Artigos de Bancos Centrais e BIS

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Good morning. It is a pleasure to have the opportunity to speak at this year’s gathering of the National Retail Federation. Retail activity plays a key role in the U.S. economy, with consumption comprising about two-thirds of total gross domestic product. As such, understanding what is happening in your sector is critical in assessing the economic outlook—and, with that, the outlook for employment, inflation and interest rates. As always, what I have to say reflects my own views and not necessarily those of the Federal Open Market Committee or the Federal Reserve System.

This morning, I will be focusing on retail spending—an important element of household consumption. But, I will do so in a way that’s perhaps somewhat different from the usual approach, focusing in particular on the connections between housing and retail sales. I will argue that there have been some dramatic changes that have taken place in the way that households finance their consumption. I believe—and hope to convince you—that changes in the housing and mortgage markets have affected the willingness and ability of households to borrow, and that this, in turn, has had important consequences for the dynamics of consumption over the last decade. It is an important reason why the economic recovery and expansion have been weaker than we would like, despite the efforts of the Federal Reserve to stimulate economic activity. It also matters as we look forward. The good news is that, while the current expansion is quite old in chronological terms, it is still relatively young in terms of the health of household finances. Later in my remarks, I will talk a bit about the outlook for consumer spending in 2017 and beyond.

It’s worth starting off with some background in order to develop the linkage between housing wealth and retail spending. Household incomes tend to increase as individuals grow older and become more skilled in their work and better matched to their employers. This tends to continue until they approach retirement age. This means that incomes are much higher later in life than when people first enter the workforce. Ideally, households would like to be able to even out their consumption based on their lifetime incomes, raising consumption in their early adulthood years. In general, this would mean that young people would consume a relatively high share of their incomes, while older people would save more. Indeed, young people might even wish to borrow against some of their future income so that they can enjoy some of those benefits earlier in their lifetimes.

However, there are limits on the ability to shift consumption to earlier in life through borrowing. One problem is that lenders don’t have a reliable way to compel repayment of such debts. Consequently, the young may not have access to the credit they need to even out consumption to the extent they would like. A pledge of assets—collateral—
can help to solve this problem, since it can be claimed by the lender in the event of a loan default.

For most households, the main form of wealth is human capital—the value of the wages that the household members can earn over the course of their lifetimes. But human capital cannot always be credibly pledged as collateral. For funding of educational investments, government intervention in the form of the federally-guaranteed student loan program helps address this problem. While private student loans exist, they typically require a co-signer with a strong credit record. Moreover, these borrowing sources are broadly restricted to education-related spending 1 / 5 BIS central bankers’ speeches only.

The second most important asset on the balance sheet of many households is housing equity. So, in addition to being a source of shelter, housing can be a major form of collateral for borrowing for many households. In fact, for those households that have collateral available to secure loans, housing equity is by far the most important form of collateral.

What this tells us is that the performance of the housing and mortgage markets are important to the retail business. When home prices are rising and housing equity can easily be converted into cash, we can expect to see relatively high levels of consumption, all else equal. Conversely, when home prices are flat or declining, or mortgage credit is tight, this will put a damper on retail spending. Events of the last decade have driven this point home in a very clear way.

It is well known that beginning in the mid-1990s and intensifying in the early 2000s, there was a massive U.S. housing boom that dramatically increased the value of residential real estate in the United States. Over the period from 1995 to 2006, the aggregate value of real estate owned by households and nonprofits nearly tripled, rising from $8.6 trillion to nearly $25 trillion.

A remarkable, yet not widely-known, fact about this boom period is that while home values were rising very quickly, borrowing was growing almost exactly as fast. Rather than saving the extra wealth that was being generated by the housing boom, households were diverting a large share of it to other purposes. Indeed, the fraction of every additional dollar of households’ housing wealth that was consumed seems to have been higher than that for financial wealth—such as investments in equities and bonds—suggesting that they viewed the increase in home prices as permanent.

In order to be able to assess the evolution of household finances more precisely, we worked with Equifax—a major credit bureau—to create a new database that tracks the credit files of a random sample of households over time. From this consumer credit panel data, we conclude that between 2004 and 2006, households were increasing their cash flow by over $200 billion a year by borrowing against their housing equity collateral. They supplemented that with another $185 billion through non-mortgage borrowing. So, at the height of the boom, annual consumption was being supplemented by around $400 billion in cash flow from debt, much of it collateralized by housing.

