This is a raw transcript of the Flagship Urban Solutions session on Investing in Cities of the World Cities Summit, held at Marina Bay Sands, Singapore, on 3 July 2012. The panel comprised:

- **John MACOMBER–** MODERATOR
  Professor, Harvard Business School

- **Edson APARECIDO**
  Secretary, Metropolitan Development for the State of São Paulo, Brazil

- **CHOO Chiau Beng**
  CEO, Keppel Corporation

- **Mark EBBINGHAUS**
  Global Head, Real Estate, Standard Chartered Bank

- **GOH Kok Huat**
  President, GIC Real Estate

- **Patrick PHILLIPS**
  CEO, Urban Land Institute

[Start of Transcript]

Prof Macomber: "Greetings everybody and thank you. Now I'm assuming that the room will totally fill up because this is the finance panel and finance is what actually makes the world go around, some of our points of view. So I'll make some framing remarks from up here, I'll talk about the purpose of the panel, I'll introduce our speakers and then we go ahead and get started, and I hope we'll be able to have a nice interchange with all of you as well as we proceed. So the big idea about this panel is investing in cities and thinking about reinventing and sustaining cities through public-private partnerships. In summary, as development opportunities shift from developed cities to developing cities, investment strategies need to take into consideration the changing dynamic of the population growth, burgeoning economies and business opportunities. The property business has also shifted its focus to economic, social and environmental sustainability issues with a long-run point of view, that's what we'll talk about today.

The intention of this session is to look at some of these new operating models to adopt in both developed and emerging markets, to explore the opportunities and challenges and the development of emerging cities. So it seems to me that in framing final former session before the wrap-up that we can look at the conference sort of flowing through. The conference has been about big questions, people talk about cities, are they good, how will they happen. Well, there's sort of a lot of what-ifs. This panel is kind of the how-to. This panel represents even though somebody don't want to talk about it, we're about money.

We're finance people and the money actually has to happen in order to accomplish a lot of the good things that we want to do. So perhaps this panel will have some answers and not just frame big questions. So we're trying to be a practical how-to, not so much talk about the picture as to how this will get accomplished. So on the one hand, I'm delighted to be asked to moderate this panel.

Now I am a real estate person. It wasn't said in my introduction but I'm also a member of the Urban Land Institute, I probably should put that up first, Patrick, sorry, and my research at Harvard Business School is problem-based. First problem, rapid urbanisation as we talked about over and over and over, billions of people moving to cities. The second problem, not enough resources, not enough clean water, not enough clean air and not enough place to put the garbage, never mind even talking about carbon. Third problem, with the exception of Singapore, governments are largely stuck. Governments can't figure out how to make the kind of investments that they, we all like to see them make. So to me, one conclusion is, the private sector has to be able to act. So my Harvard Business School class is about creating value in sustainable cities. It looks at urbanisation and infrastructure through the lens of finance and the lens of urban planning. It's very nice to have this group here. So part of the reason of the supply is because you can use the tools of real estate finance and real estate design at many scales. You can think about a single building, how do you design a hotel, what will be the cash flow. If you think about a district, how should a district flow, how do you invest. And if you think about a city, it's all cash flow, it's all concrete, it's all power, it's all water, it's all human behaviour, how do you tie that together? So those tools come together, those tools integrated. That's what real estate developers do. They synthesize, they integrate so we're trying to make this integrated panel. So I'm delighted to be asked to be here. I'm also concerned to be the moderator because I think each of our presenters should be a keynote on their own and it's my sad job to manage time. So you can see I have my little red teacher clock at the front of the table to try and accelerate the conversation. So I'll ask some opening question to each of our panellist, then we'll aggregate your questions using Pigeonhole and we'll try and have discussion back and forth that way. At the end, I'll ask each of our panellists to offer one crisp solution, one thing they've seen as a kind of wrap-up. And Mr Aperacido will be speaking in Portuguese so if you like to get a translation device then you can get that.

So from my left, also you left I guess, I'm pleased to introduce Mr Goh Kok Huat from GIC Real Estate Singapore. Those of you who are not from Singapore should realise that GIC is one of Singapore's very influential sovereign wealth funds, and GIC and its partners are known to the world for both being good capital investors and being smart. Mr Goh is the president of the Real Estate Unit of the Government of Singapore Investment Corporation (GIC). He joined GIC to teach and inspire a large property firm in New York where he's managing director of equity capital markets. Prior to that he was with the Ascendes Group where he held positions including Chief Operating Officer, CEO of Ascendes and GM. He managed the Ascendes Reit, a real estate investment trust and the CEO of Bangalore IT Park, which is close to my heart because I was in Karnataka, India last Friday so it happens that we have that Bangalore experience. Mr Goh also has experience in the military and is a graduate of the other Cambridge University , the old one, in Cambridge England where he read economics.

