THE BROOKINGS INSTITUTION

LATIN AMERICA'S INFRASTRUCTURE:

ROADS TO THE FUTURE

Washington, D.C.

Tuesday, July 21, 2009

PARTICIPANTS:

Opening Remarks:

MAURICIO CÁRDENAS, Senior Fellow and Director
Latin America Initiative, The Brookings Institution

PABLO SANGUINETTI
Research Director, Public Policies and Competitiveness Office
Andean Development Corporation

PANEL 1: THE IMPACT OF INFRASTRUCTURE ON THE PRODUCTIVE SECTOR

Presentation:

JOSÉ GREGORIO PINEDA
Deputy Research Director
Andean Development Corporation

JUAN BLYDE, Trade Economist, Trade and Integration Sector
Inter-American Development Bank

MAURICIO CÁRDENAS, Senior Fellow and Director
Latin America Initiative
The Brookings Institution

RICHARD FRANK, Chief Executive Officer
Darby Overseas Investments Ltd.

PANEL 2: INSTITUTIONS FOR SUSTAINING INFRASTRUCTURE DEVELOPMENT

Presentation:

PABLO SANGUINETTI
Research Director, Public Policies and Competitiveness Office
Andean Development Corporation

JOSÉ LUIS GUASCH, Senior Regional Advisor
Latin America and Caribbean Region
The World Bank

CLAUDIO LOSER, Senior Fellow
Inter-American Dialogue

CAROLINA RENTERÍA
Executive Director for Brazil, Colombia,
Dominican Republic, Ecuador, Haiti, Panama,
Philippines, Suriname and Trinidad & Tobago
The World Bank

* * * * *

P R O C E E D I N G S

MR. CÁRDENAS: My name is Mauricio Cárdenas. I am the Director of the Latin American Initiative here at Brookings. I want to welcome you all to the Washington launch of a new publication called "Roads to the Future." This is the annual flagship report of the Andean Development Corporation, CAF that as you know is one of the leading multilateral development banks in the region. I say in the region because in the past, it used to be the case that the Andean Development Corporation was basically concentrated in the Andean countries. That is no longer the case. The outreach of the Andean Development Corporation now is much wider and it includes a large number of countries in South America, Argentina and Brazil, apart from the Andean countries, and in Central America.

The Andean Development Corporation has published this report on infrastructure, and we at Brookings thought it was very timely to discuss it with a Washington-based audience. We hear permanently that one of the key constraints to economic growth in the region is lack of adequate infrastructure. Recently the Inter-American Development Bank launched a book on growth diagnoses of the region and the diagnosis in most of these case studies was that the most binding constraint to economic growth was infrastructure. That is why it is so important to understand how infrastructure is built, how it is maintained and how it is operated, and I think that these are the three issues that this report deals with.

We are going to have a half-day discussion. We will begin with an overall presentation and introductory remarks by Pablo Sanguinetti, and then we are going to go into the panels. As we go into the panels we'll introduce the different speakers and we will discuss what the different aspects highlighted in each one of the panels will be.

Let me first take the opportunity to welcome Pablo. Pablo is the Director of Research and Competitiveness at the Andean Development Corporation. He is an Argentine and he is a very well known and respected economist. He holds a Ph.D. in economics from the University of California in Los Angeles, he is a professor at the University at Di Tella in Buenos Aires, and has written many interesting publications in areas like international trade, investment and now infrastructure. Pablo is also a member of the Executive Committee of the Latin American and Caribbean Economic Association. I want to welcome him to introduce this report to us and then we will move on to the more specific aspects of it. Thank you very much.

MR. SANGUINETTI: Thanks, Mauricio. It is a pleasure to be here. For CAF it is very important to try to visit different countries and try to present the research that we produce. As Mauricio was saying, this is an annual report and this year it deals with infrastructure which is a very difficult topic for CAF. CAF is one of the major players in infrastructure lending in the region. The idea is that I will begin with a short presentation of the whole picture of the report, and then we will have two panels in which we will deal in more detail with two of its chapters.

Why infrastructure? We say that in the present context of Latin American countries improving the quantity and quality of infrastructure, is critical for development. We say that because infrastructure could help to close three development gaps that are at the core of the income problems of these countries. First, the idea that the region as a whole has a declining participation in global trade. Latin America used to account for 4 percent of total exports in the 1960s, and it was around 2 percent at the beginning of 2000s. We dealt with this issue in one of our first books, which we launched in 2005. There we mainly analyzed trade policies, and how trade policies could help to foster exports from the region. There we also mentioned that there were certain infrastructure services that could also contribute to foster exports. You will see in our first panel the idea that given the current context of low tariffs reducing transport costs is very important to increase exports. We say that certain types of infrastructure like ports, airports, logistics, etcetera, could help to reduce transport costs and to improve exports. This is one of the gaps.

The second is related to the fact that Latin America has been lagging in terms of productivity growth compared to developed countries, but also other developing economies like Asia. This lagging in productivity is one of the major reasons behind the low incomes of our region in comparison to developed countries. This analysis of productivity as a theme that is part of development was also analyzed in our 2006 report. There we dealt with some industrial policies, we dealt with innovation policies, but also we mentioned that certain types of infrastructure, like energy, could directly affect the production costs of firms, and also could improve productivity.

Finally, the third gap, that is very important to our region, is related to the persistence of poverty and inequality. This was dealt with in our 2007-2008 report. There we mainly dealt with social policies in the fields of subsidies, education and health. But we also anticipated that there were certain types of infrastructure like water, sanitation, etcetera, that could contribute as well to reduce poverty. To reduce poverty is not only important to give food subsistence and direct assistance to families, but certain types of infrastructural services are also very important. In this book we also dealt with this issue in much more detail, and we show how certain services like public transportation, roads, natural gas, and others, could directly affect, and in a very significant way the welfare of poor families.

Given all of these reasons it is not surprising that infrastructure has had a prominent role in the development plans of many economies in the region. For example, Brazil launched an infrastructure investment plan of 20 percent of GDP between 2007 and 2010. Bolivia also has a very important plan on infrastructure investment. Of course, many multilateral organizations like CAF are also behind that, and CAF has had a very important role as a lender for infrastructure projects. Beyond the fact that CAF is a major lender for these services, in terms of our research agenda it was a natural step for us this year to focus on infrastructure.

Let us now take a look at a few numbers about the state of infrastructure in the region. Here I will show you some indications of electricity production per capita. On the left-hand side panel you have the indicator of per capita production with respect to the OECD countries. The idea is to see whether there is some type of convergence in the supply of this kind of infrastructure services. We see the red line on the left-hand side is Latin America, and the blue line is Asia and Pacific. There was some kind of convergence. Between 1980 and 2004, electricity production grew about 30 percent relative to OECD levels. But of course we see that Asia and Pacific grew even much more. So that there was some kind of convergence, but Latin America was not the leading region in that type of behavior. On the right-hand side panel you have the changes in absolute values. Again we see an increase where Latin America in 1990 has a per capita production of around 1,000 kilowatts and went to 2,000 kilowatts in 2004, a 100 percent increase. But again you see that Asia Pacific went from 2,270 to 1,400, so a much more important increase. The idea is that there is some type of convergence, but that other regions have grown much faster.

The same kind of pattern we can see for fixed-line telephones and mobile telephones. On the left side we have the evolution of telephone lines, fixed and mobile, between 1990 and 2004. There you see an increase in Latin American services of about 300 percent relative to OECD countries. For example, on the right side you see that total lines per 1,000 population went from 60 almost to almost 500 between 1990 and 2004. But again you see some other regions like East Asia growing at a faster rate.

Nevertheless, not only is the quantity of the services important, how many lines or how much production, but quality is also very important. Here we have an indicator of quality for a group of services, being transport, roads, electricity, trains, about four or five services, and this is the economic indicator which asks firms about the confidence they have relative to these services in their countries. This is an indicator goes from zero to 7, 7 being the best-quality services. You see here again that Latin America sort of lags. It is only just above the sub-Saharan countries, while the Asia Pacific region is much more ahead in terms of quality. Here we have the same indicators for electricity. Again you see Latin America is ahead of sub-Saharan Africa, but lagging behind other regions. On the right-hand panel you have a more quantitative indicator of quality, which shows how many days during the year did the firms had to suffer cuts in their services. So you can see Latin America shows that in one year there were about 20 days where there were cuts in the electricity service. Asia Pacific shows about 10, and the OECD countries show about two. So we see again that the quality of services is not that good.

Let me show this slide which is another quality indicator, this we constructed at CAF. We did a survey in 16 cities in Latin America, where we asked people about how confident they feel about the different infrastructure services in their cities. The numbers indicate that there were people who reported no quality problems in their services, people who felt that there were no major cuts in their services. When you look at the weighted average, you will see that the problems are much more serious in electricity in which around 15 percent of households in all of these cities said that they suffered some cuts in their services. Also telecommunications, where in terms of fixed phone services 13 percent of families report having problems, with mobile phones around 20 percent, and internet services have 30 percent on average with families reporting having problems with connections. There is a lot of variability across cities. For example, in Buenos Aires Argentina 24 percent of families have reported that they have suffered cuts in their electricity services, whereas in Cordoba it was about 36 percent, which is considerable. In Maracaibo, Venezuela, 65 percent of families report having cuts in their water services, while in Caracas it is around 20 percent, so you also see a big variation across cities and countries in these indicators.

In the context of this evidence about problems of quantity and quality of infrastructure services in the region, how much have effort have countries put into improving these services or solving them through investment efforts? Here we have some indicators of total investment in infrastructure, both public and private, between 1980 and 2004. This is done using the Calderon and Serven database which was updated until 2004. They helped us especially for this project. Three facts emerge from this graph: The first one is that, on average, total investment in infrastructure has declined from the beginning of the 1980s, which was around 4 percent of GDP, to the mid 2000s in which the average was around 2 percent, so it was a significant decline. Of course, there are some exceptions and Chile is an exception in which you see that the total investment in infrastructure actually increased from 2 percent to 4 percent. The second fact is that from the beginning of the 1990s, private flows of investment have increased a lot, but what you see is that the increase in private flows did not compensate for the decline in public investment. That is why total investment declined as a whole.

The third fact is the sort of cyclicality of investment flows, in the sense that both private and public have a kind of cyclical pattern in which they go down very significantly, in years in where there was an economic crisis.

This is for example the case of Argentina in the beginning of the 1990s in 1991 and again in 2001 and 2002, also Peru in 1990 and 1991, etcetera.

Why this pro-cyclical behavior in the case of public investment in infrastructure? This graph tries to show that in part you see that public investment in infrastructure suffered because of fiscal adjustments. In times where there is no financing, trade markets are very dry and there is no financing for governments, the only way in which governments try to balance their budgets is by cutting investment in infrastructure. So you see here a positive correlation between public infrastructure investment and fiscal deficits. On the left side we have measured public investment in infrastructure as a percentage of GDP, and on the right side axis we have measured the fiscal deficits, and you see this positive correlation in Argentina, you see that when public infrastructure goes down, fiscal deficits also go down. The same thing you will find for Colombia and Peru. In Chile you find that the curve goes up in the sense that when public investment in infrastructure goes up, the fiscal surplus goes down. But again it is the idea that public investment has suffered in part because of fiscal adjustments.

From this sort of very brief diagnosis of the evidence of the behavior of different indicators for infrastructure in the region, we conclude that the region needs to improve the quantity of quality of infrastructure, and for this we will mean more investment, both public and private. The issue then is how to reach that objective, and this report offers two messages on how to reach this end. The first one is that since infrastructure is such an important determinant of development, we need to continue to improve our understanding of the channel through which infrastructure affects the quality of life of households, the productivity of firms and industries, and the environment. In order to argue that we need to dedicate public and even private funds to this area, we must have hard evidence about the impacts of these services on the various development indicators that are critical for development.

This is easy to say but not so easy to implement because often times the data is not available. The experiments that we need to run to prove that, for example, infrastructure increases productivity by X percent for certain types of firms, or that infrastructure reduces infant mortality in a given percent, and so on, that data is not easy to find. These experiments need to be designed, and many times before you plan invest. In social policy there is a lot of work on trying to evaluate the impact of different interventions, and they have come out with methodologies that you can somehow correct in the event of endogenous sorts of biases, reverse causality sort of biases. In infrastructure this is more difficult to do because you cannot, for example, do random investments so that you can have an unbiased sample of data to try to prove the causality. This is a very technical thing, but what I am trying to say is that we need to do much more rigorous impact evaluation analyses, and that this will provide better information for decision making. Also to enrich the public debate, because is a public official says that we have to reallocate resources from say, food subsidies to road construction, he needs to have the technical arguments to be able to argue that this will cause a bigger reduction in poverty than other types of investments. Also this will help us to improve evaluation methods.

The second message of the report is that we need to improve the management process both at the public and private levels, and this implies two things: First, an intervention in infrastructure is much more than new facilities, and of course many times the new investments are emphasized in public discourse and public policy. But of course there are two other dimensions about infrastructure interventions which are very important. The second one is of course maintenance, which many of our countries forget, and of course there is sort of a political game in relation to maintenance, but this is very, very important. We will show you later on some data on the impact of that. The third one is the administration of existing infrastructure facilities. Many times cities have no space for new highways, so you need to ration the use of existing facilities and to that end you can do many things. You can first, for example, say that what is important is public transportation, and reduce the private vehicle use of these facilities. Second, you can use tariff pricing which is higher during peak hours and you can do quantity rationing like "Pico and

Placa", this is a Spanish thing. So there are other kinds of ways to intervene in infrastructure that have to be kept in mind.

The second thing on management is that we need to strengthen institutions associated with planning, evaluating, regulating and supervising infrastructure. This is very important not only for, of course, public investment, but also even in those investments that are operated by the private sector.

I do not think we have too much time, so how are these two messages developed across the whole report? As you see this is the first chapter that I am covering now and then we have seven more chapters. The book can be divided into two parts. The first part is the part deals with the first message about improving our understanding of the channels through which infrastructure impacts development. This is developed along three chapters, two, three and four. Chapter two deals with how infrastructure services affect the welfare of households. There we survey the evidence, but also we commissioned a couple of papers in which we actually implemented two impact evaluation analyses: one for rural roads in Peru in which we show how the maintenance of these rural roads has helped poor families to improve their access to labor and markets, to education and to health facilities, and has increased the role of women as income providers, so this is very important. Many times we do not realize these other channels through which certain types of infrastructure can help to fight poverty. There is always emphasis on direct subsidies, but many times what people need is just a road, so we show that. We also have a paper which deals with the impact evaluation of a local gas network that helps poor families to have access to natural gas, which of course once the big investments are done is much cheaper than bottled gas, much cheaper. So we show how these kinds of investments improve the health of families because they allow for more heating in their homes, allow for water, people can take more baths during the day etcetera.

