The Future Structure of International Capital Flows
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Transcript from a recording

Europe Session, 21 November
Tape one
Side A

Subacchi: I hope the technology is sorted out.

Bosworth (Moderator): OK. Ah We have a very full afternoon session and since it ends up with dinner we've got to stay on schedule, so I'll try to give the speakers some signal warning at 20 minutes and the discussants at 10, and lets see if we can't keep this thing on schedule so we get out of here at a reasonable hour, OK. Paola.

Subacchi: Well I'm glad then that I'm not a human obstacle to your dinner.

Bosworth: No

Subacchi: Because then its too early so I hope you had a good lunch, and ah I'll try to be brief, but first of all let me thank the Tokyo Club again for this fantastic gathering of so many distinguished speakers and commentators. I think it's a privilege to be here and be able to ah express our views and have your ah comments, so please be nice. But thanks again, it's great to be in Japan, let me add this, and lots of you know how fond I am of this country so it's a great privilege to fight the jet lag and come here.

Um so um I'll start with my presentation, and the presentation is actually focused on Europe and um ….Ah why Europe? Because we think, and this is a point, which has already emerged today, global imbalances are not only transpacific. And particularly not a matter only of US and China. (Inaudible) Um.. Trans…Um…Sorry I think I got the wrong presentation I think it's the old one because I changed my presentation at the last moment. Now I realize this is not the right one, it's on the other disc, but I think I put it out, sorry, it's a bit of a comedy and, Ah I and ah I thought… Yes because they're very similar but I got this one. Look at this. They're removable, yes.
So forget about what I said when actually what I said is still valid. I just changed my presentation a few extra slides and something then I thought it was important word and um so in fact it is this one.

Um, the point is that we focus on Europe and probably lots of people think Europe doesn't have a role to play here because Europe, especially after those two referendums on the ratification of the constitutional treaty back, late May early June this year. I think basically Europe is perceived as a say region and ah nobody knows which is the plan behind the European Union to put it very plainly, and a lot of things also and a lot of commentators tend to regard Europe as an area where economic growth has been so poor and so poorly performing below potential. Then there is no actually worth bothering with Europe but actually, we believe that Europe has an important role to play, because so far, actually, has played an important role in the adjustment thanks to the Euro.

The point here, and this is key message we want to make today, is that this role has been involuntary, it came from the structure of the global capital flow, so the Euro is the currency which actually took the burden of the adjustments so far to keep the system in equilibrium. But, actually there was no conscious voluntary deliberate policies behind that. What we try to say is we need, actually, Europe to take a role here and to be more pro-active and come out with policies which are appropriate to re-launch growth, obviously, but also to take a sort of driving role in this managing of global imbalances. Our line is despite what this sort of current mantra we believe that we need to think in terms of more spending and be more (inaudible) in Europe and saving, and then we look at the saving and the domestic demand, and we look at the financial innovation.

But before that, let me say a few words about the global imbalances again. The global imbalances are across regions so its not only a trans Pacific issue. There are three broad patterns, and one is actually the growing US current account deficit. This itself is not a big problem. The current account deficit has been a feature in the US so itself is not the problem. It is the size, which is the problem, the fact is that it is combined with a large budget deficit. The second feature is the counterpart of the US current account deficit is the surplus in the emerging market economy and we know that, but also in Europe, in fact, if you look at this chart we can see the Euro area and Germany, I left out some of the other countries with similar features tend to have a quite substantial current account surpluses.

The third feature is that at least in the current debate Asia has emerged as a key player in the capital, in the global capital flows. So the debate could be summarized in the in the vulgarized in two things like the US should reduce its spending and its consumption of imported goods, and the Chinese should let the currency depreciate, I'm sorry, appreciate and this is sort of the global this is what a lot of commentators are actually bringing forward. It's not, again this is really a sort of very simple view, because again the causes of global imbalances are, several not just a matter of trading.

Again we need to look at excess saving in Asia and in Europe as part of the problem and again I'd like to stress current the growth rates in Europe are still high are so lets say 14% in US but they are 21% of GPD in um in um in the Euro zone, they are 28% in Japan and 44% in China. So its not only the problem of Asia and for Asia, but again I think that Asia has an active role to play so far as I said the system has been kept in balance, thanks to the Euro, but I think we need to accommodate more active policies.

This chart again just shows how the current account balances have developed in the last 15 years and again its quite clear here that in the Euro area has a quite interesting role. OK, um you know the story about global saving glut and the incumbent chairman of the Federal Reserve (inaudible), has actually promoted this view which has some interesting points but also has some limits but I'm not going to get into this discussion now. But I just want to show that again the gross national savings are are quite large so let me go back again to these current account balances.

The point here is to show that the US current account deficit has its main counterpart in surpluses in Japan and China but also in the Euro area. OK, the saving scarcity in the US is driven largely by the federal budget deficit rather than by the private sector, this is something we have to bear in mind, but it is also true then the household sector has also seen a steady decline in its personal saving relative to GPD. Since the mid 80's we had we saw a decline of about 7 percentage points. Oon the other hand the business sector has kept a steady saving rate obviously because of the these current account deficits the US has accumulated an international debt of about 3 trillion US dollars. But it has absorbed at least 80 percent of the saving the other countries do not invest domestically and among these countries obviously we put Europe. The Euro area has excess saving, in 2004 it ran at most saving surplus of about 36 billion dollars, and again in the last five years while the foreign borrowing of the US has accelerated, the Euro area has remained as a lender. In fact you can see again the household savings are very high and compared to the United States. German government financial balance despite the problems still half more or less half of the US. The interesting thing is the long-term interest rate is pretty much in line with those of the US. Why is that? Twenty years ago the Euro area, Europe and the US had similar household similar pattern of saving, but then the United States has become, has begun to decrease its household saving, while in particular after the 2000 the gap has become much wider. In Europe we had a sort of dip in the household saving ratio towards the end of late 90's, but then after the 2000 the saving ratio is gone up again and why is that?

Not certainly because the Americans as we said this morning are richer than the Europeans, um in fact actually if you look at the net household worth, its about the levels are similar. We have about 550% of nominal disposable income in the US, so we have about 500% in Germany and 600 in France, so we are more or less there. But there are two important factors. One is confidence and the other one is instruments, so in the US um the level of confidence is much higher, much higher than in Europe. Europe has a high unemployment rate about 10% .The constant, and this is something we are really very keen to bring forward, the constant insistence on structural reforms which has become a mantra in Europe, is having a sort of reverse effect because Europeans are obviously expecting more cuts than benefits, more changes, therefore they are more uncertain, and therefore they save more. The thing we want in Europe is less saving; actually, we have the reverse effect here. Since the budget deficit again has the reverse effect of people expecting more tax increases.

Then we have an issue with the availability of instruments and personal finance products. Re-mortgaging in Europe is not very common, in continental Europe in particular. That means people cannot take advantage of this kind of increase in house prices, because the property market in Europe has been strong and actually in some countries it has been performing better than the US. But there is no way that Europeans can actually extract equity from their residential property and turn it into consumption or at least decrease their saving. Um so um we don't have this effect and this is why we have high savings.

But also, the reason another issue is the European saving is a lot because they are aging. We have about 20% of the European population now is in the 50 – 65 year old group, and we know from the life cycle theory that this is the group and again we discussed this, this morning, this is a group that tends to save more these are people in their high earning years and obviously they paid off some their debt or most of their debt and now they save more in order to make sure to have a comfortable retirement. So this I explain again, this chart I'm not terribly happy with this chart this is probably the problem we have here is with the availability of breakdown of figures that can show the breakdown by age groups of saving rates. I think we need to do more work and certainly include some data on unemployment and saving. But anyway this just to give you a you see again the US is got low saving rate and actually a lower share of the total population represented by the age groups 50 to 64.

The point here is not the kind of again saving they have, but the point, and which is important to, for economic policy making, is that we have this these windows, these opportunities now, because these people are saving a lot now, but in 10 years time the baby boomers will retire and therefore will start to dis-save or use their investment to pay some for their pension and anyway it is unlikely that we will see this kind of saving rate. So we now have this pool of saving which is available in Europe and we should do something about it, because this window is not going to stay open forever. What we could say do here is actually to we advocate for governments in Europe to mop up the saving and use it for domestic investment, in particular for government-backed investment in infrastructure. An important point here is again because of these government imbalances, part of this saving already doesn't stay in Europe it goes somewhere else, it goes to United States so the point here is that we should actually use this saving domestically to invest in infrastructure and try to improve the growth rate in Europe. Again, a source of productivity a source of unemployment and put the economy on track with its potential.

OK, the impact of aging on the investment saving in Europe has started to become evident. In Germany for example almost 20% of population in this age group of 50-64, has um is already in this age group and the saving rate just over 11% of disposal income. The current account balance is in surplus and quite large and the surplus is growing and it is growing because exports have shrunk in Germany despite um some adverse factors, but again I'm not going into this now, but it is also important to notice that there is the foreign assets held by residents is growing and has been growing strongly over the last five years. From 1999 to 2004 these foreign assets held by residents have grown from 266 billion Euros to over 700 billion Euros. Again, I'm aware then that some of these figures are not, especially the current account figures, are not terribly accurate and we have problems again to pull out the appropriate data, but again, these could be useful just to focus on the thing, on the on the issue. Again, France is exactly the same the difference is we've got a current account deficit because many imports are growing stronger than exports, but again, the foreign assets held by residents grew by over 80% between 1990 and 2004 and then over 500 billion Euros.

So what does it mean? It means then demographic changes and demographic pressures as well as the structural current accounts as well the fact the Euro is an international currency and there is a clear trend now in a holding more and more reserves in Euro or Euro-dominated assets that puts obviously pressure on demand for Euros. The Euro could provide a good opportunity to diversify out of the US dollar if that is the case, so all in all these are putting pressures on the Euro and the fact there is not enough investment opportunities domestically means that obviously the Euro are used to buy foreign assets. So, we have this pressure and we have now to realize again that the debate in Europe is very immature in this respect because as the debate tends to tackle these issues again from the, we say, mercantilist point of view.

I don't know if (inaudible) would agree with me on this, and again the idea is the Euro should be much weaker in order to spurt export in Europe. I think that we believe and these are not the appropriate polices because for structural factors, the Euro is going to remain pretty strong and again we can discuss what does this mean be strong, but its certainly the case that we need the appropriate policies to boost domestic demand to reset (inaudible) target, to be less paranoid about inflation at 2% or maybe 2.5% and we need to reconsider this target. We need to improve the structure for the financial market, we need more financial innovation and, most of all, we need a relaxed view of policies. For all of you who are not in the Europe and do not follow the debate, probably you are not aware of how much paranoia there is about European policy making. So we need to have a more relaxed view of Europe's expansion, and in particular we need a more relaxed view of current account deficits.

Again this point down to the idea that countries should have a surplus in the current account. This is a quite well spread idea in European's policymaking circles. Quickly this is a chart this is the slides that I had at last year at my presentation I thought to put it down here again because nothing has changed we are still in the same situation, and we carry on talking about reform and structural reform and the need for structural reform and the American administration is actually pushing, putting pressure on Europe for structural reforms But structural reforms take long time to deliver their results. In the mean tim, we need something to boost domestic demand recovering private consumption have more job creation because the situation is becoming bit critical including we have some social pressures, and all of you know about the riots in France. So we need to think in more creatively and we need to think how to use this advantage which is we have—low long-term interest rates, what are we going to do with this? And again I think we need to be a bit brave and accept, that one way to make growth a reality in Europe is perhaps to spend more and move away from this inappropriate fiscal targeting. You know what does it mean 3% of deficit, budget deficit in Europe. I think we need, and going back to the main point of this paper, is we need to realize that saving and investment in Europe, we need to use the window of opportunity we have now to do this realignment.

So we need to borrow cheaply now and channel this money into government-backed investments. So we are strong proponents of the long-dated bonds issued by, obviously government backed long dated bonds, which has funneled a lot of appetite in the financial market, because in particular life insurance companies find that long-dated borrowing could be a way to hedge against longevity. There is a problem of credibility because European governments don't have a particularly brilliant track record in in avoiding of spending, current spending not investments. So we need a golden rule like the one Gordon Brown proposed for the UK. So we borrow to invest but are these people going to keep their word and actually invest rather than spend on current spending. But again, the question is can we afford to be passive? In particular, can Europe and the world afford to be passive and I think the answer is probably no. Thank you

Bosworth: OK, Thank you Paola. The first discussant is Catherine Mann.

Mann: OK. So I got to take on China last hour, now I get to do it to Europe and this is all building up for taking care of the United States tomorrow. So, OK Europe, and global imbalances. I want to make sure to recognize that in the title and then of course the under story, "incredibly shrinking role, question mark" that's what I want to address in these set of comments.

First, let me again do a recapitulation of the paper. It's a paper that covered a lot of ground, and so the way I recapitulate was in there was first it reviewed Europe's high savings and low investments, so we had the savings and investments balance discussion again. It particularly focused on the role of demographics i in Euro land or the Euro zone and how that tended to reduce private incentives to invest and focused on the role of financial innovation to aid consumer borrowing and spending with the particular emphasis on ways to secure ties to housing and how that translates to capacity to spend. It then addressed a number of issues related to the Euro itself; the current kind of schizophrenia that, on the one hand, there was a desire to increase the financial usage of the Euro as a currency denomination, as a means of exchange or store of value. Wanting to see that, on the one hand, but on the other hand, being concerned about that because of the implications of the appreciation of the Euro, the implication for that trade patterns. The appreciation hurts and exports are not being co quote replaced by other sources of demand, meaning principally, of course, domestic demand. Thirdly offering the long-dated government bonds as a strategy for intermediating between the savings that is too high and the investment that is too low. So using elongated government bonds as a new way of intermediating the savings and investment imbalance in Europe. So that's kind of what I took away from the paper.