To his left, to your right, Mr Choo Chiau Beng, he's CEO of Keppel Corporation in Singapore and also Keppel Offshore Marine and Keppel Energy so Keppel is an industrial company with multiple activities including property, shipping and energy. Keppel is active all over the world with significant investments outside of Singapore including China, Brazil and Vietnam. Mr Choo was awarded the Colombian Plan Scholarship to study naval architecture in the University of Newcastle upon Tyne. So in the event you are curious about ship drags and why they have those bobs in the buoy of ships, you'll be able to ask him how that works. He also attended a programme for management development at Harvard Business School, which I'm in favour of and is a member of the Wharton Society of fellows at the University of Pennsylvania, which I guess we can probably accommodate in this context. Mr Choo's experience is very wide-ranging. He sits on Board of Directors of k1 Ventures Limited, he's a board member of Energy Studies Institute, a member of American Bureau of Shipping, the Chairman of Det Norske Veritas South East Asia Committee. He is a member of the American Bureau of Shipping's Southeast Asia Regional Committee, Special Committee on Mobile Offshore Drilling Units, National Productivity Group and part of the Singapore University of Technology and Design's Board of Trustees. So we're talking about a good illustration of how Singapore's private sector businesses have been very influential here and in the world beyond.

To this left in the centre, to you right, is Mr Patrick Phillips. Patrick is the Chief Executive Officer of the Urban Land Institute. Established in 1936, the Urban Land Institute is a global non-profit research and education organization, focusing of course initially on real estate but also in cities but now more and more on infrastructure, urban development and climate. The mission of ULI is to provide leadership and the responsible use of land and in creating and sustaining thriving communities worldwide. Mr Phillips has a career in the economic analysis of real estate and land use that spans more time than we need to about. Prior to taking the position as the top leader at ULI, he was President and CEO of ERA Associates, Economics Research Associates, which is part of AECOM. So we have a lot of economic expertise.

Further to his left, to you right, is His Excellency, Mr Edson Aparecido is from the state of São Paulo, Brazil and the Brazilian system has a federation at the national, state bodies and municipal bodies. The metropolitan area of Sao Paolo only has 21 million people in it, five times the size of Singapore. The state that Mr Aparecido is a secretary of has about 42 million people in the state and we're talking about beforehand and evidently there's also another large urban body in Brazil that's represented here and I'm supposed to mention that they are friends between Sao Paolo and Rio, but I'm sure you can draw up the amount on that. Now, Mr Aparedico's has a history in politics in the student movement. He worked in major campaigns for the democratisation of Brazil. Since 2011, he's been the Secretary of Metropolitan Development of the State of São Paulo and is responsible for articulating solutions with other state departments and to plan together with the municipalities in addressing major regional problems. They put together a super regional group to try and organize these things. As these problems are generally of high scale and complexity, municipalities can't do them on their own so they need they participation at a greater level. So many of their policies are to try to improve urban mobility, transport, sanitation, to combat floods, to treat waste, to work on housing and public safety, and to do actions that require coordinated, integrated efforts together. He'll be speaking in Portuguese.

And finally to my furthest left, to your right is Mark Ebbinghaus. Mark is the managing director and the Global Head of Real Estate for Standard Chartered Bank. Mark has many decades of experience in the real estate sector in which more than 15 years have been in equities research and investment banking. Prior to joining SCB, Mr Ebbinghaus was the Asia Head of Real Estate Lodging & Leisure for UBS spearheading the establishment and development of the real estate investment banking franchise. Before UBS, Mr Ebbinghaus spent five years at JLW Advisory (a former division of Jones Lang LaSalle) where he was Head of Strategic Investment Advice in Australia. He also holds an Economics degree from the University of Adelaide and a Masters degree in real estate and finance from the University of South Australia.

So it's interesting to me we have a debt player on our panel to accompany an equity player in the GIC sense and a principle in the capital sense and I imagine Mark is very good, if you want to answer questions about underwriting cast flow, credit, collateral and character. So with that I'll be happy to move into question and I have a few questions for each of our speakers and then we'll hear from you after that. So let me move over here and we'll start off with Mr Goh.

So Mr Goh, to start off I would like to ask a question about GIC in particular to the topic of our conversation about public private partnership in cities. So GIC has extensive experience investing outside of Singapore in projects and cities. It seems like the timeframe of the investment, the characteristics of the city must matter a lot. Can you tell us a little bit how GIC approaches its investments in cities?"