As we now know, homeowners were mistaken in viewing the home price increases during the boom as permanent. Things turned quickly as housing supply increased, home prices softened and mortgage underwriting standards tightened sharply as credit losses on residential mortgage lending climbed. The rise and fall of mortgage
securitization activity marked by tranching mortgage cash flows into collateralized debt obligations (CDOs) exacerbated the downturn. Home values began to fall in mid-2006. By 2008, we saw a massive reversal in the way people used their housing equity to finance consumption. People went from borrowing hundreds of billions of dollars per year and increasing their mortgage debt, to paying back hundreds of billions of dollars and reducing their mortgage debt. Households deleveraged even apart from the decline in household debt associated with the charge-offs from foreclosures. Instead of $400 billion in net cash flow from increased borrowing, this net cash flow sharply reversed to negative $150 billion by 2010, with increased residential mortgage debt pay-down being the main source. This rapid swing—a reduction of more than $500 billion on an annual basis—in the resources available for household consumption was associated with a sharp and prolonged slump in personal consumption expenditures during the Great Recession. Typically, consumption growth slows but remains positive during a recession. In contrast, consumption actually contracted by over $300 billion during the Great Recession.

Between 2009 and 2012, households continued paying down debt of all kinds—with the exception of student loans, which behave differently from most other forms of consumer borrowing. Ultimately, housing prices stabilized and began to increase again in 2012. However, since that turning point in home prices over five years ago, something surprising has happened. Nationally, home values have risen over 40 percent since 2012, and are now very close to their pre-crisis levels on average—just 4 percent below their all-time peak reached in early 2006. Most other kinds of debt—first auto, and now, credit card debt—have joined student debt by starting to rise again, resuming their traditional role in financing consumption. The surprising development is that housing debt has stayed virtually flat. The previous behavior of using housing debt to finance other kinds of consumption seems to have completely disappeared. Instead, people are apparently leaving the wealth generated by rising home prices "locked up" in their homes.

The implications of this development have been quite significant for the retail sector. As I noted earlier, housing debt during the boom was rising at essentially the same pace as home values, leaving household leverage ratios more or less constant. If housing debt had risen apace with home prices since 2012—rather than staying flat as it has—then we would once again be seeing housing debt producing cash flows available for consumption of about $200 billion a year. Instead, households continue to divert about $200 billion annually to paying down their housing debt. That's a difference of roughly $400 billion per year, or about 3 percent of total consumption. Relative to historical patterns the household saving rate currently seems quite high, given the ratio of household net worth to disposable income.

So, why has household behavior with respect to housing debt apparently changed so much? As always, the data reflect the result of the interaction between the demand and supply sides of the credit market. One obvious demand-side candidate is that consumers may have become more cautious about housing’s value as a financial investment, or its value as collateral for borrowing to finance consumption. That is, households may have come to view housing wealth as more similar to financial wealth in that changes can be transitory rather than permanent. Consequently, it may be viewed as prudent not to spend too much out of increases in these sources of wealth. Additionally, the deep job losses that occurred during the Great Recession may have
also impressed on households the need for precautionary savings against adverse income shocks.

In fact, the lessons from the housing boom and bust may have been even more traumatic. There are many versions of this story, and most have a word like “scarring” in them. Perhaps some potential homeowners, having seen the wild gyrations in home prices during the 2000s, have soured on homeownership altogether. This would result in a reduced homeownership rate due to a loss of confidence in housing as a good financial investment. Data indicate that homeownership has declined, especially among younger workers. However, households in our Survey of Consumer Expectations continue to report that they believe that housing is a sound financial investment. So, the explanation for our declining homeownership rate doesn’t appear to be that homeownership has lost its luster as an investment. And, reduced homeownership doesn’t explain why people who still own homes have become less likely to tap their available equity to finance consumption.

Other households may have been scarred by the experience of seeing their neighbors who borrowed heavily during the boom lose their homes and have their credit ratings badly damaged. Observing these consequences may dissuade current homeowners from making themselves vulnerable to foreclosure by borrowing against rising home values. This would lead to an increase in a household’s precautionary demand for savings in the form of higher housing equity. This increased equity cushion would guard against the risk that the household could find itself in a negative equity position in the event of a future decline in home prices. With an equity cushion, even if the household were to experience a job loss during a future housing downturn, they would be able to sell their home, pay off the mortgage and avoid any damage to their credit. Homeowners’ desire to finance consumption by borrowing against housing equity might also be diminished by their desire to retain their ability to move easily. The decline in home prices during 3 / 5 BIS central bankers’ speeches the bust eliminated many households’ home equity, which is traditionally the source of down payments for households that wish to move and remain homeowners. This mobility might be associated with a change of labor markets or an upgrade of your home or residential location. It is possible that households have saved their newly recovered equity in order to rebuild the capacity to make future down payments and therefore restore this option to move. It is certainly the case that mobility has declined since the housing bust, a fact consistent with this hypothesis.

Many homeowners also took advantage of the Federal Reserve’s accommodative monetary policy stance to refinance into very low fixed-rate mortgages. As mortgage rates rise, there is a higher financial cost to extracting housing equity through a cash-out refinancing. The pace of cash-out refinancing has indeed been very low even as housing equity has risen, consistent with this hypothesis. But, owners have other ways of tapping equity, like taking out a second mortgage or a home equity line of credit (HELOC). Interestingly, these forms of housing debt have been paid down even more aggressively than first mortgages. So, the fluctuation in the level of mortgage rates also does not explain the change in household behavior.

