"The International Financial Architecture, The Euro Zone And Its Enlargement In Eastern Europe"

Robert A. Mundell

1999 Nobel Prize Laureate in Economics

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This is the transcript of the Distinguished Lecture held by Professor Robert Mundell, Nobel Prize laureate, at the Leon Koźmiński Academy of Entrepreneurship and Management, on 7th March 2000. In transcribing the recordings of the lecture, we have decided to maintain the form in which it was given: that of a speech carrying a dense load of lively ideas without the rigid structure of contemporary academic writing. Striving towards fidelity in our attempt to reproduce a memorable evening, only the smallest changes necessary, necessary when translating speech into writing, have been made. Their goal was not to change the meaning of Professor Mundell's words, but on the contrary, to preserve it better.

Andrzej K. Koźmiński: It is my great pleasure and honour to welcome Professor Robert Mundell, 1999 Nobel Prise winner in economics. Professor, this is the first of the series of distinguished lectures at the "Leon Koźmiński Academy of Entrepreneurship and Management". I hope we will be able to meet here again, listening to the great gurus of the science of this world. This is a very special occasion: as you probably know, Professor Mundell was one of the first scientists who formulated the concept of the optimum currency zones. It is not by mistake, that he was awarded the Nobel Prize in 1999, the year the euro was introduced. I will now give the floor to Professor Kołodko, who will talk about our speaker's work, a domain where he certainly is more competent than I am. After Professor Mundell's lecture we will hopefully have about 20 minutes for questions and comments from the floor. Professor Kołodko, please.

Grzegorz W. Kolodko: Thank you very much Professor, and good afternoon everybody. It is my privilege to be here again this evening, when we have with us Professor Robert Mundell. His lifetime activity covered many issues, yet his name is mainly associated with two topics: he is not without a cause considered to be the author or co-author (as we sometimes talk about the Mundell-Flemming model) of modern open macroeconomics. Already in the early 60's, he was the first one to open our minds to the meaning of the international capital flow. By linking this theory with the forces driving demand and supply within the domestic national economy, he created a model which became famous. Rumour has it, the fact that he was of Canadian and not American origin might have helped him reach these conclusions so early. Today, we would probably say global instead of international capital flow, because we live in an age of globalisation, but this age could have not started in the first place without the contribution of researchers. And I think Professor Mundell has to be credited for some of the good things happening today in the global economy.

The other topic usually associated with Professor Mundell, and which is very fashionable these days because of the euro, is the theory of optimal currency zones. We consider the euro zone to be such a zone, even though we must still wait a while before we see how optimal the euro is, and how will it facilitate our accession to the European Union and its monetary system. Somehow a paradox of the way politics and economics mix, the landmark of European economy, the euro, is based on a theory elaborated by non-Europeans. Without Professor Mundell's theoretical contribution, we probably would not be this far in the process of integration and consolidation of European economies, including Poland, which is catching up with the process. We all hope that the process of integration will also help, through its monetary aspects, to raise the competitiveness of the Polish economy. I am glad Professor Mundell kindly accepted to address the Polish prospects and challenges into the wider context of the new international financial architecture and of the euro zone, which will hopefully soon include Poland.

Professor Mundell has started his career at the University of British Columbia in Vancouver, taught for a while in another beautiful place on the same coast, University of Washington, in Seattle, and, in the early '60s, at the University of Chicago, another famous institution. After a stop in Europe, at the London School of Economics, he went back to the United States. Today, he teaches at Columbia University, in New York and John Hopkins University in Bologna. Actually, the professor currently has a house in Italy, where he lives together with his wife, their two-year-old son, and I might add, six dogs and two horses. I would like to use the opportunity to thank Ms. Mundell for doing us the honour of being present with us in Poland.

Getting back to the professional achievement of Professor Mundell, the Nobel Prize in economics is the most important distinction he was awarded, but not by far the only one. I will skip their enumeration, but those interested can find on Columbia University's website not only the full list of awards, but, and this is especially important for students, the list of his publications.

I previously asked Professor Mundell how he thinks the parity of euro against the dollar will change until we would meet again. The professor liked the idea of the challenge, and proposed that we also introduce in discussion the parity of the yen, and the pence. Today, when we met President Kwaśniewski, another idea appeared: let's fix the parity between dollar and the euro, and try to establish a global zone of optimal currency, assign the yen the role of the pence, and use the Polish Złoty as a quarter. I would like to give you one złoty, Professor, and with it, the floor.

