RESEARCH NOTES
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FORECASTS

The world after Greenspan: Into the great unknown

So you think that money is the root of all evil?
Have you ever asked what is the root of money?
Francisco d'Aconia, Atlas Shrugged
(Ayn Rand)

- **In eight months, Alan Greenspan's term as a governor of the Federal Reserve System will expire. He will then have headed the world's pre-eminent central bank for over 18 years. His departure will mark an important change, as it could conceivably introduce significant uncertainty into the monetary policy outlook.**
- **Mr Greenspan deserves most of the accolades he has received in recent years, as well as some of the criticism. Although he did not run the Fed by himself, under his leadership the American central bank did a very decent job. Inflation has trended lower and economic volatility has declined. However, it is still too soon for a final verdict on the "Greenspan years".**
- **It would be a mistake to delay the appointment of a successor until the last possible moment or to keep Mr Greenspan in office "pro tempore". This would reinforce the belief of many observers that "there really is no one who can take his place".**
- **The actual identity of the successor will be secondary, provided he/she fulfils some crucial requirements. Unfortunately, this is still an open question. An appointment from the ranks of the FOMC would likely cause the least concerns over a discontinuity in US monetary policy.**

He has been alternatively called a sort of saint or even a demi-god. Certainly, if there is such a thing as a high priest of the world financial system, it must be Alan Greenspan. Ever since he dealt decisively with the fall-out of the October 1987 stock market crash just weeks into his stint at the Fed, "the Maestro" has inspired awe. Mr Greenspan's nimbus was barely damaged by the two recessions during his chairmanship. The successes still dominate the picture. Recent challenges included the LTCM debacle in 1998, the 2000 NASDAQ crash, 9/11 and the 2002 corporate accounting crisis. Through it all the Fed Chairman has steered America's economy and financial system on a safe course. He was seen to be so vital by George W. Bush that the president reappointed him despite the fact that Bush Senior had blamed the Chairman for his defeat in the 1992 election. Yet, "Physic himself must fade, all things to end are made", and at Mr Greenspan's age health risks alone should keep alive awareness of the necessarily transient nature of any one individual's time in office. In 2000, presidential candidate John McCain joked that he would keep Greenspan in office even if something happened to him, propping him up and putting sunglasses on him à la "A Weekend at Bernie's".

This research note is not intended as a summary of Mr Greenspan's years in office. We can only provide a very brief and general evaluation of his performance. Also, there is not much point in speculating on the

Patrick Franke
Telephone
++49/(0)69/136-24525
E-mail
patrick.franke@commerzbank.com

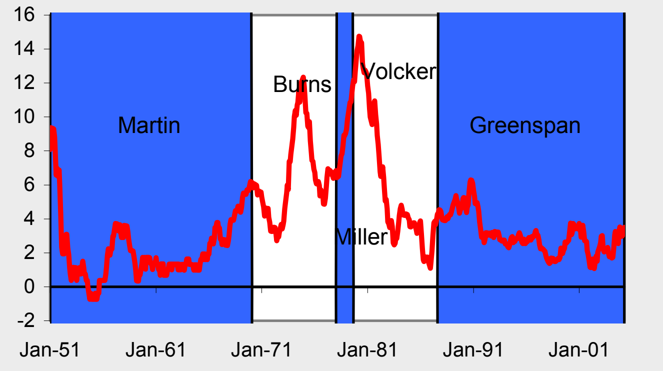
identity of his successor, especially as the field still appears to be wide open. Rather, we try to describe the likely ramifications of the succession itself for the economy and for financial markets.

Many market participants have never known a time when anybody else was at the helm of the Fed. For a lot of people, Alan Greenspan *is* the Fed. After 18 years of stability at the top of this institution, his departure will introduce a new element of uncertainty into the decisions of consumers, firms and investors. Will his successor be more hawkish or more tolerant of inflation? Will monetary policy become less predictable?

Time's up: the hard facts

Alan Greenspan, born in 1926, was first appointed to the Board of Governors of the Federal Reserve System by president Reagan to an unexpired term that began on August 11, 1987.[1] Simultaneously he became Chairman of the Board, a position for which he has since been re-nominated four times by presidents Bush Senior, Clinton and Bush Junior. On February 1, 1992 Mr Greenspan was appointed to a full, non-renewable 14-year term on the Board. This ends on January 31, 2006. However, until a new Chairman is nominated and confirmed by the Senate, the incumbent can remain on the board as acting Chairman – in theory indefinitely.