A final factor that may be reducing the demand for home equity extraction is a change in the distribution of housing equity in the population. Even though aggregate home equity is back to pre-crisis levels, the data indicate that the growth in equity since 2012
has gone disproportionately to older, wealthier households. Presumably, these households have less demand for credit to fund their consumption plans. In contrast, those who would like to convert housing wealth into retail purchases have not yet seen their housing equity restored to its earlier levels—reflecting, in part, slower rates of mortgage balance paydown. In addition, younger and less credit-worthy households also experienced higher relative declines in homeownership rates.

While some of these demand-side factors seem to be playing a role in reducing home equity extraction, there is undoubtedly a strong supply-side effect in operation as well. Our consumer credit data indicate that lenders' adoption of minimum credit scores for mortgage lending and their considerably more rigorous underwriting standards for HELOCs have played a very important role in limiting consumers' ability to convert home equity into new consumption. The drivers of this change in lender behavior are complex, but are likely to include a combination of more regulation and stress testing of banks' portfolios, more conservative practices by the government sponsored enterprises Fannie Mae and Freddie Mac—which tend to dictate underwriting practices for a large part of the market—and banks' own experience from the crisis period, when so many lenders faced extreme stress and residential real estate seemed to be the main culprit.

The fact that housing prices declined so much and that the foreclosure process was so often drawn out may also have caused lenders to reassess how much to rely on the housing collateral as security for their loans. In response, lenders may have shifted their underwriting to put more weight on the creditworthiness of the borrower rather than relying mainly on the value of the collateral. This is consistent with the fact that mortgage credit is now much harder to get for lower credit-rated borrowers than during the housing boom.

So, what's next? When and to what extent will households again start tapping home equity to fund their consumption? Answers to these questions will determine the degree to which housing equity growth will add to income growth as a fundamental driver of consumption. We do not want to repeat the experience from the housing boom, but there are prudent ways for households to access their housing equity.

It is hard to predict when the recent trends might change, given that some milestones have passed that could have reignited lenders' and borrowers' appetite for home lending. First, home prices stopped falling in 2010, which could have been taken as a signal that a complete collapse was not imminent and that the worst was behind us, yet mortgage borrowers continued to divert cash to paying down their debts. Second, home prices—and home equity—resumed their growth in 2012, indicating that the market was recovering. Yet, far from extracting this equity, borrowers continued to pay down their mortgages thereby reinforcing the effect of the home price increases in terms of rebuilding housing equity. Aggregate home prices and home equity have almost reached their previous peaks.

Time will tell if there is a renewed appetite, on both lenders' and borrowers' parts, to convert housing wealth into consumption. Perhaps, we will soon see a recovery in cash-out refinancing and in HELOC borrowing as a means for households to expand their consumption. In this case, the household saving rate will begin to decline. Or, we may need to wait longer for households to feel confident enough to extract some of their home equity, and for lenders to decide that expanding such lending is safe
enough for their balance sheets. Whatever the timing, a return to a reasonable pattern of home equity extraction would be a positive development for retailers, and would provide a boost to aggregate growth. In the meantime, consumption growth will largely be determined by income growth, the trajectory of wages and the strength of the labor market.

The U.S. expansion is now in its eighth year. By historical standards, it is long in the tooth. Despite this, I am optimistic that the economic expansion will continue over the next few years. First, it is important to note that economic expansions don’t simply die of old age. Usually, they end either because inflation climbs and the Federal Reserve responds by shifting to a much tighter stance for monetary policy, or because the economy gets hit with a large unanticipated shock that the Fed and the fiscal authorities cannot respond to quickly enough, or with sufficient force, to prevent an economic downturn. While economic shocks are, by their very nature, difficult to forecast, the risk that the Fed will snuff out the expansion anytime soon seems quite low because inflation is simply not a problem. Not only are underlying inflation trends very subdued—for example, the core personal consumption expenditures deflator has risen at only a 1.7 percent annual rate over the past year—but the economy is not growing much above its sustainable long-term pace. Thus, while pressures on labor resources have been increasing, but quite slowly. Finally, the recent strengthening of the dollar will put downward pressure on import prices and limit the ability of domestic producers to raise their prices.

Second, the household sector’s financial condition is in unusually good shape for this point in the economic cycle. Household indebtedness is relatively low, debt service burdens relative to household income have fallen to levels not seen since at least the early 1980s. Moreover, household incomes are rising at a moderate pace, supported by continued job gains and some modest strengthening of wage compensation trends. If households and lenders again become comfortable with financing consumption with debt in addition to income, this will provide additional support to household spending and to the current economic expansion.

The challenges in the retail space over the near term, therefore, are not likely to be a shortfall of aggregate demand from households. Instead, it seems to me the challenges lie more in how to satisfy households’ changing demands for goods and services, and the medium through which these demands are satisfied—whether it be brick and mortar or online. Also, there is the important issue of how to retain brand loyalty in a world where information is ubiquitous and always near at hand, and it is easy to shift purchases among participants in the retail marketplace.