So my first question was you know is Europe really unbalanced? Now, you saw this chart before you get to see it again and we're going to focus on somebody else in here and that is the EU area. You know in comparison to every other area that I've got numbers on up here, you know what they are for the United States, they're also a real big negative; the EU is pretty balanced with respect to the global economy and in savings and investments it's pretty balanced, so on the global side of things you know there's a question mark whether, you know, maybe Europe doesn't have to do anything. It's pretty much in balance. On the other hand, if we look at the big imbalance out there, which is the United States trade deficit, a lot of people focus on it as being the source of the US imbalance, of our trade and current account as being the global imbalance that needs to be addressed. Well, Europe is playing a big role in making our deficit bigger. I pointed out China last time the red line but, you know, Euro in the pink is a pretty big player. One point is, of course, you know, looking at it from the standpoint of the United States, pretty much everybody has to be depending on us for exports. It's kind of hard for any part of the world to not be, of course, the only one that is interesting there, I think, is, ,given where we are is Japan. You have not increased your dependence on the United States, at least to the degree everybody else has. So, on the one hand, you know, Europe is unbalanced with respect to the US as a frame of reference, but if we take the globe and S minus I as a frame of reference, then Europe really isn't imbalanced.

So I go to another way of thinking about imbalances, which is internal to Europe and internal to the economy between different components of the economy. In context of China I talked about manufacturing versus services. In the context of Europe, I'm doing that again. What we have here is a chart of productivity, different sectors of the economy f for the Euro-15 and the United States. The point to be taken away from this, which is written down here, is that there is a substantial domestic imbalance in Europe with respect to productivity growth by sector. You know, looking here at some of these in terms of comparing productivity growth in information and communication, ICT-using services big differences. Also, big differences in Europe between the ICT-using sectors, services and the manufacturing. So there is a very big imbalance in Europe, again, between manufacturing or the goods components and services the non-traded components.

So that, to me, suggests that there is a tremendous opportunity in Europe for domestic investment. Opportunity, that there is a lot of profitable investment opportunities in Europe, particularly in the services sectors, that is not being taken advantage of or at least not being taken advantage of in Europe in the same way that its being taken advantage of in the United States. So particularly in the area of health and other services useful for older people, we know, that as you age you tend to consume less in the form of food and in the form of manufactured products and increase your share of consumption in the services area, so the opportunity in Europe for investment in those services areas, many of which use information technology, being another area that I work on is definitely there. And, as you can see, the source here for this information is from Europe itself, from the University of Groningen's Centre for Economic Development.

So I then go to the second question, which is on the adjustment side of things. We've sort of taken care of the Europe side, and now let's talk about the global imbalances side of things. How important is Europe for the United States? If in fact the United States were to go through an adjustment of its part, its side of the global imbalance, what would happen to Europe? A good thing? A bad thing? What do we know about it? So what I've done here is, this is a very disaggregated data set that I've developed that breaks down by product by country area. I've highlighted Western Europe here. That's the way I've decomposed it; not exactly Euro, EU, or Euro zone, but it comes close. The point to take away here is that western Europe or Europe as a trading partner in the two major components of the things that we trade with the rest of the world, which is consumer goods and capital goods, is that Western Europe or Europe continues to be pretty much the most important trading partner for the United States as an export destination but declining over time from 1980 to 2003, which is as far as my data go. Same on the import side; used to be more important than it is now for consumer goods; dropping a little bit for capital goods. US purchases for capital goods from Euro land, Euro zone, much less important So, in that sense, Europe is kind of shrinkingly important for the global imbalance, at least from the US side of global imbalance.

So then I ask the question, well, OK, so how important is reviving Europe's demand for closing our side, my side, the US side, of the trade deficit? And to do that I constructed this disaggregated data set I ran a bunch of regressions, estimated new elasticity's coming up this way. Now there's a lot of information on this table; the key things to take away is how important is Europe, or industrial countries in general, on the demand side and then on the relative price or exchange rate side, because those are the two things that I'm going to care about—demand in Europe: is that going to close global imbalances, at least from the stand point of the US. Or the Euro: if we change that, would it close the global imbalance as measured by the US trade deficit? And so, coming away from that looking at the national (inaudible) prices, so this is just taking account of specific categories of products for industrial companies, now this does include Japan so it's not exactly Europe. Exchange rates matter; in fact the elasticity you'd expect on the import and export side, particularly luxury products being purchased by the United States from the industrial countries, very strong price elasticity. So that suggests to me that exchange rates matter a lot for changing the US component of the US trade deficit, and to the extent that's part of the global imbalance, getting at the global imbalance that way. Similarly, in terms of expenditures, in other words asking the question, how important is adjustment in your upper increased demand in Europe? how much is that going to make a difference for the United States as the indicator of global imbalance , if we were to import a lot less from the industrial companies? If we shrink or if we don't grow as fast on the export side, not as important. So, the thing to take away from this chart is to say that our import elasticity's, the United States import elasticity's, are actually more important than the export elasticies.

So I have to now continue with this exercise of OK, do I care in terms of global imbalances about what happens to Europe if they grow? Don't grow? Have financial innovation or not, you know do I care? If I'm measuring the global if I'm measuring the global imbalance as the US trade account, which a lot of people do measure the global imbalance that way, I'm not saying it's the right way to do it but they do it. So what my parameter? So how would I get? What's an example of Europe growing more? Well I've taken concensus economic forecasts for 2005 and 2006 and for these two main categories of expenditures, gross fixed capital and personal consumption expenditures, which are what I feed into my estimating equations, and ask the question, well, what would a boom in the industrial countries or these other places do to raise those demand factors? And this is average personal consumption expenditures growth rate, an average boom in Europe using 1980 and 2003 data that's an average boom in terms of gross rates capital formation. These numbers here in red are the actual consensus economic forecasts for 2005 and 2006. So how much more do I have to add in my model in order to generate an average global boom? Well, it's this amount and this amount like we're not going to see it but that's how I generate these equations and these forecasts. And so what do I end up with? A boom in Europe raises the, improves the, US trade deficit by not very much; some, but not very much.

So in order to really get a change in the US side of the global imbalance, a lot has to happen in the United States. Now this looks really small as an improvement in the United States but for Europe that's a really big change in the trade imbalance with respect to between the US and Europe so it looks small on our side, it's big for Europe, and would only emphasize the extent to which structural adjustment has to take place.

OK, so my conclusion, Europe's internal imbalance is greater than it's external imbalance with the most apparent sluggish in productivity growth is in services. Stronger investment in consumption is important for Europe, but it's not going to do a lot to improve the global trade imbalance, if we measure that from the stand point of the United States. So the Euro-dollar exchange rate has got to play a big role in terms of reallocating investing expenditures. And my question is will these long-dated Euro-denominated government bonds have any role to play in either the exchange rate adjustment or in terms of the investment strategies towards services in Europe? I don't, you know, I think the answer is, probably not. Will these Euro government bonds shift demand away from US treasury assets; have the Chinese and the Japanese buy Euro denominated government bonds instead of buying US treasuries? I don't think, so because there's no deep market for Europe government bonds. There's a bunch of fragmented government bond markets; there's not a deep bond market. Do I think these long-term government bonds serve a role in terms of intermediating Europe's saving into private-sector productivity-enhancing growth in the services sector? I don't think so because governments generally don't play a very good role in doing that kind of investment.

Inaudible question

Mann: No there isn't I mean ……

Bosworth: The next discussant is Anwar Nasustion.

Nasustion: Thank you very. I also enjoyed reading this excellent paper I agree with Professor Subacchi on two accounts. First, that Europe would play a prominent role in avoiding a possible worldwide economic recession that could originate from the problem in the US. As we all know, a possible crash in the US economy could be caused by a large increase in the interest rates and a sharp depreciation of the US dollar to narrow the present large and unsustainable US current account deficit. To reduce the deficit, national saving should be increased in the country along with associated reduction in domestic demand, particularly government spending. I think we will discuss this tomorrow in ah very (inaudible) paper. To offset this slow down in the US economy, private consumption and investment have to be increased as well, particularly in other large economies, including Japan, the Euro zone, and England.

Second I also agree with Professor Subacchi that China and other emerging economies in this region, in this Asia, will also play a role in moderating any depreciation of the US dollar and any sharp increase in the US interest rate. Which could otherwise could cause adverse implications for global growth and international financial markets.

Most of this paper mostly recommend is a is a Asia to supplement that good analysis provided by Professor Subacchi because simply also I don't know much about the European economy. The emerging economies in this region, in my judgment, can (inaudible) three contributions to address global current account imbalances. The first contribution is the economic growth through expansion of domestic expenditure. Well, for example, investment in infrastructure is still needed in China, in Indonesia, and Russian Far East. These require deregulation and financial sector reform to increase the quantity of investment and to improve its quality and efficiency. Because the size of the emerging economies in East Asia is still relatively small as compared to the World GPD, domestic economic expansion of this region can only make a marginal contribution to the world economy. That why again we need that contribution from big players in Euro land.

The second contribution East Asia can make is to keep investing their accumulated external reserves in US treasury bills this (inaudible) ah so ask that the a Asia still is dominant holders of a of US treasury bills. Reducing their purchase of these assets and diversifying their portfolio away from these assets would put upward pressures on US interest rates and lead to a fall of the dollar that could cause a recession in the US economy. The growth of Euro holdings grew significantly between 2001 and 2004 as said by (name inaudible) and then slowed down markedly due to, among other things, uncertainty over the EU integration as indicated by the French and Dutch "no" votes on the constitutional treaty earlier this year .

The third contribution the emerging economies in East Asia can make, in my opinion, is to adopt a more flexible exchange rate mechanism. The exchange rate pegs in East Asia and to offset the effect of the dollar's fall since 2001 on the current account imbalances.

Professor Subacchi rejects the standard policy recommendation that Europe and Japan could speed up their structural reform of labor, product and financial markets to accelerate, to accelerate growth, by improving investment efficiency and growth potential. Her rejection is based on her belief that the high savings rate in Europe is mainly because of the ageing population and high unemployment rate and deficit target in the Stability and Growth Pact. In addition, the absence of financial products, such as easy mortgage and re-mortgage, re-mortgage instruments makes it more difficult to translate the wealth effect arising in the rise of house prices to corresponding consumption expenditure of the households.

To encourage expansion of the domestic demand by Euro zone, as we heard from her presentation, Professor Subacchi recommends focusing on a program to expand household spending by correcting the structural excessive saving. For this, she suggests an easing of household borrowing against housing equity and easy access to mortgage finance. In addition, she recommends the public sector mop up domestic savings through issuing long-dated government bonds and channeling it towards domestic investment, particularly in infrastructure projects to increase productivity.

The emerging economies in East Asia continue to accumulate excess external reserves as the economic crisis 8 years ago has only dampened their investment growth. Savings, on the other hand, did not leave the economies in this region with economic surplus, which is equal to excess of (inaudible) of investment. Building up external reserves is needed by the countries in this region to intervene in the foreign exchange market. Until recently, China and Malaysia pegged their currency to the US dollar. Hong Kong and Brunei adopted currency board systems. Other countries in this region use managed float systems. The reserve accumulation is also part of their strategy to buffer themselves against thethe shocks emanating from internal financial markets like they

Tape ends

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Nasustion: experienced back in 1997-98. Accumulating individual external reserves is very expensive. To reduce the cost, the Asian countries, ASEAN-plus-three, established in May 2000, web of bi-lateral swap arrangements under the Chiang Mai Initiative to supplement the system of milti-lateral pooling of financial resources under the IMF. Unlike in Europe, however,political cohesiveness is still lacking in this region. As a result there will be no progress to replace existing bi-lateral swap arrangements with multi-lateral pooling of financial resources.

The public sector plays a leading role in channeling current account surpluses in East Asian emerging economies into foreign securities, as Professor Paula said. There are two reasons for this. First, countries normally need large multinational corporations to invest the surpluses overseas, which these emerging economies still lack. Only Japan and Korea has that ah big multinational corporations to invest a part of reserve overseas.

The second reason for the leading role of the public sector in holding external reserves in this region is because of government regulation, such as the capital controls in China, that limit the ability of the private sector to hold foreign currencies. China and Malaysia deliberately limit the role of the public sector it investing the capital account surpluses by imposing capital controls. The socialist country of China uses out right prohibitions to essentially boost the capital account balance of the external payment. In contrast, Malaysia, between 1998 and 2005, temporarily used more of a market-based control that attempted to discourage short-term capital out flows that may cause overheating and a financial bubble, that could eventually lead to currency and financial crises. The financial bubble comes about because of the dominant role of short-term capital inflows in the relatively narrow and shallow financial and capital markets in emerging country of this region.

