns about rising interest rates here as we do in the household sector. One difference between the (nonfinancial) corporate and household sectors over recent years, however, is that the growth of corporate debt has been much more rapid than has growth of household debt. As seen in the chart to the side, the ratio of nonfinancial corporate debt-to-GDP is bumping up against historical highs, levels which have corresponded to the past two recessions.



We have an added concern as far as the corporate sector goes, however. Specifically, while there has been considerable growth in corporate debt over the past several years, there is little to actually show for that debt. We have on any number of occasions pointed out that one trait of the current expansion has been persistent underinvestment on the part of firms, resulting in an increasingly aged capital stock that we believe is acting as a material drag on productivity growth. In other words, instead of the proceeds being used to help increase the economy's productive capacity, a considerable portion of corporate debt taken on over recent years has been used to fund share buybacks, dividend payments, and merger & acquisition activity. Yes, we get that firms were simply responding to the set of incentives they were faced with, particularly in an atmosphere of persistently slow growth in top-line corporate revenue. The point here isn't that any of these are inherently undesirable activities, simply that none of them do anything to enhance the economy's productive capacity. If, as seems widely expected, those incentives change over coming quarters and firms have the incentive to invest in the capital stock, our concern is that the level of outstanding debt may be a constraint on them taking on new debt to finance this investment.





It is unclear, however, the extent to which this would be a binding constraint. The chart to the left above shows the corporate "financing gap," or, the difference between aggregate capital expenditures and aggregate corporate cash flows. Simply put, the financing gap tells us the external financing needs of firms, or, the extent to which they must raise outside funds to finance capital expenditures. If the gap is negative, as was the case in Q3 2016 (at negative $35.3 billion) and as has been the case in 21 of the 31 calendar quarters since 2009, it means firms are generating more in internal cash flow than they are paying out for capital expenditures. As can be seen in the chart, it is highly unusual for the financing gap to be as persistently negative as it has been over the past several years. The chart to the right simply breaks out the two components of the financing gap. As a side note, while the chart to the right shows growth in capital expenditures, the contribution of business investment in plant and equipment to overall GDP growth over the course of the current expansion has been considerably below historical norms, compounded by the fact that much of the growth in such investment has been concentrated in the energy industry. It is on the basis of this below-average contribution to GDP growth we argue that there has been persistent underinvestment over the course of the current expansion.

One might look at the above charts and conclude firms have ample cash with which to self-fund capital outlays or, at the very least, enough cash so that the need for external financing is minimal. This is where we would again caution that the *Flow of Funds* data reflect aggregate levels, and focusing on these aggregates may result in misleading conclusions. For instance, there is considerable evidence to suggest corporate cash stockpiles are highly concentrated amongst a relatively small subset of firms which, to the extent this is the case, means there is a greater need for external financing than implied by the financing gap. Additionally, a considerable portion of corporate cash is parked overseas to avoid the punitive tax rates firms are subject to upon repatriating those foreign earnings. Again, though, to the extent this is the case, it suggests a greater need for external financing of capital outlays, even given what has been persistent underinvestment on the part of firms over the past several years.

Our view is that over coming quarters firms will have greater incentive to invest in expanding/upgrading their capital stocks. We have for some time argued that, in the two percent growth world we have been living in over the past several years, firms have had little need to invest to expand capacity, particularly when they had an ample quantity of relatively low cost labor at their disposal. Firms have basically been able to substitute labor for capital and satisfy what has been only modest growth in final demand. Going forward, we see two barriers to this strategy. First, the pool of available labor has steadily diminished over the past few years, and labor costs are rising at a faster rate, hence diminishing the ability of firms to substitute labor for capital and giving them less incentive to do so. Second, while we don't for a minute buy into the notion that expansionary fiscal policy and significant regulatory relief are going to unleash a sustained