Mr Goh: "Yes, I think indeed time horizon and characteristics of the cities matter a lot. In GIC Real Estate, we approach our investment with a long-term horizon and that's primarily because the nature of our funds are long term and obviously as a manager of our client's funds, we look to harvest a long-term return and our mandates specifically is to harvest a long term return that is above global inflation. And so if you look at it from that perspective, for our investments around the world globally in real estate, we have gravitated towards major cities and also to cities that are on a growth trajectory. Part of the reason why we gravitate towards major cities is really that these cities would typically have a critical mass and with mass come depth of market, which is important if you think about value protection in the long term. And so given that returns are critical for investors like ourselves, it is important focus over time, not just on a mass but also on the growth trajectory, because that can typically lead to a virtual cycle of returns growth success of the city.

So that's how we typically look at it and as we look at that, therefore the things that we typically consider in addition to mass are really secondly the infrastructure in the city. That's typically quite important. With mass comes its own issues and one of those issues can often be congestion as well as overcrowding and if you do not have adequate infrastructure and to a large extent seamless infrastructure and planning over time, it can be an issue. So we always look at cities that have got a good infrastructure as well as a good system of continually upgrading their infrastructure. These are actually very critical for us because if we were to make our investment based on the long-term horizon, how they perform over time is important. And I think if one kind of thing about infrastructure, sometimes it need not be a zero sum game in the sense that if you look at a couple of examples around the world, one is this very bed that this property sits own, the Marina Bay. If you think about the value that the infrastructure that's been put in place, the value that it extracts must certainly far outweigh the direct value of the real estate around it. And all over the world, again and again we see examples of this where if you put certain infrastructure in place, it actually creates a lot more value for the city than one can ever imagine.

Another example is New York City and the island of Manhattan. If you think about it, the Central Park is a huge piece of real estate, very valuable, but as a park it provides that breathing space for that dense population and I think it adds so much to the city over the long term. And the most recent example in New York City is really the High Line, this huge railway track converted into a park and instantly you have the rejuvenation of an entire portion of that city, much more than the cost of putting in that infrastructure. The third thing that we look quite consciously whether these cities have transparent as well as good regulation. Again, in a lot of our business, this is a key differentiator for us. And last but not least, we looked at given that our time horizon is long-term, increasingly we look at sustainability. It is becoming an important issue and I think it is much more important if one's focus is large cities and in our case, that usually is the case. So in this respect from our perspective and all those direct commercial real estate, we begun, we have begun a programme over the last five years of making sure that they are sustainable in one way or another. We've started getting certification from various certification agencies in the sustainability of those real estates. So those are the kinds of things that we think about and we look as we think about investing in cities."

Prof Macomber: "Thank you very much, Mr Goh. So as I understand as we were talking about beforehand, GIC tends to invest equity but not as an active investor. They expect another principle to be carrying the programme. So from the point of view of where would investor capital and other people's capital, those kinds of frameworks, those kind of decisions matter a lot. Let's move on to Mr Chew at Keppel. Keppel does indeed invest as a principle and many times when you hear about Singapore broadly investing overseas, it might actually be done by Singapore-based investment company of which Keppel has done quite a bit.

So Mr Choo please tell us, it seems that Keppel has played a significant part to share Singapore's planning experience and bring Singapore's capital to urban development outside Singapore as well as of course shipping other interests and Keppel has notable projects in China and Brazil, for example. Can you shed some light on how Keppel has leverage some of these public private partnerships with these other nations to contribute to reinventing and sustaining cities?"

Mr Choo: "The trend is there that people are moving from the countryside to the city and today's channel urbanisation is 50 per cent compared to 80 per cent in more advanced countries like US. And we see that because of the pressure of the population on resources, sustainable development becomes a must, a necessity for China. Singapore has the experience of having a lot of people in a very small piece of land and over the years, the governments have agreed to do some projects together. I think the first project Singapore did with China is the Suzhou Industrial Park project where Singapore contributed all the expertise we have gathered over the years of developing industrial park and attracting foreign investments to develop an area, and Keppel was tasked to be the leader in this private consortium that will put up the money. The government put in the software, transfer the planning knowhow and the regulatory know-how and the management knowhow and this project has been very successful over the years and if you look at Suzhou Industrial Park today, it's very well developed and lived part of China.

Another project came about is this Tianjin project where the governments of China and Singapore have agreed to develop somewhere in China a place whereby it can be a model for sustainable development, commercially viable that it can be replicated in other parts of China. So this place was chosen was kind of nominated by the Chinese Government and Singapore's side agreed. So at the government level, the G2G project, at the commercial level, Keppel leads the Singapore consortium, which is a 50-50 partnership with the Chinese SOEs to put in the commercial capital to develop this part of China. It is situated near Tianjin and also near Beijing but it's in a part of Tianjin which was formerly a salt farm so was not used by inhabitants. So the challenge is of course the Chinese partner put in the resources to build in some of the infrastructures and the Singapore consortium was tasked to work with the Chinese to develop these project and it's over 30 square kilometers with the target population size over time also about 350,000 people. There will be rail links between this part of Tianjin with other parts of Tianjin like the city centre, the new industrial area called TEDA as well as the roads to the Beijing Airport. It's actually about one and a half hours by road to Beijing Airport.