China, as we discussed this morning, still retains full capital control partly because of the dominant role of state-owned enterprises and state-owned banks. The state-owned banks are typically inefficient users of resources, as they issue loans, mainly to state owned enterprises, based on administrative directives of the government at both the central and local levels. Until recently, state-owned enterprises were highly leveraged as the government put only a small amount of equity investment into them. The public state owned enterprises are located far away from markets and transport due to historical fears during the Mao era of American attacks and/or Russian expansion

Bosworth: (inaudible)

Anwar: Yes. The lesson from the crisis of 1997 98 is that the appreciation of real effective exchange rates due to massive capital inflows would reduce competitiveness, as emphasized by Dr. Mann this morning. All major countries in Asia except Hong Kong and Brunei are using floating rate exchange systems; these two countries still subscribe to the currency board system. In contrast to market expectation, the central bank of China announced as we’re aware of but ah still the adjustment is very, very, very small. Going against much of the foreign advice, China is likely to avoid an abrupt and large appreciation of the RMB that could hurt this economy. That’s what we heard from you this morning. The large RMB appreciation reduces the value of the dollar-denominated assets in RMB of the still fragile state-owned banks and state-owned enterprises. I think due to the limitation I stop here. Thank you

Bosworth: (inaudible)

Aglietta: I appreciate what you did in doing all this (inaudible) stuff deficiencies we have in Europe. But I think that you should put some political economy into the picture, because it is not believable that the reason why we are in this mess is because of economic fundamentals alone. Just to offer three things, first, the conflict of interest between the small and big countries in Europe. The small countries do not need at all domestic demand impulse because they are essentially driven by foreign demand and in the fixation rate system, they have a been able to develop a bigger than (inaudible) policy by tax dumping. So you know that the way the voting power is within the European councils is when a country vote so it is not weighted by population nor is it weighted by GDP, so the small countries have finally the way they have a say and they are the countries that lead the policies and those countries have nothing to be interested in developing domestic demand at all.

The second problem we have is obviously the fact that the two big institutions that are really European ones are not democratic. The first, of course, is the European Commission, and what is interesting is that the European Commission is the only institution of the world that has been that have taken the world (inaudible) that is less effect. You know that the US have a very odd kind of (inaudible) that is (inaudible) come very strong and big government; we have no European government at all, so there is a second weakness, a second deficiency. The third one is of course because of the ECB how can you do say we need more expansive foreign money policy? You can change anything about the status of the ECB, it is enshrined in a kind of constitution (inaudible) ah and we, the ECB is only concerned about inflation, not at all about rate of unemployment. So, the question is how in the list of things we have to do, what are the priorities that can be really enhanced with those political constraints?

Eichengreen: I think this paper does the useful service of reminding us that faster growth would be in Europe would be good for Europe itself, and if it was faster growth that was associated with higher investment relative to savings that might make some modest contribution to the resolution of global imbalances as well. I'm not convinced by the evidence provided to date that what Europe needs is more public investment. I think it would advance the discussion if Paola were more straightforward about what she's recommending. So phrases like "issuing long dated securities to mop up excess investment" would communicate more clearly if it was made clear that she wants to see more deficit spending.

European governments should be borrowing in order to spend more on public investment, in particular, so the question is what public investments, specifically, and tell why I should believe those specific public investments will be good for growth. A second channel tunnel, another high speed train from Paris to Brussels, a second port of Rotterdam… what exactly are we spending on and why is it going to be good for growth? Surely more deficit spending by governments is going to have some crowding out effect on private investment, and we can talk about what the offset coefficient is, but my presumption is that what Europe needs more is private investment and that the way to get it is by a more investment-friendly policy mix, which means smaller deficits and lower interest rates, lower central bank interest rates. Paola gives me the same advice that my wife always gives me which is "just relax and don't worry about things so much". I haven't learned to accept that advice. I see European countries with substantial deficits during the expansion phase of the cycle, and I wonder what they're going to do during the contraction phase, when they need to be able to use fiscal policy. I see them with substantial deficits in a period when interest rates are historically low, and I wonder what they're going to do when interest rates normalize, and I see them with public debt ratios of between 60 and 70%, and against the demographic background Europe has, that strikes me as worrisomely high. So I haven't taken my wife's advice yet.

Sachwald: I have one question about the paper or one remark is that you treat Europe as a whole and you say for example you have a table of comparing France and Germany. But I think that there are quite important differences between European countries and, in particular, if we take two large countries, well relatively large countries, France and Germany, I think there might be have been more progress on the supply side in Germany and relatively more support to demand and consumption in France, and certainly, Germany has a large trade surplus and France now is in deficit, we see here two slightly different profiles. So I think that each country needs more of the other type of policy but I don't think that they're in the same, exactly in the same situation.

Then, I also had a question about infrastructure because in France we've had also a number of people asking for more spending, either at the national level or at the European level, but indeed I'm not sure that spending on let's say hard infrastructure is a solution. To come to political economy as Michel suggested, and also as you implicitly said because you said reforms are taking a long time, we are hearing too much about reform. I think its true maybe what you say is true about it's depressing Europeans to hear again and again about this, but I think what is missing is a vision. That is, we hear a lot about reform but then governments are not consistent, and so it's the combination of the two that is the problem, and Michel was saying that the small countries are doing tax dumping, well I'm not sure that the Scandinavian countries are doing that, they're small, but nevertheless and maybe they've been those that are the most consistent in terms of reform and nevertheless keeping high public spending, so maybe the larger countries should take a look.

Rossi: (inaudible) point you made about what is it that you might concretely do with this money. Yes, there are actually quite a lot of programs proposed in the pipeline, many of which could then get sort of early financing and be put on the drawing board. And these don't have to be strictly government projects but they may need some kick from a sort of EIB-type action in raising money and so forth. So, there are various things that are around there that could flesh this out, so it's not completely thin air, and in terms of very recent events, I mean you could also look around and see additional projects you can add to this pipeline.

One of the challenges I've heard time and time again about these sort of problems is from people who say, hey now we've run out of projects there's nothing else left to do. I say look take a couple of architects walk, around any town, any town in Europe, and they'll find a dozen projects that are all very worthy and need doing. I think we should not think of this as a dearth of projects. This is a bit like the stories that kicked round a few years ago of the end of consumption, you know we've got too many goods, folks, we don't need to consume anymore. Well I think that one died to death, and we haven't heard of it recently, it's a bit silly, so there are things that can be done.

Particularly then relating that to recent events. You look at some of these issues with the ghettos around in France with the problems we've seen from the rioting, and you've already got urban renewal projects that could easily be on the table. These kinds of things are extremely useful, not only because of mopping up this issue of the money, but also these in short term context provide quite a lot of jobs. Construction sectors are not very high productivity sectors; they take in a lot of people quickly, provide jobs. If you're looking out 10, 15 years down the line, we're going to be shorter of people, that's the message of demography. You don't want to leave your building projects for 10 or 15 years because the prices are going to kill you then, because that will go up. With low productivity and higher wages, you'll be facing a much higher cost. So, if you simply took a property developer view of this kind of thing, I mean it's surprising that there isn't more action. The way that I would back up that argument is that in the private sector you have actually seen some of this kind of view having legs, that's why the property markets in some of these countries, like France recently, have done quite well. There's actually been a bright spot, because I think some of these households and investors actually see the same point and are pre-investing. But the governments are just not cute about doing anything, and I don't think we should let these guys of the hook in terms of, you know, we need to give them a collective kick up the ass that they haven't done more about stimulating growth and creating jobs in particular and leaving us with the kinds of problems that are now broken out in France. S, it's sort of against that background you know that we've got to try and kick around here and get a bit more stimulation.

Bosworth: Well, I thought we could leave Paula a couple of minutes for some response. I guess my reaction to all of this is, I'm surprised nobody has mentioned population exchanges, we just sent some Americans to Europe…
(Several people speaking at once inaudible)
Bosworth: We know how to consume. If you can't learn how to do it, we're perfectly willing to demonstrate. I did have a couple of little questions. One is I was a little surprised in the paper, about why there wasn't some discussion of tax cuts as a stimulus if you wanted to have a more (inaudible), but I thought public works had sort of lost their popularity, primarily in United States or in Japan. These are two countries that don't have much luck with it. You can have New Orleans if you want it. Why don't you try and take about two minutes and let's see if we can finish this session.

Subacchi: Well, briefly tax cuts don't take any affect if the mantra, if the message you send, is that we have a problem with the deficit, because people expect sooner or later to have an increase in taxes. That's some of the effects we have seen recently in Europe.

But anyway just say, just one thing to clarify. I don't reject structural reforms;, structural reforms are absolutely important to create the background and actually these are on going process of structural reforms in Europe. The trouble is that they take a long, long time to deliver the expected result. The other thing is structural reform has become a mantra in Europe to cover everything and actually to stop thinking in a sort of creative way. So this is why I think structural reform is something like, alright, very important, but is a necessary but not a sufficient condition.

I entirely agree with Frederique ; she put it in a marvelous way: we need a vision for Europe. Absolutely, we need to think in terms of governance in Europe and this is a lesson for our Asian friends, because again as we went to Tokyo on Friday, had a very interesting meeting and it was all about integration in Asian. But, again, how do you bend institutions in Asia? Because if you think we have a problem, you have an even bigger problem than we have, once you try to integrate more of this large region.

I think Vanessa explained quite well about the stories behind infrastructure. We need infrastructure again because we get older, but also infrastructure gets older. And you know we need to put more money and we see this as an window of opportunity which is now, not in 10 or 15 years later, because there won't be the saving because these people will start to use their saving, and because there will be fewer people, therefore everything will be more expensive. So you use the window now. And the idea is, yes, to kickoff probably, help through public money the investment and hopefully have the property investment to follow this.

Man: (inaudible)

Subacchi: Oh investment infrastructure, for example there's always the sector for the old age, we have the whole health care sector to be developed. There are business opportunities there for businesses, there are needs there to be addressed and we are really behind. And you know, again, we need to move a bit fast, if we're going to help these people. And again we not only thinking in terms of how many nursing homes we need, in terms of changing the way we live to accommodate a large amount of population in good health and they want to enjoy life, so the business opportunities again for all these kind of non-tradable services and therefore again a key (inaudible) obviously to domestic demand.

This is why one assumption of the paper is we should switch from this obsession with export that we have in Europe into more domestic demand, non-tradable services and goods. The very important point and I know this is really something that people still find difficult to accept, and as I said before is unacceptable in some of the policy making circles in Europe, is that we need to revise our fiscal targets. The 3% it doesn't mean a big budget deficit; is 3% of GPD too high? is it 3.5? Now we go Germany, France and Italy well above 3% are they running at too big public deficit? What are the criteria, or do we have to re-assess? This is what I'm talking about when I say relax. It doesn't mean with things, oh yes, we don't have a problem, we relax, we enjoy life. No, I think we need to take a different view and say lets stop with this nonsense of this target 2% inflation, preceding 3% of the GPD for fiscal deficit, for budget deficit. What it means, I think we need to ressess the target, bearing in mind the saving model, which is prevalent in Europe and the population structure and adjust the target today.

I think, again we were talking to people in Tokyo on Friday, people from the Ministry of Finance and it seems that Japan has exactly the same problem, the exact same problem, try (inaudible) different, they're trying to raise taxes here. But, I think we need to think it's not like relax and not think, but think in a more creative way. Sort of, kick off the debate about which policy is important for Europe. And, I'm sorry, you're right; improving growth in Europe is important for Europe but it is important for the rest of the world not only for us, for everybody. Because potentially Europe could be a big player and could have this sort of like it has for the United States so the burden is not on the United States only, but it also spread. Final point, which is absolutely crucial, again goes back to governance (inaudible) yes and we have to find a way to, this is a big issue, if we believe in this role then we have to try and do something about it.

Bosworth: OK, we're running a few minutes behind time, so why don't we just stretch and start in again say in 3 minutes, 4 minutes.

Subacchi: 3 minutes

Bosworth: 3 minutes. How much time do you need? Come on. 5? All right.

Sachwald: Thank you very much. I have a very helpful chair here. He's so worried about the time that he's opened the (inaudible). Well I'm glad to be able to contribute to this conference and have an opportunity to discuss foreign investment that so far we have only slightly touched upon already in the conference. So in this draft paper what I do is discuss the dynamics of foreign direct investment and I focus most specifically on the geographical distribution and in particular between developed high-wage countries versus developing low wage countries. What I discuss is this idea of is there a re-orientation of foreign direct investment to developing countries? Then the idea would be that the end of the 90's was a bubble, as we know it was a bubble. But it also had an impact on the location of FDI and that we would be back to a longer term trend of shift of foreign direct investment to developing countries because the opportunities are maybe brighter in these countries. Then the discussion is it true, is it a long- term trend? Is it sustainable? Or is it another cycle that we are witnessing?.

The outline of the paper very short: in the first part I discuss the evolution of the distribution of FDI since the 1980's and look at the interaction between the location of FDI trade flows and the evolution of countries' specialization, especially in a number of developing and transition countries. Then, I have the second part is dedicated to the review of the literature on the determinants of FDI and especially horizontal FDI versus vertical FDI and I also go into a discussion of, it seems to me, the increasing diversity of activities conducted by multi-national companies, including distribution and research and development abroad. The third part then pulls together these observations, and tries to discuss the future evolution of the distribution country and sector distribution of foreign direct investment. As far as the conclusion is concerned, I'll try to do something different from the paper and relate my discussion of foreign direct investment to global imbalances to connect with the conference.

Well, as far as the first part is concerned, FDI trends, I think, I can go relatively quickly so I chose a couple of figures from the paper. This one shows the large increase of FDI flows relating it to GDP and showing this bubble period at the end of the 90's. But even if we take we try to take away this bubble we see a large increase of the ratio of FDI influence to GDP between 85 and today.

Here, this figure is to emphasize the (inaudible) dynamics of FDI in developed countries on the left side and developing countries with a scale on the right side. Of course, we have a this peak and much higher FDI into developed countries but if we look at the trends we see that since 2000 FDI to developing countries has resumed and it hasn't to developed countries. As a result, what we see today is that the share of FDI to developed countries is low, well, it's about 58% here. In these calculations what I did in the paper is, I aggregated developing countries and transition countries in Europe to keep the same data we've been using for quite some time. UNCTAD this year in their 2005 World Investment Report, they've been taking out the new members from the EU, from their group of developing countries, and putting them into the developed countries. What I've done is that I've kept them to see the difference. And certainly, if we look at the distribution of FDI in Europe so far, we can certainly compare the new members to low-cost countries and the old members of the EU, so that's why I've been doing this.