Chapter three, which is going to be discussed in the next panel, deals with how infrastructure affects productivity of firms, industries and international trade, so I will skip this because we have a whole panel on that.

Chapter four is very important because we want to introduce environmental issues within this framework. We know infrastructure relies intensively on the environment. In this chapter we deal with how we introduce and incorporate environmental issues in the planning and evaluation of infrastructure projects. In this chapter we have two sections. One is the effect of infrastructure in rural areas, and there we talk about how roads affect the economic use of the land, and how this could in some cases promote deforestation because, for example, land now is used for agriculture or for tree cutting, so we show some evidence of that. But also we show that the problem is not only roads, the problem is also many times that land use regulations are weak, and if property rights of that land are also weak, this could aggravate the problem. In that chapter we also cover the relation between infrastructure and the environment in cities, and we say that infrastructure allows for the concentration of populations and of course this creates cities, but this concentration of populations could generate certain types of environmental costs like congestion, like air pollution, noise, etcetera. The question then is, there are some types of infrastructures that affect the environment in the cities like highways and airports, but also there are other types of infrastructure services that improve on that tradeoff between infrastructure and the environment like for example public transportation. This is an infrastructure that helps to reduce pollution because use people use public transportation as opposed to using their cars, so we speak about that in that chapter.

We argue that the current methods to deal with the environmental costs of infrastructure projects are through environmental assignments, which many times are very local types of analyses. We say that are more regional kinds of analyses on environmental costs that are more efficient.

The second part of the book deals with management. In chapter five we describe certain facts about how private and public agencies provide services in Latin America, and we describe the basic regulation issues that have to be in place in the case of private provision of infrastructure. In chapter six we deal with distribution issues. If we go to a model in which the private sector will have a much more important role in the provision of infrastructure, and therefore people will pay for their services, and tariffs will affect the economic costs, this could leave many poor people without access to these services. So in that chapter we speak about how we can design some kind of social tariffs for the poor to be able to have access to those infrastructure services.

Finally, in chapter seven we say that participation in infrastructure could have been done from the beginning of the 1990s through privatization, especially in telecommunication services and energy. However, there are these public-private partnerships, which are different from privatization, that could imply that the private sector could be providing services even in those areas in which tariffs will not cover total costs, and of course some public subsidies are necessary. But for that you need a design in which the sharing of risk within the private sector and the public sector is balanced.

Finally chapter eight talks about how we design institutions so that all of these regulations that are discussed here, these distribution issues, and especially private participation in infrastructure, is achieved in a way that we do not deviate from the plans we have ahead because of political incentives or electoral incentives for private sector loans. Thank you very much.

MR. CÁRDENAS: Thank you very much, Pablo. Now we are going to move into the first panel. As you can see from this introductory presentation, there are two big stylized facts here. The first one is that infrastructure is important, and the second one, there is a lack of adequate infrastructure in Latin America. So we are going to focus on this first element, why is infrastructure important? What are the economic dividends, the social returns to infrastructure? For that we are going to have a more detailed presentation of the report, and look at the different types of infrastructure and that is going to be done by José Pineda, and I am going to ask the members of the panel to join us here. Then we are going to discuss this from different angles. First, we are going to hear from an expert on trade, Juan Blyde. He is a Venezuelan. He works at the Inter-American Development Bank in the Trade and Integration Department. He has done a lot of research, some of it actually used in this report, on the importance of infrastructure for economic trade and competitiveness. Then we are going to hear the view from the private sector. Richard Frank, who is the Chief Executive Officer of Darby Overseas, which is a private equity fund here in Washington that has a significant portfolio in the region and some of it in the area of infrastructure. Richard is a former vice president and chief financial officer of the International Finance Corporation, and also chaired the Private Sector Group at the World Bank. So he comes with a great deal of experience from the multilaterals now in the last decade or so from a private equity fund who takes enormous interest in these matters. Let me ask José, Juan and Richard, I will also make some comments on this segment of the report, to join us here and take a seat.

MR. PINEDA: I will be presenting the paper on how to understand the impact of infrastructure on the productive side. The chapter will give you a brief introduction that motivates the whole chapter. Then I will focus on the macro type of analysis of infrastructure impact on productivity, and I will show you what the evidence has shown us, the type of methodological issues that Pablo mentioned before, and how we can deal with these types of methodological issues on the measure of the impact of infrastructure on productivity by doing more micro types of analyses. There I will talk about three main issues about how maintenance versus infrastructure is an issue that has to be put on the table for policymakers to look at the importance of balancing the two, the role of congestion as something that could negatively affect how we expect infrastructure to be impacting the whole economy, and how when we have infrastructure we allow more general equilibrium type of effects where we allow reallocation of resources between and across industries. Finally, I will have a section about how infrastructure and logistic types of investments could help to improve competitiveness, and to change our trade patterns in our economies.

As Pablo mentioned before, infrastructure is very important for economic growth, and in particular for what we call a productive transformation for our economies, that is, increasing diversification, and increasing the productivity of our private sectors. The idea is that we have to look at both, the quantity and the quality of this type of infrastructure, because both have become very important issues in the literature. On the macro type of analyses there are some people, in particular Calderon and Serven, who show us that one important aspect in explaining the gap, or the poor performance of Latin America in relation to other regions could be due to this gap on the very important front that is infrastructure.

Having said that, when we look at the literature we will find that at the macro level these studies mostly found a positive impact of infrastructure on the aggregate productivity. When we look at the literature in more detail we will find some kind of mixed evidence, and this mixed evidence is due to the difficulties that this type of approach faces in order to truly measure these types of effects. This is very challenging because we will find for instance that there are problems of endogeneity because of reverse causality. For instance, we will find that countries or regions that have more income and are more productive will have more resources to invest in infrastructure. But then we will not find that more infrastructure is causing growth, but the other way around. That is something that in the macro type of studies is hard to really disentangle, and that is one of the main problems of this type of approach.

The other problem could be that we have a third variable that we are not taking into consideration that could be explained in both, investment in infrastructure, and also in productivity. An example for our region could be the debt crisis that hit productivity negatively in our economies, and left our governments with less money in order to invest in these types of projects. Also infrastructure is subject to externalities because when one makes an investment in infrastructure, it not only affects the place where the investment is done, but also could affect the neighboring regions, as well as have impacts across sectors. Then when you go to the data to try to estimate an impact, it will be very hard to capture it.

Also we found that there is not necessarily a linear type of effect that we can have due to the network type of effects that infrastructure could have, and I will give you an example of that. The idea is that we can have different types of impacts of investment on infrastructure depending on the level of the initial infrastructure that we have, if we have these types of network effect. Olin in 2006 estimated a nonlinear model trying to capture these types of effects and he estimated by a (inaudible) type of a model, but the idea is that he endogenously determined the thresholds, where, for example, you can see that you will have normal or average types of productivity when you invest, but if you pass some threshold, productivity could be very low and probably you would have this type of pattern. The idea then is that, for instance, when you have very small types of infrastructure where the network is very small, if you put a little bit more your productivity could probably be higher, but then when the network is almost complete, adding an extra mile of road will not have as big an impact on productivity.

We used this type of analysis of Olin, and matched his coefficient with data from Latin America to see in which type of region each of the countries were. Here we are in a type of a normal type of region where you can invest on infrastructure, and you will have relatively high levels of productivity. The only country that is close to that region is Argentina, which, if they decide to invest in infrastructure they have to put a lot of effort in order this avoid this low productivity region. This is just an example of how this could apply.

When we go to these micro type of studies we think that they could be more efficient in order to solve the type of issues that we found in the macro types of studies. Why? The idea is that when you go to the micro level analysis, you are able to at least address better the identification problems that we found in the macro level studies. Why? Because from the policy perspective we want to make sure that the things that we say that are affecting growth are actually affecting it, and we want to be sure that our claim that investing in infrastructure will in fact translate into more growth later on. I will show you some of the examples that we document in our chapter. Some of them were done particularly for our report, and some of them are very important for the research and we have to mention them.

In the case of Brazil we found that electricity investment in electricity plants has an important impact on industrial GDP. This paper identified this impact by trying to control using an instrument that will be able to identify the underlying causality effect, by using the topography of Brazil, and how to decide, in an engineered type of model, how and where to construct an electricity plant, and compare that with the actual data in order to identify the type of exogenous variations that we are interested in identifying in this type of effect. It is well known by (inaudible) IT investment was a hugely responsibility for productivity growth in the U.S., not only in that sector but in the overall economy. Fernald in 1999 made a very important contribution to the literature of the impact of infrastructure, saying that infrastructure investment had a very important impact prior to 1973, but after that, due to these network effects, the impact of productivity was really low, and this because when you have interstate types of investments adding more infrastructure will probably not have as much of an impact. The idea here is that he used as an identification assumption the notion that infrastructure will have a higher impact on the types of industries that use infrastructure more intensively. Therefore if that is the case, you can isolate the impact of infrastructure on productivity and not, only as some people argue, that this is a common trend because if it were something common, you would not find this big an impact just on industries that use infrastructure more intensively. That was very, very clever. Mauricio and

Sandoval did work for Colombia using more or less this type of methodology, and they found a positive and a statistically significant impact of infrastructure on the productivity of the manufacturing sector in Colombia.

I did work with Francisco Rodriguez for Venezuela, where we found that public investment at the state level has also a positive impact on productivity of the manufacturing sector in Venezuela. The identification assumption that we did here is that we found that the source of variation of investment was really exogenous due to a specific characteristic that these (inaudible) funds have on how to allocate resources among the states. This is because these funds receive resources from oil revenues, and they are very exogenous, and the rules to allocate these types of funds are very nonlinear and not dependent on each of the states, and then we would rule out this initial idea that you have more resources because you are more productive. That is not the case at least for these types of funds because it depends on (inaudible) variable that is very exogenous at least at the state level.

The idea is that at the micro level we also find that the impact of infrastructure is conditional on the level of maintenance that we have for that infrastructure, and the existing level of congestion. These two variables are very important for policy discussion and we tried to push this type of message in our report. We found that maintenance has a very important effect on the depreciation of capital, both public and private, and that there is an optimal combination between the two. To put it very simply: resources would be better used if you assign and allocate a portion to maintenance, as opposed to assigning them and reallocating that portion to new infrastructure investments. That way you would have a better balance between the two types of investment. On congestion we find that not only it could have a negative effect on productivity, but also that this impact could be very, very important in the case of Colombia. The study done by Mauricio found that the impact could be even similar in magnitude to the impact of new investment in productivity. This means that as policymakers you must put a lot of attention into how you are managing your infrastructure, because it is not always feasible to simply add more infrastructure. Something better would be to manage in a better way the infrastructure that you already have in order to avoid these types of negative impacts that result from congestion.

A very important way in which infrastructure could affect the productive size of an economy is due to the impact it has on its production and trade patterns. It is well documented now in the literature that ever since trade liberalization of many countries, and particularly in Latin American countries, transport costs have become one of the main obstacles to trade. Most of the studies found that 40 percent of the differences in transport costs across countries could be explained by their differences in infrastructure. These studies put a lot of attention not only on the quantity, but also on the quality and the efficiency of the logistic chain. It is very important to think about the whole logistic chain and how this chain is articulated with the main facilities that you will have in order to do trade. For instance, this study by Clark et al. found that if you have inefficient ports that can mean that you are 60 percent farther away from your market, and in the globalized and highly competitive environment that we are facing, that could be devastating for a country. I will just show you these two projects quickly because I don't have much time. I will not go into the details. These are two projects where CAF is actually involved, and this is what we tried to put together as a research department, and what we think is a good agenda for development, the types of things we are doing in the different fields in our different programs. These are programs led by our infrastructure department and our competitiveness program. The (inaudible) is done in Colombia and this project is mainly trying to change the mode of transportation of perishable goods, in order to allow them to change from air transportation to sea transportation. The idea is to improve their capacity to reduce costs in order to gain competitiveness. “Puertos de Primera” is a certification that we are trying to give to Latin American ports in order to guarantee their customers a standard of service that they can meet, for instance, reduce the timing and improve the type of services that they are providing.

I will offer some final remarks about the main messages of this chapter. We found that infrastructure has a positive impact on productivity because it enhances the capacity of private factors, because it increased their durability, their efficiency, and improves the overall productivity of the economy. Also, as I mentioned before, it allows reallocation of resources and that is a very important thing to look at. The tradeoff between maintenance and new investment is an important variable for policymakers to observe, because there is an optimal mix and we are not 100 percent sure that a corner solution will do the trick. Congestion is also an important variable to look at because it could even cancel out the positive effect that we found that new infrastructure has on productivity. Infrastructure has a very important impact on transport costs. When we improve our infrastructure and our facilities that could imply that we are helping our economy to be more productive and more competitive. I will just finish here and thank you all for listening.

MR. CÁRDENAS: We have to start the panel and we have to add some debate to this, so I am going to ask Juan to begin, and then Richard, and then I will make a few comments.

MR. BLYDE: First I would like to thank the Brookings Institution and Mauricio for the invitation to come to this seminar.

I am going to be making some comments about the chapter that José Pineda just presented, and let me start by placing the chapter in the context of the development problem in Latin America. Probably all of you know, and Pablo just mentioned, that Latin America has shown a very poor performance in terms of economic growth during the last four decades, particularly when you compare it to other regions like East Asia and industrialized countries. It is no surprise for many of you to hear, and Pablo mentioned, it also and it is in the report, that the main reason for this lack of economic growth is the poor performance in terms of productivity. So I think that any analysis that sheds light on how to improve productivity in Latin America is key. This chapter is a very good example because it explores the relationship and the links between infrastructure and productivity; therefore I think that this is a welcome contribution to the discussion of the development problem in Latin America.

There are several things that I like about this chapter. I am just going to mention three of them because I do not have a lot of time, and then will going to move to some suggestions about some things that might be interesting to analyze further in the future. The first thing that I like is that the macroeconomic studies that have been done as background papers for this chapter are really at the frontier in this literature. I am talking specifically about the paper for example by Pineda and Rodriguez from Venezuela, and also by Mauricio and Sandoval for Colombia. I have read these papers and they make a good effort in order to try to control the types of problems that José was mentioning: endogeneity problems, omitted variable problems, nonlinear problems that are so common in terms of infrastructure. These problems are common in the literature and these papers have tried to do a good job in that sense. So the fact that these papers are at the frontier and have been done for countries in Latin America, I think has to be highlighted and recognized.

The second thing is that the chapter really clarifies a lot of the discussion about the transmission channels between infrastructure and productivity. This is also not very common in this research because you read papers and you do not see what is the transmission channel, so I think this is also a very welcome contribution to the discussion on Latin America in relation to this issue.