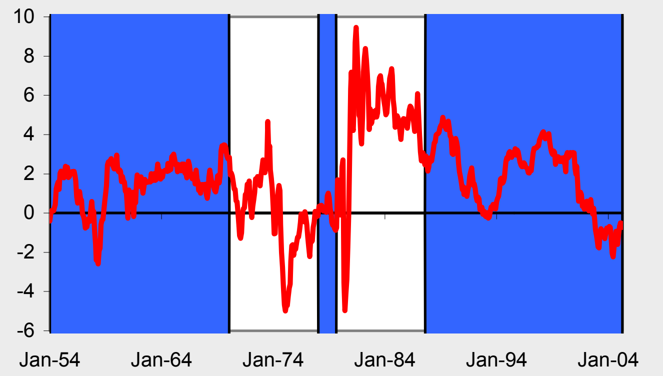
#1 USA: 55 years of inflation
yoy %change in the headline CPI



Some historical perspective

Since 1950 there have been only five Chairmen – and hence only four successions. The performance of the economy varied wildly between their respective periods in office, although there were of course plenty of other factors exerting influence on growth and inflation. Out of the four Chairmen, three were seen to be a very tough act to follow at the time of their departure.[2]

#2 USA: Volcker ended the Great Inflation
federal funds rate minus headline CPI inflation, % p.a.



Inflation first took off on the watch of **William McChesney Martin**. Chart 1 illustrates this. In the mid- to late 1960s, US president Johnson was waging war in Vietnam and simultaneously pursuing his "Great Society" project, putting considerable pressure on the economy's productive resources. With the benefit of hindsight at least, the Fed failed to respond as forcefully as would have been appropriate. Consequently, under Martin's aegis began what became known later as "the Great Inflation".[3] Nonetheless, Martin was seen as "irreplaceable" when his term expired in 1970.

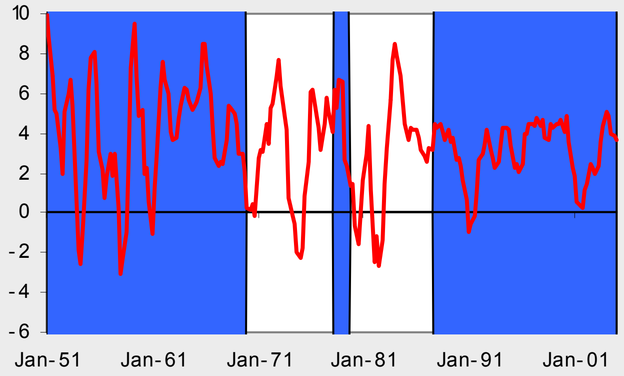
Martin's successor, **Arthur Burns**, although equipped with the right credentials and knowledge of economics, had the misfortune to be in office when the first oil-price shock hit in the wake of the Yom-Kippur-War and the Arab embargo of 1973. This surely presented some special policy challenges. However, he has been criticized for putting the Fed's independence in jeopardy during Nixon's first term in office, when the president bullied

[1] The terms of the governors are staggered so that one expires on January 31st of every even-numbered year. If a governor resigns early, his/her successor will not start a brand new term, but take over the unexpired term. Anyone who has served a full term is not eligible for reappointment.
[2] See Council on Foreign Relations (2005).
[3] See Meltzer (2005).

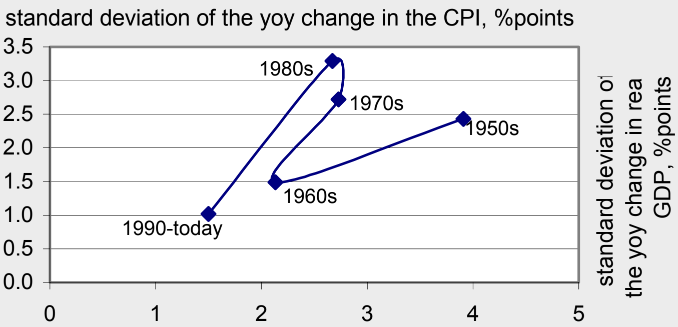
him into keeping policy too accommodative. Moreover, under Burns the Fed made the serious error of ignoring the fact that inflation was ultimately a monetary phenomenon. As CPI inflation hit double digits, Fed officials continued to believe that they were not in a position to do anything about it, because it was supposedly the result of "cost-push" in the real economy, i.e. a matter of wage and price setting. Moreover, a consistent underestimate of the output gap (overestimate of potential growth) by the Fed during the 1970s also contributed to runaway inflation.