So the question here is whether this share of 58% of FDI going to developed countries is part of a cyclical, a cycle of FDI or is it going to stay low or even keep on going down so is it a structural trend? We, if here my figure was starting at the beginning of the 80's but if I had done it more into the past we would of seen a sort of cyclical evolution of the distribution of FDI. If we look for explanations we have crisis in emerging countries, we've had then in favor of developing and transition countries privatization waves that stimulated FDI into these economies, but partly then into services as opposed to what we see now, that is relatively more in a number of countries into manufacturing. Then, I mentioned the new economy internet bubble at the end of the 80's then stimulating the FDI through mergers and acquisitions into developed countries. And today a major driver of FDI into developing countries is their integration more tightly into global economy through global production networks.

So, the question I'd like to address is whether this trend is a long-term trend and whether it is sustainable. So, just a couple of comments on these production networks. In this graph you see the increasing share of developing countries in world trade of manufacturing trade. What you see is that after the Asian crisis the increase in exports and imports is parallel and, well, that can be seen as an indicator of assembly and re-exports from a number of countries. I have here the case of China as an illustration. We already mentioned China this morning, so this is a database we've been working on at ifri, organizing trade by sectors, not only by products but also by sectors, so that we can switch to production more easily. What we see here is you have the share of financing world manufacturing exports; the share of these sectors in Chinese exports and the size of the bubble is the share of the sector in the world manufacturing exports. To summarize: what we can say is that China has strong positions in roughly two types of sectors. Traditional labor-intensive sectors, those sectors, like toys, (inaudible) relatively small in world exports but then we have these two sectors that are much bigger in world trade and these sectors are those where multi-nationals in China are very present and where China is assembling components that are imported into China. In the way China is calculating its exports you have a regime called processing trade, and processing trade is to identify precisely components coming in and then exports being done by China. For textiles (inaudible) processing trade is about 30% of exports, for IT is over 80%, and for computers its over 90%. So, these, in these sectors multi-national companies are very important for these what we see in the orientation of China's trade.

I go on to the second part of the paper, I'm going to try to summarize the discussion about on (inaudible) studies on this identification of horizontal foreign directed investment aiming at accessing the foreign market versus vertical foreign direct investment attracted by low cost in particular in low wage countries. So what we see roughly in this table is that a common feature of vertical and horizontal FDI, of course, is the competitive advantage the potential multi-national company has that it's going to apply into the foreign country. But then a number of features should allow us to identify whether a FDI is vertical or horizontal. One important aspect that is being discussed in the literature is the difference in factor-intensity between stages of production, typically between, for example, component and assembly equipment and assembly and (inaudible) factor cost differential between the home and the host country. And what empirical studies are trying to do is to identify here these differentials in order to in particular assess whether there is at all vertical foreign direct investment. Because, historically horizontal foreign direct investment was dominant, including for a number of developing countries. So what was at stake in a number of empirical studies was too assess whether we could identify vertical foreign direct investment.

Well, the conclusion I give in the paper is that recent studies based on relatively large samples and including data for the late 90's identify more readily vertical foreign direct investment than previous studies which tended to reject the existence of vertical foreign direct investment. So what I'd say is that vertical FDI seems to be increasing in the latest period. Two complimentary elements in the paper on this identification of vertical foreign direct investment. The first one is the role of wholesale commercial affiliates, because if you look at data, detailed data when we have detailed data, which is not always the case, on the foreign affiliates, you see even within manufacturing a clear difference in the behavior of commercial wholesale affiliates on the one hand, and manufacturing production affiliates. If you aggregate these wholesale affiliates with manufacturing affiliates then you have a biased perception of FDI in favor of horizontal foreign direct investment.

I also discuss in the paper the increasing internationalization of R&D as part of this idea of vertical foreign direct investment and of the diversification of the role of affiliates and the complexification of global production and now I'd say innovation networks. Very quickly to this I use this table to discuss the new factors of internationalization of R&D these new factors are in bold characters. We usually had only really one modulation for internationalizing R&D that was adaptation of product or process of production versus the other factors, traditional factors which were in favor of capitalization in the home country. Now we have new markets abroad and I'd say (inaudible) excellence seen from the European perspective tending to be the US and also the attraction of low cost (inaudible) in a number of emerging countries. So as a result we have increasing internationalization of R&D that may happen both in low-cost and high-cost countries.

I've seen Barry telling me that I have only 5 minutes left, so I'm going to speed up.
What I discuss in the paper is that as a result I think we can categorize foreign R&D into three categories. I'd say the traditional local development centers, but now we have also two new ones, types of foreign R&D (inaudible) supply-driven, looking for specific scientific or technological resources, and also the global development centre also supply (inaudible) but here with the same idea in production vertical, that would be vertical foreign direct investment attracted by relatively low cost in the foreign countries.

Now if I come to if I try to pull together these different observations of the evolution of FDI to think into the future on the demand side, the attraction of markets I think that we all clearly see the perspective of the development of a number of emerging countries. We've been talking about China this morning. It's pretty clear on the picture here and we see that the large, a number of large European economies will be relatively less large in the perspective of FDI, relatively less attractive in terms of demands in the future. Here it's the distribution of FDI flows but with details by countries and we see here France and Germany (inaudible) smaller share at the time when China is increasing its share. Just a footnote about the US, UNCTAD revised its estimate; it said the previous year that China was (inaudible) US. (In-audible) they revised their estimate these figures are from this year.

I think I've put this in the paper discuss it shortly that I think that this reflects partly what we've just been talking about relatively poor growth perspectives in Europe. I think that if I take again the distinction between horizontal and vertical FDI that Europe maybe in an unfavorable position from both perspectives. I'm going to skip this, this is one illustration in terms of R&D you see in a sector where Europe used to have a strong scientific and technological positions that R&D has tended to shift away from Europe and that's R&D investment by EU pharmaceutical companies. So it's EU Pharmaceutical companies, so it's an I think a quite clear illustration.

Then, to come to the conclusion in the paper I certainly focus on these structural determinants of FDI I've been talking about. I do not discuss at all shorter term determinants that can be important and certainly we've seen in the past that crisis of course can have a very strong impact on FDI. So. just for the sake of thought provoking. I suggest these two scenarios. The rosier scenario would be that FDI, vertical foreign direct investment in a number of emerging countries would favor restructuring in higher cost countries, in particular, in Europe so that would have a positive impact on what was suggested about the positive structural evolution of Europe towards less manufacturing and more services, high valuated services. The case of Germany is interesting because over the last 10 years German companies have invested in lower cost Eastern countries and I think it's had a positive impact on the competitiveness of German companies and probably here's one element

End of tape

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Sachwald: on the impact of the competitiveness on German companies and probably (inaudible) one element of explanation of their current export performance. But then we go into the black scenario where this relocation of production can, if its not accompanied by other evolutions of a country like Germany, depress demand because it weighs on salaries; we see that in Germany. There is no way out of this manufacturing so there is a continuous pressure on consumption and it can contribute to the saving glut, if in parallel a number of emerging low-cost countries are having very voluntary polices to attract FDI then this vertical foreign direct investment into emerging countries may not only have positive impact.

Bosworth: Thank you very much. We have two discussants. The first one is Vanessa Rossi.

Rossi: Thank you Frederique. But I'm not going to try to give a summary of this paper; I'm just going to try and pull out a few points that I think maybe interesting. Because I think we both heard a very clear explanation of the paper, also we're rather short of time so I'll try to get cracking. Just to move us along through this, I think background to this we just have to remember is that times have changed an awful lot here in terms of capital flows. Obviously that's one of the reasons we're here talking so much about it; you know those old days have surely gone. I get a feeling that there's still a few people who hanker after that, you know, the old days of certainty, where everything was dominated by trade relationships; exchange rates were much simpler in terms of being linked to competitiveness in trade; FDI was mostly aid to poor countries and wasn't involving these massive inflows and out flows of developed countries; and really the rest of the capital flows business was pretty small. Just looking here at the evolution of the numbers, there really has been a fantastic change here over a really quite short time span.

Now sticking my neck out a bit for 2010 I think that we're probably fairly sure what we're going to see for goods trade by then. I'd very much doubt if we're much different from the number I've penciled in. But the capital flows we clearly have very big swings here and very mixed stories to quite what is happening between both the developing countries and perhaps even more so the developed countries, which seems to have an ability to pull these numbers around quite sharply. So it's not surprising we've got uncertainties and worries about these problems and it's clear that in general this developing countries (inaudible) what used to be thought of as the rationale for FDI and development finance has become , well it's large; it's a much smaller proportion of the whole, although we're getting some bouncing around. That picture doesn't seem to be really going away. So we've got a lot more interest in the overall view of flows, just remembering here how we use to look at exchange rates. You know things like this use to be real easy; you'd get a (inaudible) out and you'd look at where exchange rate was and you'd be doing pretty well which actually my charts here use to do for the Japanese yen back when it needed that rapid appreciation in the 80's and of course these big swings now are really driven by these movements in and out of capital flows.

I'm just illustrating here the scale of the problem in terms of implications for exchange rates, just from one exchange rate that is here at home. In terms of these overall capital flows I've said the number here has been growing a lot and I've just pulled out some charts I've had from work I'd done on capital flow projects a few years ago and I think this is broadly still true although we've moved on a bit. You can roughly split up global capital flows into three components, the FDI component we're just talking about now, but also this portfolio, portfolio flows and what I've called sort of banking sector trade finance-related and other flows there of that nature kicking in there. The FDI's that I think Frederique also point out, though has been a major factor for developing countries behind the rise in the world trade and goods and particularly important for the rapidly developing countries such as China. I think many people have started to look at the linkage between cumulative FDI and the performance of the goods sector. If we think of cumulative FDI here it's almost a proxy for capital stock, and then it wouldn't be too surprising to see this kind of trend. Little bit interesting here that those numbers for FDI are tailing a bit off at the moment for China, may just suggest that we're sort of pass the peak on those export growth rates for the moment. And, of course, fits in with the story Frederique was telling about the changes in flows recently.

Thinking about these drivers though of these flows, quite clearly we do have a very big demand for dollars kicking around because of trade finance and because of emerging markets need to keep foreign (inaudible) reserves that's certainly part of the flows and adds to the problem for demands for dollars, although the Euro is trying to get a niche in there it really hasn't made it in a big way yet in those demands. But generally speaking, for the rest of these flows I think we understand quite well what drives the portfolio in banking sectors as these mixtures of finance and also diversification theories, returns on investment and so forth. Where I have a little bit more difficulty is in it explaining why we have such big FDI flows between countries and what is it that drives this, because we have different ways achieving the same aim with this type of flow. For example, instead of putting a factory into China or a factory that we're paying for with FDI into Thailand or Poland or wherever else we're looking at from emerging markets you could, in a way, accomplish the same aim by sourcing the goods there through trade and not actually owning the factory, not actually putting FDI into the factory. So I think we have a little bit more of a challenge here to argue why is it that we're looking at FDI going into here instead of simply growing trade through the companies being owned by the local investors.

Well, of course, there are some good reasons and I think some of them Frederique has pointed to. Some of it has to do with institutional issues, tax regimes being one of them, market access, growth of multi-nationals and the other thing she pointed to, of course, is the economies of scale and the reductions in costs. Although, arguably, that's what I'm saying you could get through world trade without actually ownership being involved where the ownership issue seems to kick in most is certainly in terms of recognized brands, making sure that the delivery and quality of goods is what you want to meet the sales ah the end point. Though this area is obviously one of the critical issues where companies feel they have better control over the process if you're actually involved in FDI ownership and, of course as Frederique also highlighted, organizational skills, the trends towards more centralization R&D, so headquarters functions and so forth. You can argue you're bringing organizational skills to the table, but you're also effectively getting some economies of scale in these types of functions. But the other important issue here is the M&A chunk. I think, on the whole, what I like to see a bit broken out here is the M&A bought out of those total FDI numbers, because I think you can see some possible different stories here for the FDI that's not M&A and the FDI that is M&A. And clearly, a lot of the big swing that Frederique was showing in the FDI for the developed countries was about the big M&A activity particularly in 2000. Here, we actually also have a better rationale because we can also see how it's driven by asset prices. So if you've got cheaper factories you can buy in a country instead of building your own, you may do this. So it fits in with my problem trying to find rationales through the list. I think the last chart here just to pull out some numbers I think it's generally widely known that this M&A activity has been (inaudible) half of the total FDI flows. So it is very big; it's been part of those big swings and I think we treat it more carefully.

The other point, though, to leave you with is one is that we've seen a big growth in this activity. We think we know what it's about, we've seen actually emerging relatively smaller numbers of global companies in particular sectors, pharmaceuticals I think has been one, car sectors has been another. I think we can find some other examples too. So clearly, at the moment, we seem to be moving towards more of a concentration of industry through this process.

Well, looking at the future do we actually think the future flows in M&A will actually push us even further in this direction or I would suggest it's actually feasible over a period of perhaps 10, 15 years, that the whole process that we've seen could actually unwind and I really don't know from the organizational structure the theories of the firm, the kinds of flows Frederique has been analyzing whether we have a very good handle on that. You know it's just possible that 10 years down the line we'll actually see a whole host of sell-offs in these countries where the major companies that we now see as big global companies have set up operations and plants, that fashions change. Fashions change in the organizations of companies and business ideas if not quite as rapidly as ladies fashions do then they certainly do have trends and changes over time. It's quite possible that over that period will turn around to the idea that these kinds of units having been set up, operating, working well may now be seen as potential for sell-offs into those markets. I don't know, I'm just putting it forward as a thought, but since these numbers are quite large and since we can see the kind of potential they'll otherwise move to, I think it's worth thinking about that in the process that Frederique has highlighted. Thank you

Bosworth: Thank you very much. Our second discussant is Lan Weiban.