Robert A. Mundell: Thank you very much for that very warm welcome and nice words. The title of my lecture was supposed to be "The Enlargement Of The Euro Zone And Eastern Europe", but as I already gave a lecture with that title yesterday in Krakow, I would like to give a different title to today's lecture. This would be **"The International Financial Architecture, The Euro Zone And Its Enlargement In Eastern Europe".** The difference is that I also want to touch on the wider topic of the international financial architecture, which seems to be the new buzzword, everybody is talking about. Paul Voulker has been complaining about the use of the term in connection with the International Monetary System. Most people, he says, are talking about interior decoration rather than architecture! What they have in mind are modest modifications, not a change in the structure. I agree with that. Think of the system we now have, quickly gravitating around three islands of stability: the dollar zone, the euro zone, and the yen zone, representing 60% of the world economy. We cannot talk about the architecture of the system without talking about exchange rate relations between those three blocks. Even though each area has achieved a high degree of price stability, the exchange rate has nevertheless undergone violent changes, which are in my view, counterproductive.

Before we talk about the system in detail, I want to show the way the international monetary system has evolved over the last couple of centuries. We need to think in terms of many decades, not many months or years, and in order to get a picture of this, one has to look back at the past. I am going to start with period beginning at the end of Napoleonic Wars. This period, from 1815 to 1873, was a period of bimetallism. In one way, bimetallism was one of the best international monetary systems we have ever had, because the prices of gold and silver were kept fixed to one another, and it did not matter whether one country adhered to the gold standard or the silver standard because there was still a fixed rate between them. In order to maintain bimetallism, at least one larger country had to fix the price of both gold and silver. In the XIXth century, there were two countries that did that: one was the United States, a small country in that time. When it established its own currency in 1792, it had only four million people. The other country was France, a leading power. In 1803 Napoleon put the franc back on to a bimetallic standard, using the same ratio that Louis XVIth had established for France in 1785. The important fact was that the prices of gold and silver were kept fixed to each other. In France, the ratio was 15,5:1, and in the US it was 15:1. Actually, over all that 1815-73 period, the ratio was between 15:1 and 16:1. Even if you look at a country under a monometallic gold standard, like England, you would see that the bimetallic ratio was between 15:1 and 16:1 over that period.

Bimetallism broke down in 1873, because its two main supporters abandoned it. The US renounced bimetallism in 1862, because of the American Civil War. The United States had a greenback standard, a paper currency, between 1862 and 1879. France had to abandon this standard in 1870, because of the Franco Prussian War. In 1873, just when it was about to consider reintroducing bimetallism, the production of silver had increased considerably in the US; while at the same time the new German Empire had adopted the gold standard and was dumping silver on the market. The price of silver was falling, and France would have had to buy all the excess silver in the world and replace its gold currency with a silver currency if it wanted to return to bimetallism. But at that time, the gold currency was considered a modern one, the "metal of the future", so France did not return to bimetallism. England and Germany were already using the gold standard, Scandinavian countries adhered to it, and then all the major powers adopted it one after the other at the end of the XIXth century: Austria-Hungary and Russia in 1892, Japan in 1897. The US had *de facto* gone back to it in 1879. By 1900, nearly all the major powers in the world, with the exception of China, were using the gold standard, which lasted from 1873 until the outbreak of WW I, in 1914.

WW I broke up the international version of the gold standard, because European countries engaged in deficit finance, and their currencies became inconvertible. They sent their gold to the United States, in payment for raw materials and war goods. The newly created Federal Reserve System - started in 1913 - bought up most of the gold. In less than a century, the United States had grown from a small country to a big power. By 1880, the United States was the largest economy in the world. And by 1914, the American economy was three times as large as the German economy, which was competing with Britain to become the biggest European economy. The creation of a central bank in the United States, the Federal Reserve System, was therefore rendered more important by the growing dominance of the US economy. The gold standard itself started to change. It was no longer a decentralised system, but became a question of the policies of the major central banks, particularly the Federal Reserve Bank and to a much broader extent, the Bank of England. I call the system from 1914 to 1924 an "anchored dollar standard", because the US dollar was the only major currency convertible in gold, while the other currencies were now floating. The dollar became the reference unit, and because of interconvertibility the dollar and gold were the same thing. Over nearly the whole American history was 20 dollars for an ounce of gold, which was coined into the "double eagle" of the United States.