G. William Miller, a Carter appointee, probably marked the low point. He was a lawyer by training, the CEO of Textron and active in a number of business lobbying groups. Reportedly lacking a grasp of the basics of monetary policy and being viewed as incompetent by others at the Fed, his tenure is widely seen as a disaster. At the very least, FOMC transcripts show him as indecisive and hesitant. The inflation picture went from bad to worse, but Miller was too worried about the negative impact of higher interest rates on employment to act. Since president Carter couldn't fire Miller, he offered him the post of Secretary of the Treasury in July 1979.

#3 USA: Output volatility has declined
yoy %change in real GDP, quarterly data



#4 USA: Overall economic volatility has decreased substantially
based on quarterly data



Paul Volcker, up to that time a highly respected president of the FRB of NY, became Chairman on August 6, 1979. Less than two months in office, Volcker called a special FOMC meeting for October 6, 1979, that became known as the "Saturday Night Special".[4] The committee changed its operating procedures and abandoned the confusing money targeting via an intermediate fed funds rate target of the previous years. By switching to a target for non-borrowed bank reserves (NBR), the FOMC indirectly had to give up some control over the funds rate, which had been more or less stable in a range between 10% and 11% from early 1979 to August. It now began to rise steeply and was close to 14% by year-end. In April 1980, the monthly average of the funds rate reached its then all-time high of 17.4%. While NBR targeting was ultimately abandoned in late 1982, and additional measures were used in 1980, its introduction marked the beginning of the period in which the Fed "broke the backbone" of inflation.

This is Paul Volcker's great and – so far – lasting achievement. By tightening policy sufficiently (see chart 2), he managed to wring inflation out of the system. The severe recession of 1982 that this tightening brought on, was not so much his fault as a direct result of years of an over-expansionary policy stance by his predecessors.

To some extent**, Alan Greenspan** reaped the fruits of Volcker's labours, as the inflation mentality of the 1970s was long dead when he took over in 1987. However, he built on his predecessor's work in two important respects. The Greenspan Fed managed to keep inflation in check and on a downward trend (more apparent

[4] For details on this see Lindsey et al (2005).

when energy prices, about which the Fed can do little, are excluded).[5] By building on Volcker's anti-inflation credentials, Greenspan established a very high level of credibility for the Fed. Furthermore, under the Greenspan Fed economic volatility declined to the lowest level since WW2. Chart 3 illustrates this point. The swings in output growth were much larger in the 1970s and 1980s than they have been since 1990. Moreover, the smoothing of boom-bust-cycles has not come at the cost of higher volatility in inflation. In fact, measured by standard deviations, the period since 1990 has seen a remarkable combination of the lowest volatility of both output and inflation (chart 4). Under Mr Greenspan, stabilisation policies have apparently become more successful.[6]

His greatest achievement, however, as is widely acknowledged, was to correctly identify the burst of growth that began in the mid-1990s as non-inflationary. In retrospective there was an upward shift in trend productivity growth. Back in 1994 many assumed that 6% was the unemployment rate below which inflation would pick up (the NAIRU). Unemployment crossed that line without the dreaded acceleration in inflation. There was a similar discussion when the unemployment rate fell to 5%. In fact, it got as low as 3.8%, and even then the upward pressures on prices were not that large. Alan Greenspan had taken a large risk and – whether by luck or skill – got it right.