The third is that the chapter touches on several different aspects related to infrastructure, from new investment, to maintenance, to congestion, trade patterns, to reallocation of resources, etcetera. Many of these aspects are not conceptually the same, but I think that the chapter does a very good job in tying them together and by doing so I think that it provides a very good overview of key aspects that are related to infrastructure that policymakers should think about when thinking about this issue.

As usual, when you read a nice contribution to the literature you start thinking about other things that can be done or could be done, so let me mention a few aspects that I think might be interesting to analyze more in the future. The first one is probably to develop some of these similar macroeconomic studies that were done for Colombia and Venezuela for other countries in the region. Colombia and Venezuela are very good examples of the region, but they might not tell the whole story for countries that are less developed like Bolivia, for example. I know that doing these macroeconomic studies involves a tremendous amount of work so that is probably one reason why we do not see more of these types of studies. Perhaps another reason and I am guessing here, is data availability. Maybe there is data that you can find in Colombia that you might not be able to find in Bolivia. If that is the case, that might open up an agenda that is parallel to the infrastructure agenda of perhaps strengthening capabilities of statistical offices in our region, but that is parallel.

Going back to the infrastructure agenda, I think it might be important or interesting at least, to repeat some of the same exercises that were done at least on the transport related infrastructure topic by transfer mode. Here I am borrowing one figure from the report. With these figures Jose shows the evolution of the total transport costs in Brazil, and with this figure, and also with the econometric analysis in the report, he shows that even though transport costs have increased in the last 6 years, in the long run there is a slightly negative trend of these costs. It would be interesting to do this kind of analysis by transfer mode because the total transport costs might be the average of different tendencies, maybe in maritime transport costs the long-run trend might be slightly more negative, but in air transport costs the long-run trend might be slightly less negative or even positive. So if we have this information, that might probably be important for policymakers to set up priorities.

The report highlights this idea that transport related infrastructure is important to increase aggregate productivity via international trade, and particularly by the reallocation of resources across plants of different productivity levels. We do not have a lot of hard evidence of these trade reallocation effects, certainly not for Latin America. The evidence that is cited in the report is evidence by Verner and Company, which is evidence for the United States. For Latin America we do not have a lot of hard evidence of these reallocation effects. Why is that? Because most of the macroeconomic studies that work on trade and productivity in Latin America normally have focused on the impact of trade on the productivity of the plant, but not on the aggregate productivity through the reallocation of resources across plants. This gap in our understanding of how trade affects aggregate productivity in Latin America is something that I think we also need to work on a little more in the future. Especially because a lot of evidence indicates that a large share of aggregate productivity growth occurs across plants of different productivity levels when plants change resources between them. In fact, the new trade models that the literature states, like Small model in 2003, and the Verner model in 2003, imply that international trade has a lot to do with this. So I think this is also an area that needs a little bit more research. Fortunately we do not have to wait too much and here I am going to do a little bit of advertising for the IDB. The IDB as probably most of you know has a report that is called IBIS , now it is called the DIA, Developing in the Americas, and for 2010 this report will be focused on the topic of productivity in general.

This report will have several chapters, that will be my guess, and one chapter is going to be on trade, so I am not going to give you too much of the report, just a sneak preview about this chapter. We used micro data from several countries in Latin America, and we show that indeed trade costs affect aggregate productivity, not only by their effects on the productivity of the plant, but also through reallocation of resources across plants of different productivity levels. And we show that these effects come not only from tariff rates, but also from the transport costs from freights. So this is an example of hard evidence that complements and supports really well the argument done in the last part of this chapter, that infrastructure related to transportation is important to increase aggregate productivity in the region. So in that sense, I think that that two chapters have a lot in common. In any case, I'd like to congratulate José for a very nice chapter, and CAF and Pablo for what I think is a very insightful report. Thank you

MR. CÁRDENAS: Thank you, Juan. Now we move to the full discussion. Richard?

MR. FRANK: Thank you very much, Mauricio, for this invitation and also to CAF for their leadership in the field of infrastructure development in Latin America.

I'm going to comment just briefly on the main theme of the chapter that has been presented, the Impact on the Productive Sector, but also then focus a great deal on investment in infrastructure. As Mauricio said I made the transition from looking at infrastructure from a multilateral point of view to now a private sector point of view, and actually made that transition when in the 1980s we felt there was not enough fiscal space in most government budgets to finance infrastructure, together with the other demands of education, other social services, and that we needed to track private capital for infrastructure. That's been a very interesting ride for the emerging markets to follow that path and I'll talk a bit about that.

Pablo gave a very good overview of what is the level of infrastructure investment across the globe and across emerging markets and Latin America. I always remind myself of the relative numbers. They are very striking. If the world is generally investing 2.2 to 2.4 percent of GDP in infrastructure, that's an interesting average: it happens to be less than half of what Asia is investing, and it's actually closer to what Latin America is doing although Latin America is even somewhat behind, at 1.3 to 1.5.

Why is that important, and what's the correlation between the level of infrastructure investment and GDP? It is very striking. If you take a look at what Asia is doing, Asia obviously is outstripping many other parts of the world in GDP and there is obviously a very close correlation. I think the interesting country in Asia where we also operate is India. India had a growth rate of 3 to 4 percent and felt they could finance infrastructure the old way, government budgets. When they hit 6 and 7 GDP growth they started hitting real constraints. They actually hit 9 percent before this worldly correction. At 9 percent they were really worried. They launched a program 18 months ago to invest 500 billion in 5 years, 100 billion a year. I was just back in Mumbai; they are almost 2 years in that program and they have invested less than 100 million from both sources. The point being that infrastructure is related to GDP growth certainly in their mind, and there is a lot of hype and a lot of myth about these very ambitious programs that in fact are not being achieved.

Contrasted with China, of course China had hit 11 percent growth and it is now way back down to 8 percent. China is a command economy model. When they decided in the key areas that were pointed out by both Pablo and Juan about where you get the big impact, they picked power, and they picked transportation. Even for the Olympics they decided that they needed a new airport and by the time of the Olympics they had designed the largest terminal in the world, Terminal 3 in Beijing and they finished it 3 months ahead of schedule because of the command economy. In India by contrast, that program has not developed, not because of lack of capital but because of lack of concessions being ready for private investors. Private investors have raised billions of dollars through funds and they are waiting. So the relationship between what capital will flow is also very much in the hands of policymakers and regulators, and in the case of India they have frustrated the investors quite honestly.

When you take a look at overall how much in all regions, and I will then focus more on Latin America, it is interesting. The highest level of infrastructure investing, with all this hype about trillions needed, was actually in 1997, $115 billion. Of that, a high amount was for Asia, it dropped by 50 percent by 2003. It is incredible to think that this key area had attracted that amount of capital and then what you are looking at 6 years later is half the amount. Why? Well, the economic recession certainly hit the Asian crisis, the Asian economies, and I think for policymakers and for investors we are all very concerned about whether we are going to see a repeat when we have a major global economic correction which started in Asia in 1997, went to Russia and went to Latin America, are we going to see a sharp drop in fact in infrastructure investing at a time when everything we project is that we need more of it? I'll come back to that theme.

In 1998 to show you how the contrast was between that sharp fall in Asia because of the Asian crisis, Latin America actually in 1998 accounted for two-thirds. So the world economic conditions and the world financial markets also have a very direct relationship to how much money is reinvested. Now we have a global crisis which is not evenly distributed, of course not impacting Latin America or Asia as hard, but we are going to see a major challenge here to keep infrastructure investing up during this current crisis.

I will talk just briefly about where should finance coming for infrastructure, public versus private, domestic versus foreign. Each one of those are probably a topic of their own. In Latin America what we find very interesting is that Latin America had been really blamed for having a very low savings rate in a lot of different forms, and Claudio Loser I am sure will give us more enlightenment on that. But what we find interesting is the institutional savings rate is really expanding. We now have in Latin America a huge pool of capital in the hands of pension funds that is now $450 billion, domestic funds in Brazil, in Colombia, in Mexico, in Chile, Argentina, that is available for perfectly this kind of investing. That's a big change from what we saw 5 years ago.

I think in the foreign versus domestic, to touch on where I think some domestic sources will be, I think the foreign investors in infrastructure have had really two kind of categories. The first one, and I think it was either Pablo or José mentioned this, was a wave of investment that came to Latin

America in the form of strategic investment. Power companies in Michigan said, we can a higher return on our capital investing in Latin America than we can in Michigan, and so we had a flood of power companies into Latin America and they bought power plants. So we had a privatization boom that got counted as an investment. Actually, new capacity wasn't all that much increased but it was a transfer of ownership. If you now go country by country I can almost guarantee you most of the companies have left, they have sold those, and now we need a new wave of capital to replace those investors, but we may not need investors who will increase capacity. I think that is coming. I think it's coming from not only the domestic pension funds that I referred to but also international pension funds and institutional investors, certainly the Canadians, certainly the Europeans led by the Dutch, are major sources of looking for infrastructure investment in emerging markets and with a strong interest in Latin America.

There is also a very interesting chart I thought in the paper talking about the component of this public versus private. I think it's an interesting question whether when you have too much private does that push out the public? I would think that's probably not a bad thing. But when I read those charts what I found very interesting is that Chile which has the largest level of infrastructure investment in GDP terms, 5 to 6 percent, has in that total 70 to 80 percent is in private. So that tells me something, that that is a combination of high level of investment and then the form of that investment is private versus public. Even Peru which in 1998 and 1999 were at 2.5 percent of GDP, relatively high for Latin America, 75 percent of that came from private hands, but over time that balance has shifted, according to different policies and how investors felt about those countries, but I think that's a very interesting balance about the overall level of infrastructure investing and which form it takes, public versus private.

Let me just leave a couple of thoughts here for further discussion. I would say trying to bring this topic to today's environment, the great recession, it is affecting all parts of the world. There is a competition for capital, and I think the competition for capital is going to be partly on return, although we always find it interesting that you do not have to promise extraordinarily high private equity type returns for institutional investors in infrastructure. Low teens, 10 to 12 to 14 percent are fine if people feel that the investment is going to have a lower risk associated with it, and I think Latin America has those opportunities to attract capital on that basis. I think there will be a big debate between attracting capital for green fields versus brown fields. In our language that's building a new hydro dam which may take 10 to 15 years for payback, versus a brown field which is removing a bottle neck in a toll road project. But I think the long maturities of infrastructure, the fact that it is in local currency ,which is attractive to local institutional investors, means that I think there is a good chance to attract more capital even in this difficult times.

The second point I would make, which is very topical here in Washington, is infrastructure a key destination investment as a stimulus? It's a great thing to do for all the reasons we mentioned, but it also is a way to create employment. If so, which type of infrastructure gives you employment? If you're in Colombia do you import huge coal power plants from China and install those versus a transport project? A very different employment impact. But I think that's an interesting topic, should policymakers be looking beyond just the benefits of infrastructure in their economies to being a stimulus where it's needed.

The last area I would mention is should infrastructure be looked at in the way that some Asian countries now are looking at it, as a new form of industrial policy. As you know, the Asian economies reinvented themselves several times, the Japanese, the Singaporeans, the Koreans, and they went from low labor costs (inaudible) operations to textiles, to garments, to electronics. Each time a lot of those governments set an industrial policy. The fashion right now in Asia, led by Korea, is the industrial policy is going to green growth and renewable energy, which sounds a lot like the U.S. administration trying to get auto workers now to make wind turbans. The Koreans are really quite far ahead of that. They have a huge program to provide risk capital to people who will develop new technologies, new equipment, not only for their own country but to export. So those are a couple of things I see on the horizon generally across emerging markets which I think are very relevant for Latin America. With that I'll stop.

MR. CÁRDENAS: Thank you, Richard. We have 15 to 20 minutes for discussion. I'm supposed to be one of the panelists as well, so let me start making some comments and I'll try to be brief, because I very much hope that you engage in our conversations. That's also one of the reasons why I'm going to stay here.

José mentioned that I had contributed to this report by writing one of the background papers, and I actually did that. Let me start telling you what I did in the background paper because it captures the flavor of that chapter or that section of the report. What we did in that paper is to look at a group of 300 municipalities in Colombia that have manufacturing data, that have manufacturing plants. Colombia has a long history of manufacturing surveys and we exploited that good data. We looked at these 300 municipalities that have manufacturing plants to the road network. Colombia has again good information on not just the extent of the road network, but also the quality of the roads, and the traffic on those roads. So we looked at essentially the primary road network. We found something very basic and simple that many of you would wonder why is someone interested in doing that?. We found that the municipalities that have more density in terms of roads, say in a perimeter of 50 kilometers or 100 kilometers, where municipalities where the plants also showed higher productivity. That is interesting because we did it in a way that handles this problem that José was referring to which is the problem of causality. Are these plants more productive investment they have access to more roads or are the roads constructed and developed because the more productive firms are located there? That problem of causality has been a difficult issue to deal with in this particular case, in the case of infrastructure, and in the case of analysis related to infrastructure. It's much simpler to do those experiments with other kinds of government programs. When we do analyses on subsidies to the population, it's relatively easier to do an experiment where you say we have this half of the population that is identical to this other half of the population but we're going to give a subsidy to this group, and we're going to use that other group as a control group. So we're going to see how this part of the group behaves given the subsidy that we're going to give, and we're going to compare it with this part of the group that does not get the subsidy. That's much easier to do in the case of social expenditures.

In the case of highways, when you build a highway it's much harder to compare it to the areas that do not have the highway, because if a highway was built it is because there was a need, because there was more economic activity, the population was higher, so it's very difficult to compare that with parts of the country where the highway was not built. That's a problem that you could call an academic problem, and figuring out ways of solving that is interesting in itself and as economists do that I guess to show that we're technically capable, and that our colleagues will listen to what we say so we earn our credentials, and I think that's important for the debate.

But we want to go beyond that. This report is aimed at policymakers, it's intended to influence public opinion, so we have to say a few more things on these issues of causality, and that's the spirit I want to capture in this conversation at the end of this panel. Let me translate this issue of causality to something concrete and practical. I had the privilege about a decade ago of being Colombia's Minister of Transportation, and let me explain to you what a day in the life of the Minister of Transportation is. Ministers of Transportation spend a lot of time in congress, and the legislators like to spend a lot of time with the Minister of Transportation and a typical conversation with a legislator would be, you go to the committee, you go to congress and the legislator will say, "Mr. Minister, I want to capture your attention on a road in my region that is unpaved, it hasn't been paved for decades. It's in very bad condition. I'd like you with your efforts and your initiative to make sure that you appropriate the funds so you can pave it." That's a typical conversation. It happens every day. So you say, “Mr. Congressman, I'm going to go back to the office and I'm going to ask the technicians and the experts at the Ministry of

Transportation to look at that road and see what they have to say". So you come a week later and the people at the ministry tell you that road does not have any traffic. It shouldn't be paved. It doesn't have any traffic. So you go back to the congress and you tell the legislator, "we found that the level of traffic is too low and it's not economical for us to pave it. It's just too costly to do that". The legislator says, "Mr. Minister, I see you have been raised in the city, you have no expertise and you don't know the rural areas of this country. You should come with me and you'll know that once you pave it, then there will be traffic." It's simple. It's basic. I'm wondering if the legislator is right, given what we're learning today, that it's really the construction of infrastructure that triggers productivity, that triggers economic growth, and therefore that creates the demand for infrastructure.