Under the gold standard, the exchange rate was fixed according to the gold content of different currencies, which were just names for different weights of gold. The weight of gold in a sovereign, a pound, was 4,87 times the gold weight of the dollar, and that was what established the exchange rate between the pound and the dollar. In the anchored dollar standard, the dollar was linked to gold, and the other currencies related to the dollar. But Europe went back to gold in the 1920's. After correcting the hyperinflation of 1924, Germany adopted the gold standard that same year. Britain did not want Germany to get ahead, so in 1925 it restored the gold standard as well. France rendered it *de facto* in 1926, and the rest of the world followed quite quickly, so the international gold standard lasted from 1924 until it effectively broke up in 1933. But the return to gold brought in its wake a devastating consequence. It created a big excess demand for gold. Gold therefore appreciated and the value of goods depreciated. The result was deflation, which brought in its wake the Great Depression. Of course, there were other factors, but the main cause was the return to a gold standard at a time when gold was undervalued.

In 1931, Britain abandoned the gold standard, floating the pound. In the US, the first act of President Roosevelt when he came to power in 1933 was to cut the connection between dollar and gold, and the dollar also floated for a year. In 1934, however, the United States returned to the gold standard, raising the price of gold, from $20.67 an ounce to $35 an ounce. This system lasted until 1971. Throughout this period, especially after 1936, the dollar was the only currency freely convertible in gold. The dollar took the place of gold, and the other countries kept their currencies fixed to the dollar, marking a return to the previous system. The currencies of a few smaller, typically colonial countries were fixed to the sterling pound or the French franc, but the dominant currency was the dollar. During the WW II, the price level had risen and gold had again become undervalued, making convertibility of the dollar more difficult. In 1971 President Nixon took the dollar off gold. That more led eventually to the floating rate system, despite some attempts, between 1971-1973, to re-establish a pure dollar standard. Floating exchange rates characterised the international monetary system for the rest of the century.

1999 brought the advent of the euro. Comparing it to past events in the history of the international monetary system, some people have said it is as important as the breakdown of the system in 1971 and 1973. The move to floating rates took the gold away from the system, and gold became less and less important as part of the architecture of the system. But nevertheless, the dollar remained as the reference currency for the international economy, and the dominant currency in the world, both before and after the breakdown. The dominance of the dollar gave the international monetary system a kind of coherence. That was not changed when the system broke down in the early 1970s. But gradually, the dominance of the dollar was changing. Even before the euro was created, Europe started to become a currency zone centred on the DM that could compete with the dollar. Especially after 1978, when the European Monetary System was formed, we started to move towards a system of currency areas. Still, I prefer to consider the beginning of the system of currency areas to be 1999, when the euro itself was formally created. The euro area is now comparable in size to the dollar area and if plans for expansion of the European Union materialised will become more important.

How can we tell whether a currency area is going to be important one or not? Historically, there are many criteria by which one can judge this. One characteristic of great international currencies is that they have had large transaction domains. The second characteristic is that they have had a stable monetary policy. A third characteristic is the absence of controls. A fourth is what one could call a fall-back value, which indicates what a currency would be worth in a situation of crisis. In the early days when coins were used, the fall-back value was the silver or gold content of a coin. In the paper currency area, the fall back value depends on the reserves backing the currency. Countries with large reserves have protection for the currency and can maintain its value. The EU countries have huge foreign exchange and gold reserves so that shouldn't be a problem.

Another important criterion is a strong central state. If country can not defend itself from its neighbours, and is invaded, the currency becomes worthless. Any country that was vulnerable to an attack was never able to float long term bonds, because investors were afraid the bonds will not be worth anything. After the battle of Gettysburg, the confederate currency in the Civil War succumbed to hyperinflation. After the force of Mao Tse-tung crossed the Yangtse in 1948, the Kuomintang currency of nationalist China also lapsed into hyperinflation. A strong central state is an important requisite of a strong currency.

The EU is not a strong central state, and that looks to be the potential weakness of the euro. On the other hand , the EU has a very stable alliance system, NATO, the most successful one in history. That compensates for the fact that EU itself is not a strong central state. I could add a couple more conditions. One is as sense of permanence: if the system is not going to last, long term bonds cannot be issued. The last condition is low interest rates, which can be considered partly a consequence of all the other factors. In conclusion, the European currency area promises to meet most of these criteria. One possible weakness is that it is not a strong central state. Nobody can say for sure that it will not break apart in the next 20 years. I do not think it will, I think there is a strong centripetal force that will keep it together, but a question mark still remains.