Not everybody thinks that Mr Greenspan has been the greatest thing since sliced bread

Criticism of Mr Greenspan's monetary policy (as opposed to his recommendations on fiscal policy) basically comes in three major forms. First, there are the conspiracy theorists, who view the Fed as an instrument for defrauding the American people. According to them Alan Greenspan is just part of the long line of agents of "international banking interests", sacrificing the welfare of the common people to enrich his patrons. Since these conspiracy theorists tend to put themselves beyond the pale of constructive discussion by their often racist statements, any attempt to deal rationally with their claims is likely to prove a waste of time.[7]

Second, some have claimed that Mr Greenspan's policy was too tight and thus needlessly caused the stock market correction of 2000 and the recession that followed. This line of argument has been less heard of recently, as it is now generally accepted that a bubble had in fact inflated on the equity market. However, it is still debatable whether the tightening in 2000 was not overdone, given that inflation and inflation expectations were not showing any signs of a major acceleration of prices. But this is 20:20 hindsight vision, and to a first approximation at least, the Fed's actions in 2000 look appropriate judged by the data available at the time.

Finally, there are those who argue that Mr Greenspan has run too loose a monetary policy. There is some truth in that. In our view the Fed could have tightened much sooner than it actually did after it took steps to deal with financial market crises (in 1987 and 1998). In both cases it later came to rue its mistake, as belated – and thus larger – tightening moves helped bring about recessions in 1990 and 2001. But at the heart of this line of criticism is really that the Fed should have prevented the stock market bubble from inflating by raising interest rates. After all, wasn't it Alan Greenspan who warned about "irrational exuberance"? While the debate over the role of asset prices in monetary policy is an important one (and ongoing), Mr Greenspan has quite convincingly argued that it is exceedingly hard for a central bank to determine whether a bubble is present. Moreover, it is quite possible that policy tightening with the explicit goal of negatively affecting the value of equities would have resulted in substantial opposition in Congress.[8]

Similarly, some argue that there was a more general problem with Mr Greenspan's policies: that he has done everything in his power to avoid a recession, thereby inflating one asset price bubble (equities, housing,

[5] Inflation rates declined significantly in most of the industrialised countries. So to some extent other common influences, such as globalisation, come to mind as explanation beside a better performance by central bankers.
[6] We should note that there is also a lively debate over whether this outcome is really the result of better monetary policy. Some economists have argued that other factors, including luck and structural changes in the US and world economies, may have played a role.
[7] An illustrative example of this line of "reasoning" can be found at http://www.apfn.org/apfn/reserve.htm
[8] Recall that the Fed's status is not guaranteed by the American constitution. It was established in 1913 by an act of Congress, and its independence or even its very existence can – in theory – be revoked by a simple majority vote.

bonds) after another.[9] We have argued in the past[10] that those "purists" who insist on the cleansing character of recessions must reject all attempts at macro-economic stabilisation and essentially assume that there are no psychological knock-on effects and frictions in an economy. Given the important role of confidence in the business cycle, this is obviously not true. It is very hard to argue that we have ever observed an economic downturn that only "eliminated the excesses of the boom" without having a significant negative impact on the welfare of the vast majority of firms and households. That said, it is right to argue that it is too soon to declare the monetary policy decisions of the last few years a success. The Fed's policy since 2001 has contributed to some of the imbalances plaguing the US economy, including the housing boom and the very low saving rate. Only when interest rates have returned to a sustainable level without inducing a sharp recession will we know whether the way in which the Fed dealt with the bursting of the equity price bubble was ultimately successful.

Why Alan Greenspan's successor should not be Alan Greenspan

There has been some talk of Alan Greenspan succeeding himself. Despite his overall sterling performance, that would be a bad idea. Not only does the rationale – to reward him for his past services by making him the longest serving chairman in the Fed's history – sound unconvincing. There are a number of arguments against keeping him on.

First, it would reinforce a widespread feeling in the markets that Mr Greenspan is really irreplaceable, which would be counterproductive. While everyone is aware that the "Maestro" will be a tough act to follow, signalling to the markets that the administration cannot find anyone who is as qualified to do the job, is not the smartest thing to do. In particular, it could undermine the credibility of the eventual successor from the very beginning.

Another problem is the fact that Alan Greenspan, through his vast experience, has become something of a sage whom politicians like to consult on all issues relating to economics. This poses the threat of "mission creep": of him getting mired in political debates that are only tenuously related to monetary policy. It also increases the risk of the chairman being seen as overly partisan, compromising the independence of the central bank. This issue could become acute should a conflict emerge between keeping inflation in check and preventing more pronounced economic weakness, say, before the November 2006 Congressional elections.