Thank you for your kind attention.
Yves Mersch: Digital Base Money - an assessment from the European Central Bank’s perspective

Speech by Mr Yves Mersch, Member of the Executive Board of the European Central Bank, at the Farewell ceremony for Mr Pentti Hakkarainen, Deputy Governor of the Bank of Finland (Suomen Pankki), Helsinki, 16 January 2017.

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We are living in digital times. The internet and portable online devices have radically transformed the way we use and exchange information, and the way we exchange money. Money has been digitalised in many ways and we can now, for instance, transfer bank deposits electronically and pay with e-money.

Today I will focus on one type of digital money – Central Bank Digital Currency, or Digital Base Money (DBM). This is money that is characterised by two features: (1) like banknotes in circulation, DBM is a claim on the central bank; (2) in contrast to banknotes, it is digital.

Of course, DBM already exists. Commercial banks and some other types of institution hold digital claims on central banks in the form of deposits. But there has been more recent discussion about whether central banks should provide DBM to a wider range of counterparties, allowing non-banks, including households, to hold accounts at the central bank. The People’s Bank of China, the Bank of England and Sveriges Riksbank have published on this topic or have indicated that they are conducting some work on it.

I see two main reasons why this discussion on DBM has been started.

First, electronic payments have become increasingly popular. There are already a number of electronic payment methods provided by the financial industry, such as credit, debit and pre-paid cards. But these methods are based on commercial bank money and people may prefer to hold claims on the central bank to avoid the risk that the commercial bank defaults. From this perspective, an increasing demand for DBM could emerge.

Second, some technological developments may now render the introduction of DBM much easier and potentially less expensive than ten years ago. This includes Distributed Ledger Technology, or DLT, a variant of which is used for Bitcoin.

These are good reasons to start a discussion on DBM and for research to understand better the options available for DBM and their implications for central banks in fulfilling their mandates. In some European countries, for instance in Sweden and Denmark, electronic payments have started crowding out the use of cash. This may give the discussion an additional drive. In the euro area, however, we do not see a trend away from cash. By contrast, in recent years the growth in demand for banknotes in the euro area has by far exceeded that of economic output.

For the ECB, the discussion is therefore mainly an analytical one. The ECB would in particular have to understand the impact – positive or negative – of DBM on our primary objective of price stability before considering introducing it. Moreover, any value judgement on DBM needs to be assessed against a number of high-level principles, namely (1) technological safety, (2) efficiency, (3) technological neutrality, and (4) freedom of choice for users of means of payments.
Today, I would like to outline some of the various options for designing, issuing and managing DBM, and discuss some of their potential consequences. This will not be an exhaustive list, but it can give first insights into the complexity of the issue at hand.

**Account-based versus value-based Digital Base Money**

Let me start with a primarily legal dimension, which is the distinction between account-based and value-based DBM. Current DBM in the form of commercial bank deposits at the central bank is account based. A transfer of DBM from one bank to another reaches finality when the funds are debited from the account of the payer and credited to the account of the payee. The central bank is directly involved, as it registers the transfer.

Cash is different: it is value based and accounts are not involved. A transfer of cash is final when the payer hands the cash over to the payee. The central bank does not register transfers of cash, only the initial issuance and the final return.

DBM held by non-banks could either be account-based – in this case, the central bank would open an account for every interested non-bank – or it would be value-based like cash. In this case, interested non-banks would need to be equipped with electronic wallets for holding and using DBM. A transfer of DBM would require that the funds be debited from the payer's electronic wallet and credited to the payee's device without the involvement of the central bank.

Whether DBM is account based or value based might matter for several reasons. Let me mention two. First, value-based and account-based DBM may require very different types of technology with specific safety features and costs. DLT may be fit for both, but in different ways. Second, anonymity towards the central bank can be achieved only with value-based DBM. These factors may influence the demand for DBM by non-banks and whether DBM would be used more to substitute cash or bank deposits.

**Options for providing DBM**

With that distinction in mind, let me now turn to the way DBM could be provided to non-banks.

A straightforward approach would be to allow non-banks to convert commercial bank deposits into DBM at a rate of 1 to 1. As cash can always be paid into a bank account, this would of course also allow non-banks to convert cash into DBM.

It may be argued that with such an approach bank runs could unfold more easily and faster. Non-banks could react to bad news about a certain bank by quickly switching their deposits into default-free DBM – there would be no need to keep the cash under the mattress. This would counteract important regulatory efforts to reduce excess volatility in the movement of funds between types of investment.

Yet it is already easy to switch deposits from a bank hit by bad news to another commercial bank that is perceived as safe, so I don’t see an additional risk of bank runs in the event of an idiosyncratic banking event. The situation would be different in a systemic banking crisis, though. If depositors perceived the entire commercial banking sector as fragile, a sector-wide run might be made more likely and severe by DBM, negatively impacting the efficiency of financial markets.