So with the infrastructure and the growth of Tianjin, Tianjin area is growing at double digits over the last 10 years and even last year was double digits and because Tianjin is a centre whereby many foreign investors go there to have factories building products not for export but for the Chinese market. So you find people like Airbus, Toyota and so on who are there and who build products for the Chinese market. So this eco city was designed as a kind of suburb whereby people can live, people can play and to support this part and the Chinese party brought in effort. They put in their National Animation Centre adjoining this area so that there is area for people to work and by using principles of sustainable development like a proper land use, proper areas for clean areas, parks, more public transport, less cars and so on and reusing the water and having better environment like energy conservation and using alternative energy. So thru are many, many areas that we are working together with the Chinese partner to develop this. How do we make sure that ultimately we get the return?

I think the key really is that the land cost at entry point must be low enough so you don't have to carry a big burden of the land cost and ultimately whatever you put in infrastructure, the market must be willing to pay the price for. And parcels of land were parceled off and different MNCs attracted to go in there to jointly develop of the pieces and ultimately we think that over time this project will pay for itself. So in Brazil we do a different thing. In Brazil, we went in, there was a need many years ago, 12 years ago, for Brazil to have some capacity to build their own platforms for the offshore oil and gas both for exploration and production. We went there as a private entity working with our private partners in Brazil to lease his piece of old abandoned shipyard to redevelop into a rig building offshore yard and government of Rio state or customers-based (27:38) bring the key one as well as the Brazillian Government welcomed us wholeheartedly into that kind of project. So we build up the start-up and today, we delivered many platforms and many parts of the project and actually went to work. In fact, there is a renewed increase of programme because of discovery of very deep reservoirs of oil and gas. They called is the pre-salt area both offshore

Rio de Janeiro and offshore Sao Paolo state. And we see that the future is quite bright for the industry going there on that basis."

Prof Macomber: "Thank you. Can I ask you a short follow-up about the Tianjin experience and the Rio experience? I'd like to expand if you could on who you negotiate with. Are you invited in by a government-level entity or is it more that the project is available and you're working with private-sector partners to bring expertise and capital to bear?"

Mr Choo: "As I've said before, the Tianjin project is a G2G project so the two governments agreed and we were invited in by Beijing authorities so it's a G2G area. The Rio project is a private, totally private project. We went in there and we make in as a private investment, it has to pay for itself and it has to work."

Prof Macomber: "Thank you. Let me ask a little follow-up to that for Mr Philips who works with real estate firms all over the world and a lot of what the Urban Land Institute does is shared best practices both from the home country of developers and investors as well as in the source countries. And I know that there is something you're interested in is how there can be commonality, how there can be frameworks. So you look at this situation all over the world, some are successful; some are less successful with lots of challenges. I was wondering if you can talk about some of those challenges in particular some of the ways in which a trade association can help look at best practices which I presume have to do with benchmarking, clarity and transparency. Do those kinds of things matter in your experience?"

Mr Phillips: "Yeah, they do John and I'm happy to address them. ULI, the Urban Land Institute, does in fact catalogue best practices from around the world and we try to share information about what works and what doesn't and what mistakes are made, what lessons are learnt and we've been doing that for about 75 years. This whole topic though of public-private partnership is an area I was personally involved in for so many years heading ULI and as you put it John, clarity and transparency are fundamental components. Mr Goh mentioned it as well as Mr Choo. I think it goes hand in hand with some other characteristics of public private initiatives that are successful. In our experience, urban development really always is a public-private partnership at some level. It can be a simple matter of the public sector setting the ground rules and investing in infrastructure, the private sector coming in and marshaling the capital and the other resources required to implement projects, or it can be very complex with co-ownership or complex leases, or complicated capital tax, more often lately it's trending towards the latter.

But no matter what format of the public-private partnership, it ultimately comes down to some combination of three techniques. You can either use the partnership to reduce the capital cost of the project to the private sector partner, you can reduce the operating costs or you can reduce the risks. The land value is often the biggest variable and the most powerful variable in terms of making a project feasible. So often you see a land subsidy in effect of some sort that reduces the capital costs. There's also infrastructure cost sharing and alike. On the operating side, there's tax incentives or energy saving arrangements or other means to reduce the operating costs and therefore increase the net income of available to provide a return. But the third category, reduction of risks, is what's really related to clarity and transparency. I think that the reduction of risk has a dramatic impact on the development economics of the project.