Furthermore, and probably most importantly, putting off the appointment of a successor would needlessly draw out the transition process, thus keeping markets guessing even longer about the future and adding another dimension of uncertainty about the exact timing of the (inevitable) change at the helm.

It's all about Street cred

There is a huge academic literature on the topic of central bank communication, transparency and credibility. Without delving into the gory details, a general consensus has emerged that a high degree of credibility will enable a central bank to attain its goal (usually price stability) at a lower cost (usually measured by lost output or economic volatility). Intuitively, consumers and firms will believe credible central bankers when they say they are determined to reduce inflation and thus adjust their own expectations (as well as prices and wage demands) accordingly. They won't "fight the Fed". Being credible is thus a priority for any central bank, especially one that has an explicit dual mandate.

In connection with the succession at the head of the Federal Reserve System there is one problem in this regard: it is far from obvious whether the current store of credibility the Fed has amassed is actually attributed to the Fed as an institution or is vested in the person of "the Maestro". His departure could thus lead to a loss of the Fed's overall credibility as an inflation fighter and/or as a pragmatical institution, especially if the markets turned out to be unimpressed with the identity of the new chairperson.

The picture is less clear-cut when it comes to transparency. Central bankers used to maintain a special "mystique" about their business well into the 1990s, sometimes treating all outsiders – especially the media –

[9] A related criticism was the so-called "Greenspan put", which supposedly made investors behave recklessly, knowing that the Fed would bail them out if things went awry.
[10] See Commerzbank (2003), Urban Legends about the US Economy, Myth #6.

as little better than "barbarians at the gate". Today, the received wisdom is that transparency is good. In an ideal world, markets would not react at all to the arcane utterances of central bankers, the minutes of policy meetings and the like. A perfectly transparent central bank would enable the markets to look only at the economic data to know exactly what the resulting policy decisions are going to be. However, this implies that markets do not just know everything the central bank knows about the economy, but that they also have perfect knowledge of the bank's goals and strategy and thus know its "reaction function", i.e. how the bank will react to any given set of data. This is obviously quite a bit removed from the real world.

Some economists even argue that there is such a thing as too much public information. Clarity may be impaired by providing the markets with too many public statements, publications etc. By confusing household and corporate decision makers as well as the financial markets, an over-supply of information can thus backfire. Similarly, since the major central banks all have committees in charge of monetary policy, there is always scope for confusion between committee members voicing their own opinion and "delivering a message on behalf of the committee". Despite virtually constant assurances to the contrary, markets have a tendency to treat public statements by FOMC members as the latter, even when they are quite clearly of the former type. However, given today's dominant position of Alan Greenspan in the FOMC, his departure will create some additional uncertainty as to whom to listen to most closely for clues about future Fed policy.

Notwithstanding his by now legendary opaque way of speaking, under Alan Greenspan's leadership the Fed has taken considerable steps towards transparency (see table). For example, until 1994 there was no press release after an FOMC meeting. Prior to that, markets had to observe the money market and the actions of "The Desk" to learn whether a decision had been made to tighten or ease. In this dimension at least, no turnaround is probable under a successor to Mr Greenspan, no matter his or her identity. The Fed is likely to move forward and to become more transparent (an explicit inflation target? a post-FOMC press conference?) rather than to return to the old ways.

Table

Feb. 1994	Policy changes announced on the same day. No explanatory text
Dec. 1998	Significant bias changes announced on the same day
May 1999	First bias change announced, introduction of detailed statement
Jan. 2000	Concept of bias changes and is now to reflect "long term risks"
Mar. 2002	Roll call of votes announced
May 2003	Bias is split into growth and inflation components
Dec. 2004	Accelerated publication of minutes announced

Source: FRB and Commerzbank Economic Research.

Some notes on potential successors

So far the leading contenders for Fed Chairman are reportedly Martin Feldstein (a Harvard professor and a former chairman of the Council of Economic Advisers), Glenn Hubbard (the dean of the Columbia Business School and also a former chairman of the CEA) and Ben Bernanke (former governor and just nominated to head the president's CEA). The honourable mentions category includes Roger Ferguson (Vice-Chairman of the Board of Governors), John B. Taylor (an academic and former Under Secretary of the Treasury) and Donald Kohn (a Fed governor).