Lan: I just make a very few comments. First of all, on the whole I think Mrs. Sachwald's presentation gives us a fairly comprehensive picture of the discussions about the location, ah the industrial location and its relations with FDI. So here I'd like to touch upon two points. The point one is that every country has it's own feature in attracting FDI. Take China as an example. The most distinguished feature of China in this regard is its huge population, the labor is low cost, the big size of labor force, and its low cost, and also other things related to the human resources. All these are considered as the most distinguished comparative advantage of China in their attracting of FDI. So this is, I think, any future prediction and discussion about FDI should consider human resources as a very important determinant, one of the very important determinants. This is point one.

Point two is that I just talk little about the FDI between China and the EU. Particularly in recent years the EU's FDI to China has increased annually and in China we regarded FDI from the EU they have several points with regard to the EU FDI. One is that the EU FDI has a high rate of execution, the FDI contract has a higher rate of execution. Second is the scale, the size of the FDI is normally bigger than those from other regions. The third is that relatively speaking it's technologically more advanced. So, in recent years, particularly in recent couple of years, the EU FDI inflows have been directed to some key sectors in China, such as equipment manufacturing, electrical machinery and in particular to the old industrial base in northeast China. So this is what China welcomes most.

Another point I'd like to make is that with the enlargement of EU, the new member states has become a new attraction to the old members, member states of the EU. The question is whether this would constitute any competition to EU FDI to China. Personally I believe that this is not a tough competition to China, at least I think because, generally speaking, excepting a few sectors China is generally speaking at the lower end of the value chain in terms of attracting foreign direct investment. But in terms of the EU new member states they are, I believe, middle or lower middle section of the value chain. So apart from this, the sizes of the new members' economies are relatively small, not so big, so this is not a substantial competition to China. I think that this is one point. Maybe this is a new pattern of international division of labor, in regard to the attracting of foreign direct investment.

Another point I'd like to make here is not directly related to the FDI but is has some implications on FDI, that is since China has a very big population and the employment pressure in China is very large, we must consider to create as many jobs as possible, not only in considering attracting more FDI but also to increase its further increase its exports. Of course, many people have pointed out that China should reconsider its export prioritized strategy, but we can see from the past 20 years or so that the export has played a very positive role in job-creation. This is only one aspect of the merits of export. There are some several other advantages in promoting export such as through the FDI we adopted many managerial techniques, advanced managerial techniques and we have made more chances to upgrade our technology and industries and actually many of the exports, as you well know, that many much of our exports more than 50% maybe 60% of our trade on goods, exports on goods are processing trade from foreign invested enterprises. So considering the huge employment pressure in China whenever we consider to readjust our export strategy we must consider, of course the stimulate the domestic demand very important issue to consider, but we should be very cautious in giving up our export prioritized strategy at expense of, until we find a very effective way to stimulate the domestic demand. These are the points I wanted to make. Thank you.

Bosworth: Thank you very much we are now open for some open discussion for about 15 minutes. Any comments? Catherine.

Mann: I liked this paper a lot because I learned a lot by reading it, and that's always a good thing. It's come down to the point where if you're going to work in the area of foreign direct investment, you have to become as specialized as everything else. It used to be that FDI itself was a specialty in international economics; now its kind of like you have to get specialized in a chunk of FDI and so that's what I'm going to focus on briefly in my comment-slash-question.

Particularly the area of the globalization of R&D, which you spent a little time on. You know what is R&D? There is the research part and then there's the development part. We do lump them together because we think they're related, but I wonder if that is so true anymore as it might not have ever been true. But I wonder if it's so true anymore when we think about the capacity of telecommunications to enable the fragmentation of both the production process of research and development and also the fragmentation of the work force to far flung locations as you point out in your (inaudible).

Let me think about another way you can kind of distinguish these two, and that is why we care about research and development. We care about it for the Solow reason, Robert Solow's reason that 90% of growth comes from the productivity part and that we think that research and development has some impact on productivity growth; so that's why we care about research and development, or at least getting the benefits of research and development. In that sense, I take productivity and divide it into three categories. One there's the capital (inaudible) part and we know about that. Then there is the change in workplace practices and all that kind of stuff and then there's the blue-sky stuff, the new ideas. So, if we globalize research and development does that mean that we run out of that; we no longer get, if we globalize it, then we don't get the new ideas; that we lose the blue-sky new ideas.

I would argue that maybe not, and the reason is as follows: development is bringing products to the market test, that's what you do it's the idea it's already been done. You figure out how to develop it, you globalize that, in globalizing the development part of an idea you're bringing that product of the development process to the market test, either faster or cheaper. And as the result, that globalization of the development part surely is productivity-enhancing. The second part though is, well, what about the research part? If we globalize the research part does that mean that we loose out innovation edge? Does that mean that products that are made in research shops that are globalized are no longer created for the home market but are created for the host market. Not only is there perhaps a mismatch there, but also the other issue becomes, who holds the intellectual property At the end of the day, is intellectual property held by the host country? Or the home country? And simply from a balance of payment stand point it matters, because whoever holds it is the one who gets the cross-border receipt when it is used. So I think your focus on the globalization of R&D is a really, really interesting one and I hope that you spend a lot more time thinking about it.

Now Vanessa's comment on globalization, the global concentration of industry through merges and acquisitions, was something very interesting, I think. And, yes, I agree with you completely that fashions as to the effectiveness of mergers and acquisitions is definitely, goes in and out of favor. But in addition, I might add that the legal differences in attitudes towards global concentration is another factor that will be important in thinking in the future about this continuing concentration, because as we know even now there are differences in views between the concentration, the Department of Justice and the European Commission on what constitutes an excessively concentrated industry.

Watanabe: Thank you. I have two comments. The first is the determinant of FDI. Frederique mentioned about current FDI, the vertical FDI and the horizontal FDI. If you look at table one and saying (inaudible) and showing some (inaudible). When I was looking at this table, a little confused. In a sense that probably that vertical FDI and horizontal FDI may not be really too different concept. It's not really different; it may not be really different categories. Think about, think about Japanese case, Japanese FDI into China. I think now, at this stage, we can probably classify most of them as vertical FDI, because the factors costs, the labor costs are obviously much cheaper over there. But right now I would say that, in theory, a large part of Japanese FDI into China is due to market factors, so I think if you take a little longer time (inaudible) probably vertical FDI and the horizontal FDI you may not be able to real difference. And also let's think about the case of Japanese FDI into China, the coastal area where the GPD per capita is very high and probably FDI is due to market factors. But in the interior part, I think of the Japanese FDI into China as due to vertical, factor of cost production. I think the two concepts are not mutually exclusive that's why this table is rather confusing to me, so that's first comment.

The next comment is about (inaudible) Vanessa I think that in developing countries cross-border FDI is the most cases is going to be (inaudible) I mean that in American trade and investment in Japan you don't have to really start up the factories (inaudible). You buy a new company, same in the EU or trans Atlantic. So, I think that (inaudible) and legal structure and (inaudible) of legal structure (inaudible) is very important factor to decide a determinant of FDI among developed countries. That's my point.

Bosworth: I wanted to just add just a couple of little points. One is that the table you had on the swing in the FDI with the different countries, I was struck on how large it is for the United States at the end of the 1990's. How little economic difference it made; I mean you kind of wonder what this stuff is, if it's so significant it varied by an enormous percentage of the total, no consequences for the American exchange rate I think it almost went unnoticed here in the United States. It is sort of contrary to the view that FDI matters very much.

That's why I thought that the discussion about M&A was really quite interesting because that's what I think what almost all of it is, and that it's very hard to distinguish it seems to me FDI and equity investment. If you cross this borderline of what I think it's 25% of the company all of sudden it becomes FDI. That's not a common standard used in the United States when some people who try to engineer a takeover of a company; they don't think in terms of "Oh, I've got to have 25% to be able to control the company"; the percentage seems to vary from industry to industry. So I think it is very important to distinguish these different functions of the FDI; I found that to be one of the most interesting parts of the paper; how much of the stuff is M&A in industrial countries and if you're going to analyze FDI.

Because of that, FDI to developing countries seems to me fundamentally different from FDI to developed countries because the developed countries are so much like stock market interventions. So if we're going to study FDI and it's impact on developing countries it's probably important to exclude the developed countries in this case for the analysis. The other one that someone has just mentioned already was the R&D. I thought was quite interesting too, but when I look at the literature recently on what people write on R&D, forget about the FDI aspects of it, most of that runs around synergism and the importance of concentrating R&D and quite a few activities now in certain centers. In the US, for example, just recently Toyota opened up a big research facility in Michigan. What the hell is Toyota doing opening anything in Michigan? But they seem to think that it was still a promising area for research, which is kind of baffling right? But they wanted to be where all the guys were, I guess; he research facilities of the auto industry are still very heavily concentrated in the state of Michigan for some reason, even though they don't produce anything there any more. I think it could look useful to think about how could this get too diversified? Economies of scale or something maybe very important determinants of research and development. I'm not that worried, for example, about the US losing its advantage in R&D that quickly, simply because I think there' a big appeal to coming to centers but, Are there any other comments?

Rossi: I was just going to say that one more comment that you raised as well (Inaudible) it's quite remarkable though in terms of finding a logic for these things and Yes I can see why it would work if you were looking at relative asset values and whether you would buy things now or not (inaudible) of course is that the peak of this thing was the bubble year of 2000, you know, so I'm afraid it doesn't tell you very good things about how acute people are to buying. It tells you a lot about the sellers being acute. You know that also is quite interesting if you're looking forward at you're your strategies should be, you know don't get stung twice over these things. But I guess people will, it will happen.

Bosworth: Well Japan will right? Japan always buys American assets at the wrong time.

Man: At least we learned once and then we never traded again

Bosworth: We've got another Rockefeller Center. Go ahead

Sachwald: Well, I was about to start with vertical and horizontal FDI but maybe I won't. Yes actually I'd like to rearrange little bit the different comments. Thank you both for your comments. I'll start with vertical versus horizontal then I'll go on to the M&A issue that several people mentioned then I'll finish with R&D. About vertical versus horizontal, well yes I think it's different and I think there are different determinants. It doesn't mean that one country like Japan will always invest vertically or horizontally in China. Of course, both can happen. But I think that each flow can be identified. Even a company may at one time may invest for low cost and couple years of later for market access and the example given by doctor (inaudible) was for Japan investing first for access to manpower low-cost in Japan, in China, sorry. Then turning now to market, it seems that European companies may have been doing the reverse. That is, first going for market and the profile you gave in your comments on the factories do correspond to the strong points of European, in particular German and French companies and now in Europe, France, Germany it's a debate to know whether they shouldn't go more for cost in China, like they've been doing in Eastern Europe. If you take the car industry in Europe, the German car makers in particular, they first went to Eastern Europe in the 90's, the early 90's, for market, but now they're really going for cost and reorganizing factories re-importing. And now Germany has a commercial deficit with the new members for the car, for the automobile industry, because they're importing a lot of cars from Eastern countries. So I think we can characterize vertical and horizontal FDI but both exist. What I wanted to say in the paper is that relatively it seems that we get more vertical today than we used to and that this is one reason why we can expect more relatively, more investment in developing countries on top of their markets getting bigger. This is why I was getting into this discussion.

Mergers and acquisitions, of course, as you've said it is extremely important for FDI into developed countries; there is a clear difference. I mean, greenfield investment is very important for investment in developing countries, in manufacturing because if you look at services privatization that was a different story. But if you look at investment in developing countries or in Eastern European countries in manufacturing, you'll have relatively a lot of greenfield investment; sometimes you'll also get a lot of mergers and acquisitions.

Another issue I didn't I hardly raise in the paper and didn't mention in my presentation is a (inaudible) developing countries FDI and there we see also mergers and acquisitions, I don't know what is the trend in this I didn't look into it, but I think that here we get also mergers and acquisitions. In terms of share I mentioned in a footnote in the case of Germany on my last figure with the shares of the different countries in FDI you see a blip like this for Germany in 2000, that's Vodafone management that was enormous, that was enormous and it's the only year where Germany really did something in terms of a share in world FDI and now that's..I think it was more or less the biggest M&A ever

Man: (inaudible)

Sachwald: Well, that comes to this yes the fashion, that's right I do agree. It seems to me that the foreign aspect of M&A waves from this perspective is not different from the domestic aspect. It spreads because today I mean the world is open, etc. It spills over borders, but it's true the logic is (inaudible). Well, maybe there is twist, for example, like in Europe right now in the energy or telecom. You want to grab a new piece of the market that is just opening and you want to do it before the other ones, so it's reinforcing; I mean, this international aspect is reinforcing the trend.

Yes, R&D. R&D it seems what I would say as very to summaries it seems to me that R&D is behind in terms of internationalization, as compared to production or other functions. But that today because of technological changes, because of more openness it's taking similar route, internationalization as other functions. So it's easier than it used to be to, as you said, split development, advanced development, applied research and well if we want fundamental research even if companies hardly do any anyway. So its become easier to do it both nationally because we also see as in production externalization of R&D; you can study parallel externalization of R&D and internationalization of R&D. So it's becoming more feasible today and for a company it's indeed less dangerous, both more efficient and less dangerous, to externalize or internationalize part of its development and possibly research activities. So that's on the, let's say, the positive productivity side.