By commanding a lower risk premium, the projects economics can support a higher-level capital and operating costs and can really close the gap much effectively. So when the public sector partner is clear and transparent in the structure that governs the project. It can have a powerful economic effect beneficially to the project. It's not about controlling the project or the controlling the relationship less. It's just establishing a set of well-understood rules that are consistently applied. Increasingly, we are seeing structures that set a project initiative from the public side somewhat apart from the government and that's an attempt to insulate the project from the short term political cycle which can inevitably affect the project otherwise and to establish continuity over a longer period that's much more in keeping in the capital and time intensive nature of development. So yeah, clarity and transparency are important in these kinds of things. So is leadership and I can come back to that leader in response to a question that I expect you'll ask, John."

Prof Macomber: "Thank you. Actually, I want to ask you a different follow-up, if I could Patrick. You started earlier on saying there's more and more complexity in the capital stack or the layer of investors (inaudible) investor and bond holders and banking and all that and then you went on the talk about risks. And the session before this was about resilient cities and resilient cities don't just talk about risk in terms of stock (inaudible) the way somebody would in the capital asset pricing model but real risks, like floods and postulants and things like that. Do you see the players in the capital stack accepting returns because somehow they negotiate different ways to absorb some of those risks?"

Mr Phillips: "Yes, I think that we see in the different rates of return and the various sources of capital are requiring. So there are ways of either establish a preferred position or some other way to insulate yourself from certain kinds of risks. The physical risks that you mentioned in terms of climate change related risks or catastrophes related to earthquakes or similar kinds of disaster are more challenging. When I think about resilience and resilient projects, resilient cities, I think about the ability to withstand shifts in the economy and the emergence of new technologies that can render more rigid development patterns obsolete. So I think about things like infrastructure patterns that can accommodate a change in development markets over time so that uses can shift and projects can be more nimble and more adaptive."

Prof Macomber: "Right, thank you. We move on to Mr Aparecido. Of course here we see a lifetime public servant spent his career working on how do you improve the lives of people and there are 41 million under his watch right now. Mr Aparesido, Brazil is a rapidly growing large democracy with limited resources for public works. Can you tell us some of the governance challenges in a large country like this that has federal and state and municipal roles? Could you talk about some of the ways that you've got to encourage private investment in public infrastructure in this context?"

Mr Aparecido (interpreter): "Thank you very much. Brazil is a federation of 27 states with more 5500 district, a country that has gone from rural. The state of Sao Paolo is 12th economy in the world. We have a network of cities. The urban where, work and live 31 million inhabitants of the state of Sao Paolo. In this region, 96 per cent of the population lives in the urban areas and 80 per cent live in metropolitan regions. So two of our great challenges, we have to re-qualify the urban territory and 'dynamise' the territory a bit and also invest strongly in infrastructure. We have $60 billion invested in four years until 2015 and this investment will give us, will allow us to change the way people move around from individual transport to public transport. We deal with 10,000 million passengers everyday and there is a commitment by Sao Paolo to reduce the carbon dioxide emissions to 15000 tons, this is an extremely important decision.

The second investment in terms of infrastructure relates to sanitation so we can give these regions treatment of water and treatment of sewage and treatment of solid waste. And finally in terms of logistics in region we have three of the largest airports in Latin America. One of them is a fundamental air logistic of all this region that needs to be adequate to the challenge that it faces. If we depended only on the private sector to face this challenge, we won't be able to provide solutions for these issues. Therefore, the Sao Paolo Government is looking for the partnership between the public and the private, a growth in terms of investment $20 million. To improve logistics and transport, we have an experience in terms of in the health department. The first decision in the direction of giving up this metropolitan areas competitively, to fight poverty, enhance the educational infrastructures, we will invest around one and a half million.

So it is fundamental that we give this territory requalification and a dynamism development. The second question and this something innovative in terms of the structure, administrative structure in the country of Brazil is to create a new planning instrument that will enable us to plan all these actions between the state and all the districts. In Brazil, 62 per cent of taxes are concentrated on the federal government, 23 per cent on the state and around 12-13 per cent on the district level. Most of the service, public are responsibility of the district. So there is a structure of administration and planning that needs to be articulated and to face this great challenges at a different scale. These two questions are critical in the sense of we being able to prepare this state for a better quality of life. If we adopt, without adopting partnership between the public and the private sector, we will not be able to achieve, these challenges will never be able to be competitive enough to achieve a sustainability. We are now creating a huge social environmental programme where 6500 families are being moved from forest areas and into other regions and there is a great investment in infrastructure in housing and the question of governance which is a new question, all the powers need to be articulated."

Prof Macomber: "Thank you. Can I ask you a follow up please, Mr Aparesido? With respect to private investment, I'm curious about whether your emphasis is on private investors in the actual infrastructure like a road or a water plant or if the emphasis is on getting investors to come to do business that create jobs like when Keppel came and invested in the shipbuilding plans. So the question is whether you like private sector to come and do their business or whether you like private sector come and invest on the elements of infrastructure?"