Depending on how attractive DBM is for non-banks, a more gradual substitution of commercial bank deposits by DBM is of course possible too. This could have different effects on commercial banks. For example, commercial banks with excess central bank reserves could reduce their excess reserves when they experience a DBM-induced deposit outflow. This could increase their profitability in the current situation, as deposits bear a higher interest rate than excess reserves.
But banks without excess central bank reserves might need to replace deposits by central bank credit. They would need to provide more collateral to the central bank. And the interest rate to be paid on central bank credit may, at least in normal times, be higher than the average rate on customer deposits. The profitability of these banks might suffer. A consequence could be higher interest rates on bank loans. These effects may require an adjustment of central bank policy rates and could make monetary policy more difficult until a new steady state is reached.

More restrictive approaches to providing DBM may also be considered. For example, the central bank could provide DBM to non-banks exclusively in the context of asset purchases. That would mean that, to obtain DBM, non-banks would need to sell certain assets to the central bank. They would not be able to convert commercial bank deposits or cash into DBM directly.

With this more restrictive approach, the central bank would keep the amount of DBM under its full control. It would decide how much assets it would buy. Bank runs or gradual outflows of deposits from commercial banks would not be induced.

However, this approach would create some difficult policy decisions for central banks. Which assets should be purchased, how much and at which prices? If the demand for DBM was high relative to the amount of DBM the central bank would like to provide, two different prices for eligible assets could emerge: a market price in trades between two market participants; and a price below the market price when the same assets are sold to the central bank against DBM. As a consequence, DBM would be worth more than cash and commercial bank deposits. DBM would truly be a currency on its own. The central bank would be the issuer of two different currencies, an outcome that does not seem to be in line with fundamental ECB principles.

If the central bank wanted to avoid such a situation, it would either need to increase the amount of DBM it provides or make DBM less attractive, for example by lowering the remuneration of DBM. I will come to this later.

Given these challenges, the more straightforward approach which would allow non-banks to convert bank deposits directly into DBM at a rate of 1 to 1 may therefore appear more attractive, provided that non-banks mainly substitute cash rather than bank deposits with DBM. As long as DBM mainly replaces cash, negative side effects of DBM might be unlikely. In this context, consideration could be given to making DBM as cash-like as possible, at least initially, until more experience is gained.

Remuneration of DBM

This brings us to the next important question: how should the central bank remunerate DBM held by non-banks?

For the euro area, one option could be to remunerate DBM at the same rate as excess central bank reserves held by commercial banks, i.e. at the rate on the deposit facility. This would mean applying a policy rate directly to funds held by non-banks. This could potentially strengthen the transmission of monetary policy rate decisions to the economy.

The deposit facility rate is currently –0.4%. At this interest rate, demand for DBM may be low. But in normal times, when it is positive, remunerating DBM at the deposit facility rate may be risky. It could make it too attractive to convert commercial bank deposits into DBM. As I argued a few minutes ago, this could have negative side effects.

An alternative option would then be to remunerate DBM at a rate of 0%. This is the rate at which cash (i.e. banknotes and coins) is de facto “remunerated”. With a rate of 0%, non-banks are unlikely to convert commercial bank deposits or cash into DBM if their
motive is only to obtain a better remuneration. Even in times of negative central bank rates, retail bank customers rarely receive a negative remuneration on commercial bank deposits.

Even so, a 0% interest rate on DBM held by non-banks is not without policy risks. If banks have large amounts of excess central bank reserves remunerated at a negative rate, they could try to find ways of replacing their excess reserves by DBM, such as by setting up a non-bank subsidiary. This may counteract monetary policy. If the central bank considered this risk important, it could combine the two approaches I have mentioned so far. It could remunerate DBM held by non-banks at a rate of 0%, if the deposit facility rate is positive. And if it is negative, we could remunerate at the deposit facility rate. This may, however, entail strong movements out of DBM when the deposit facility rate turns negative.

Moreover, there is a risk that a negative remuneration of claims of non-banks on the central bank would substantially undermine the confidence in the central bank.

**Technology for DBM**

Finally, let me mention the technological dimension of DBM. I said that one reason why the discussion on DBM for non-banks has started is that we now have technologies that could make it easier to issue DBM. This includes, in particular, Distributed Ledger Technology (DLT). DLT carries great potential, but is it already advanced enough to be applied by central banks? Reputation is crucial for central banks. We cannot afford mistakes in the technologies we employ. Before the central bank can start providing DBM to non-banks, we need to be sure not only that DBM is unlikely to have negative economic side-effects, but also that the relevant systems are operationally efficient and safe.

But we should not be dogmatic, either. If a more efficient, but absolutely safe, technology for central banking operations can be found, introducing it could reduce costs for both the central bank and users, and therefore for society as a whole.