So I used to say to the legislator, "look you're wrong. We have to see the demand first and then we'll build the road". Now after legislators read these reports, they'll be empowered to ask for more roads. I think it's an interesting thing because at the end of the day you want to make sure that there is enough interest in infrastructure that the people in charge of producing the budget and people in charge of the allocation of resources at the higher levels in government really pay a lot of attention to the needs in terms of infrastructure. But you also need to make sure that the right projects are the ones that are chosen. You want to make sure that you are able to select the best projects in terms of the economic dividends in terms of they produce in terms of economic growth and productivity.

These tools that we see in action in this chapter, and I say this with some degree of confidence because I was one of the authors who helped in it, they do give you some illustration of the importance of infrastructure, but they don't tell you much about what type of infrastructure gives you the higher dividends. They don't tell you much about whether it's electricity, telecom or transportation. And even within one of these areas they don't tell you much about whether it's the primary roads or the secondary roads or the tertiary roads that are more needed. So it's important to highlight the limitations of these tools because at the end of the day when you go to budgetary decisions you have to make choices, and it's important to have the elements to make those choices.

Let me close before we open to the public with another remark on this chapter. We talk a lot about the need of regional public goods. In fact, Brookings produced a report late last year on the needs of Latin America and one of the items that was highlighted is precisely the issue of regional infrastructure, like transmission lines that go from countries that have a surplus in terms of generating capacity, to countries that have a deficit from the northern parts of South America that's is very rich in terms of hydropower, to countries like Peru and Chile which are less rich. Or the need to be able to transport natural gas from again countries like Venezuela or Colombia to Central America in terms of energy. So these types of infrastructure are very important. We know little about the payoff. We have the example of the U.S. and Canada. We know that the integration in terms of infrastructure has been very important, but we know relatively little about the payoff in dividends in terms of economic integration of regional public goods. These issues that are complex at the national level are even more complex to understand and analyze at the regional level, so that's another aspect that I think we should be able to say a bit more about in terms of what is important. The other side of the coin of this lack of adequate regional infrastructure is that there is always some prominent president in Latin America asking for these huge projects, and doing a lot of populism about the need to integrate with another country, or to build a highway that crosses the Amazon, but we don't know exactly what the needs are, we don't know exactly whether this huge projects, or little projects, that just help integrating economies that are very close, but where there is congestion or there are restrictions in terms of the capacity of infrastructure.

Let me just finish by saying that in this little study that we did for Colombia we found something that was quite interesting, and that is that the effect of an expansion in the road network, in terms of economic growth, is of the same magnitude as the effect of a reduction in congestion. If you increase the density of the network by 1 percent you have the same dividend, which is about 1 percent in terms of productivity growth, than if you reduce congestion by 1 percent. So anything you do to improve the operation of the network, to improve the management of the network, to reduce congestion, has a tremendous dividend because you end up spending a lot less and you end up getting almost the same result in terms of economic growth. So congestion and finding ways of reducing it has a tremendous impact in terms of economic growth. I think you were right in pointing out that as one of the key elements of the chapter. With that I'll stop here and let's open for comments and questions, and then we'll give back the word to José or any of the panelists. We'll start with you here.

SPEAKER: I was recently in Entrerrios this past December and January, and heard a lot about “Estamos con el Campo” and the closing of roads due to political problems, and I guess the effect that the agricultural sector felt as the result of blocking roads. What kind of effect does that have as far as infrastructure, those types of issues, farmers blocking roads to where not only agriculture can't get through but also other medical personnel, gas, whatever? Is that an issue for the region as a whole? That's much more political. But is it a major factor?

MR. CÁRDENAS: Let's collect a few questions.

SPEAKER: I'd like to ask the panel about the possibility of combining the measures to reduce congestion like increases in gasoline, taxes, or other sort of reforms of carbon pricing, with increases in infrastructure, that is to say, use the proceeds of increased improved carbon pricing to improve infrastructure. Do you think this is a good mix or what are your views?

MR. CÁRDENAS: Thank you.

SPEAKER: Good morning. The example of Chile was very often mentioned as one of the prime countries which attracted a lot of private capital. I would be just interested what the experience is of let's say the Chilean net framework of bringing in private capital for local roads and if this is a framework which other countries should potentially follow of using the private sector for allocating resources more efficiently. And if you could briefly comment on what Chile is doing right and what other countries could do of potentially following that framework.

MR. CÁRDENAS: Thank you. Here and then we'll go with you in the back.

SPEAKER: What seems to be the bigger challenges for infrastructure in Latin America? Is it the financing of projects, or is it the management and allocation of capital and resources? What seems to be the more systemic problem?

MR. CÁRDENAS: Then we'll go over here in the back. The gentleman there.

MR. CHEN: Chow Chen , freelance correspondent. When you talked about transportation and congestion, you talk about it's effect on productivity and trade. But I would like to see transportation in general and congestion in particular contribute lots to global warming, and how are you going to deal with it? Second is this, what's the future policy for urbanization? Are you going to have more intense and expanded urbanization? Urbanization in this case is going to put lots of burdens on infrastructure. How are you going to deal with it? Thank you.

MR. CÁRDENAS: Then we'll have the last question here. The gentleman in the front.

SPEAKER: Thank you. In regard to the construction of infrastructure triggering the demand and productivity for new services, is that a philosophy that stakeholders and policymakers right now still need to learn? has that change yet to take? or are we already seeing that new philosophy being adopted and more people starting to construct infrastructure before the demand comes?

MR. CÁRDENAS: We'll do the last one here with the lady here.

SPEAKER: I'm wondering what avenues that are for strategic coordination at the policy level in Latin America, because you mentioned the idea of industrial policy and the example of China with a command and control system where I was in China (inaudible) the idea is they have this urban design plan, so the idea is that government has planned 50 years in the future with the idea of what infrastructure plans need to work economically, and for the demographics and then they're letting private investors now come in. So I'm wondering if that's possible in Latin America.

MR. CÁRDENAS: I'll ask José, but I also want the other panelists to take some of the questions at your own preference. So don't we begin with you, José, and then we'll move in the same order?

MR. PINEDA: Perfect. I will try to combine most of the comments that the panelists kindly make about our report. I will start by saying a few things about most of the things that you say are lacking in the report are true. Most of them are because as you mentioned, some of them are very difficult to capture and measure, not only because we don't have good enough data, but because this is I think a work in progress, and the development agenda is something that you should work on every day to improve it. And I think it's good that we go a little bit beyond this correlation that I think is very important for us to have in mind, about investment in infrastructure and GDP growth, and that's good. The thing that we want to do is be more certain that this is actually a causal relationship, just to be able to say something about your conflicts with congressmen, but also to know a little bit about the channels through which this correlation is operating.

I will make a few comments about how to put this conversation in the context of today's environment where we have a recession, because at least this part of the report will tell you: if you want to do infrastructure we found that this is good for growth, we are going in the right direction. But you have to be careful because there are some network effects that could make the impact a non-linear one, and not as high as you would initially expect. When you talk about any stimulus you will have this tradeoff with between new investment and maintenance, because some of them could be more labor intensive than others, some could be implemented faster than the others, and also you will find that this infrastructure will not only help in the short run but could also help in the long run, as the report tries to argue, because it will have an impact on your competitiveness, and will have an impact on the reallocation of resources within your economy and will improve overall productivity. That's something that could tell you that this could be good in the short run and in the long run for your economy.

I will say that in the report we think that, and we tried to promote the idea that, when you look at intervention on infrastructure you have to combine new infrastructure policies, maintenance, and the administration of existing infrastructure. Then the answer to whether this could be a good idea, to mix increasing infrastructure with measures for reducing congestion, the answer will be yes, and we think that policymakers have to find the right combination and this will be very country contingent, very specific to the country's capabilities, and their financing abilities, and their current needs.

About this idea of how infrastructure and congestion measures could affect or help to deal with global warming, we think that you have to look at congestion not just from the productive side. On our social welfare chapter we have put a lot of emphasis on how congestion could affect the quality of life, and one aspect of course will be global warming, but also the quality the day-to-day life for a citizen in a city dealing with traffic, and how long it will take for an average citizen in Latin America to go to work, the types of things that he or she could do if the time spent on traffic jams were reduced, the type of time allocation that you would spend with your family and other types of activities that you could do. It is very important for us to not only look at the productive impact but also to broader aspects. I will just mention something about coordination policy. I guess the prescription policy will be that you have to have a centralized type of government. We made a big effort in chapter eight, that Pablo will be talking about later, about how to increase coordination and the type of institutionality that you will need to improve every day in order to make your efforts on infrastructure more efficient, and I will stop here.

MR. CÁRDENAS: I hope that either you or Pablo respond to the question on the environmental concerns because there is a whole chapter in the book on the environment, and it's an issue that is being raised more and more.

SPEAKER: This is related to it. First, we say in that chapter that we need to know more about the environmental cost on infrastructure, and again the message is that we need to have hard data to measure these things. Mauricio was saying this is an academic thing, you know, academics like to write papers and be famous about data, what about policy implications? No, no. We need to translate these impact issues, with their academic sort of difficult thinking, into policy, and convince people that this is good in order to improve the type of dialogue that Mauricio was talking about, between him, as Minister of Transportation, and the legislators. So it's not just the causality thing that these academics think about, no, it is important because at the end of the day we need to know better if this road’s effectiveness will have such an economic implication that it will generate more traffic, and whether it is good to do it, or not. This is applied to the environmental field. So we need to have measures. People in the environmental arena talk a lot about that, but don't know how to measure these things, so we as economists have some techniques that we can use to do that. So, first, let's measure.

Second, once we measure and we really have a certain account that a given type of infrastructure has a negative impact on the environment, let's see how to drive policy to reduce that. One of the ideas that wasn't mentioned was the idea that people who use infrastructure the most and generate some externalities to other people like congestion and environmental issues should pay for that; and they should pay through, let's say, taxes on the use of gasoline, or pay through to the use of highways during peak hours, they should pay more for using that facility. This is very democratic in a sense, but this is not just an economic argument, this is an economics of equity, you use it more, you pay more for that, and you pay more because you are hurting other people by generating congestion and other environmental issues.

MR. CÁRDENAS: Now we go to the panelists. Juan?

MR. BLYDE: A couple of reactions to the comment on traffic and congestion. There are a lot of studies about how to deal in practical terms with the traffic congestion issue. Normally what the experts say is a combination of supply side measures and demand side measures, and the supply side measures you normally are cheap measures like synchronization of the traffic lights, or direction of the flow of the traffic during certain hours, or to have exclusive lanes for buses, or the most obvious, but also more expensive, to increase the width of the road, or to have more roads. So that's the supply side. On the demand side, you normally have all these types of incentives or taxes or subsidies to give an incentive to people to use more public transportation. With these demand side issues you normally deal also with environmental issues, because as was mentioned, you are trying to get more people out of their cars. But the right combination, according to the experts, is which measures on the supply and the demand side depends really on the city because in some cities you might not build more roads, in some cities you might be able do that, and also on the authorities. The capability of the authorities is important, for example, some authorities might not be able to enforce certain regulations on the demand side so, you cannot do that. So it really depends on the right mixture of the city and political will for doing that, which sometimes is very hard. For example, in Venezuela, in Caracas there are different transport authorities according to different municipalities and they don't really coordinate amongst each other. So if you don't have a unified authority, or at least if it’s not coordinated, it's very hard to do. But the measures are there, it's just a matter of how to implement them to generate political will.

Just one mention about this issue of whether paved roads would trigger demand or not, just to complement what Mauricio was saying, in international trade we deal with this issue all the time. For example, last year we produced a report on transport costs and trade, and in one chapter we wanted to study the effects of transport costs on trade flows. Normally what happens is, when you go to the data you only see the trade flows that show positive values, obviously the flows that are cero are not there, they are missing values, but that doesn't mean that there is no demand or that there is no effect of transport costs on those flows. Mainly what you have to think is that those flows are zero because the transport costs are so high that it's prohibited to have trade on that particular good between these two particular countries. So trade economists dealt with these issues some time ago and have some special techniques to deal with these issues, but that doesn't mean that the demand isn't there, it's just that the demand is a different price that you don’t see because the price is too high.

MR. CÁRDENAS: Richard?

MR. FRANK: Thank you. I'll just touch on two general points. One would be, how you apply a market test to the dubious country road? and second, how do you formulate a policy that is environmentally farsighted but still commercially viable?

On the first, Mauricio I can certainly sympathize, I can imagine you and your office dealing with the congressman. There are approaches that I have seen where you try to have another way other than project will the traffic materialize if you build the road or not, and you're dealing with the political pressures, and that is to build in some sort of a market test where the private sector is your partner in judging that risk. I guess the leading example I would use, and I hate to come back to Korea it’s just that my firm deals there a lot in the transportation area, they have a scheme called the MRG, minimum revenue guarantee. When they needed to build, a toll road to the airport there was this big argument, will people even go so far and use Incheon? How will we get this built? The government did not want to build the toll road. They decided they would rather provide some kind of minimum revenue guarantee, let somebody take the construction risk and the operational risk and they bid these toll roads, they've done the whole country this way, and the government would award the bidder who came up with a combination of construction costs in tolls and then the risk was traffic, and if the traffic falls below a certain level, the government will make payments. That toll road, probably you're thinking, that's now very busy, it's far above the minimum required, but there were years when the government actually had to cough up to the private investors. When I had a discussion with the minister of finance and the minister of transportation, I said this is incredible, this sounds very generous. He said this is the minimum cost of what it would have been for the public sector to build and maintain the road. So I don't know if you can do this on your country road, but at some point you can get a sharing of the judgment, will that traffic come or not? and you will have the benefit of the private sector discipline I would argue, but otherwise it's very hard to project the traffic on your own unless you have some other people who have something at risk there. So I'll just throw that out.