Mr Aparecido (interpreter): "In my opinion, the state must play a main role in building the policies of development to regulate the relationship between the public and the private sector. The policy of companies, toll for the road. In the area of sewage, the same situation is observed, to have a challenge. By 2020, we need to have good water and also treat sewage.

The private initiative builds the infrastructure and receives the subsidies from the state and from population in order to sustain this development. In terms of, this is a serious problem. Waste is a responsibility of the district. The state is one that has the power to invest, housing sewage are, more international loans. We have the participation of Chinese companies, Singaporean companies, Spanish companies, America and from all other parts of the world that have businesses in Brazil, in Sao Paolo in particular and they introduced private resources and they invest in the public domain."

Prof Macomber: "Thank you. I'd to go a little bit out of order, Mark, and come back and ask Mr Choo a question. There's discussion of foreign investors investing in the infrastructure projects, road, bridges or investing in the businesses, shipbuilding and things like that. Is Keppel interested in investing in this long view infrastructure type projects or have you found it to be more beneficial to invest in the local businesses?"

Mr Choo: "We concentrate on investing in the business we know. We do not know the business of roads and bridges and we are interested in our offshore marine business, that's what we do, developing properties for lease or for sale. These are things that we know how to do."

Prof Macomber: "Thank you. And I segue to Mark, the banker, isn't it nice to hear a credit saying I don't want to invest in something I don't know. There are plenty people out there trying to be financial engineers and taking over some new need kind of thing. So perhaps you can tell us, Mark, from your long history in credit all over the world, cities are agglomeration of people and productivity and innovation and enterprise. What can emerging cities learn from successful approaches of other city governors and investors to harness this potential, to create markets and attract investment? What do they need to do to have people like you want to underrate them and generate capital investment and growth?"

Mr Ebbinghaus: "The banker is the lucky last, okay. Let me provide a bit of context."

Prof Macomber: "Well, you get first priority in the capital sack for both cash flow waterfall in the event of liquidation."

Mr Ebbinghaus: "Let me just frame the discussion a little and put a little bit of background so we have some context and I'll sort of get to the heart of the question a bit. I think, I see these interactions of government and public and private sector sort of one issue, I just sort of want to put background to and secondly, some of the differences of the business models between emerging city, emerging market cities and more mature market cities. I think in the former, the interactions between the government, the public and the private sector, I will always sort of look at it in two ways. The first way is really looking at the playing field and there are just so many different influences on the playing field. It's really the interaction of government, the developer and the investor so setting the rules and framing that from the government side, the developer in creating the product and the investor ultimately, they have to write a cheque when the developers sort of finish.

I think the second thing is really when government and when those participants actually participate in commerce together. So if the first framework is not right, it kind of require a lot more emphasis in different areas in the second. So in a, from a government point of view, getting the regulations right so developers and investors can actively participate in a world where we have massive financial turmoil, macro global influences, money market influence and the like, it's absolutely critical. And I think in that context, we have, emerging markets tend to have a cleaner slate to work with. They tend to be growth markets and have an opportunity to use best practice whereas in more, the more mature markets, I think there is typically excessive red tape and excessive history which creates lots of issues in creating that playing field that operates functionally, through the business cycle. I think the second issue in terms of that I sort to just sort of put by way of background is the different models in emerging sort of cities and more mature markets. When you think about it in terms of risk and returns, conventionally people think of risk and return that if there's high risk, you require a high level of return.

So in a mature market, with mature market assets, generally investors are willing to take a lower level of return for the relatively lower level of risks. The converse is true in the emerging market where a higher level of return is required for a given level of risk, ultimately, a high level of risk given the nature of emerging markets. In a mature market, it's not such an issue to the extent that lower return is required so people can accept it in the yield because it's not expecting high growth. In an emerging market, typically investors expect higher growth, the problem is in emerging market, which is high growth, there's always competition from investors seeking their growth so they drive the yields down. Now in a bull market that is fine because there's plenty of money around chasing growth assets. But in a turbulent market, it's very difficult for people to accept a lower level of yield and (inaudible) on growth. So there are a number of influences that sort of out at play there and the global macro atmosphere and the capital markets are sort of critical in sort of all of this. So I think it's much, much more difficult getting it ride in one way in an emerging market because of the low yield requirement and so much money chasing asset pricing down. We've got few investible assets as opposed to mature market where there many more investible assets, the growth is actually quite low."

Prof Macomber: "I'm using Pigeonhole to categorise some of your questions from the audience. So please feel free to send them back up to me. There are a number on going deeper on definitions of public-private partnerships, partly definitions, partly examples so I used the academic fact that I have the microphone I guess to give some framework. I'll ask the panel first for examples of successful PPPs. (inaudible) around the world, a lot of people talk about public-private partnerships. Most of the talks are either governments with no money or vendors trying to sell something in my view. The sweet part is in between when you have a need and something that matches. An ultimately the PPP success in the broad framing comes down to repayment. It works if you get repaid. If there's not a tariff that repays for example in airport or in power plant, then there are two other Ts that we Usha Rao-Manori talked about on Saturday in the Mayor's Conference.