**Conclusions**

Let me conclude. There are many ways to design DBM for non-banks. The different options have potential impacts – both positive and negative – that need to be studied and considered carefully. Only when the best way of designing DBM has been identified, can a decision be made as to whether DBM of non-banks should be introduced at all. The most important question for the ECB is whether introducing a DBM would affect our ability to honour our mandate. The impact may be negative if non-banks replace commercial bank deposits with DBM to a significant extent. More generally, any materialisation of DBM would have to be assessed against four principles: (1) technological safety, (2) efficiency, (3) technological neutrality, and (4) freedom of choice for users of means of payments.

As there has been some speculation about a possible intention of central banks to abolish cash, please let me stress one aspect relating to the principle of freedom of choice: if DBM for nonbanks were introduced, it would exist alongside cash for the foreseeable future. It would merely be an additional option for non-banks to hold funds. In particular, those who are sceptical about digital devices would naturally continue to use cash.

Even where efficiency gains are possible when people substitute some of the cash for DBM, this would still require that the technology used for DBM be operationally reliable and secure against attacks. Technological feasibility and cost considerations alone will not change our mandate.

Thank you!
Good afternoon. It is a pleasure to join all of you at the Commonwealth Club today, not the least because the club and the Federal Reserve have a few things in common. Both organizations, as it happens, have a board of governors and a chair. And both the club’s and the Fed’s histories extend back more than a century. The club, as many here know, was founded in 1903, and the Federal Reserve a decade later. Perhaps because of our shared origins in the Progressive Era, a period of reform in American life, we hold certain values in common. According to your website, the club is nonpartisan and dedicated to the impartial discussion of issues important to your community and the nation. At the Fed, we too are nonpartisan and focused squarely on the public interest. We strive to conduct our deliberations impartially and base our decisions on factual evidence and objective analysis. This afternoon I will discuss some challenges we’ve faced in our recent deliberations and may face in the next few years.

Perhaps, though, it is best to start by stepping back and asking, what is—and, importantly, what isn’t—our job as the nation’s central bank? And how do we go about trying to accomplish it? The Federal Reserve has an array of responsibilities. I’ll mention our principal duties and then focus on one—monetary policy, the responsibility that gets the most public attention.

In addition to monetary policy, we—in collaboration with other regulatory agencies at both the federal and state levels—oversee banks and some other financial institutions to ensure they operate safely and soundly and treat their customers fairly. We monitor the financial system as a whole and promote its stability to help avoid financial crises that could choke off credit to consumers and businesses. We also reliably and safely process trillions of dollars of payments for the nation’s banks and the federal government and ensure that banks have an ample supply of currency and coin to meet the demands of their depositors. And we work with communities, nonprofit organizations, lenders, educators, and others to encourage financial and economic literacy, promote equal access to credit, and advance economic and community development.

But, as I noted, monetary policy draws the most headlines. What is monetary policy, exactly? Simply put, it consists of central bank actions aimed at influencing interest rates and financial conditions more generally. Its purpose is to help foster a healthy economy. But monetary policy cannot, by itself, create a healthy economy. It cannot, for instance, educate young people, generate technological breakthroughs, make workers and businesses more productive, or address the root causes of inequality. Fundamentally, the energy, ingenuity, and know-how of American workers and entrepreneurs, along with our natural resources, create prosperity. Regulatory policy and fiscal policy—the decisions by the Administration and the Congress about how much and how the government spends, taxes, and borrows—can influence these more fundamental economic pillars.

I’ve said what monetary policy cannot do. But what can it do? It can lean against damaging fluctuations in the economy. Nearly 40 years ago, the Congress set two main guideposts for that task—maximum employment and price stability. We refer to these assigned goals as our dual mandate. When the economy is weak and unemployment is on the rise, we encourage spending and investing by pushing short-term interest rates lower. As you may know, the interest rate that we target is the federal funds rate, the rate banks charge each other for overnight loans. Lowering
short-term rates in turn puts downward pressure on longer-term interest rates, making credit more affordable—for families, for instance, to buy a house or for businesses to expand. Similarly, when the economy is threatening to push inflation too high down the road, we increase interest rates to keep the economy on a sustainable path and lean against its tendency to boom and then bust.

But what exactly do the terms “maximum employment” and “price stability” mean? Does maximum employment mean that every single person who wants a job has a job? No. There are always a certain number of people who are temporarily between jobs after having recently lost a job or having left one voluntarily to pursue better opportunities. Others may have just graduated and have started looking for a job or have decided to return to working—for instance, when their child starts school. This so-called frictional unemployment is evident even in the healthiest of economies.

Then there is structural unemployment—a difficult problem both for the people affected and for policymakers trying to address it. Sometimes people are ready and willing to work, but their skills, perhaps because of technological advances, are not a good fit for the jobs that are available. Or suitable jobs may be available but are not close to where they and their families live. These are factors over which monetary policy has little influence. Other measures—such as job training and other workforce development programs—are better suited to address structural unemployment.