I would say the second area of the whole interest now in renewable energy, and you mentioned industrial policy, I think again this is something that there's a very interesting public policy issue here which is, if you feel that it's better for your economy and your environment to move to nonfossil fuel energy, how do you have that happen? If you take solar, which is still probably the most inefficient, wind power is better, but if you do all your hydro, there is a point where you have to make the judgment on, is there a public sector subsidy to privately operated alternative energy facilities, and can that be phased out? Again I will use Korea, they have a very finite program in which they authorize a certain number of capacity by new plants built by the private sector that will be phased out, the power is produced by solar or by wind and it's sold in the public grid. That's how they're getting this done. Of course now they've coupled that with what I mentioned saying this is not only good for our environment, this is good as a new industrial activity. So let's subsidize and have a government to seed funds to invest in companies who are going to be the new generation of producers of wind power turbines competing with the Danes and the other people who have a monopoly on wind power turbines. I think you can certainly find a way to navigate in that area.

MR. CÁRDENAS: Those are very good points. Let me just add a few comments. One is, yes, I agree that we've done a lot of progress in terms of raising the profile of the importance of infrastructure and certainly making a strong case for the direction of causality that the report endorses which is more infrastructure will have a positive effect on growth and productivity and it's very important. I guess that question has been answered very successfully. Is infrastructure important? Yes, it is.

What types of infrastructure? What kinds of infrastructure? Should we aim at electricity, telecom or transport? Or within transport should we do primary roads or secondary or tertiary roads? That's where I think we need to make more progress so that we can establish those comparisons, we need to be able to say something about what's more important, what kinds of infrastructure are more important, and that's more a suggestion in terms of research. I fully agree with Richard's view that the market test is critical to help the decision making process. If the private sector can be engaged, and if the private sector undertakes some of the risk, that's of course a way of solving this tension between the minister and the legislator, and I think that's fundamental. Now in some cases that's not possible, maybe the project is not economical, or the project does not have a high economic return, it has a social return or whatever, then the question remains there. But I think as a general approach that's the way to go, and not everyone endorses that view. Not every government in the region is supportive of that idea. You asked a question about Chile, and why is Chile over performing relative to other parts of the region. I think that the simple answer is more reliance on market based mechanisms and certainly more reliance on private sector participation. So I think that's certainly very, very important.

Finally I would say that on the way to engage the private sector, that opens a whole new field. There is a chapter in the book on the different mechanisms. This is not new to the region, so we've learned some of the lessons of the past, some of the countries have gone from guaranteeing most of the risks, not just the traffic risks but also construction risks, environmental risks, to ways of engaging the private sector that are smarter, that leave less risk in the hands of the public sector, and have made biddings where the concessionaires that take more of the risks and demand less support from the government are the winners. We're in that process of learning, not all the countries are on the same page, not all the countries have maybe the same type of progress, but certainly there are lots of lessons to be learned about that. And to be fair with the report, the report deals with those issues and has, as I said, an entire chapter devoted to these partnerships between the private and the public sectors.

I think we've taken enough time on this particular issue of the importance and the effect on productivity. Let's now move to another equally interesting aspect of the report that is more related to the political issues, and I think deals less with the question of whether infrastructure is important, and more on why is there not enough infrastructure in the region. For that I'm going to ask Pablo to make the presentation and then I'll introduce the members of the panel.

MR. CÁRDENAS: All right. So let’s -- the only bad thing about coffee breaks is that inevitably you lose part of the audience, and that's what I was trying to avoid. But I guess there was greater demand for coffee than for audience.

But no, we're doing very well. We're still doing very well. So, Pablo, you have about 15 minutes to do the presentation of the chapter, and then I'll invite the members of the panel. I'll then introduce the members of the panel as they come.

MR. SANGUINETTI: Okay. You control my time, okay, Mauricio?

Okay. So this is the last chapter of the report, and we think this was a very important issue to talk about, because the idea is that, as I told you, the second part of the chapter, of the book, deals with management strategies.

And chapter five deals with well, how much public participation versus private participation is involved in these services in the region. In the case of private participation, what type of regulation should be in place?

So we got a lot of detail on that.

Then chapter six deals with, you know, some -- the distributional policies to take. And chapter seven deals specifically with -- once we decided that private participation is important because it has some benefits, what is the type of scheme that could be put in place?

Privatization was one, but a very important scheme that has been used in the region lately was private-public participation, in which both the private sector and the public sector collaborate -- coordinate in the provision of public services.

So this chapter deals with how do we set the institutional arrangements so that we assure that all these regulations that we say are important to be in place so that the private sector participates in the provision of services, and also so that all the public investment that should be done in sectors that are not, you know, profitable for the private sector – and also so the public policy is applied, and it's in practice -- I mean in a practice. So that we don't deviate from the plans we have.

So this is the idea of this chapter. The idea of this chapter -- this is the structure of the chapter. We first have a section on the political economy of the infrastructure provision.

The idea, you will see, is that in practice there are pressures from the private sector. The public sector is not just one agent, there are various agents -- you know, the Congress, executive power, sub-national government, and many of these publications have an agenda which many times is not only to maximize public welfare.

So the idea is that there is some kind of policy game, and we want to understand first what are the reasons why we can have some kind of deviations in the results of policies, as a result of this policy game.

And then we want to deal with, which are the institutions that we have to set up so that we minimize those deviations from the, you know, the public policies that maximize welfare. That's the idea of the whole chapter.

So, as an introduction, as I said, we say that the public sector faces a lot of constraints in the management of infrastructure services.

As I said, there are -- the public sector is, you know, it’s constituted by many, many different organisms -- ministers, Congress, et cetera, but also enterprises and industries constitute interest groups that seek to influence public policy decisions, and, of course, get, through lobbying and other mechanisms, and many times, this policy influence may not result in the best policies in terms of public welfare. Of course consumers also try to influence public policy directly through consumer associations, or indirectly through supports for political candidates or for particular policies. As I said then, the net effect of all these factors not always results, you know, in the policies that maximize social welfare.

First, we need to understand better these policy games. So the first part here is about understanding these forces, and this is the political economy of (inaudible) provision, and here, we just have data from one paper which we found for -- the paper by Dreysen and Slavin done for Colombia in which they give an example on how public investment decisions on infrastructure could be motivated by factors that are not just related to maximizing public welfare. In this case the factor is the electoral cycle affecting investment decisions.

And here, on the left-hand side panel, we have data on investment spending in Colombia in infrastructure in election versus non-election years. And on the left-hand side we have the infrastructure sector; on the right-hand side we have government expenditure, not related to infrastructure.

So the idea is to show that in particular infrastructure investment is subject to this electoral cycle, because, you know, there is a huge body of literature on that. The idea is that infrastructure projects can give a signal about the capacity of the government.

So if the government in election time, in election year, wants to send a signal about its capacity as, you know, to manage public policies, many times it will announce some big infrastructure projects

And you will see that the data reflect that fact.

And the idea, of course, is that the demand for infrastructure is not related to electoral times, you know, it's related to the long-term trends, related to the growth of the economy, to the growth of population, etcetera. It's not related to the electoral cycle.

So if you will take decisions on infrastructure, you know, just say invest more in electoral years, you're not making the right kind of policy.

So that's the whole thing, to document that.

And, for example, in electoral years, infrastructure spending grows 42 percent compared to non-electoral years.

Okay. This is the thing. Now, of course, this type of evidence you will find for many other countries, not only developing countries, you find it for developed countries as well. There is another paper by (inaudible) 2006 in which they showed that electoral and lobbying types of activity were also important, not only for the allocation of public investment across time, meaning in election years you increase the expenditure, but also across space. And, of course, those regions in France that have more lobbying and more political power, showed that the allocation of public investment in those regions is much more significant.

So electoral considerations and lobby activity also have implications for the geographic distributions of investment in infrastructure.

And again, the idea is that the demand for public investment in infrastructure is not related, in principle, to those variables.

Okay. Now not only we have problems of deviation of public investment decisions with respect to, you know, to the optimal policy, but also public policy affecting regulation, and, of course, affecting then private sector decisions on investment.

And this is related to the problem of credibility in regulatory policy. The idea is that lobbying and electoral incentives may also disturb regulatory policy. On one hand, we say that public announcements about regulation issues, like tariffs for certain infrastructure services, etcetera, could not be credible. Why? Because governments face different incentives before the investments are done and after the investments are done.

So before an investment is done the government has incentives to announce, say, high prices of utilities, so that this will assure the private sector that it will, you know, recuperate the fixed investment costs and will allow them to run this -- the firms in a profitable way.

Of course, once the firms have made this huge investments in infrastructure, the government could have ex-post incentives to reduce the tariff that was previously announced to a level barely above the current operational cost.

So of course this way the firms -- of course, will not recuperate the fixed costs, but it will still be economically profitable to run the business.

And when they do that, the government, well, could maximize, say, consumer surplus -- which could be good for electoral reasons, et cetera.

We see many governments -- I will not give names so no one gets sort of -- we see a lot of governments implementing these kinds of opportunistic policies with regard to regulation issues in infrastructure.

But not only the public sector behaves opportunistically in terms of infrastructure services and regulation. The private sector also has different exant and ex-post incentives related to the infrastructure.

For example, the private sector could have incentives to offer in an auction very low prices for their services, you know, very high objectives in terms of service coverage, to win a concession.

And after they have won the concession, it could sort of renegade on some of those promises, renegotiate with some excuse with the government, you know, asking for higher prices for their services, asking for higher costs, whatever.

And, of course, the government may have to face that, and may agree to do that, because ex-post if the government says no -- says, we do not agree with that, the service could be cut and there will probably be problems with the services, people will get mad, etcetera, etcetera.

So there are reasons -- so that's why you also find incentives in the private sector to behave opportunistically.

And, of course, here is José Luis who he has been working a lot on these issues, and there is a lot of evidence on – how do you say it? -- on renegotiation of concessionary-- infrastructure services contracts, both motivated by the public sector's opportunistic behavior, but also by the private sector.

Now so this is a sort of diagnosis about why is it you may see that there are deviations from optimal policy both in public sector investment decisions, and also in regulation policy.

Now what could -- what could institutions set up to avoid those deviations?

First on the -- on that -- what institutions could help to soften political cycles and lobbies affecting public investment decisions? And here we have -- and in the chapter we have three cases which think are interesting.

First, the idea to promote investment planning on the public sector and also multi-year budgets. And here's the case -- the Brazil case -- sorry -- the Brazil case with the 2004 and 2007 multi-year plan, which incorporates some novel features, for example, a territorial approach on investment planning.

So the idea is -- the territorial approach is very good -- it's good because it could coordinate the investment of many sectors, infrastructure sectors, on the same land, on the same region, and take into account -- create the complementarity that you have among many services.

So this is a good -- this is why it’s good -- a territorial approach to planning.

Second, not only do you plan -- you incorporate the plan on public investment, but also the private investment that is also going to be made in that region. So, again, to maximize the complementarities between public and private investment.

And third in the Brazil case, you have the integration of planning information and those of the budget process. So many times the planning areas of a government make very nice plans about investment flows, etcetera, per sector and in terms of region, etcetera, but this does not correspond to the budgetary decisions and budgetary records.

So it’s very difficult to follow up with whether investments are being done, and which sector is investing in which area. So this is a thing that the Brazilian plan has, and it's a very good feature.

Okay. So now -- sorry. The second example to improve -- the second type of institution to improve public investment decisions is the national public investment system in Peru.

Here we have the Peruvian former minister of finance, so I’m a little bit afraid of saying things about Peru, but Peru has established this national proving -- national planning system for public investment, and the idea is that all public investment has to go through a very serious scheme of public evaluation, okay, ex ante evaluations.

And this was very good because it sort of implied a strong discipline on how to evaluate projects, which type of benefit to look at, how to measure costs, et cetera.

Now, the system has received some criticisms because it was said that it stopped, or it makes much longer all the planning, all the decisions making -- that all the time it takes for a project to be implemented.

Especially because regions in Peru that have a lot of funds because of the -- of royalties from oil and mining revenues, all of these regions have all this money for investment in infrastructure, and they had to wait many time -- a lot of time to implement them because this regime is very -- technically very demanding.

Now in Peru, they do it -- they sort of decentralized the system in a very nice way. So they allowed regions to have their own system of evaluation and to approve their own projects.

And also they -- sort of they send finance employees -- Minister of Finance people -- of employees to the regions to help the regions with this kind of evaluation system.

So this is -- was a nice example of how to make this kind of evaluation system work in practice.

Finally, a thing that I also -- is related with how to manage public investment, is the idea that, as I showed you before, many public investment decisions suffer from fiscal adjustment policies, in the sense that many countries of our region have taken up, or have approved, what you call fiscal rules that, you know, they demand certain objectives from the fiscal surplus.

So and these are very hard rules, and it's very nice that our countries have taken those.

Now many times because of when recession comes, the only way to maintain those objectives -- numbers -- for fiscal surplus is to cut public investment in infrastructure.

So in here what we -- in the discussion in this chapter -- so here I said fiscal rule as one of the reasons of the downward trend in public investment. Some people have documented that.

Now some people like Serven has a paper in which he says that it's not true that the cut in productive public investment helps to strengthen the fiscal solvency of a country. Why? Because if those public investments improve growth in the medium or long term that would, of course, imply future increases in tax revenues.

So while on the short -- you know, on the -- while you cut this investment, it gives you some liquidity gains in the short term, but it will -- you give you some costs in long-term solvency, because you will hurt growth in the long-term, and it will hurt future -- it will decrease future tax revenues.

So what are the alternative options or what we can do to try to moderate this sort of bias that fiscal adjustment has one infrastructure expenditure, public infrastructure expenditure?

Well, there are some sort of proposals like the Golden Rule. The Golden Rule is just saying, you know, don't -- when you have an adjustment, you know, investment is just savings -- public investment in infrastructure is savings.

So you take away all public investment from the objective surplus number. This is maybe too strange.

Another alternative is, as someone was saying here before, take away from the objective of -- or for the objective for a fiscal surplus the public investment involved in PPPs, in private-public partnerships.

Why? Because public investments in those kinds of projects have been -- have passed -- met the market tests, as Mauricio was saying. So if those public investments were done in the context of PPPs, they must have passed the market test, so those investments must have been profitable.

So what’s -- this is the second alternative.

The third alternative is to say, you have to go through a net worth approach, in the sense that if public investment, productive public investment, increases future revenues, on one hand, you may have some more debt, because the public sector is more indebted, but you have higher assets. So in net worth terms, you are not -- it's not true that the public sector is worse off ,because you have more debt, but you have more assets, and you have some productive assets.

So these are different alternatives that are discussed in the literature. I would say that a mid-point alternative could be to make an exception for productive public investment, especially those are evaluated through this national system of public infrastructure evaluation, and also those projects that have independent future projection of tax income.