You can repay the public--private partnership to tariffs or to taxes or to transfers. Those are really the three ways you can pay for these kinds of things. We may have some best practices in that regard. The last piece that I've seen is that conceptually a PPP is really simple if you can presume four things. If you could presume the source of repayment, if you can presume competence on all sides, if you could presume good intent on both sides, then you can go a long way. You can't always presume any of those things around the repayment stream competence is good intent and that's where things it gets interesting in the PPP phase. So with that pure academic alliterative heavy thought, Patrick let me turn to you. A question came up saying ULI is a global leader in responsible use of land through encouraging both public and private sector. Can you share a few best practices of successful PPPs?"

Mr Phillips: "Sure, I think that the most effective PPPs that I have seen have a clear economic rational and I think that needs to be distinguished from a clear real estate development rationale. They are two different things and this speaks to the public sector underwriting of the deal. Understanding clearly the objectives from an economic development standpoint that the public sector is bringing to the project is critical and too often we have seen public-private partnerships that simply predicated on a real development project and don't really have an underlying link to the public sector's economic development strategy. The project that we are sitting in I think is a good examples of a project that has a clear economic rational. The Government of Singapore had a fundamental strategic objective with respect to economic diversification and attracting visitors from outside the region who would grow the economic base of Singapore and therefore execute it in this particular fashion. That's not always the case and it's particularly true in our experience in the United States where local governments are very fragmented and they compete with one another to recruit development. It's important to recruit development because that drives property tax receipts up and the local government level and so you get jurisdictions next door to each other competing for the new retail centre or the new office, park or whatever it might be.

Those are simply real estate projects and they don't really an objective towards growing the economy of the region and there's a lot of reasons that governments do that. But the most successful projects that we've seen grow the economic base. One quick example and this yet to be realised but it's in the early stages and that's in New York City. I'm fond of saying that when we think about the public and private partners, it's often effective when the roles are slightly reversed. That is the public sector has a return on investment (ROI), bottom line orientation and a sense of urgency and the private side has a long-term view and a sense of what's create durable value. It's a bit of the twist but I like to think that New York City under Mayor Bloomberg has that kind of businesslike neat term sense of urgency orientation. So they entered into a public-private partnership recently to create a new science and technical university on publicly owned land within the city of New York and they invited about 17 teams to participate in the negotiations and the bidding and they find a selected consortium of Technion Institute from Israel and Cornell University to do this. This was important because it advanced a particular strategic objective of the city of New York to develop its brainpower businesses to compliment its traditional strengths in publishing and finance and the like. And it outlined a very clear programme, very clear set of expectations to the private bidders and then let the market do the work to come up with the best solutions. So those are the kinds of things that we're seeing in terms of best practices, John."

Prof Macomber: "Thank you. I'd like to ask Mr Goh to follow up on that a little bit. In two regards, both in terms of creating value because you've talked about not just in real estate but creating value, but the questions are kind of abstract. One is around following up the Singapore experience or the New York experience where you have very strong transparent visible capable leadership. The second is also reflection of New York, Singapore and some other cities around density, around compactness and even though you weren't necessarily principles in project, I'm sure that somewhere in your system, you're underwriting the risk and your perception of some measure of leadership. I don't know if you have a scale that way and also some level of compactness and density, how value be created. Can you share some comments about how you think about that in an investment context?"

Mr Goh: "Yes, the way we would think about it is what is current and what is the best guess as to what will be the outcome on ongoing basis. So as Patrick has mentioned and some of the other speakers have mentioned, the leadership dimension is important. Unfortunately, most cities leadership of the cities and of the state changes from time to time. So that aspect is extremely difficult to predict but nevertheless we look at track record as a backward looking indicator as to what one could sort of therefore think about as future outcomes. So we do look at those and those are extremely important and I think in the era moving ahead regulatory risk is probably one of the larger risks for real estate investments that tends to be chunky and that tends to be long-term.

Having said that, while we think of things in those manner, again in any investment of this nature, it is a confluence of different factors and so the question therefore is if you have some of those risks, are you then adequately compensated in the other areas and this is where it's important. So there other areas will be is there a high enough density, is business environment, the rules pertaining to business favourable, is the infrastructure good. And at the end of the day, the question really I think is what the governments want to achieve if they want a thriving city, a growing city. Then the game in my view is to make sure that the environment is as easy as possible for investors, for businesses to come do business and to invest in the city be it real estate or anything else because that would then allow investors to prize it with the least risk premium which ultimately will be good for the city. And for investors really we would rather not deal with all the kinds of risks that the rest of the panel has talked about."