After taking account of both frictional and structural unemployment, what unemployment rate is roughly equivalent to the maximum level of employment that can be sustained in the longer run? The rate can change over time as the economy evolves, but, for now, many economists, including my colleagues at the Fed and me, judge that it is around 4-3/4 percent. It’s important to try to estimate the unemployment rate that is equivalent to maximum employment because persistently operating below it pushes inflation higher, which brings me to our price stability mandate.

Does price stability mean having no inflation whatsoever? Again, the answer is no. By “price stability,” we mean a level of inflation that is low and stable enough that it doesn’t need to figure prominently into people’s and businesses’ economic decisions. Based on research and decades of experience, we define that level as 2 percent a year—an inflation objective similar to that adopted by most other major central banks. Individual prices, of course, move up and down by more than 2 percent all the time. Such movements are essential to a well-functioning economy. They allow supply and demand to adjust for various goods and services. By “inflation,” we mean price changes as a whole for all of the various goods and services that households consume.

No one likes high inflation, and it is easy to understand why. Although wages and prices tend to move in tandem over long periods, inflation erodes household purchasing power if it is not matched with similar increases in wages, and it eats away the value of households’ savings. So, then, why don’t we and other central banks aim for zero inflation? There are several technical reasons, but a more fundamental reason is to create a buffer against the opposite of inflation—that is, deflation. Deflation is a general and persistent decline in the level of prices, a phenomenon Americans last experienced during the Great Depression of the 1930s and one that Japan has confronted for most of the past two decades. Deflation can feed on itself, leading to economic stagnation or worse. It puts pressure on employers to either cut wages or cut jobs. And it can be very hard on borrowers, who find themselves repaying their loans with dollars that are worth more than the dollars they originally borrowed. I am sure we all remember learning in school about farm families in the Great Depression who couldn’t pay their mortgages and lost their homes and their livelihoods when crop prices fell persistently.
Another important reason to maintain a modest inflation buffer is that too low inflation impairs the ability of monetary policy to counter economic downturns. When inflation is very low, interest rates tend to be very low also, even in good times. And when interest rates are generally very low, the Fed has only limited room to cut them to help the economy in bad times. 1

In a nutshell, the Fed’s goal is to promote financial conditions conducive to maximum employment and price stability. And I have offered broad-brush definitions of each of those objectives. So where is the economy now, in relationship to them? The short answer is, we think it’s close. The economy has come a long way since the financial crisis. As you know, the crisis marked the start of a very deep recession. It destroyed nearly 9 million jobs, and it’s been a long, slow slog to recover from it. Unemployment peaked at 10 percent late in 2009, a level unseen for more than 25 years, and didn’t move below 8 percent for nearly three years. Falling home prices put millions of homeowners “underwater,” meaning they owed more on their mortgages than their homes were worth. And the stock market plunged, slashing the value of 401(k) retirement nest eggs.

The extraordinarily severe recession required an extraordinary response from monetary policy, both to support the job market and prevent deflation. We cut our short-term interest rate target to near zero at the end of 2008 and kept it there for seven years. To provide further support to American households and businesses, we pressed down on longer-term interest rates by purchasing large amounts of longer-term Treasury securities and government-guaranteed mortgage securities. And we communicated our intent to keep short-term interest rates low for a long time, thus increasing the downward pressure on longer-term interest rates, which are influenced by expectations about short-term rates.

Now, it’s fair to say, the economy is near maximum employment and inflation is moving toward our goal. The unemployment rate is less than 5 percent, roughly back to where it was before the recession. And, over the past seven years, the economy has added about 15–1/2 million net new jobs. Although inflation has been running below our 2 percent objective for quite some time, we have seen it start inching back toward 2 percent last year as the job market continued to improve and as the effects of a big drop in oil prices faded. Last month, at our most recent meeting, we took account of the considerable progress the economy has made by modestly increasing our short-term interest rate target by 1/4 percentage point to a range of 1/2 to 3/4 percent. It was the second such step—the first came a year earlier—and reflects our confidence the economy will continue to improve. Now, many of you would love to know exactly when the next rate increase is coming and how high rates will rise. The simple truth is, I can’t tell you because it will depend on how the economy actually evolves over coming months. The economy is vast and vastly complex, and its path can take surprising twists and turns. What I can tell you is what we expect—along with a very large caveat that our interest rate expectations will change as our outlook for the economy changes. That said, as of last month, I and most of my colleagues—the other members of the Fed Board in Washington and the presidents of the 12 regional Federal Reserve Banks—were expecting to increase our federal funds rate target a few times a year until, by the end of 2019, it is close to our estimate of its longer-run neutral rate of 3 percent.