The European System has an institutional weakness. If Larry Summers, the Secretary of the Treasury in the US wanted to call his counterpart in Europe, whom is he supposed to call? This question is the counterpart to one that Henry Kissinger asked about foreign policy in Europe in the 1970's. Theoretically, one could call the president of the Council of Foreign Ministers, or the president of ECOFIN, but this person changes frequently. Moreover, he or she is not necessarily someone who can speak about exchange rate policy directly with the Unites States. This is an important weakness. The counterpart of Alan Greenspan is, of course, Wim Duisenberg at the European Central Bank, but there is no counterpart to the Secretary of Treasury. As you know, it is always the Secretary of Treasury, the Government, has authority over the exchange rates. Even if you have an independent central bank, it does not have the authority to fix the exchange rates.

Now let us return to the world economy. The creation of the euro has resulted in three islands of monetary stability. Check the inflation rates of these areas, in the last 5 or 7 years: they are low, between 0 and 3%. Each of the currency areas has a fairly stable price level. This means we are back to a kind of international monetary system with a high level of stability, as far as the price level is concerned. Nevertheless, and this is surprise - we have a high degree of volatility of exchange rates between these areas. This is a major defect of the system, leading from volatility in exchange rates to volatility in financial markets. This, in turn, aggravates the instability of the initial monetary system. Since we have three areas with low and stable inflation rates, which comprise sixty percent of the world economy and are still expanding, why not link these three currency areas together?

Suppose a single currency were adopted within these three areas. What would be the political consequences? Clearly, there will be no exchange rate volatility among the three areas, but instead there will be common interest rates. What would have to be agreed, is a common rate of inflation, and a common definition of inflation. A common price index will be needed, along the liens of EMU's Harmonised Index of Consumer Prices (HICP). This measures inflation by a common basket of goods. The monetary target is to keep the inflation rate of the HICP between 0 and 2%. Some price increases are permitted. This is because many economists feel that price indexes do not adequately take into account quality improvements, which can be pervasive as in the case of the computer industry.

Besides this agreement, a decision-making body is needed. Representatives of the federal Reserve Board, the European Central Bank and the Bank of Japan could meet to form the "Open Market" or "policy" Committee, and decide whether to expand or contract the reserve base of the money supply. This would lead to the creation of a monetary area which would have a high degree of stability. There is no reason why this system would not work; the only thing needed is an agreement between the three countries on a common inflation rate, and how to set up and divide the power of management. Also, there would have to be an agreement, like that inside the European system, on dividing up the seigniorage. When the world money expands a certain amount every year, there is a quantity of paper money that is printed. With this newly created money you can buy goods or assets, and gains result. These gains can be divided up in proportion to the size of the country, same as in the European area, where seigniorage is given back to the 11 members of the euro zone in proportion to the amount of the stock each country owns in the European Central Bank.

Of course it is probably not politically realistic to expect to convince the Unites States or Japan to give up their own currencies. The dollar is the most important currency of the 20th century. And the Europe has spent three or four decades trying to create a European currency, and one cannot ask those countries to replace it with a new international currency. A simple currency monetary union of the 6-3 countries, does not seem to be a likely prospect.

Nevertheless it may be possible to get a three-currency monetary union of these areas, that in fact would amount to the same thing. (There are a number of ways this could be done. The simplest would be to make one of the central banks the agent for the whole, while assigning the others the responsibilities for keeping exchange rates fixed as if they were currency boards). It is enough to "lock" exchange rates, and then have a common monetary policy. This is the way things should go in the future, in order to really transfer the architecture of the international monetary system. Certainly, a lot of education is needed and countries will be reluctant even to think about the idea. It is already a small miracle that Europe has been willing to go as far as it has. But Europe had a political pay off, and a political purpose in forming their monetary union. The goal was that of a certain degree of political integration for the world system, and we do not even know whether it would work. Still, we have to think along that line if we envisage structural changes in the architecture of the international monetary system.