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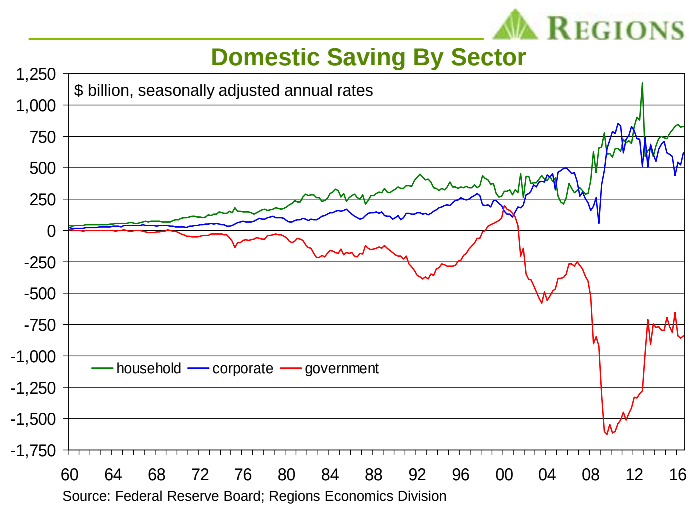
period of real GDP growth between three and four percent, we do see some upside potential for growth given the net effect of what we expect to be changes to fiscal, regulatory, and trade policy over coming months. In turn, we think faster growth will give firms at least some incentive to play "catch up" in terms of capital spending. So, this leaves us wondering to what extent the already elevated level of debt in the nonfinancial corporate sector will act as a constraint on the ability of firms to take on even more debt, particularly to the extent we see further increases in interest rates that would make this a more costly undertaking. To be sure, faster revenue growth would help mitigate the impact of higher interest rates, just as faster income growth would help mitigate the impact of higher interest rates on household debt service burdens. In both cases, it will be a matter of degree, but, again, we have a hard time getting our heads around the argument that already elevated debt levels simply don't matter, which is what many of our counterparts seem to believe.

Domestic Saving: Finally, utilizing data from the *Flow of Funds*, we can track the level of domestic saving in the U.S. economy, breaking out the contributions of the household, corporate, and government sectors. As of Q3 2016, the level of domestic saving stood at just over $603 billion, with private sector saving of roughly $1.446 trillion and government sector dissaving of roughly $843 billion. Looked at another way, total domestic saving was equivalent to just over 3.2 percent of GDP in Q3 2016, with private sector saving equivalent to 7.75 percent of GDP and combined public sector (i.e., combined local, state, and federal government) dissaving equivalent to 4.42 percent of GDP.



It's worth thinking about how domestic saving may change over coming quarters, and it is certainly worth thinking about why that matters. After all, one learns in their very first macroeconomics course that in any economy the total level of saving is equal to the total level of investment. Thanks to what has been progressively greater levels of dissaving in the government sector and a downward drift in the household saving rate, total domestic saving as a share of GDP has been steadily diminishing for some time now. This is another way of saying the domestic saving rate has been steadily drifting lower. For instance, prior to the mid-1970s domestic saving was routinely equivalent to more than 10 percent of GDP (keep in mind the numbers shown in the chart here are in nominal terms, so while the level of domestic saving was much lower back then, so too was the level of GDP). At the same time, however, we have had an increasing level of foreign saving flow into the U.S. economy, thus negating any upward pressure on interest rates a diminishing domestic saving rate would otherwise have generated.

Coming years are likely to see the magnitude of dissaving in the government sector increase, potentially dramatically so if we look several years down the road at the ticking entitlement time bomb that politicians don't seem to want to acknowledge, let alone take steps to disarm. Of course, it's easy for politicians to ignore this ticking time bomb as that seems to be what, on the whole, the voting public wants. Even before we get there, however, if we do see the new Administration and the new Congress push through legislation to lower corporate and individual tax rates while at the same time increasing federal government spending, near-term government budget deficits figure to be larger, perhaps significantly so. As to how households will respond to lower tax rates and at least some increase in the trend rate of growth of personal income, there is no clear cut answer, as anyone who has looked at a chart of the household saving rate over time can attest to. Our empirical work has shown that traditional household saving has been displaced over the past few decades by a higher incidence of asset ownership amongst households and the ability to monetize increases in asset values without selling the assets. Over recent years, however, households have resorted to traditional savings to a higher degree, whether out of an increased degree of risk aversion or in response to what has barely been a positive return on saving (i.e., households feel compelled to save increasing amounts to generate a targeted pool of funds, which may be more common amongst those householders approaching retirement).

But, in the absence of a sustained increase in household savings while the degree of government dissaving increases, it seems likely that the domestic saving rate will fall further over coming years. This makes it imperative that the U.S. continue to attract foreign savings in order to blunt upward pressure on interest rates. Of course, attracting foreign savings will be greatly complicated should the U.S. follow through with moves to limit the flow of foreign goods into the U.S. economy. After all, another thing one learns in their first course on macroeconomics is that the flip side of a deficit in the trade account is a surplus in the capital account. So, in that sense, any efforts to "teach a lesson" to China, Mexico, Canada, or any of the more than 100 other countries the U.S. runs a trade deficit with may hurt us more than it hurts them. Just something to think about. You know, for anyone inclined to actually think about these things.

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