So you take away from this objective fiscal surplus measures those investments in public infrastructure that not only have been evaluated correctly, but also they have projection of future tax revenues.

And these projections have been done by independent agencies.

The idea is that this assures that this investment will pay for itself. For example, Chile has this framework. Chile has this framework.

Okay. So these are -- sorry -- these are -- okay these are institutions to improve the management of public investment in infrastructure.

Now let's go to institutions that improve the regulation of the government.

Okay. First, one thing -- one important thing is the separation of functions. The idea is that -- as Jose Luis may -- say in his comment that you --

there is an argument for separating functions, on one hand, those related to strategic planning, identification of projects, and evaluation by (inaudible), which should be done by sectoral ministers.

Then there could be a sort of a phase in which -- a phase where the Planning Minister or the Finance Minister do kind of a coordination and filtering.

Third then you have a PPP agent, so a private-public -- public-private -- partnership agency that is in charge of attracting private sector investment, and decides on contracts.

Then there should be an independent regulatory agency that oversees compliance with what is in those contracts. So on one hand, you have separate agents that do separate things, and it's good to have the separation.

What is very important is to separate the planning -- identification project sort of phase, with those--the one that -- the agency that brings the private sector in and decides on contracts, to the agencies that are in charge of controlling the compliance with the contract.

This is very important.

Okay. Finally, if we want to have independent regulatory agencies, how do we define independent regulatory agency?

Well, there is on one hand the idea that there are certain basic characteristics that can strengthen their autonomy. Of course, one is organizational and budgetary independence, fixed-term of office for directors, adequate technical personnel, you know, et cetera.

But also it’s important that this agency has a transparent administrative procedures, because these agencies are not regulated by the electoral rules, so they are you know, beyond the electoral sort of discipline.

So how are they legitimized in front of the population, of the citizens? Well, they had to have transparency.

They have to be very transparent in terms of the -- all the projects they do. So they must be publicized, et cetera. And also it could be -there should be the possibility to judicial review and also some consumer type of defense.

Okay. So you see I have dealt with institutions to improve management of public investment, and then I dealt with institutions to improve regulatory governance. Both are necessary.

Finally, let me finish by saying that, as I said, the implementation of public policy in infrastructure faces a lot of constraints – of the electoral type, lobbies, et cetera. And there are rules and pressures -- and institutional mechanisms, that help to avoid these.

As I said, with regard to public investment, reinforce planning and assessment, capacity in public sector; implementing multi-year budgets, et cetera. Special consideration could be given to the budget for public investment associated with infrastructure.

Also with regard to the private sector participation in infrastructure, the public sector should improve planning and evaluation capacity. You know is important that even in those areas in infrastructure where the private sector would have a big -- a very important role, the public sector should have strength -- should have capacity to evaluate those, because many times those private PPP initiatives will have implied subsidies from the public sector.

So you need to legitimize them, again, in the face of that public who will pay for those subsidies, the idea that it is worthwhile to pay those subsidies. So that's why the public sector has to have independent capacity to the value of those projects, because, of course, the private sector will bring you an evaluation that will say that the project is profitable.

But then the public sector should have the capacity to-- or to bring their own opinion on that, and between this debate and dialogue is where you will find the (inaudible) if you want to be immediately. So that is why it's very important.

So to have a dynamic private sector participating in infrastructure, you have to have a strong public sector with the capacity to plan and evaluate projects.

There's no shortcut for improving infrastructure give it all away to the private sector. This is not the way. Okay.

Now -- okay, so finally, let me say that regional cooperation may strengthen also the national capacity of identifying, planning, and evaluating infrastructure investment.

I would say there are some initiatives for regional integration like IRSA and the -- also the Andean community in which they have gone beyond trade and helped to produce infrastructure projects to integrate physically the country.

And they have helped individual countries to strengthen planning and evaluation activities. This is it. Thank you very much.

(Applause.)

MR. CÁRDENAS: Thank you. May we now have the members of the panel to join me here, and Pablo as well? I'll just say a few words about the panelists.

Please join me.

Carolina Rentería she's now the Executive Director for Colombia at the World Bank, and up until about three months ago, she was the Director of the National Planning Department in Colombia.

The National Planning Department, by the way, is the government agency in charge of the investment budget of the country.

Claudio Loser is, as some of you probably know, is affiliated with the Inter-American Dialogue now, but was the Director of the Western Hemisphere Department at the IMF; and in that condition, participated in many of the negotiations between the IMF and the countries in the region, some of which touched on these issues of institutions and fiscal management of infrastructure.

And Jose Luis Guasch is a very well-known expert in this area; has been with the World Bank for many years, and he's now the Senior Regional Advisor on Regulation and Competition Practice. It's the leader of the PPP Global Expert Team at the World Bank, and he's now also as, I understand, a Professor of Economics at the University of California in San Diego. Great deal of experience on the topic and many, many publications from José Luis, some of which actually are an input to this report, and a person that it's undoubtedly one of the leading experts in the world on this subject.

So I think we have a great panel. I'm going to ask each one of the panelists to take about 10 minutes at maximum, and then we'll allow you to participate as well with your comments and questions.

So who wants to start or? I'll moderate, yes. I don't know if -- who wants to take the lead? I don't know what the order originally was. Is any preference? Do you want to start, Claudio?

MR. LOSER: I don't have a preference.

MR. CÁRDENAS: So then we'll do Carolina and then José Luis.

MR. LOSER: Okay. I don't know if -- I had sent in a PowerPoint presentation, but I guess it has disappeared.

So, as you know, PowerPoints are a replacement or a substitute for eloquence and now you'll see that they eloquence is not there.

But we'll live with that, anyway. But --

MR. CÁRDENAS: You need any help?

MR. LOSER: Nope. I think (off mike) (inaudible). Yep. Here it is. All right.

So you will not be subject to my eloquence fortunately for all of you. All right.

Of course, I had a number of brilliant remarks until I discovered that the brilliant remarks had been made before I spoke.

So I just want to -- I'll go over some of my slides very quickly, but the first thing I want to say is, I've been a commentator of the RED, Reporte de

Economia y Desarrollo for quite a while, and I have to say that this fifth study is really a very -- an excellent continuation.

And, for those of us who teach Latin American economics in different places, we have found that this is not only a tremendous asset in terms of the understanding of -- for Latin America, but it should be required reading in any decent course in Latin American economics, if you look at the various issues.

And I really believe that this is a tremendous contribution that CAF has been doing and this study is certainly a proof of that.

Now in terms of the importance of infrastructure, in my view, and I'm looking into the whole issue of a prosperous Latin America for the future in a study that we're working for CAF. And you have really that the three elements are: an inclusive society, a competitive economy, and an integrated continent.

And in the three cases, you really need to have a strong infrastructure, and, of course, this is a simplification of what has to be done. But certainly, this is one the major challenges that Latin America has ahead.

I won't go into the whole issue of Latin America and how it has been lagging unlike other regions, but I just like to show this a little -- a chart, which shows a base of 1995 per capita income.

This is per capita income on a PPP basis, but it's not as the private-public partnership type. But -- but it's purchasing power parity.

And what it shows is, of course, it shows developing Asia growing enormously, but the terrible story is, of course, it depends on where you make the point. If I'm sure if you were to make it in 2003, it would look slightly different, but basically Latin America lags the advanced economies and developing Asia, Central and Eastern Europe is I'm afraid an anomaly that reminds me of the times of the debt crisis of Latin America of the early '80s.

So I would not put that much emphasis on that. But this is tremendously important to understand where we are.

Now I will -- this is something I took from one of the studies that CAF prepared, and it shows how Latin America does in terms of the quality of infrastructure within the world. And it's sort of the -- sort of in the second half, and the interesting thing is, if you look at the studies of the ease of doing business in Latin America that is produced by the World Bank, the average -- this is for 181 countries, and I took the 2008 numbers -- the average -- this is a simple average for the sample -- for Latin America is sort of in the second half, and what you see is that there is a high correlation between the sort of ability to do business, and we can go into all sorts of other indicators.

And there are 10 different or 15 different types of indices that measure these things, but Latin America is sort of in -- not even in the middle. It's below the middle.

There are countries that have been doing well, and you have Chile, Mexico, Peru, Colombia that have been doing well, but the biggies have been doing that well unfortunately.

Now let me philosophize a little bit about the role of institutions. As I, in my distant youth, was part of the Washington consensus, and now I'm not in my youth, but I'm still viewed as part of the Washington consensus -- I'll leave that aside -- but the important thing is that there was a tremendous sort of an improvement in infrastructure. And I would say that the -- although it's arguable, the policies were very good, but there was no change in the institutions.

I'm not -- this is sort of a blanket statement, and we can go over a number of countries or a number of cases, and I think that the study shows this, but fundamentally, there was no construction of institutions beyond the individuals that were doing the policies. And this was a weakness that unfortunately was not viewed in time, and the whole issue of infrastructure was a serious problem.

Of course, now we have tended to forget that state ownership of infrastructure of all types in Latin America -- certainly, in my country, Argentina -- was a total disaster, and the privatization was seen as the solution.

And being the solution, people said, okay, we are going to sort of religiously go into privatization as a change of the institutional setup. But unfortunately what happened was that the number of privatization processes resulted in the capture of sectors by the private sector, private monopolies.

And I can think of a number of countries where the government increased tariffs in order to make attractive packages, and then the private sector took over, say, telephones in northern and southern countries in the region, and they captured the whole sector, not necessarily with the greatest degree of efficiency.

Other privatizations were directed to the private sector that was close to the government in place, and that, again, was a serious problem. Other privatizations were handled very poorly.

I mean the other -- the capturing by private monopolies and the giving companies to the friends in the line of the Russian monopolies, and that was followed very closely in Latin America, of course, was part of that.

But fundamentally, I would say that privatization tended to work well, but the reputational effect was catastrophic; was a disaster.

And I think that the study is very correct in its assessment. And I was really fascinated by the whole issue of the political cycles and how the political cycles destroy the continuity. And, of course, this happens in Latin America. It happens in developing -- it happens in developed countries.

And there is a need for long-term planning. I mean I'm just reiterating what has been said before.

And I think that the budgetary institutional process is important, and there has to be a need for support of -- support for these projects, and there has to be the capacity to punish, because the problem is that there is no clear punishment

Now I -- you've already heard about the cooperation between private and public sector. I won't go too much into this except to say that you need stable rules. And one of the serious, very serious problems that we have in Latin America is the lack of continuity in terms of rules.

The private sector, other than the pirate type of private sector, which is associated with the pirate public-sector, wants stable rules more than nice and soft rules, and this is exceedingly important.

And then there has to be also a guarantee against the state actions or government actions -- the sovereign takes actions that have to be -- that it has to take responsibility for in all these projects.

Now Pablo before has been talking about protecting the infrastructure from capture in a way from the private and the public sector. I also want to say that there are serious problems in terms of stakeholders.

You see stakeholder is seen as a positive item generally, but when we look at the stakeholders, they are really also actions, political actions, populist actions, to -- that effectively destroy the strength of infrastructure.

And the labor unions frequently -- and this is been the case certainly in my country -- I will not go into other countries at this point -- they have also under the notion that they have to protect the capacity and they have to protect the well-being of the people they basically take over and they frequently end up destroying the capacity of the companies to provide good services.

So just to finalize, of course, there is a need for adequate international cooperation, and this I think is enormously important as it is discussed in the paper. And also there is a need to recognize what the limitations are -- the capacity of the governments to finance, the need for private sector and for the international financial institutions. And the other thing is one cannot be ideological about these things. We -- I think good policies are part of a pragmatic approach, and not part of dogmatism.

And the other -- final thing is that one has to defend in some way equity. This is extremely important, but it has to be done through other mechanisms than pricing or destroying the infrastructure.

So fundamentally, I think that the report is great in general and in this particular area as well, but there is a long road ahead that needs to be paid, because there will be a lot of traffic in that.

MR. CÁRDENAS: Yeah.

MR. LOSER: Thank you very much.

MR. CÁRDENAS: Thank you, Claudio.

(Applause.)

MR. CÁRDENAS: Let me now turn to Carolina Rentería.

MS. RENTERÍA: Thank you. First I want to thank you for the invitation, and I have to say I agree that this is a very good report and for me it was a great pleasure to read chapter eight given my background. I was budget -- National Budget Director in Colombia for four years, from 2002 to 2006, and then I became the Director of the National Planning Department, which Mauricio Cárdenas was also the Director of National Planning Department in Colombia, which basically is like a ministry of planning that deals with the capital investment, with all the sectoral issues, the design of policies and the integration among the policies. And it has a very strong role in trying to coordinate the different entities, the different sectors, the different levels in government, because Colombia is a decentralized government with the national sector, departmental and municipalities, and very decentralized, which makes the coordination role very challenging.

So for me to read this chapter was a complete pleasure. It brought me back to old times, and I have to say that I tried to go away from just Colombian experience, but in this time, I'm going to talk about the Colombian experience as a whole in relation to the second part of the chapter, which deals with the institutions and how they work, should work, and what doesn't work.

Basically, the chapter provides a material and -- the clear message is we need to enforce planning, budgeting, and evaluation. I completely agree with it. I completely agree that many times we have the budgeting completely -- or not completely, but not as correlated with the planning as it should be. And many times good ideas just remain in the desks of the public officials, and they don't get executed.

And I would say that this paper could deal, or if you're going to still work on it, with two more things that I think are very needed and useful. One is execution. We can have budgeting, we can have planning, but at the end of the day is whether we are able to execute the project that we say we're going to build, and whether that execution is taking -- is done in a timely fashion, is done with the correct resources, and if the project is efficient and has good quality, which is measured by analyzing the results.

And also because the chapter deals a lot with public-private partnerships and how to work with public sector and private sector, I would say one thing, that we public officials and policymakers need to work much more is on selling the countries, on being able to sell what our products are, what our visions are, what our goals are, and trying to get the private sector, not only the national private sector, but private sectors from other parts of the world.

Capital is a scarce resource. Right now in this crisis, it's even more, and only those countries that have been able to show that they have the projects, but they are able to sell themselves in the market -- not only having good policies, not only having good macro, not only having a correct framework, but having a pool of projects.

Planeación Nacional is an institution 50-years old in Colombia. And basically it has had this role of coordination of projects. And I think Colombia is a good case study in order to see how institutionalities can really move forward processes.

And in the project you have -- in the paper you have different name -- Planeación Nacional is named many times. One is as the design of what is called the “agenda interna”, which was the definition of projects in infrastructure that regions wanted to do because or they wanted to become more competitive.

And it showed how it’s possible to do a planning approach from below to -- from the municipalities to the central government. It was quite a challenge, it took almost three years. But what was more important, it was owned by the municipalities, done in a technical way, and then it was included in the national plan for the years 2007- 2010, and then it became -- it started being put in the budget on a yearly base.