Of the leading contenders, **Bernanke** is probably the front-runner. With his appointment to the CEA he will get some political experience and can prove his loyalty to the administration. Moreover, neither **Feldstein** nor **Hubbard** are experts on monetary policy, their focus has been more on fiscal issues. By contrast, Bernanke is a renowned economist in the field of monetary theory and policy. Since his appointment in 2002 he has emerged as one of the leading doves on the FOMC. While this could win him plaudits with a government that still has to deal with criticism about jobs being shipped to China, financial markets may be less impressed. Moreover, Mr Bernanke has argued fairly strongly for the introduction of an explicit inflation target. This may not play well with those in Congress who insist on the equivalence of the Fed's dual mandates of price stability and sustainable growth.

John Taylor is probably too closely associated with his eponymous monetary policy rule.[11] It would be a challenge convincing the markets that he is not really conducting policy by typing a few numbers into his notebook. **Don Kohn** would be well qualified; he has worked as an economist in the Fed system since 1970. However, his lack of business experience may well be an obstacle to his appointment (both Feldstein and Hubbard have worked as directors in the private sector). **Ferguson** has the stigma of being a Democrat.

According to news reports, the White House is looking beyond academia and the public service. This need not be a problem. Alan Greenspan was running his own consultancy when he was asked to head the Fed in 1987. Academics can be stuck in the world of mathematical models or subscribe to a particular school of thought and thus lack flexibility. But George W. Bush's record in picking business people for public office is not promising. In particular, there appears to be a worrisome belief that the skills that make a good CEO also automatically qualify someone for the position of, say, Secretary of the Treasury. The spectre of G. William Miller rears its head. A Ph.D. in economics is not really required (Volcker was just an M.A. when he became Chairman), but solid knowledge of economic theory and financial markets should be a prerequisite for anyone to be considered for the position.

No matter who is chosen, he (she?) will be untested in this role. This will increase uncertainty, which in turn could result in higher volatility, as markets have a harder time anticipating future Fed actions. It would therefore be a good idea to make the decision well in advance of next February so that the markets have a chance to get used to someone new at the helm. Dithering by the administration or – worse – the impression that no suitable candidate can be found would probably not be well received.

Bottom line: A tough act to follow, but a well-chosen successor should be up to the task

The succession at the head of the Fed will inevitably bring increased uncertainty. The occasion will be an important test of how much of the Fed's credibility is really vested in the person of Mr Greenspan. The best way to minimise the negative fall-out from this process is to nominate the successor early, to give markets an opportunity to get used to the new name. Keeping on Mr Greenspan would send the wrong message. Moreover, picking an insider – someone like Don Kohn or Ben Bernanke – would best ensure continuity. A chairman Bernanke would be unlikely to introduce on short notice (or even be certain of getting support for) an explicit inflation target. Although Paul Volcker did go for dramatic changes after only two months in the top job, those were very different times. True, the new Fed chairman will inherit a challenging environment, given the potential pitfalls associated with current economic imbalances. Yet the tests he will face in 2006 are unlikely to be as large as the problems that confronted Volcker in 1980 or Greenspan in 1987.

There is no point in speculating whether a new chairperson would need to be tougher to establish his or her inflation fighting credentials or would be more cautious in tightening policy. Much will depend on the personality and how the markets judge him or her. A strong chairperson would also ensure that the policy making process does not change abruptly or becomes more erratic.[12] In theory, it is possible to imagine an FOMC akin to the US Supreme Court, i.e. one that is almost evenly split between those favouring tighter policy and those favouring looser policy. One or two swing voters could then hold the balance. Monetary policy surely would be less predictable with a Fed lacking strong leadership. One risk would be a less decisive, less aggressive, slower approach to policy making.

Mr Martin gained a permanent place in market lore by stating that it is the Fed's job to snatch the punchbowl away just when the party gets going. Likewise, even once he is gone, Mr Greenspan will long be remembered for "irrational exuberance" and the all-time classic: "Senator, if I seem unduly clear to you, you must have misunderstood what I said."

[11] Taylor (1993).
[12] On the evidence regarding Greenspan's dominant role on the committee see Meade (2005).

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