Now, in developed countries, in the US or in Europe, there are worries about loosing you know the core, what makes the competitive advantage of companies? Well what I think is that companies are learning about this; they will organize so as to so as to keep their ability to generate new competitive advantages as far as economy of scale synergies what you mentioned. What happens today, seems to me, is that you can get that at the global stage not in one place like you used to, like in Michigan, but in several places. If you're Toyota, if you are (inaudible) Pfizer, you're big enough to spot the best places where you get those synergies at different spots on the globe. Typically, with pharmaceuticals you'll have three global centers, in the car industry you may have two and you still get the economies of scale, you still get the environment (inaudible) but you're not concentrated in one country.

Then, about the dangers, it comes also to one of Vanessa's comments. Oh no I'm sorry it was you, about human resources. One reason, companies give for internationalizing their R&D is the availability of trained people in MA or PhDs, and certainly here, when they talk about China or India, it comes over again and again the availability of well trained people. It's difficult when companies say that to know if they put that before cost, if they're really its difficult to know, I think, that the main point is as always is value for money. That is, yes, Indian software people are well trained, but they also are low-cost. But certainly it's an issue for advanced countries to keep producing enough scientists for R&D. I probably missed a couple of points.

Man: I can say that China is suitable for both horizontal and vertical FDI because of it's two advantages in market, huge market potential, market potential and growing market, increasingly. Also it's relatively low costs of labor, because of the regional disparities in China and also the disparities gap between rural and urban areas. So, for example, the income for the farmers is less than one-third of the urban resident, on the average. So, China has the infinite supply of cheap labor force, in the next couple of decades at least. So that's why China can maintain its comparative advantage for long term. This is one. The second is the future trend of FDI. I want to say that maybe the industrialized countries can, as you mentioned, that many of the FDI (inaudible) advanced countries in form of M&A. So in order to achieve, I think the propose is to benefit increased, enlarged economy of scale and also I can say the future FDI to advanced countries can increase the ability of the advanced countries to continue to play the leading role in innovation. So this is the and the developing countries, the FDI to developed countries will continue to being focused on manufacturing and other labor-intensive service industries.

Bosworth: Time to take a break. We'll start again at (inaudible)

(Inaudible) Tape ends

Side B

Bosworth: OK, I think this is the last session of the day. I think we're ready to start.

Aglietta: Well thank you. About five years ago, three research institutes pooled resources in order to develop a project that is the same objective as the Tokyo group. That is, the prospect of international capital flows. I had a chance to conceive the project in the beginning and to be part of it all along thereafter. Again that the (inaudible) project that is a general equilibrium model, worldwide general equilibrium model can be used in order to assess the present pattern of capital flow that we've already talked about this morning.

So I guess we have a paradox of world saving that variation (inaudible) talk more extensively tomorrow. One way to assess the fact that this world saving pattern cannot be sustained in the long run is to confront it to the conjecture of a world wealth regime, that is if this model if this pattern of capital flow doesn't fit with any scenario that is drawn from a well-specified general equilibrium, long-range, general equilibrium model, it might be one reason to conjecture that this pattern cannot be sustainable in the long run. This is one way to assess the problem and so that is what I want to do. The time span I will talk about is half century, up to 2050, and conjecture where world wealth regime can be for this long run. Repeat the basic scenario, base line scenario, repeat the pattern of internet financial (inaudible) add this scenarios and think about what to do to get from here to there because this base line scenario is very different from the present pattern of world saving flows.

Just to remember, you well, we are now those figures are net financial savings; this is difference between investment and savings reported to GDP and you know the big shift that happened everywhere. We talked about China earlier this morning but it happened everywhere. In all emerging economies the shifted from a pattern of deficit in the average of the 90's to big surprises in 2004. There was an increasing trend towards surplus in all the years from 2000 and after, all emerging economies except the European, the Eastern European countries did the same. So the only deficit countries are now the US and Eastern European countries. I don't probe very deeply in the reason why but I just want to mention is that this so called saving glut occurred with declining saving, declining saving almost everywhere except in China. It is essentially because of weak product investment that after the Asian crisis that happened. I guess that part of it is of course the consequence of the adjustment that occurred after the Asian crisis and the subsequent Russian and Latin America crisis.

But so I think part of it is certainly government policy, government policy not (inaudible) in order not to go back to the kind of humiliation that the Asian crisis did about for government policy at that time;, they want to recover it and surplus saving is certainly one of the consequence of a big change in policy, a big shift from domestic demand to foreign demand. Of course, in Japan you have this balance sheet contractions; the balance sheet contraction has come to an end but domestic demand has not yet been revived. The opposite, of course, the counterpart is this unprecedented slump in US household savings. That is the present pattern of world saving.

What is the conjecture of the world wealth regime? I want to analyze it is exactly the opposite. A world wealth regime in the present century should transfer resources between regions from aging rich region to growing working-age population regions, because they are the factors of growth (inaudible) the labor factor, of course, and they should transfer technology and capital. And, of course, they would be willing to do so because in the faster growth region capital yield should be higher than in the aging health regions. So why?. What is the… how to repeat this kind of regime? To repeat this kind of regime we need two things. We need, of course, a world general equilibrium model because if you want to make a prospect for 50 years, it is not forecast. A prospect for 50 years is something that is essentially (inaudible) on consistency of equilibrium variables, you can't forecast anything. If you try to forecast variables independently for 50 years of course you happen to make finally something that is not consistent. So consistency certainly, absolutely a condition of a prospect for a long horizon and a general equilibrium model is essential for the kind of consistency we want.

This kind of model needs to have two aspects, first, it should be worldwide and of course it is, as far as I know, it is the only one model that is truly worldwide. Many scholars make models and say that they are worldwide, but they only (inaudible) large or the developed countries and so on. Worldwide models really is a worldwide model that is, that they should encompass all countries.

The second, of course, is they should take into account the demographic transition. To take account of the demographic transition you need an overlapping generation model. We have an overlapping generation model with 21 generations that they are overlapping together in order to encapsulate the demographic trends that are at stake now.

So there are two I guess you should think that there are two legs for growth. The first is demographic trends and the second one is the total factor productivity. The model is based upon demographic trends and total factor productivity. You know, the world is broken down into ten regions that are mentioned in the (inaudible) the ten regions are of course regions that are both geographical and also they are social demographic. It is why Japan with type of aging that is earlier than the other countries is the only region that is a single country region, Japan. The other of course are regions, when we mention here China, it is not China only it is Far East except Japan. That is China, Taiwan, Hong Kong, Singapore, Thailand and all regions also mix of course a lot of countries because ten regions in the world. In the general equilibrium model is it something that is large enough. So we have those ten regions.

The demographic trends we also difference between the second half of the twentieth century and the first half of the twenty first century. First ,of course, we have declining working age population everywhere because of the demographic transition. But we have a split that is very important, a split between the regions where the working-age population will decline and is already declining, at least in Japan, in Europe and will decline in the US and will decline late in China at least from 2025, and the region where the population is increasing, working-age population is increasing. So we can guess that a kind of (inaudible) exchange between growing regions and the regions where the population, the working-age population is decreasing the kind of (inaudible) exchange will benefit both regions. This exchange means a kind of world wealth regime that is based upon these objective trends, these objective demographic trends.

The second question is how to take account of technological progress. What we are doing is to split the two sectors in the model. A final goods sector and an intermediate goods sector and introduce foreign trade between the regions. So what we are ah you understand what we are doing we have the final good that produces both consumer goods and capital goods. This final good is a capital good is an input of the production of the intermediate good in the regions, the intermediate goods produce goods that can be introduced as input for the production of the final good and input for the world producer. We are introduce an artificial world producer in order not to come to bi-lateral trade. The world producer of course exports goods that are imported by other countries. Of course, the split between domestic goods and imported good depends upon competitive prices. So and you see that we have technological progress that is introduced as an independent factor (inaudible) like a kind of (inaudible) function in the final good and in the intermediate good. That is how the production sectors are modeled in the new project.

Of course the demand side is standard life cycle, standard life cycle for every generation, of course this standard life cycle is adjusted for bequest, voluntary bequest, and also for a perfect intermediate market to redistribute wealth because we take into account (inaudible) death of individuals.

What is interesting now is how we have modeled the crucial catching-up process that is a kind of (inaudible) paradigm. North America is a region we assume to be the global leader for this half century. So the frontier is shifting upwards with an exogenous process of technological progress that is a TFP, total factor productivity of the US growth grows exogenously. The other countries that are behind the frontier implement the technologies that are developed in the leading edge countries. Part of the technology, of course, from in the technological deficient (inaudible) via foreign trade. We could say that foreign FDI are (inaudible) of the technological deficiency, the deficiency of technological progress. So we have the standard development hypothesis that have been substantiated by historians, technological historians. That is, the further country is behind the global technology frontier the faster it can grow, provided that it has the right institutions.

How will we model that? Is a (inaudible) if you consider a country I that is a country catching-up the country number one is the leading country that is the North American region. The growth of TFP in country I is a function of the growth of TFP, of course, in the leading region multiplied by the coefficient that is an accelerated coefficient that means increasing return in R&D. What Catherine Mann talked about just before. Technological increasing (inaudible) is captured by this parameter; it is a parameter that benefits all regions. The second bracket, the second bracket means the catching up. That is, a country increases total factor productivity, the higher the difference between this level and the level of the leading country with a break parameter that expresses the institutional impediments in technological deficiencies. This parameter is region-specific, so we take account of different kinds of determination and we arrived at that. The potential for catching up that is very important in the growth regime is depicted here for the whole of the century, that is a hypothesis coming from the present equations, the equation that (inaudible) put forward, North America is leading and there are mainly three catching up regions that is China, India and Eastern Europe.

In the past trends of total factor productivity we estimated with the standard methods using with the (inaudible) in order to estimate capitals. We compared with two authoritative studies that we have about estimating TFP that is (inaudible) Collins first and the (inaudible) our estimates for the period 1980 to 2000 is within the range of those two studies. Except one, something I put forward for our Japanese friends, that is we have for the 90's a productivity that slowed down more than the other studies. We thought the balance sheet recession in Japan has slowed down very markedly TFP, more that the other studies did. I put that forward because it is the only (inaudible) we have in estimating our TFP for the future that is the hypothesis of growth depends upon that in the base line scenario. You know that here you have it is relative to the US so the US that is North America has productivity growth of 1.1%. The growth of other is increasing, essentially increasing in three regions that is accelerating more in China following the trends of since 1980 and in India and in Eastern Europe, Eastern Europe because of integration with Europe; the other two big countries because of their own momentum.

So what is the result of the base line scenario? The result of the base line scenario is, of course, decline in growth, general decline in growth throughout the half century, essentially because of the decline in the working age population. This declining growth is comparative with the productivity catching up that is China (inaudible) does a declining for working-age population from 2025 still has relatively high growth. Remember that it is not China itself but the whole region and the whole region encompasses countries with low growth. Hong Kong, Taiwan, Korea have low growth so they weigh a lot within the whole Chinese region. You could say China is a much higher growth but it is a region that is considered here not China only. But because of the productivity factor China ends up in 2050 in the countries that do the highest growth.

What is interesting is the consequence for international relationships. First, real exchange rate and then capital flows. For real exchange rate you see that what is striking is the appreciation of the real exchange rate in Japan and Western Europe against the dollar. Here are the real exchange rates relative to the dollar; it is way the blue line is horizontal relative to the dollar. Of course and Russia too, why Russia? Because Russia is on oil-exporting countries we expect that oil prices will keep rising. The other countries, and we come back to the problem that we had this morning, the other countries the other regions have real exchange rates that change a little relative to the dollar. There are two reasons about that; of course, there is the so-called balance (inaudible) effect but it is there are two (inaudible) forces. The first is the fact that productivity increases more in those countries than in the US, so the prices of intermediate goods decline compared to the intermediate goods in the US and the second one, of course, is because those countries are indebted throughout the half century. If they are indebted you know that there is an inter temporal budget constraint and the inter temporal budget constraint needs a slower (inaudible) slower exchange rate.

The other question the other thing I (inaudible) what we want to do the consequence for capital flows and for asset holding. You see that Europe and Japan will have declining but still surpluses in current account balances. The US will come from deficit to more normal behaviour in saving and they will go to higher and higher surpluses, surpluses because their population structure is much better than Europe and Japan and the other countries are in deficit that is (inaudible) exchange I mentioned the consequence for the (inaudible) ratio is up.

I skip the variants made and go to the conclusion that is to just I think for Europe that is characterizing Europe, demographic profile with catching-up. In this base line scenario Europe will be a slow growth region, slow growth region that is less than 2% throughout the half century. Europe will be a (inaudible) world creditor with an appreciating re-election rate and of course as a creditor it will benefit from globalization, at least European households will benefit from income drawn from their credit opposition and gains in purchasing power .I skip the variants we made for increasing productivity in China and India and go to the conclusion. We were in a paradox I have depicted what should be, what could be an equilibrium world growth rate regime.

What the base line scenario teaches us? First, it teaches us that the need to restore a sustainable saving and balance in the US. How to do that is, certainly, a substantial real depreciation of the dollar because it will boost net private saving and if it changes the structure of demand in favor of non-traded goods (inaudible) second in the budget deficit it is something that everyone knows. In Europe and we are back to the European problem, Europe is a low growth region because of basic factors, what can it do in order to improve? Only one thing, because Europe cannot catch up it is really close to the frontier. Europe has a low working age population it cannot change that. Migration, we made other scenarios about migration, is a mixed blessing. The only real source of potential growth is boosting innovation in Europe. That is the Lisbon (inaudible) was really what had to be done. To overcome those shortcomings, we require more public spending on higher education and R&D. I don't know if it's the answer to Barry's question, but if you want to boost innovation we need that, (inaudible) and higher education and R&D when we are (inaudible). Better links between public and private research. Of course, long-term growth being enhanced by counter-cyclical economic policy we need more (inaudible) policy because (inaudible) policy is not independent from long-term potential growth it impinges on it.