I propose that the process should be started by changing the operating systems of the major central banks. Every central bank that wants to expand the money supply has to buy something, has to add to its own assets. The central banks' assets can be divided into foreign assets - foreign exchange reserves, gold, SDRs, etc - and domestic assets - typically, government bonds. To increase the money supply, the central bank can buy domestic assets, or foreign assets. The European Central Bank insists, that if it is going to tighten or loosen the money supply, it is only going to operate with domestic assets. It refuses to buy foreign assets, so it rejects the idea of supporting the euro in the foreign exchange market.

It is generally believed that the ECB is going to tighten control over the money supply in the coming months in line with world conditions. They are probably going to raise interest rates, and maybe tighten the money market. But if so, it is going to be done in the wrong way, by raising interest rates and selling domestic assets, while the euro is at the bottom of its cycle (at least we hope it is). Instead, it should be selling foreign assets; a billion euro sale of foreign assets has just the same effect on tightening the money supply as a billion euro sale of domestic assets, while the former operates directly on the foreign exchange market. What I am saying about ECB applies equally to the Federal Reserve Bank and to the Bank of Japan. Economic theory does not state that central banks should only intervene in domestic assets. The European System of Central Banks, which is the governing council of the European Monetary System, consists of 17 members, 11 governors of central banks and 6 directors from the ECB. Why can it not make a decision to sell foreign assets, at a time when the euro is going South, increasing the price of raw materials?

Let me conclude with a discussion on the euro area and its prospectus for expansion. The euro area can grow by the admission of the other four Euro members, of the countries in Central Europe, and eventually by Malta and Cyprus. This is an additional 13 countries on top of the EU-15, amounting to a total of 28 within the next years. In addition, there are the 13 CFS franc countries in West Africa that have already locked their exchange rates to that of the euro. This leads to a total of 41 countries. Also, about 10 countries or more from the Mediterranean region, Africa and Easter Europe may be tempted to fix their currencies to the euro zone. We are going to get 50 or 60 countries in the euro area within the next 10 years. Meanwhile, the dollar area will be expanding into Latin America, either the Latin dollar, or some independent currency areas tied to a mixture of the dollar and the yen. In addition, link might be established between the yen and the dollar and the formation of some kind of zone in Asia, possibly centred around China.

What concerns us is the implications of the euro zone for East European countries, like Poland. First, and most important, countries that join it will obtain monetary stability. Any currency that links itself to the euro zone is going to become much more stable than it ever has been before. Do not underestimate the vast importance of monetary stability. I looked at the price indexes for Poland, and I have seen 5% last year, and 10% this year. Any convergence or movement towards a more stable monetary policy should be welcomed with open arms.

Countries will get monetary stability by zeroing in on the euro area. It does not exactly mean that they are going to get, according to the national price index, 0 to 2% inflation. It will depend partly on the growth rate. If a country grows more rapidly than the rest of the area, then some prices will grow at a different rate as well. Take the case of Ireland. It was the most rapidly growing country in the 1990's. Ireland was one of the poorest countries of Europe, a country which for a thousand years has had less then half of the per capita income of Great Britain. It has now overtaken Great Britain. It has monetary stability, rapid growth of 6% to 8% percent a year, important foreign investments, low taxes, and a very favourable business climate. Wages have to grow more rapidly than the growth rate in this country, and this means that prices of some of the more labour-intensive goods will rise, thus raising the level of the price index. Ireland will therefore have a prominent higher inflation rate, according to the national index, than the European average. And the same is true for Spain, which is currently growing at about 4% a year, and Holland, which has been growing at around 4.5% a year, at least in the recent period. Using the same rationale, slower growing countries will also have a lower inflation rate, measured by national indexes.

It also makes a difference whether the productivity gains occur in the international goods industries or the domestic goods industries. The general result, however, is that countries fixed to the euro zone will never get a significantly different inflation experience, compared to the zone itself. The differences that will exist will be due to improvements in productivity growth rates and will not be harmful. The countries will also get much lower transaction costs, and lower information costs. Instead of 11 currencies, or 12, Poland would join, one would only have one price list to look at. Moreover, these prices will be stable, there will be a convergence of price relationships.

At the same time, protection is obtained against the blackmail that occur because of monopolies or unions that want to raise price or money wages too far ahead of productivity and expect those increases to be ratified by more expansive financial policies. The low interest rates of the EU area will also bring a tremendous benefit. Instead of 15% interest rate, one will get 5%, and that would make a significant difference for the farmers, who are afraid that inflation might go down and they will not be able to pay their debts. At 5% interest rates, this is much more manageable, not only for farmers, but for any kind of entrepreneurs. Also one should take into consideration what this means to the budget deficit. A country like Poland, with a debt level of 50% of GDP, at a 15% interest rate, has to pay high interest.

