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Chief economist's comment

Should investors dump the Deutschemark?

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- UBS does not believe that the euro will disintegrate. If investors believe the euro will cease to exist, German cash is not a guaranteed safe haven.
- Anticipating the end of the euro might encourage investors to move money into German territory, increasing the amount of money in Germany.
- Money in Germany could increase dramatically on euro-breakup speculation, the amount of increase depending on how quickly capital controls were imposed.
- German policymakers could either accept the increase in German money and its associated inflation, or reduce the amount of German money after the euro breakup.
- Reducing German money might mean a different conversion rate to foreign or large investors. In 1990, small East German investors received a 1-for-1 conversion of marks into Deutschemarks; foreigners received a 3-for-1 conversion. That precedent suggests German cash offers no *guaranteed* store of value if the euro were to cease to exist.

Should investors dump the Deutschemark?

French presidential candidate Marine Le Pen has suggested that France will leave the euro (it is a matter of when and how). The Dutch parliament is investigating the costs and benefits of euro membership. Amid this existential debate, foreigners judge a post-euro German currency to be stronger than a post-euro French currency.

UBS does not believe that the euro will disintegrate. However, if there were a *complete* breakup of the euro (the euro ceases to exist and is replaced by national currencies), foreigners would be unwise to assume that German cash is a guaranteed secure store of value during the breakup. History and economic logic indicate that *foreign* investors would probably lose money by holding German cash, and risk losing money holding other German assets.

Investor flows

A monetary union breakup is not a small economic event. Parallels are hard to find – in economic scale, hyperinflation is probably the closest. Hyperinflation represents a similar devastation to the concept of a currency as a source of security. Assessing a monetary union breakup using conventional assumptions about reactions and rule of law is difficult.

Every major monetary union collapse of the twentieth century saw dramatic cash movements in advance of breakup. Monetary union breakups are normally trigged by domestic investors pulling money from banks. Le Pen's questioning French participation in the euro could become a self-fulfilling prophesy if investors chose to withdraw euros from the French banking system and hold either physical cash or bank deposits elsewhere within the euro area. A bank run triggered by fear that euros in France will be transformed into weaker francs could result in capital and border controls and force France from the euro. Politicians may provide the reason to initiate a monetary union breakup, but very rarely control monetary union breakups; bank runs drive the process.

Historically, money has flowed into whichever country was seen as the strongest successor to the monetary union. In 1920–1921, the Austro-Hungarian monetary union saw money pour into Hungary and Romania, perceived as the strongest legacy states. In 1932, bank deposits flowed into New York, seen as the safest part of the collapsing US monetary union. In 1992, bank deposits were transferred from Slovak to Czech banks, as depositors anticipated a weaker Slovak currency. Also in 1992, money moved from the former Soviet Union into Russia. There is anecdotal evidence of bank deposits moving from Scotland to England before the 2014 independence referendum, over fears for the integrity of the Anglo-Scottish monetary union.

Switching French cash to hold German cash simply echoes the history of past breakups. A European bank depositor may believe that they get the advantage of still being able to pay their bills in euros with no currency risk for as long as the euro survives, but that they have hedged the risk of their national currency being recreated. History also signals problems for Germany, however, and investors should be aware of them.

The money supply problem

To start with the basic definitions. A euro is a claim on all euro area goods and services. A Deutschemark would be a claim on only German goods and services. The euro area (ex-Germany) economy is almost 2.5 times the size of the German economy, and euro area (ex-Germany) narrow money supply is 2.7 times German narrow money supply. Broad money is over three times German broad money.

What would happen if the euro broke up and Germany converted euros in Germany into Deutschemarks without restriction? If 10% of euro area (ex-Germany) M3 money supply moved to Germany in anticipation of the end of the euro before Germany could impose capital controls, the amount of money in Germany would increase by 31% post-euro. If 30% of euro area (ex-Germany) M3 money supply moved to Germany, the amount of money in Germany would increase by 93%. Money which was previously a possible claim on French goods or Italian services could now *only* be used to purchase German goods and services.

The increase in German money supply in these circumstances is very different from the recent increase in Swiss money supply. Swiss cash and residents' sight deposits as designated in M1 have increased roughly 180% since the financial crisis. However, this was an increase in *demand* for Swiss cash, which the Swiss National Bank *chose* to accommodate to keep money supply and money demand in balance. With capital flows in advance of a euro breakup, *supply* of cash with German borders would be increasing, without the Bundesbank being able to influence the flow (unless resorting to capital controls that could administer the *coup de grace* for the single currency).

How realistic is this sort of a movement? Almost a third of Czechoslovakia's money supply and almost half of Austria's money supply moved out of those countries between 1919 and 1921 in anticipation of the monetary union collapse, despite restrictions. When Hungary (perceived as a strong country) converted the old crowns into its new currency in 1921, there was three times the amount of money there had been in March 1919. Austrians and Czechoslovakians (and others) had moved their money to Hungary as the monetary union fragmented. From June 1932 to January 1933, New York banks regulated by the Federal Reserve experienced an 18.5% increase in their deposits, despite capital controls and at a time when deposits in the US banking system as a whole were declining. Money was moving out of weaker parts of the US monetary union and into the perceived strength of the New York banking system. These moves predate internet banking. A rapid move of 10% to 30% of euro money supply into Germany is conceivable.