Finally, in Asia, in Asia the (inaudible) should be the countries, (inaudible) are the engine of growth but they are not yet because of their bias towards export-oreinted the growth regime in Asia is towards promoting domestic demand. I guess two or three things are necessary. First, a well run credit system, very different from the present one, in order to boost consumer credit. You remember what happened in Korea when they tried to boost credit in 2001; there was an immediate an insolvency in households. You need really a better financial system in order to boost safely domestic credit and essentially consumer credit. The other priority should be investing in infrastructure and mass education in order to decline of what I call the brake of implementing deficiency of technological progress. And the third one is a long standing social policies because if you don't have a social welfare system that is able to share risk, people will not lower their private saving, so private saving will stay too high. So longstanding social policy certainly a third structural reform. Thank you very much.

Bosworth: Covered a lot in a short period of time, we have two discussants the first one is Vanessa Russell.

Rossi: OK, Well I guess Michel has slightly kicked off on the wrong foot here or a faux paux if I can use the French phrase for it. I might remind you that I've known about the OFCE work and the work of the (inaudible) models for quite some time, but you maybe haven't noticed what OEF does because we actually run global models, as well, of large numbers of countries out many years. We have detailed models that cover some 50 economies in detail, we actually have models that cover around 175 countries in reasonable detail including places like Kiribati, if you're interested, and that's partly because we do all the work for the World Travel and Tourism Council. So, there are other people out there who do some of these things in detail too.

We also have to make long term projections one of the reasons we have so much detail and we've done long term projections out to 2050 and beyond was that back in the late 90's of course the issues like the Kyoto proposals and energy policies and you need to do that, and more recently there's been a lot of interest in things like the shape of the world economy by 2050. I would have to add that I'm not quite sure why people like to have 2050 so much. I sometimes, although I do these things and I think they're a bit fun, I do sometimes wonder if we learn anything more than stopping at 2020 given all the uncertainties and trends. So I don't know if we get an awful lot out of it, but still, as I say, it's good fun and we all do these things.

So I think it's a bit important to recognize this partly because I think there maybe I would feel a few difficulties with some of these areas of your modeling and I'm certainly not quite sure where some of it is going and why. In terms of the main messages we're looking at here I think it would be a bit silly if we got into sort of detailed discussions of our modeling strategies and the nuances of whether we have functions into related coefficients or not. But there are a few points that really do matter, I think, in terms of how you pull out numbers here and hopefully I can try and illustrate a few of these. Certainly, even at the top headlining numbers, I have a bit of problem in terms of how this whole thing works together, because it sort of kicks off by saying that we've got all these flows from rich countries to poor countries and you seem to have really quite buoyant looking numbers for population growth in Africa that maybe doesn't always take into account AIDS and problems there. But you know I'm not going to be into demography if we've got numbers on those things fine. But then later on in your paper, I think, Africa sort of dies away, and you're sort of back to focusing on Asia again. So some of this story seems to come and go as to whether we're really talking about the rich helping the very poor or whether we're just talking about the process of exchange between the richer countries and the would be richer countries that are in the middle stages of development. So I'd say that it shifts around a little bit on these things. I think its important to recognize that partly because I think it matters to the interpretation of the balances we're seeing and how you can see swings around in these balances as well.

Just let me move on a little bit through here and I'll get to one or two points of this kind. The first thing it reminded me of really though were a couple of comments I've picked out a while back and again have held onto because I thought they were quite important, in fact for our whole approach here today it might be something even we could of kicked off with this morning. I think comments like this tell us something about the difficulties of treating these types of topics in capital flows. T R&D he World Bank's comments about measuring capital flows being an art and not a science. That also refers back to the points we made with M&A, where there seems to be some very odd reasons why some things, some deals, are counted as one thing, some as not; the whole issue of portfolio and FDI measurements, as well, being somewhat dubious if we're trying to look at this on a world economy scale; the difficulties countries have in measuring those concepts. So we need to be careful about that and I mean obviously people like Rueben as well and his book he came out with in 2003 referring to the massive reality of capital flows again the same kinds of things.

We also have to recall that the emergers and those countries, which are still hardly emerged, and those in the process of emerging, clearly go through repeated crises over time. None of the development is a smooth linear process; we're going to see movement around boom periods, crisis periods; and this implies that some of these balances of particularly the trade and capital flow figures are probably going to bounce around with it. We can't think of these as clean linear processes, smoothly developing. Although I quite agree when we're doing our long term projections at 100 years unfortunately this is the kind of world we tend to depict, one of relatively smooth transitions because we don't really know quite where to pencil in those crisis's, although we can be pretty darn sure that a few of them will crop up.

So I was also a little bit surprised on those longer term figures that you have just for even the major countries that when you're looking at your TFP catch up process I think over a period of the 100 years you're projecting, you actually do not have convergence of TFP for the US with Europe and Japan and certainly not for the rest of the world. I can see that you're arguing some factors there that seem to be sort of related into saying that the TFP catch up process is interrelated with demographics of poor performance and so on. This seems to be introducing relationships and complexities that are not quite apparent in the equations of the model. So I don't know how this is a sort of interpretation that's being put onto the parameters you've used, and I would certainly be a little bit hesitant about wanting to make those kind of projections over a period of 100 years.

There's been some good reasons behind recent poor performance particularly in Japan and also in Europe where there's some reason to believe that they've thought that performance could pick up again. I think we're actually seeing some emerging signs of that in Japan already which I would take as a very important lead indicator for where potentially others like Europe could go if we start to talk about trend growth in Japan returning to something like 2% or so that's a lot better than what people were talking about a few years ago. If it were true it would suggest that productivity growth could actually be a little bit better, the catch up process could be a better and the overall prospects better for these supposedly aging societies. Aging might not be quite as a grim process as some people depicted because productivity and (inaudible) may actually push you a bit higher, rather than I think in your model, Michel, I get the impression its sort of pushing you lower in the other way. I want to be slightly more optimistic perhaps on that process.

The other problem I have with this type of model, though, if we think about the beginning roots of it you're saying about these flows from richer countries to poorer countries and the whole rationale for this seems to be there are these poor countries which have very, very low productivity now, very low TFP; there is a great big gap between them and the rich countries and the bigger the gap the more the potential to catch-up. This seems to fall into the same kind of trap as I've seen in this type of indicator from UNCTAD and others and indeed not just these indicators suggest for FDI rankings where they tend to rank the countries which are really dirt poor right at the top of the global growth prospects compared with countries even like China that will come in the low category here and certainly the OECD countries. Basically, what they rely on here is a system of, say, you have really, really poor country, they've got a long way to catch up so growth prospects are fantastic. Well you know in theory that sounds nice but in practice we don't seem to be able to deliver the goods every time. So when it comes to the (inaudible) I wonder whether if it isn't just a little (inaudible) in total here some of these properties being a little bit worrisome and in terms of this recycling effort you know I say a little bit strange in terms of how we talk about one thing and drop the poorest end of it when it's perhaps not too convenient to us.

What we come through into these other capital flows I think we'd also have to be careful quite which capital flows you think you'd be involving here. I mean, I think you're really going back to something more like the FDI development flows and I can't quite see how we would put things to do with pension funds and insurance funds and M&A activity portfolio diversification, which just big swaps between the major countries, into the kind of patterns you're talking about. I certainly don't know that even the charities like Red Cross and Oxfam, let alone the sort of Vatican and the Church of England, would be happy to put all their pension pots into a country like Zimbabwe and let alone me. I'm afraid that isn't the way things work, so we need to separate out quite which capital flows this system is really talking about.

Also just recall we're not being mean here; there are actually other ways in which the poor countries do actually benefit from the growth and development in other countries, it isn't just through capital flows and FDI; there's other innovations that go on too. The point I was making before, though, was about this whole move of emerging market economies thought a cycle where you basically start out with subsistence level, and yes we can certainly understand we all know the take off into growth story. You need some seed capital to push you off the bottom there because you just can't get domestic savings and we know that's part of the problems for some of the very poor African economies. But you know the majority of these emerging market economies we're talking about are way past that stage. That's not the problem for Asia and China, including China they're really moving onto phase two; they're not subsistence; they're emerging markets, they're not yet emerged into being fully fledged OECD economies, but they're half way there. Now at this stage, it's not unreasonable to think that we will get some of this cycling around. At the subsistence stage, you are going to have to run a trade deficit and import capital if you're going to get your lift off into growth. At another stage, you might have to consider that it's pay back time folks; maybe for a while you need to draw down the debts, pay those back, get yourself some more respectable credit rating in the world. That means probably running a trade surplus for a while to get your numbers looking better then you can go into a second leg of borrowing that will finance your other legs of growth.

We should think of this as a whole process over time, of how you move through different phases and you maybe want to build up debts, pay them off, and build up debts and so forth. So unfortunately, quite a lot of this kind of cycle happens by default just because the balance of payment crises and risks with debt and of course the smooth working models don't really treat these kinds of problems but there are really real difficulties for emerging markets. Just to highlight how much emerging markets risk premium have come down recently, because this actually emphasizes my point about how these countries can benefit from improving their performance for a while in having trade surpluses. Not all of these across the board, but a number of these have moved into surplus. Of course, China is and much of Asia has been and I think this has helped with those debt repayments and the reductions in the percentage of debt for these countries to actually improve their debt profile and to improve their risk profile. This has been very helpful to growth over the last year and I think certainly I've been quite pleased to see this continuing to happen, even when many people were fearful of that it couldn't do over the last year.

Bottom line on it, well it's very easy to come up with glib comments over US consumption should go down as savings increase and then you rebalance because Asia should be able to run deficits again and spend more. I'm not quite sure how much the modeling process has really pushed us any further on that argument, however it seemed that if we get to that route anyway through various other analysis. I think we have to also be careful if we're really looking at these long term strategies of growth that we should include things like these population flows, that can matter too, especially if you're looking at things like the stories of (inaudible) in Africa where maybe it's just not viable to maintain large populations anymore given the prospects and the probability is that migration is going to continue from these areas whether you like it or not. Not necessarily too attractive to some of the recipient countries where I think it's highly likely to happen if you're landlocked, resource poor, dirt poor country I'm afraid those populations probably don't have very much prospect of improving life unless they move out. However much we like to think global capital flows will help everybody.

In terms of attractiveness just the final point on this is that we really should think more of this attractiveness means and it cuts across rich to poor, cuts across regions and incomes and I think brings in this point about (inaudible) in Africa is that we probably have to be a lot more hard nosed about which countries in the world are really viable and what scale of populations are viable in these areas. There are a number of potential candidates. I've put into the pot here for say considerable problems with that outlook in terms of seeing a viable growth strategy which will soak up all of their labor forces, demographic time bombs in places like the Horn of Africa and Middle East,, along with even areas like the Caribbean is a real challenge to growth however much capital flows you might like to see in here. In some ways, what it brings me to is a property developer view of growth perhaps quite important, may sound a bit sort of market orientated but you know these guys do actually tell you something about attractiveness around the world and we shouldn't ignore that as an indictor. Thanks. Sorry Barry if I've over run.

Bosworth: That's OK. Professor Watanabe.

Watanabe: Well I'm not an expert of this type of large-scale global model so, but this is a very nice paper and it contained lots of numbers, perhaps too much numbers for me, but I learned a lot from the paper. I also learned in the companion paper, which contains technical parts of this exercise, is contained. It was very informative to me, as I guess that paper is not distributed to you, I strongly recommend to you to read it if you are really interested in this issue.

Because I'm not an expert I will tell you something more specific about the result of this paper. My first comment or question is about projected path of population, particularly for Japan and a nice thing in this paper is that in some sense the model in this paper tried to project future population endogenously rather than exogenously. So it's a very important step to proceed forward and so my question is about the projected path of future population. The second question is about economic welfare and I will explain it later.

The first question is about population, projected path of population, and this is working age population growth rate 1960 to 2100. I got this from the companion paper rather than from the paper distributed to you, not from the paper you have in your hand. It contains longer perspective up until 2100 and if you look here, we have Japan. As he said we now have a negative figure here, negative growth, but if you look up until 2100 it goes back to zero as the other countries do. This is working population. I guess the total population performs the same way as this figure do. Then my question is, given the current level of the birth rate is well below 2.0 it's almost, like 1.3, 1.4 and many people say that it will not come back to 2.2, 2.0 in the near future. If that is true, we should expect that the Japanese population will continue to decline and approach is zero (inaudible) is zero in the remote future that is a simple analytical conclusion. But, according to the paper's projection the population converges to population number itself converge to a steady (inaudible), not zero in 2100. I guess I don't know much about the details behind this result. I guess the problem is birth rate is projected to start to rise sometime in the future. I don't know when it is, so the end of my question is what is the driving force behind this hike in the birth rate. A more deeper question is why will it work in the remote future but not now. Now, many people say that the birth rate will not recover but in this paper it seems to be assumed that in the remote future it will recover to the level 2. So my question is

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Watanabe: it will recover to the level too. So my question is why? And the same thing is why not now? That's my question. Also the same question can be addressed in a different way I mean that the how the outcome would change if the base rate stays at a very low, current very low level even in the remote future this is a very interesting and um I'm very much interested in hearing Professor Aglietta answer to this question.

So I guess this a kind of technical question to the paper but um the second comment or question is much more much more related to deeper issues, that is the welfare implication. As far as I understand the model of the paper, in the paper, I'm sorry, the paper's model in the following way. This paper conducts some sort of exercises and clearly one obtained in this exercise should be very close to the first best outcome. Because you know this paper, what this paper is, what this paper does is that given the evolution of technology and endogenous population, household and finance make an inter-temporal decision. It seems that there is no imperfect; imperfectness in the model so there is no reason for (inaudible). So, in that sense I guess ,(inaudible) of obtaining this exercise should be very close to the first-best outcome. So you can see that you know in some area you have a huge amount of current account surplus and current account deficit in other areas and in some countries growth rate is very high and in some others growth rate is very low. These are nice things because this is the first-best outcome and we cannot say anything we cannot request more than that because this is (inaudible) this is very close to first-best outcome.