Think what would happen if the interest rate would be lowered from 15% down to 5% which would be feasible if Poland were locked into the EU monetary area. The deficit/GDP ratio would start to decrease immediately, because all the wasteful expenditure in high interest payments would be saved. The current deficit is about 3.5% of GDP; it could be lowered to 1% with the lowering in the interest. Please take these figures as approximate; it is a sort of a back of the envelope calculation.

I admit that the central bank of Poland is now independent and can always say no, but in the situation I describe, the government would not have any reason to ask the central bank to finance future budget deficits. For all these reasons, it is highly advisable for Poland to move as early as possible to the euro zone. Do not think for a moment that it should wait until its final negotiations with EU are completed as early as 2003. You can get these benefits from price stability within a shorter period of time, as long as people and institutions can change their behaviour according to this program.

Once the monetary policy is taken care of, the fiscal policy is solved as well, because the budget constraint will become a hard one. Same as in the gold standard, when everybody knew deficits could not be tolerated. This "no deficit" rule is going to apply inside the EU as well, maybe with 1% acceptable margins. The most important gain from strictly following this rule will be monetary stability, which is the major function of macroeconomic policy. Even better, no geniuses are needed to run the store, just stick to the rule and let the balance of payments determine monetary policy. The most important job of the eleven governors of the central banks in the euro zone right now, is their role as members of the Governing Council of the ECB. They have become junior governors, like the Federal Reserve Districts in the United States, there is no policy-making responsibility.

I am not just speaking about Poland, this should be the approach for all the countries that expect to join the European Union. It is not just the natural and the fastest way to join, but also the best way for each of the countries to achieve a macroeconomic policy better than anything they had before.
Thank you.

Andrzej K. Koźmiński: Thank you very much, Professor Mundell. Judging by the reaction, the public really enjoyed your presentation. We like the perspective you have shown us. I think we still have a couple of minutes for questions and comments from the floor. I would like to ask the speakers to introduce themselves first.

Katarzyna Żukowska, Institute of Development and Strategic Studies and the Warsaw School of Economics**:**
I think the lecture was brilliant and I have only one question. You gave us the perspective of a euro zone with 60 countries. I would like to know how do you see the impact of euro in countries with different market cycles. You were talking about prices, but cycles are also a part of macroeconomics. Even in the EU, cycles are different. Thank you.

Robert A. Mundell: Cycles are a question of different economic growth. Before the EU was started, people were asking what is going to happen to a country like Ireland, which is growing more rapidly than the other countries, and needs a different monetary policy and higher interest rates, in order to prevent recession? This assumption was wrong, there is no need for higher interest rates. Ireland does not have higher interest rates than the rest of the monetary area. Different growing cycles can be monitored because rapid growing countries have a greater demand for money, and therefore they import more money. It is the same situation as in the Unites States, where different cycles can be observed as well; California for example. When that happens, there is a stronger demand for money from that area. Capital flows from the rest of the country to that area. The area has a current account deficit, and achieves equilibrium in that way.

Probably a better example to illustrate the problem you are thinking of is Britain. The pound had to appreciate against the euro in the recent period. The argument that people like Eddie George make is that they have to appreciate the pound in order to keep inflation under control in Britain. He knows, I am sure, that the pound will have to come back down again. With a stable price level in two areas, you can not have the pound at 3.2-3.3 DM, when the equilibrium rate for the mark is lower. The issue is: should the exchange rate be a mean for monitoring or correcting the business cycle? My view is that it should not be and it does not have to be. Britain would have just been as well off, if it had destabilised the pound with the euro. Actually, in Britain it is generally considered that if the pound joins the euro area, this should happen at a rate of below 3 DM. What is it doing at 3.3 DM?