The term “neutral rate” requires some explaining. It is the rate that, once the economy has reached our objectives, will keep the economy on an even keel. It is neither pressing on the gas pedal to make the car go faster nor easing off so much that the car slows down. Right now our foot is still pressing on the gas pedal, though, as I noted, we have eased back a bit. Our foot remains on the pedal in part because we want to make sure the economic expansion remains strong enough to withstand an unexpected shock, given that we don’t have much room to cut interest rates. In addition, inflation is still running below our 2 percent objective, and, by some measures,
there may still be some room for progress in the job market. For instance, wage growth has only recently begun to pick up and remains fairly low. A broader measure of unemployment isn’t quite back to its pre-recession level. It includes people who would like a job but have been too discouraged to look for one and people who are working part time but would rather work full time.

Nevertheless, as the economy approaches our objectives, it makes sense to gradually reduce the level of monetary policy support. Changes in monetary policy take time to work their way into the economy. Waiting too long to begin moving toward the neutral rate could risk a nasty surprise down the road—either too much inflation, financial instability, or both. In that scenario, we could be forced to raise interest rates rapidly, which in turn could push the economy into a new recession.

The factors I have just discussed are the usual sort that central bankers consider as economies move through a recovery. But a longer-term trend—slow productivity growth—helps explain why we don’t think dramatic interest rate increases are required to move our federal funds rate target back to neutral. Labor productivity—that is, the output of goods and services per hour of work—has increased by only about 1/2 percent a year, on average, over the past six years or so and only 1-1/4 percent a year over the past decade. That contrasts with the previous 30 years when productivity grew a bit more than 2 percent a year. This productivity slowdown matters enormously because Americans’ standard of living depends on productivity growth. With productivity growth of 2 percent a year, the average standard of living will double roughly every 35 years. That means our children can reasonably hope to be better off economically than we are now. But productivity growth of 1 percent a year means the average standard of living will double only every 70 years.

Economists do not fully understand the causes of the productivity slowdown. Some emphasize that technological progress and its diffusion throughout the economy seem to be slower over the past decade or so. Others look at college graduation rates, which have flattened out after rising rapidly in previous generations. And still others focus on a dramatic slowing in the creation of new businesses, which are often more innovative than established firms. While each of these factors has likely played a role in slowing productivity growth, the extent to which they will continue to do so is an open question.

Why does slow productivity growth, if it persists, imply a lower neutral interest rate? First, it implies that the economy’s usual rate of output growth, when employment is at its maximum and prices are stable, will be significantly slower than the post-World War II average. Slower economic growth, in turn, implies businesses will see less need to invest in expansion. And it implies families and individuals will feel the need to save more and spend less. Because interest rates are the mechanism that brings the supply of savings and the demand for investment funds into balance, more saving and less investment imply a lower neutral interest rate. Although we can’t directly measure the neutral interest rate, it is something that can be estimated in retrospect. And, as we have increasingly realized, it has probably been trending down for a while now. Our current 3 percent estimate of the longer-run neutral rate, for instance, is a full percentage point lower than our estimate just three years ago.

You might be thinking, what does this discussion of rather esoteric concepts such as the neutral rate mean to me? If you are a borrower, it means that, although the interest rates you pay on, say, your auto loan or mortgage or credit card likely will creep higher, they probably will not increase dramatically. Likewise, if you are a saver, the rates you earn could inch higher after a while, but probably not by a lot. For some years, I’ve heard from savers who want higher rates, and now I’m beginning to hear from borrowers who want lower rates. I can’t emphasize strongly enough, though, that we are not trying to help one of those groups at the expense of the other. We’re focused very much on that dual mandate I keep mentioning. At the end of the day, we all benefit
from plentiful jobs and stable prices, whether we are savers or borrowers—and many of us, of course, are both.

Economics and monetary policy are, at best, inexact sciences. Figuring out what the neutral interest rate is and setting the right path toward it is not like setting the thermostat in a house: You can’t just set the temperature at 68 degrees and walk away. And, because changes in monetary policy affect the economy with long lags sometimes, we must base our decisions on 2 4 / 5 BIS central bankers' speeches our best forecasts of an uncertain future. Thus, we must continually reassess and adjust our policies based on what we learn.

That point leads me to repeat what I said when I began: Like the Commonwealth Club, the Federal Reserve was created more than a century ago during an era of government reform to serve the public interest. The structure established for the Federal Reserve back then intentionally insulates us from short-term political pressures so we can focus on what’s best for the American economy in the longer run. I promise you, with the sometimes imperfect information and evidence we have available, we will do just that by making the best decisions we can, as objectively as we can.

Thank you. I welcome your questions.

1. Our objective is 2 percent inflation as measured by the annual change in the price index for personal consumption expenditures published by the Commerce Department’s Bureau of Economic Analysis.

2. Other factors depressing the neutral rate include housing construction and lackluster exports. Housing still hasn’t fully recovered from the financial crisis, in part because mortgage-qualification standards remain tight. Weak growth abroad in Europe, China, and elsewhere, some of which is related to their own productivity challenges, has hurt sales of U.S. goods.