So the way I understand this exercise is as follows because this is the very, very close to the first-best outcome and we should think about how the real world deviate from this very nice equilibrium outcome, OK. So, of course, in a more realistic world the equilibrium obtained in this paper might not be feasible or achievable. So what we have to think about how and to what extent would the economy deviate from the equilibrium obtained here. I think so that's why today or the correct way to proceed after reading this paper, that's my understanding; correct me if I'm wrong.

I propose two aspects which I think is very important to know about how and to what extent the economy could deviate from the equilibrium obtained here. The first thing is government. OK, I don't know much about this, but my speculation is that it might be very difficult for the government in a shrinking economy to become smaller for some reason. For example political process, bureaucracy, large fixed cost to produce public goods and services and I don't know much about that, but it could be possible, could be very feasible that the government in a shrinking economy faces a very serious difficulty to become smaller in the future. So in that case, sorry, the government behaviour could deviate from the behaviour assumed in this paper, so it might affect the growth rate or it might affect the current account and so on. So this is a very important issue to be addressed and I think we need to think about it more, government behaviour, by the way, in this paper it is assumed that the government conducts fiscal policy so that budget surplus is always zero in each period. So it's a very simplified picture of the government behaviour so we could think about it a little more.

The second issue, which I'd like to say much more about it, is the substantial decline in real interest rate and here we this is a picture from the paper you have in your hand, this is an annual real interest rate and you can see that in almost every region real interest rate declines substantially during this 50 period, this um 50 years. OK, this is not from the paper but this is from the work of (inaudible) another person and they also conducted this type of exercise to find that the real interest declines substantially because of a declined birth rate. Actually, this is the simulation result, which could be applicable, which was conducted considering the Japanese situation. So what they basically say, what they expected that the real interest rate would decline more than 1% almost close to 2% for the next 50 years in Japan. This is again this almost the same magnitude and this is again, I say, substantial decline in real interest rate is not avoidable; and this the basic mechanism is very simple, the declining levels apply because labor will be very scarce in the future, but capital is not scarce. So we have a higher capital-labor ratio and this causes a decline in the real interest rate, this is a basic mechanism, I think, which is contained in this paper also contained in (inaudible) other people's paper.

Let me explain why this substantial decline in the real interest rate is so problematic. Real interest rate, given this situation, real interest rate in each period, remember that we are talking about very secure trend. I'm sorry, we're talking about the trend in a real interest rate, but think about the real interest rate in each period and real interest rate in each period might be below zero even if the baseline value is above zero. This is an equation I have in mind when I say something like that, this is a baseline, not your rate of interest. OK, it's almost like real interest rate and according to this paper or according to the paper by (inaudible) we expect that this part will decline to say 1% or something like that. It's still positive but very close to zero. OK, it's not negative and but real interest rate in each period determined by this factor. But in addition to that we have fluctuations caused by this (inaudible) OK. Real interest rate in each period, in period t, could be negative because of this factor. OK, and also it is easy to see that the possibility of the real interest rate becomes negative is larger when this part real interest rate in the base line (inaudible) is lower. OK. So now we face the risk that we face the more risk of the natural rate. I'm sorry, real interest rate or natural rate of interest in each period being negative. OK. However nominal interest rate, of course, cannot go below zero under the current monetary regime, so this is a kind of liquidity trap, OK. This point ,I mean the relationship between demographic factor and real interest rate and liquidity trap, was this was emphasized by Paul Krugman in his 1999 paper also some other people including our paper.

So, this is a very important issue; this could be considered as a potential reason to worry about the deviation of the equilibrium from the equilibrium obtained in this paper. An important thing is that this is not the potential danger and if you look at Japanese (inaudible) this is a natural rate of interest I mean an equilibrium, equilibrium real interest rate in Japan, which was stimulated by using some methodology. I cannot go into detail but if you look at here we have this red line represent the estimate natural rate of interest which start 1982 and this is we have here a zero line and so here we have a negative rate of interest and at the end of the 1990s and also at the beginning of 2000 or 2001. I think we have now enough reason to believe that we should avoid a substantial decline in the real interest rate. But unfortunately, I don't know how we can avoid it but there is enough reason to worry about decline the natural rate of, I'm sorry, the decline in the real interest rate due to a decline in population. Alternatively, alternative strategy we might think about is to modify the current monetary regime. Current regime works very well in a growing economy, but it might fail to work very well in a shrinking economy. So, I think these things are very important topic and I think this is a very nice paper to think about to set the starting platform to think about these issues. Let me stop here.

Bosworth: Thank you. We've only got a few minutes left so we can take one or two questions or comments I guess before Professor Aglietta.

Professor: Intriguing I mean projection has stimulated a lot of thinking. I took the population of (inaudible) TFP and probably by the end of the prediction period that is 2050 that is the size of say Indian regions GDP will be as big as probably as four times of the United States and greater China that is (inaudible) region will be as big as three times of the US and Africa probably about the size of US itself. In that period probably the most important exchange rate will be for the (inaudible) rather than any other currency rate. In that sense why not, I'd like to see the future of the capital flow and the relative size of GPD probably that would give a more say big impact on your projection to the audience.

Man: (inaudible)

Eichengreen: This kind of scenario planning is fun and the planner can adopt any assumptions he wants fairly. Like Vanessa, I was happy but I was startled by the baseline assumptions that Americans would remain 25% again as productive as Europeans for the next century and twice as productive as Japanese. You know, you have a TFP in Japan lodged at 66% of US levels over the next century. American productivity leadership came from two things that we alone had for a long time. A big internal market, now there is a big global market and a big European market; and a natural resource endowment, which was very important to have for manufacturing and to have locally in the era of high transport costs. So if I think about it that way it just doesn't strike me as plausible that the United States is endowed with any great advantage that would support those high productivity growth rates. If you buy the view that relevant metric for labor input is input per hour and recall that Europeans work, what is it, 20% less than Americans, the gap has basically gone already. So, there is that debate about why and what the right metric is, but I think that is important to address.

Vanessa also made the point that was bothering me all through the presentation, but only in passing. Immigration; what drives the model is that capital moves to labor, and it would be interesting to think about the advantages of having labor move to capital.

Finally, I would really enjoy hearing you elaborate on your final remarks of how the adjustment would come about quote substantial depreciation of the dollar will boost net private savings, what's the mechanism?

Man A: (inaudible)

Nishizawa: My responsibilities in my company to make a medium-term outlook of the Japanese economy, so it's going to be interesting to read (inaudible) report. I'd like to make two comments, first of all, the labor force. I actually I believe that in Japan's working age population that does not necessarily mean labor force. If females who have incentive to take part in the labor market can actually take part in the labor market, labor force will be sustained by 2020. Also there is some research about the relationship between the female labor participation ratio over female social participation ratio and birth rate. So that in Japan, as you know, the labor participation rate of females is quite low. If from now on the labor participation rate of females is increasing, there is some possibility birth rate return goes up. So labor force will be sustained by 2020 and the birth rate again now starts to pick up, there some possibility that labor shortage can be solved, that is one comment.

The second comment is that this kind of model is definitely based on the (inaudible) what data, what figure fixed in this model and considering the morning sessions Japan and Europe's TFP is completely different between the manufacturing sector and non-tradable sectors. If we consider, if we take part, take factor in such a difference between the tradable goods and non-tradable goods.

In this model is quite interesting to see what the result of catch-up period or what's happening of the Japanese economy and Europeans economies in the European and Japanese economies. Especially if Japanese government, European government take part aggressively to do structural reforms, it may affect the efficiency of the TFP in the non-tradable goods such as sectors. I'd like to see that such a result from such a future. Thank you very much.

Aglietta: There is lot of questions and I guess some misunderstanding and so I will try to mix the points by themes. First about the model, this kind of model is to make people think about the future. It's not forecast and something like that so going on when I mentioned this model was somewhat not usual. Of course, you have worldwide model by the (inaudible) the IMF, the World Bank, and so on, but they are not over lapping generations models, not rational expectations models. So it is some kind of uniqueness is mixing the worldwide-scope and the rationale expectation overlapping generations within the same framework; this is just what I said.

Second, the question of demography. We used UN projections, central projections up to 2050, after 2050 we don't have any projections that might be considered as standard; so we used our demographic models that is upstream from the main the main (inaudible) model. The mortality we have a kind of for every country a survival ratio that is drawn from mortality tables from demographics, again there is no controversy about it. Of course about fertility the (inaudible) is somewhat constrained, it is constrained by what? By the consistency conditions, if a population is declining irreversibly through time, the country will disappear in this type of model; there will be GPD equal to zero at sometime in the future. You have to face the consequences and so since I guess the country will not disappear in the world, of course we've had societies that have disappeared in the past. But if you have made this hypothesis that is something I guess natural something will certainly happen. For instance, if the fertility rate doesn't recover immigration will occur. I guess immigration will occur in countries that will be finally at stake their survival is at stake. So yes immigration will occur, but the condition is essentially a condition of consistency, stationary equilibrium is necessary in the very long run in order for no country to disappear within the model.

Third, the criteria about foreign investment and the question of which would be rich in (inaudible) I said in the commentary rich, the question is we have hypothesis about the exogenous momentum coming from population, working age population, and productivity. Within the framework, there are real rates of return that are the consequence of that and the capital flows according to the real rate of return, because the households and the firms maximize net present value—utility function for the households and net present value for the firm. So they are all rational and the criteria are endogenous in the model; they go where the real rate of return that is they expect because they are very useful in this type of long run model and the capital flow where the expectation of rate of return (inaudible). So we don't have to measure the capital flow because they are completely endogenous. They are net capital flows only; we have current account balances and net flows we don't go to growth flows and to the structure. In this version of the model we don't have a structure of capital flows because we have only one kind of imperfection. The imperfection is on the debtors side in the credit market and this imperfection makes the real interest rates different. The difference is there is always premium when a region is indebted more than it's capital, that is the ratio of debt to capital, the risk premium, is an increasing function of the ratio of foreign debt to capital. That is something that is understandable; it is some kind of, not structural relationship, but a relationship that is somewhat (inaudible). But we didn't want to make the same structural model that is very difficult to develop for financial flows and for foreign trade.

For foreign trade we have a complete structure of producers domestically; they export, produce domestically according to competitive prices. In the next version of the model we will have a portfolio structure in order to have more comprehensive view about capital flows for now the impedance to indebtedness is a risk premium and the risk premium is determined by somewhat (inaudible) relationship. Of course, the financial system doesn't work mostly, in the model it works mostly, so I guess the kind of scenarios we have are scenarios that are some kind of benchmark. That is more like (inaudible) scenarios. It is considering these benchmarks that we should think about the imperfections of the financial market, the prices that would occur and so on. In the distance between this type of structural capital flows, that flow smoothly and the financial markets we have now. We understand why the financial market some people say they are the efficient, they are really not efficient economically since the capital flows of the 1990s remember about what was said at the time of the Washington Consensus: always (inaudible); just revitalize your capital flows, privatize, have fiscal constraint and you will have a very smooth capital flow that will flow into the countries and develop your growth model. That didn't occur and one of the reasons is the excessive speculation within the financial system itself. The financial system itself doesn't work mostly and of course it is a big impediment in order to arrive at the setting we just focused.

Demography and technology are independent formally in the model. It is when we make the assumption of one scenario against another that we do the difference, especially the Variant I mentioned about China in DDR. We said that if we have faster growth in TFP certainly it makes room to develop a social structure, social welfare system within the country. This social welfare system will sustain domestic demand in order to boost the productivity, but in the model there are assumptions. We don't have functional relationships between those variables, but we make scenarios about those variables. So the alternative scenarios are very important; this kind of baseline scenario is something that we should have for consistency, but this model is very interesting essentially for variance. For instance we have made in other works variants about financing, retirement in Europe different polices with long run consequences. I come back to welfare, social welfare. In this model we don't have any social welfare function. Why? Because the labor supply is exogenous, so if we don't have arbitrage between leisure and work real income, there is nowhere to have a social welfare function. So social welfare in the model is exactly real consumption per capita. We measure the social welfare by consumption per capita and we can, of course. I don't mention this kind of graph here but we have also, because we have the overlapping generation, we have the real consumption per capita by age. So, we can see the welfare consequences, of course, the different scenarios because we don't have a (inaudible) average real consumption per capita but by different age strata.

The last question about about the real interest rate. Why does it decline? It declines because of capital accumulation that is what you mentioned increasing capital intensity, capital intensity in a Solow growth model makes, of course, real rate of return decline, but also declines through times because of savings. The big countries, the countries with the largest population, as I said, they will come to the high-saver age strata after 2020, 2030. The high-savers age strata is a strata between 40 and 65 and of course those countries that invest a lot in the beginning they will save more and invest less when their GPD per capita is higher. So, there is certainly never have saving scarcity in the world economy for the last 50 years and so this higher savings in emerging countries that have become developed countries, 20 or 30 years ahead they will save a lot and they make the real interest rate decline.

Bosworth: That's the end for a long day. We start earlier tomorrow, nine o'clock, not 10 o'clock keep that in mind. Are there any other announcements?

Kobayashi: We will be having a meeting at the same place and this place will be closed and locked during the night so if you can leave your paper things just as it is with your name plate with it, that's OK. Thank you very much for all of your cooperation, congratulations for keeping time. Thank you very much.

Discussion Finishes, end of tape.