Let me put the British case into perspective. In 1990, Britain was importing a lot of capital. The business climate prepared itself for the single market which started in 1992, and everybody wanted to transfer some capital to London. The capital flow to London was overvaluing the pound, and the inflation rate in Britain was about 9.5-10%. In October 1990, Britain decided to enter the ERM [Exchange Rate Mechanism], the same month that German unification took place, partly because the British felt that the exchange rate of 2.95 DM would act as a brake of inflation. Then Germany started spending 100 billion dollars a year to finance development in Eastern Germany by issuing new debt, and not by increasing taxes. The German currency appreciated. Britain had seen the ERM as a mean of stabilising the pound. When Britain left the ERM, on September 16, 1992, the inflation rate of the pound had been lowered to approximately 4%, a great improvement from 10%. Britain left the ERM accusing the Bundesbank for having kept money so tight that the pound had, in turn, become overvalued. When Britain had joined the ERM, the newspapers, almost without exception, were all very supportive. By the time of the withdrawal, the initial move was considered a huge mistake. In fact, there was no mistake. Britain could have remained a part of the ERM all this time, and there was no need to use the exchange rate in that manner.

It was thought that Britain was forced out of the ERM by events they could not master. That was not the case in that famous Black Wednesday, September 16, 1992, the interest rates had been increased to 9%, with the promise of a further raise to 12% the next morning. The deputy governor of the Bank of England said there was nothing to be done. The rate had already been raised, the reserves were flowing out, without any change in the situation. At the other end of the market was, of course, George Soros, who borrowed pounds in Britain and invested in DM. He made several billion dollars in a week. If Britain had chosen the opposite way, it would have been able maintain the exchange rate. I think that the idea that 2.95 DM was not a good rate for Britain was simply wrong. There is always an exchange rate that seems to be appropriate for manufacturing industries, and an exchange rate that seems to be appropriate for service industries. Britain is becoming mainly a service economy, and still people were thinking of devaluing the pound in order to help the manufacturing industries. In fact, service industries were more important. Britain would have been now in the same position as Spain or Holland, fast growing economies. The inflation rate is flat in both countries and very slightly higher than the EU average. And this is always going to be the case because of the reasons I have mentioned. Instead of using appreciation of the exchange rate to attain this, an alternative policy at least as good is to be part of a common monetary area that has monetary stability, which will spread to all the member countries.

Alojzy Nowak, Leon Koźmiński Academy of Entrepreneurship and Management and University of Warsaw**:**

Thank you very much Professor for the lecture. It was excellent, and I consider myself privileged for attending it. You have showed us some highlights of a future with three areas of stability: Japan, US, and EU. Until today, I was convinced the three islands were fighting against each other, for a better position. It is believed, in some circles, that the true reason for introducing the euro is not stability, but the EU's and in particular Germany's, will to gain advantage over the US. I would kindly ask you to make some comments about this idea, and on the relative importance of political and economical reasons for such a decision.

Second, voices say that the proportion of financial to real assets, estimated at about 6:1, is too high. This is at the origin of some expectations about deflation. Do you expect deflation to happen?

Last, what is your prognosis about the evolution of the euro against the USD? As you know, 16 months ago most terminal markets expected the euro to have a better position compared to the American dollar. Thank you very much.

Robert A. Mundell: On the political aspects of the euro, it is clear that there has always been a political aspect of the European integration in general. From the time of the Treaty of Rome, there has been a fear of an invasion from the Soviet Union, and an emulation, or envy, to put it in a less flattering way, of the United States. NATO did a lot to dispel the fear of invasion, but the emulation of the US has always been a part of the EU's motivation towards integration. In some circles, this goes as far as anti-Americanism. (By the way, I am a Canadian citizen, even though I believe in the US. I mentioned that just to emphasise that even though I live in the United States and I am pro- American, I am not one of them.) Within the monetary system things are quite special, different from the exiting anti-Americanism. In the international monetary system, there is a struggle for seigniorage. Let's suppose we decided to have a world currency, and have decided to auction off the right to produce the world currency. How much would one pay for it? The amount would be the capitalised value of the profit created from the right to issue money. Let's say the GDP of the world today is 32 trillion dollars, then the world money supply would be about 8 trillion dollars. If you print 8 trillion dollars, you get an absolutely fantastic sum in seigniorage. The actual seigniorage is lower, because 90% of the money produced is bank money, and governments do not gain seigniorage from it. The government only gets about 10%, produced by the central bank. If you capitalise that at 10%, it's still 1 trillion dollars a year, a huge amount of money. The United States produces a large part of the international money, which is a part of the total money supply in the world, may be 10%. The amount of seigniorage corresponding to that still represents a tremendous potential for profit and expansion. In this century, with the United States having such a large economy and representing 20% to 25% of the world economy, the dollar pushed gold out of the monetary system, and became the principal international reserve currency.