So here we see an example of how to deal issues of competitiveness going from the regions to the center, but being able to prioritize it at the central government.

It is very hard, and I shared Mauricio’s remembrances of being in Congress. I also had to be long hours in Congress trying to explain why things couldn't be made, if you are four years director of national budget and three years director of Planeación Nacional, you are Ms. No. You are always saying no, you can't. It's impossible. We don't have enough resources. We need to prioritize. We need to -- so it's important to have the institutions, but also it's important to be an active player in this process, to go to Congress, to try to explain, nobody will understand, they will never give you the reason, you are always the bad person, but you have to be engaged in the political process, because that's one of the ways, I think, the government has in order to try to prevent or to try to get better results.

Basically so there are different ways on how to engage with public-private decisions for projects. Colombia has built a very strong I think institution at this moment called national competitiveness policy, where we have public and private participation from all sectors trying to build a consensus agenda on what needs to be prioritized in terms of infrastructure.

And the paper deal -- has a chapter -- a box on the Camera Colombiana de la Infraestructura, which I think is-- I agree completely with assessment made, that it is completely private sector. The big players in terms of infrastructure are all members, and we work and negotiate, have a very open dialogue between the public and the private sector on what roads are needed, which ports should be expanded, what interventions in terms of airports -- all this infrastructures that are needed.

Obviously, they always say government never puts enough money, we always say we want the private sector to be more involved, but basically it's good to have a way in which public and private sector can work together.

In terms of planning and budgeting, Colombia has made very important changes, back from when Mauricio Cárdenas was Director of Plaeación Nacional and Minister of Transportation. We have a responsibility law. In 2003, it was enacted.

We made reforms to the budgetary system. In 2005, we introduce the multi-year budget system, medium-term expenditure framework.

Now ministries not only fight for their yearly budget, but they fight for four years of budget, which is good because you can really assess what are going to be the impacts of maintaining the infrastructure and also because if it's a very important, or if it's an infrastructure project, you never do it in one year. It always takes two, three, four years, and many times ministers just say just give me $100 million for one year, and that's it.

That's never it. It's 100 this year, 120 next year, and 80 the following.

So this has given Colombia like a system in which to -- these prioritizations.

And also there was a reform that in the investment project data set that Planeación Nacional has been managing for 40 years in order to have the regional impact of the projects, and how the execution of the projects are going. Because we need to move from plans and from projects in the offices to how the resources are being executed.

In terms of minimizing opportunistic behavior of the private sector, since the 1991 constitution Colombia has moved forward in terms of bringing the private sector into the execution of infrastructure. Back in 1994, there was a law for public services, and independent regulatory agencies were created for telecommunications, for energy, and for water.

I would say energy and telecommunications work very well. Water we have a lot of problems right now, and we have had in the last 15 years. And the strange thing, or the challenging thing is, there was no regulatory agency created for the transportation sector.

And basically one of the questions that nowadays flow in the Colombia environment is whether infrastructure in transport is lagging behind the other sectors may be because we didn't have the regulatory system placed back at the same time with the other sectors, and right now we don't have an independent regulatory system for the transportation sector.

It's very difficult. It's a very difficult decision and negotiation. We think government -- at this moment, the Ministry of Transportation has gained all the battles in order not to have an independent regulatory institution for the transport sector.

And we are lagging in terms of infrastructure investment.

So I would say Colombia it's a good example in terms of the regulatory framework.

And the fourth and last issue that I found interesting was IIRSA, the IIRSA is Iniciativa para la Integración de la Infraestructura Regional Suramericana. It's the South American infrastructure integration effort.

Being Director of Planeación Nacional I was president of IRSA in 2007. So it was very interesting to see the huge amount of information and data that all the countries of South America have in terms of investment projects in energy, in transport, and also I think it's a very good instrument, but very sub-utilized. It’s not given its whole potential. I think there’s a completely -- I made like Planeación Nacional was in charge of it. I didn't know it existed until I had to assume my duties as president.

So I went to talk to all the ministries -- the Ministry of Energy, the Ministry of Transportation, the Ministry of Telecommunications. None of them in Colombia knew about it.

So I think there’s a huge potential, because there's a mechanism in which the countries are saying I have the projects. There is an agenda of projects. They were built a long time ago, and I think that’s also an area where improvements can be made, because it’s very difficult to update the projects.

And infrastructure you have to update projects, if not, you will remain with projects from a long time, nobody paid attention back then, maybe nobody will pay attention right now, and the projects that are being done are not into this new agenda.

But I think there is a very good opportunity in that exercise of IRSA of having a Latin America strategy for infrastructure and for integration.

And basically, I hope you continue working in these areas, and I think it’s very important, and I think that as Claudio Loser said, institutions are very important, really are very important in order to be able to make plans become true and to make investments as effective and as better quality as possible. Thank you.

MR. CÁRDENAS: Thank you very much.

(Applause.)

MR. CÁRDENAS: And then last but not least José Luis Guasch.

MR. GUASCH: Again, thanks very much to the CAF and the Brookings Institution for hosting this event on an issue which is very dear to us, all of the multilateral and bilateral, and again, we are most eager again to support.

I try to sharpen my focus as much as I can. This chapter again is really excellently done, and it does hit the right points.

So, indeed, I'll strongly support it, and if anything they might go a bit further, but obviously there are limits to the work and what have you, but it does lay down the critical elements again that are needed for a good infrastructure program.

Let me take now a step back and give a little bit of a framework on some of the issues and concerns that I have on that issue.

Those of us that look at this issue of infrastructure, I mean what we have in mind ultimately is sector performance. Okay? It's got to be the coherence and improvement of sector performance in infrastructure, both in the short term and also in the long term (inaudible) dynamic issues that take into a place.

Again, and that is where the -- immediately the problem starts and ends. For that, you do need, again, some coherence and some institutionality and some implementation, and that sounds very good. But yet, unfortunately, Latin America it doesn't happen systemically.

And in -- from my own evaluation, there is not a single country that I would really, you know, really bless and say they are doing again this process in a systemic way from beginning to end along the lines that, you know, Pablo has mentioned in the way to go forward.

If you look from the ex ante what I call (inaudible) of the infrastructure for the ex post, which is the oversight, once the infrastructure has been awarded, and there is not again a single country that had a systemic process. And by systemic process, I mean a country that -- starts with the planning strategy of what infrastructure is needed, when and how, and then obviously constrained by the existing finance.

And that is where you need to have -- to spell out what will you do again and why with public funds like Obra Publica or what we will do with again with PPPs or variants of that one, or what would you do with Obra Publica yet, again, managed by the private sector or what have you.

This is a coherent strategy, and it has to come again strictly from the line ministries.

Once that is done, again, you need again this filtering because you don't want again this white elephant and what have you, and remember study after study illustrates that Latin America, even though they are spending very little in infrastructure, around the two percent with some exceptions -- Colombia is one of them and Chile is another – and (inaudible) for these four or five percent of -- as a percent of GDP -- what they spend, they spend badly. Okay?

So this famous two percent in terms of effectiveness is more like an equivalent of one or 1.2 percent.

And this part of this process of again not having -- not doing things consistently and quietly, so that is why you need again somehow this filtering and the instruments mostly led by the Ministry of Finance and the like, and you need these agencies, the PPP , and obviously the regulatory agency, which again is -- has three separate, independent oversight.

But which country has these structures and why they don't have it? You tell me. Chile, the example, fails at least in two obvious elements. It least doesn’t have the independent regulatory agency, particularly in transport, that one time where you mentioned it I think with you.

In Latin America, there are only two, maybe three, countries that have an independent or autonomous regulatory agency in transport.

The rest of them and, you know, you have asked for it, we have asked for it and there's no way of moving forward.

Even in Chile, with the new law they’re trying to set up this “superintendencia” of concessions. It was blocked by the private sector, and it’s not going to go anywhere. And it’s Chile.

And the only two countries is Peru and Bolivia, and there’s a third one that maybe how you (inaudible) evaluate. So this is a difficult issue.

The issue is, why is that happening? Why are we having systemic problems? Part of the problems of not having these structures are evidenced by increased timing and delay of projects, poorly designed concession contracts, or PPP contracts. Why is that happening?

I mean now we have, again, a blue sheet, blueprint of what we call best practice contract clauses or contract models, if you will, which are not being used systemically.

Why is it that there’s not enough capacity to move things forward faster? I mean it seems that, and some-- maybe you might blame the Minister of Finance, you might blame what you have you, but it’s always an issue of resources, which is, in my view, counterproductive, because quite often because you are not willing to allocate an extra $1 million to build capacity on these units, which I think in a design and the planning and implementation, you end up really spending, ex post, $20 million to $50 million in trying to correct some of the problems of design.

I mean that indeed is really a faulty process which interplays.

The same thing is with the oversight and regulation, and that I mean we have mentioned the issue (inaudible) and the like, and the evidence illustrates. When I first, you know, wrote the book on renegotiation it was in 2004, and now we are in 2009, but the same problems -- I mean I've been computing additional statistics and the evidence and incident of a negotiation remains. And, again, quite often at the expense of the damage of the users and the public sector.

Again, to me, the question that we need to posit is, why is it that knowing that what we know these countries are not more willing to systematize, stratify, the process of infrastructure planning, implementation, execution, and oversight.

We know how it should be done. Yet, as I mentioned, there’s not a single country in Latin America that I would say is doing it right.

Some have some aspects, you know, which are better. I mean I would say that probably the closest to being perfect is Peru probably. With some, again, you know, issues here and there and that way. And they could be improved significantly.

Yet, again, all complain, and they play the blame game, you know, I mean the financier blames the Minister of Linea . The Minister of Line of Linea blames Financier, or blames the regulation and so on. It's the blame game, which leads into the case that we have not enough infrastructure. Another point which sometimes is over -- not really well understood or misunderstood.

Again, we have seen that infrastructure spending, you know, has drop down significantly from the '70s when the private sector was done. When the private sector came in, the private sector retracted and the private sector, as they say, did not invest enough to make up for the gap, which is correct, but. And the but is -- and, again, I've been the first one to hit very hard into the private sector for opportunistic behavior. And I still do.

And again, and they are not pirates, and that -- I mean I'm really going against -- I would really argue that to the end. There are a few pirates, but many of them they are not pirates. They are businessmen.

If you give them an opportunity for making money, they will do it. You know? I mean that -- and this is what you and I should do and will do with money, and other (inaudible) type of institutionalization -- if you say that -- you give me a window that-- an opportunity to, again, to increase investment or to increase tariff, I will do it.

This is not piracy. This is the normal business of private sector.

These aren't altruistic concepts -- you know, a workable contract and honor it.

That's the problem that neither the government nor the private sector has been willing to consistently honor contracts, even in Peru. I mean that.

I mean in the recent -- there was a decree passed, I think maybe you were gone by then, and I had -- you know, they consulted with me this issue about how contracts issued should not be changed at least for a short period, maybe three to five years. Because for me, I mean, again, a contract is a contract, and you can really account for many of the issues in contingent clauses, on variations.

It's not that a contract should never be changed. No, a contract can say in the event that there is an earthquake, in the event there is really a landslide, in the event that there is this or that, then the contract will be adjusted.

So there is a number of the standard clauses which protect you as the investor for this type of events, which are difficult to predict and difficult to ensure against. That should be part of contract modification, but that is contract renegotiation. That's fine.

Yet, the arguments that the private sector tends to make is that, oh, like in the water sector, "Oh, you know, it just so happened that the quality of the assets underground was not as good as we thought it was", or "the geography or topology of the road was much more difficult" and so on.

My response to this is to say, this company-- I mean, they've been doing or they are doing that day after day all over the world. They, again, have been faced with these types of outcomes, again, not a hundred but a thousand times. They have good distribution (inaudible) to find – they do their due diligence, these things can be adjusted.

So if you tell me, “I want an open contract so that I can adjust for these things” that doesn't make any sense. Yet, that pressure really builds up, and recently Peru had to change and eliminate that clause that states that the contract, at least for five years you are not allowed to change-- to renegotiate the contract.

The contract can be changed if the contract stipulates it, and I’ve talked extensively with the FIN, which I don’t know they will principally agree with me. They say look, what you have to do is list the type of contingent events in the contract, and they are covered.

And we know what are the classic ones and the most impacted ones. Yet, that was -- anyway. This is part of the issue, and we have to understand that this is a complex matter, but there are issues which are business as usual. Fine. We can and should live with them.

My problem is that when I see systemic important problems which happen time and time again. And for this I blame the government in principle because they are the ones who have to lead the process and to put some order.

And the private sector needs to be adjusted. Again, quite often, things are really misunderstood on the issue of the ex post management and the renegotiation. I mean the government is really locked in into a sort of quasi-capture. Why? Because, again, they fear losing political capital and losing transaction costs.

A typical example, and again it happens for Mexico all the way to Argentina. A typical example was, you know, sorry to keep selecting Peru, but it has a beautiful set of good examples. When they were going to get awarded the concession for the airport, it was going to be a great success. I mean these guys were going to give you 47 percent of the gross revenues.

It was going to have Frankfort Airport and Bechtel. Wonderful deal. I mean what more could you have. Top operators and they give you 47 percent of gross revenues and so on.

Okay. Well, six months after the award, they began calling. The numbers do not match, and I helped. Anyway, that's a long story, and there's been a number of negotiations; right? That one.

Why didn't the government say, look, this is the contract you signed. You like it, no? Fine. There is a performance bond that you lose and then we re-auction it again.

Well, at the time, sure, it was the crown jewel concession of Peru. The government, you know, had made with "bombos and platillos" the announcement about it. Six months later, they say, no, we blew it for reason A or B. You lose political capital. These transaction or transition costs of moving from the current location to the new one and so on, and the private sector knows it. So obviously they test the government. They come to you and then if you open them a window, then obviously they come to it.

So I mean, again, that is -- there is the need to put some order and credibility, and what Pablo saying, that you need to have credibility on the part of regulation, on the part of the, again, oversight, and the part of contracts.

If not, again, these things are not renewing.

The bottom line and the question is, why is it that governments in Latin America are not really delivering in a systemic fashion the process and institutions to obtain the desired results?

And again, it is not that we don’t know how to do it. Again, you know, we can sit down and we can do it in a day, and they know it anyway, that it's just a matter of this lot of money which has been moving this sector; there are a lot of interests that might or might not like these things.

There are sometimes things that you want to be -- to do fast because of reasons A, B, or C. But at the end of the day, what happens is that you don't invest as well as you could, and quite often you don't invest as much as you should, and I think this latter part is beginning to be corrected in the sense that governments understand the critical need for that, and they are beginning to think about alternative complementary--like a number of countries now are thinking about creating infrastructure investment funds or infrastructure guarantee funds.