Solution 1: Inflation

What could Germany do, faced with a large increase in the amount of money within its borders? One option would be to do nothing and convert all euros in Germany into Deutschemarks. This increase in the amount of money would be inflationary; after the breakup, the money in German banks and other forms of quasi cash (now denominated as Deutschemarks) could only be used to purchase German goods and services. German money supply would have increased, but Germany's ability to produce goods and services would not have increased.

Given Germany's history, inflation is not a likely option – but some element of inflation may creep in anyway. Monetary policy is all about balancing the supply of money and the demand for money. In this scenario, the supply of money in Germany would explode, but the demand for money would be more difficult to determine. Foreigners would not just be demanding German cash as an asset, but as a means of purchasing goods and services that they cannot purchase using their domestic currency.

When East German marks converted into Deutschemarks in July 1990, there was an increase in inflation pressure. Reunification increased the size of the German economy by 8.8%, but the stock of Deutschemark M1 money supply increased 13.4% and M3 increased 15%. The German Bundesbank was forced to tighten policy in an attempt to control the inflationary consequences (in which they were only partially successful).

Money-supply-induced inflation pressures were also evident in the Austro-Hungarian breakup (Hungary had hyperinflation), the Soviet breakup (Russian had hyperinflation), and the Czechoslovak breakup (the Czech Republic had increased inflation pressures).

Solution 2: Forcing money supply lower

If Germany wishes to avoid inflation through a surge in money supply in the wake of a collapse of the euro, the alternative solutions are to forcibly change the money supply.

Forcibly withdrawing money can be brought about through a number of ways. Germany could allow conversion of cash and bank deposits up to a certain amount (EUR 10,000 per person, for the sake of argument). Any sum above that amount would then be put into a deposit with restrictions on withdrawing the money (Russia's solution in 1993, and that of the Czech Republic in the same year), or into a forced loan to the government that cannot be redeemed (very popular during the 1919–1921 breakup of the Austro-Hungarian monetary union). Cash in circulation is removed by converting it into illiquid or frozen assets.

If the government prefers not to freeze assets, a different conversion rate could be applied. This was Germany's policy in 1990. East German marks were converted 1-for-1 to Deutschemarks, up to a limit of 4,000 marks (6,000 for those over 60 years old; 2,000 for those under 15 years old). Above that limit, the conversion rate was set at 2 East German marks per 1 Deutschemark. Non-bank deposit assets, including debt, were converted 2-to-1. Larger savers saw half their money disappear. The German government's aim was to manage inflation. An inflation-neutral conversion rate was estimated to be between 2.4 marks and 3.3 marks per Deutschemark. This two-tiered conversion rate (and other changes) led to 1.7 mark per Deutschemark average conversion. The Bundesbank's protests at what they saw as *too generous* a conversion rate were overruled.

The alternative to distinguishing by amount of cash to be converted is to distinguish by type of investor. Different conversion rates for foreign and domestic investors are politically popular – it leaves domestic voters relatively unaffected and targets investors who have speculated on monetary union breakup. Germany provides a case study of this with the reunification of 1990. Investors were able to convert 1-for-1 into Deutschemarks, up to a 4,000-mark limit, only if they were residents of East Germany. Foreigners did not get a 1-for-1 exchange rate. Foreigners, regardless of amount converted, received a 3-for-1 exchange rate. This reduced the inflation threat by reducing the money supply post-reunification.

Foreigners could receive a conversion rate of zero into Deutschemarks – if the Bundesbank were able to engineer a situation at the point of breakup whereby a French resident with euro cash in a German bank received francs rather than Deutschemarks. That completely destroys any hedge of holding cash in Germany (it raises questions about non-euro-area residents holding German cash).

Finally, the Bundesbank could seek to reduce post-breakup money supply through conventional means (draining money in the money markets). The problem with such an approach is that the scale of the operation would have to be very large, given likely money supply changes. At a time of considerable economic upheaval, the cost could become politically unacceptable.

Dumping the Deutschemark

If investors believe that France will leave the euro and there is no risk that the euro will fragment, then German cash would likely offer relative safety for a euro area citizen. However, history suggests that there is a real risk of a "domino effect" leading to the complete breakup of the euro, if France were to leave.

If investors believe that the euro will cease to exist, German cash does not have safe-haven status to foreign investors. The German government either would have to accept inflation, or would have to find some way of reducing the money supply. The German money supply could be reduced by freezing assets, or converting assets into Deutschemarks at a disadvantageous conversion rate. A draconian central bank policy could theoretically be pursued, aggressively draining money from the money markets.

While the Deutschemark may be a strong currency after the hypothetical breakup of the euro (if inflation is avoided), there are no guarantees that foreign investors will receive the Deutschemarks they expect if they hold German cash in anticipation of the breakup of the euro. History suggests that they could lose *a significant part* of their store of value. Indeed, the more capital inflows there are into Germany in anticipation of a euro breakup, the less likely it is that foreign investors will receive the Deutschemarks that they expect.

Appendix

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Appendix