Of course, the foreign exchange reserves of the US are not only dollars; they are mainly treasury bills on which the Federal Reserve pays interest. But if you just want to look at the pure paper currency that is created, the Federal Reserve has in circulation in the world economy about $400 billion. How much of that is in the US? Nobody knows for sure. We can estimate, however, at least two-thirds of all this money is outside the United States. This is paper currency, for which the US has been able to buy assets, services, etc. That is seigniorage. And every year it increases by a certain amount. In this matter, you think of the world as an oligopoly. The dollar is the dominant currency, and the external currency for most of the other countries, in the same way that English is the second language of most people of the world. The proportions of this situation increase over time. It is inevitable that smaller countries will form a coalition against that. The same happens in an industry. General Motors might dominate the automotive industry, but eventually the minor players will form competing groups, in order to be able to face the competition, and gain market power. This model works perfectly well in the currency sphere. Seigniorage is only a part of it; there are many dimensions, including some political ones. Remember General de Gaulle protesting in the 1960's against what he called "the exorbitant privilege" the US had, that of being able to buy goods and services with the dollars printed by it, while the rest of the world just saw the dollars as money. It was like a zero interest-paying loan, or as de Gaulle's adviser, Jaques Rueff, called it, "a deficit with no tears". It may appear to be anti-Americanism, but at root it is just another struggle for profit.

One of my argument for an European currency is that only with it can you make a super-power talk about international monetary reform. Historically, super-power would not agree to talk about monetary reform while its currency is dominant. In the XIXth century, it was Britain who always said no to international monetary reform. France and the Unites States wanted to go back to bimetallism, or to print a common coin, but Britain always said no to such initiatives. They would frequently send observers to meetings, but always declined to take concrete steps. Afterwards, the US became a super-power and it was the country that blocked basic reform. It rejected a world currency at Bretton Woods. I think, therefore, that apart from the benefits the EU will get directly from a common currency, another advantage will be that it will force the US to start talking about the international monetary reform. Actually, this already is happening; the US has started to talk about the reform of the international monetary architecture. Just a month ago, Paul Volcker wrote an article in New York Times, arguing for a world currency, to "level the field between big and small countries". I do not think any American would have done that before the euro was introduced, and started to threaten the power of the dollar as the world currency.

About the euro itself, is it bad that it is going down? I was glad it did at first, because before that, many people, including Mr. Lafontaine, the Minister of Finance in Germany, argued that the EU should start to expand the money supply, in order to address the issue of unemployment. The euro went down from $1.17 to approximately $1.05, and this completely undercut the above-mentioned arguments. The European economy did jump-start, but when the euro went under parity against the dollar, it would have been a good idea to intervene in the foreign exchange market, and stabilise the currency. All my life I have believed in fixed exchange rates as the optimum mechanism of adjustment. The name has a bad connotation to people. But I believe in making the international economy as close operating as an interregional economy; in making the adjustment between New York, California and. Nobody ever talks about controlling capital movement in the Unites States; there are no bad capital movements, there are just bad exchange rate systems.

Referring to your second question about the danger of deflation, the US budget is now operating on a surplus, and the bond supply of the US government is negative. The US is buying back its bonds. I was at an euro-bond conference in London recently, and one of the questions that arose was: What is going to happen when the supply of long term bonds dries up from the US? Somebody else responded that Japan will take over, because the biggest public debt in the world now is that of Japan, as the American one is decreasing. But Japan is only paying a yield of 2% to its bonds, which is not attractive enough, so there is a concern about too few financial assets. People who believe there are too many financial assets, take derivatives into account, and make a lot of double counting. As far as the deflation is concerned, you can certainly have a deflation of asset prices, like that of overvalued Internet stocks, but I would not call that a deflation. When the stock prices go down in the same way they went in the 1930's, that is considered deflation, but that would never happen again. In a world of paper currency, the problem is "too much", rather than "too little". If there is any deflation that starts worrying people, the central bank will must print more money. There is a little bit of deflation in two countries. One is Japan, where because of the position the Bank of Japan took on a problem of money expansion, there is a deflation of -1%, maybe -2%. But that can be easily corrected. The second is China, where the exchange rate with the dollar is fixed, and the equilibrium price level is -1% under this rate, but that too can be corrected by a small change in the exchange rate.

Andrzej K. Koźmiński: Thank you very much, Professor Mundell, for your answers, and for being with us this evening.