Peru is one of them. Brazil is another one. And even Colombia is thinking about these issues as well, which is fine. I just hope that-- there are ways to do these things right, and there are ways to do these things wrong.

So I do hope that these countries think hard, and again establish them in the proper fashion, which will be conducive to obtain all these benefits that infrastructure needs to have to deliver optimal results.

But again, coming back to the chapter, institutions do matter significantly, and yet need to be aligned with the objectives that all of us have.

And the chapter does a very good job on really pointing out in that direction. Thank you.

MR. CÁRDENAS: Thank you.

(Applause.)

MR. CÁRDENAS: Well, we're running out of time. I'm going to ask the audience if you have any pressing question for the panelists or for the lead presenter, is there anyone in the audience wanting to ask a question? So we'll have the Ambassador from Peru and then we'll get a couple questions here, but -- and four. That will be it. So we'll have four questions.

PERUVIAN AMBASSADOR: Well, thank you. There have been so many references to Peru that I feel a little bit forced to say a few things.

First of all, I think the report -- I have not seen the report, but the presentation has been very good, and I look forward to reading it.

It was mentioned that the issue of investment in infrastructure in particular is very complex. And indeed it's very complex.

We know what needs to be done. We know the institutions that have to be put in place. We know about all the requirements to make sure things work the way we would like them to work.

The question is why it's so difficult. And that's the political economy of the whole issue. And I think -- and especially -- well, the political cycle is one issue. But there are all -- it's a power game.

So the question is how do you counter that power game? And maybe institutions are one way out -- strong institutions.

But I think it’s as important as institutions are individuals and their capacity. I have heard these PPPs all along this morning. It sounds like a panacea, and it’s not, because if you don't have the capacity in the government to negotiate what is the sharing of risk, and the private sector is -- and they are highly specialized in that. It takes advantage of every window of opportunity and which is okay.

But the question is, is the government prepared to do that? Because at the end you may wind up with a public investment anyway, no matter what conditions you arrive at.

And I don't agree with the issue of separating these investments that pay for themselves out of the budget and the fiscal discipline. They have to be incorporated. If they are so good, well, they should be private in essence.

If they are self-financed and self-sustained, they should be private. What is preventing it from being private? But if they require government intervention, some form of guarantee whether it is financial, non-financial and so on, they have to be part of the planning, the fiscal planning.

So I have -- it sounds very easy a lot of things that we are saying, but I was asking earlier what -- we learn a lot in the process. We have learned for a number of years how costly it is to have private investment coming into infrastructure -- the crisis in Mexico with all these problems with private roads. We have learned a lot since then.

And Korea was mentioned this morning. We have learned much more than that. And Colombia is a precursor, because you have a very complicated set of principles to evaluate PPPs. We tried to adopt it in Peru and it was a nightmare, and really a nightmare.

It’s so complex that people accuse the government of trying to prevent investment from taking place.

I would like to ask a little bit perhaps from the Colombian, the two Colombians that we have here, what is your experience in that? And what would be your advice in that sense? How do you see the prospects of PPP in the future? And what is your main recommendation for that? Because I think that’s a way to go, but it’s not as easy as it sounds.

MR. CÁRDENAS: Thank you. Ricardo, then we’ll go to Teresa, and then you will be the last one. And please be short, because we’re losing the audience.

SPEAKER: Yeah. Something else which has been mentioned as a concern is about the state ownership by Claudio that being not well handled by the state, and privatization was the solution.

Colombia has been an example on that. We -- Colombia started selling the most inefficient entities of the government to private sector, but now having proven that those institutions have increased their incomes, and being more efficient, now they have turned into selling the efficient entities in order to provide financing for infrastructure.

So is there any kind of balance of what should be the ownership of government, and what should be the private ownership of those entities in order to provide proper financing for this infrastructure, taking to account that Latin America has a lack of money, a lack of income by the state, and they have to provide all kinds of financing and they have to be very -- they have to bring a lot of ideas in order to finance their budgets?

MR. CÁRDENAS: Thank you. Teresa.

SPEAKER: Given -- I mean I could talk about this for very long time --

MR. CÁRDENAS: Well.

SPEAKER: -- given that, you know, in -- I mean in FAD we did a lot of work in this area. I would just like to make two points.

First, I think that the worst response to the -- and I'm talking basically about the fiscal rules and how to modify the, you know, the fiscal rules -- I think response is a golden rule, because a golden rule is an incentive to approve any kind of project and no matter how, you know, poor it might be.

And there is-- nobody listens. But there are many other reasons why this is not a good system. Of course, in principle, we all agree that net worth changes should be the indicator preference. The problem is how to measure it.

The other point that I would like to stress is on public-private partnerships. I have not heard anybody mention the importance of transparency, and, you know, evaluation and publication of the fiscal risks involved in PPPs.

And I think this is a part of creating the right incentives for all parties involved to make a, you know, not only an accurate evaluation, but also publicize heavily the fiscal risks involved.

But again, on this, you know, we have written a lot and perhaps I can refer to those. Thank you.

MR. CÁRDENAS: Thank you very much. And then you?

SPEAKER: Yes, a very brief question. There's been some recognition on the panel of the need for more regional planning or integration. I wanted to you to kind of tease out -- have the panel tease out the I guess the opportunities and limitations of regional planning, specifically which sectors are best served or really require a regional approach to infrastructure planning? And then who should be the driver of this? Should it be ILSA? Should it be the IFIs? Should it be national donors like the MCC that take a multi-country or transnational approach to infrastructure?

And, you know, what's really the best you can hope for? Is the best that you can really hope for information sharing and best practices, or can you really move towards true regional projects?

MR. CÁRDENAS: Okay. Thank you very much.

Now let's go back to Pablo to give a few brief responses.

MR. SANGUINETTI: Just give a very few things. Let me go to this thing of budget rules, this is the most sort of provocative part of the report, and we already have -- hear a lot of complaints from former finance ministers, etcetera.

Of course, we are totally right that fiscal rules are very important, and we don't want to this -- we don't want investment -- infrastructure investment to be, you know, separated and, you know, and to imply through that kind of channel budgetary decisions.

So, but –so that's why we're -- totally agree on that. We are simply saying that maybe to assure stable financing for the things that are very inter-temporal, some kind of closer look at those in terms of, not only ex ante evaluation, but also this private sort of -- this independent expectation about future return, is good, at least if you want to cut those investments, you will cut them with much more information. And you make much rational decisions on which of those investments are you going to be, you know, sacrificing in a period of serious fiscal problems.

So we are not trying to here to make-- you know, a very -- suggests very bad fiscal decision. That's it.

MR. CÁRDENAS: Good. Any of the panelists -- Carolina, you may want to address the issue of Colombia then.

MS. RENTERÍA: Colombia. First I agree Colombia has a very complex institution for PPPs and for --

MR. GUASCH: For everything else.

MS. RENTERÍA: -for everything. I was going to say we are a country of -- and I don't know if Mauricio will agree with me -- but we are a country of lawyers and laws, and interpretation of the law and the contract. And, therefore, and it's completely right what you say.

When you compare the lawyers that the private sector has with the lawyers that the public sector has, that the ministries have, in order to design the contracts, negotiate the contracts, and then looking for contract compliance, there is a quite a big imbalance between public sector and private sector.

And that's an issue that we have to address. And I would say when we were asked why aren't we using the blueprint for good contracts? One we have to learn the blueprints of good contracts.

And that some homework that the countries need to do. They need to find out what the good contracts are. In Colombia, we have been trying. We have been working with the World Bank, IFC for our longest concession.

But now, when you go to the real world, you have all that has been done in the past, and there are reputational risks. I mean if governments tend to change contracts as in Colombia we tend to do, the players of the private sector know that there are good chances that contracts are going to be changed.

So you have to, I guess, continue trying to do the homework. And I think there's also one other explanation, besides power gain which and political cycle, and it's governments have no time.

If you tell a president that his road is going to be built in five years, because we have to start with the planning process, then you have to do all the contracts, then you have to open the bidding process, and then it will -- we don't -- either they change the minister or something happens.

So I think there's a real challenge between the time, the execution time, the need to show results, and the need to have good contracts-- And I really don't know how to improve in that area.

And in terms of integration, I think you need political will. I mean you need political power. You need presidents and you need ministers to really want to integrate the countries. There are sectors that are easier than others.

But I think multilateral agencies, international financial entities and agencies have a big role to play in this integration of infrastructure.

MR. CÁRDENAS: Thank you. Claudio, you may want to comment something on the fiscal rules and?

MR. LOSER: Well, the first thing I want to say is something about piracy. That it was not a general statement that there are all pirates on both sides. It's just that there are a few that are very well known.

Now in terms of the rules, first of all, I want to say the issue of transparency, which is mentioned in the report, is exceedingly important, and I agree with Teresa on that point; that you have to have rules that are clearly understood, not that they are easy to understand. We have to provide some employment to lawyers in every country.

But fundamentally, this I think is the most important one. And in terms of fiscal rules, I understand that the golden rule is a problem that you have to find a -- some type of solution where you find the adequate balance between the political needs of the presidents so you may have a lot of inaugurations of works -- so cutting ribbons and things like that. But you have to have a long-term -- you have to have a long-term view, but maintaining quality of projects.

And that is something that is very difficult to do from a political economy point of view.

Now just one more comment in terms of the balance between the private and the public sector and what is the sort of right mix.

Unfortunately, after many years of looking at these issues, I cannot come up with an easy rule, I mean because you can have a well-run public sector enterprises and so it doesn't mat -- really, the principle is to have well-run enterprises with accountability and transparency.

And what we have -- we have over the years come up with a sort of a shortcut saying private sector tends to be more efficient, and, therefore, it's better to go to the private sector.

But it is not always the case. And I -- of course, you can have private enterprises that are monopolies that are run extremely poorly and take advantage of the government; then you have others say, I think of CODELCO as -- the copper company of Chile, as one that even with many scandals has been much more efficient than many private sector enterprises.

So I don't think there is a golden rule. It's just a question of balance and understanding of what goes on, and the issue of transparency is crucial.

MR. CÁRDENAS: Thank you.

MR. LOSER: Although I like the private sector better in principle.

MR. CÁRDENAS: José Luis?

MR. GUASCH: Yeah. A couple of things I'll mention -- one on the fiscal rules. Yes, indeed it's an issue. Now fortunately, countries are beginning to respond more effectively on the way to manage contingent liability.

Only Chile was the one. Colombia has gotten to it. Peru is thinking, you know, in that direction -- the more systemic tie -- not only (inaudible) liabilities, but managing them, understanding that there should be a limit, a top, in terms of GDP and the like; understanding, you know, annual (inaudible) basically what have you.

That's something that, you know, thank God, has been moving forward. It's improving.

The second -- I mean I just -- the issue that concerns me and illustrates the problematic that somehow has been presented here, and one of the elements is what Carolina was saying.

Quite often I go and meet-- to discuss infrastructure and PPP, and I meet with a Finance Minister, or whatever, the Prime Minister, what have you. And I usually pose to him a simple question, and," you tell me how would you judge the success of an infrastructure or PPP project?"

And they'll give me the (inaudible) thing. He'll tell me, "oh, I want, you know, lower costs, I want everything done" That's impossible. Okay?

At the end, you have to say, what do you want? Really the number of projects being built within a year or within five years? The number of investments? Unit costs -- minimum unit cost? A minimum number of disputes? Increased sector coverage or what have you?

I mean that to me is a critical thing because tha-- understanding that nothing can be perfect here. You want one beautiful best practice project a year that will leave you satisfied? Well, that obviously is not going to work.

But you have to be realistic and understand that this is a complex matter and you will make mistakes. You should be able to know which mistakes are you willing to absorb. In the area of expediency, you might want to say, look, I need to build so many, you know, water connections, or so many electricity connections, or roads in three years.

That would imply shortcutting some of the process, a mix again of trying to gain some more efficiency, additional resources for capacity and the like, and then try to be coherent. But that's critical.

But seldom, again, you don't have that type of answer to be able to build into it.

MR. CÁRDENAS: Thank you. Well, we're going to wrap up with Herman Rios, who's the Director of Competitiveness for the closing remark. He's from the Andean Development Corporation.

I want to thank all of you, by the way, but.

MR. RIOS: (Off mike) Well, I just want to thank Brookings Institution for giving us the opportunity to share this report with you, and when we write these report, as I'm sure do the IADB and the World Bank, what we want to, is what Carolina mentioned that they -- the policymakers read the report, and if they find something useful, that they can shape up policies, sometimes, with some of the information that we generate in those reports.

That's the idea, and for us it's very important to do this kind of work. But I also think that there is a externality of doing this kind of report, and is how those reports also help our institutions to improve our interventions in the countries.

And I think that's a very important part of this work, and we see sometimes that research in our institutions is very separated from operations or policy. And I think that's a mistake.

In CAF, we are starting to do this more often -- using the knowledge that we generate in these reports to stir policy.

And I'm just going to give two examples that IRSA -- excuse me -- which what's mentioned, and this is an IADB-CAF, project where we try to have this database of projects, integration projects, and tried to build on what we have learned in the past being one of the main providers of infrastructure, and to put that to work in those kinds of projects.

And the other thing, we learned today that infrastructure has so many externalities; it has social externalities, competitiveness externalities, productivity externalities. And one thing we are starting to do, and I think this is something that multilaterals have to do more often, is to try to combine their interventions around single projects.

We've seen so many times roads, and dams, and electricity projects that are done without taking into account social, environmental issues seriously. And what I mean when I seriously, is without making other interventions to enhance the externalities of these projects.

And I'm just when to give one example. When we were discussing the Inter-Oceanicas in Peru, which was a big discussion-- to continue with the discussion on Peru-- one of the things we, you know-- and there was a big debate about the importance of this road-- one thing we really wanted to do was to introduce in the projects the social intervention along the road, helping communities, to introduce the competitiveness factors, identifying the sectors that would benefit from the road, and try to also help to develop the productivity there.

So to close that, I think we need to come up with more integral approaches in order to take more advantage of these externalities that infrastructure brings, and I think haven't done a very good job in the past, but moving forward I believe we will do this in a more efficient fashion.

Once again, I thank Mauricio personally for having -- this is part of the activities we have now that we have a partnership with Brookings, and we hope to come back again and continue to share our reports and research here. Thank you very much.

MR. CÁRDENAS: I thank you all for having joined us and having been so patient. Thank you very much.

(Applause.)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

/s/Carleton J. Anderson, III

Notary Public in and for the Commonwealth of Virginia
Commission No. 351998
Expires: November 30, 2012