Prof Macomber: "I'm really interested in your comment about what the governments want to achieve and it follows on the earlier session about smart cities where there are questions about integration and (inaudible) solution integrated all the way from the giant's legacy mainframe to everybody's (inaudible) to somebody's estimate system and the response was what are you trying to do with the problem. And this question about what governments want to achieve is quite interesting to think about in our context because they may want to achieve long term growth, they may want to clean up one area of the city, they might really have to get clean water to people first. There are a number of things, they might have to get reelected, they might not and this issue of thinking about what's trying to be accomplished is quite a nice way for people like us to emerge and not just think about tools but to think about where we actually trying to go. That also leads pretty well, Patrick, to what you mentioned before. Now I'm going to out a twist on the leadership kind of question. It's pretty easy for people like us to wring our hands and to say all we need is better leadership, crisis of leadership. I'm an American, we are not necessarily go there, but to me it also seems the business leaders sometimes can provide longer term, longer view, a direction and leadership and I'm not sure if that's what you're going to talk about, Patrick, but you asked me to ask you about leadership so go ahead."

Mr Phillips: "Oh, that is the point. I think that the traditional kind of view is that the government takes the long view, the big picture view and private side of the deal is much more bottom line focused and short term in their thinking. But again if you look at the successful public-private partnerships around the world, you get these roles slightly reversed. And you mentioned in passing a moment ago, John, that one objective of the public sector might be re-elected and that can really be an important driver in public-private partnerships. Mayors like to cut ribbon before the term ends and real estate is a long term proposition, real estate development. So I do think that we need to kind of continue the call for effective leadership in public-private partnerships.

One area that we've seen that is interesting is the emergence of a third leg. We have the public sector and the private sector represented by the investors and developers. Increasingly, we're seeing major what we're calling anchor institutions in cities play an important role in leadership. Most prominently this includes universities. These kinds of institution are deeply rooted in these cities, they are not going anywhere, they're thinking long-term, they are international increasingly in their perspective so they are not as parochial as some of the traditional business leadership and often times we're seeing really effective kind of three party leaders emerge – private sector business leaders, the government and the institutional leaders working together to advance these kinds of projects."

Prof Macomber: "So Mr Choo, can I ask you a follow-up about this sort of third way because I see that you are the non-resident, Singapore's non-resident Ambassador to Brazil. That sounds to me like it's potentially neither business nor government kind of leadership role. Am I to understand this correctly? What are your key performance indicators in your job as non-resident Ambassador to Brazil?"

Mr Choo: "Singapore is a small country and we don't have embassies all over the world so we have system whereby government appoints business people and prominent academicians or professionals to be ambassadors, non-resident ambassadors in different countries. And they called upon me to do it in Brazil because we have a presence there and I go to Brazil regularly even though Brazil is quite far away from Singapore. We spent virtually I think 25, 30 hours to get there and the way I look at it as a role of non-ambassador to Brazil I think the key is to foster the relationship between the people level, business level and the government level. And I think that is a reason why I think over the many years, I think Brazil and Singapore has, the relationship has strengthened in many ways because of mutual need and mutual interests and we see that going forward that role doesn't conflict with my role in Keppel because in Keppel we are creating jobs in Brazil. We employ something like 6000 Brazilians in our shipyards and we see that going forward Brazil benefit also from the relationship with Singapore and Singapore benefits from the relationship with the Brazil. I think we are the biggest, I think Brazil provides us with the biggest share of our frozen chicken imports, for example. It's very far away but they provide competitive meat imports for Singapore and I think that's how the Singapore Government kind of functions in this respect."

Prof Macomber: "I think most of your work in real estate, is that correct?"

Mr Choo: "I think when I'm to go there as official representative for Singapore, I'll go to Sao Paolo because Singapore Airlines flies to Sao Paolo and then I'll go Brasilia, I'll go Rio, I'll to Curitiba or other capitals."

Prof Macomber: "So let me ask Mr Aparesido to make a comment about the best ways to work together with a non-resident Ambassador, with someone like Mr Choo who is from Singapore. What are the ways in which the Singapore lessons and models can be brought to help the people of a huge state like Sao Paolo?"

Mr Aparecido: "The experiences are interesting. There is a process of urbanisation and cleaning the rivers and the area of the residency and housing which is similar to the challenges that we face in Sao Paolo. Investors and ambassadors Mr Goh should invest in Brazil and then in Sao Paolo because initially the return in business in Brazil is extremely positive. Secondly, Brazil and Sao Paolo has a scale. The numbers that we have commented here and in the same way that has meant, we had a Brazilian economy that's extremely stable at the moment. We have a (inaudible) and a law system that provides extreme security for investors both external and internal for investments and finally, we have a government that had elections four years that's still creating instrument in the state in order for these strategic investments in terms of volume and the time and that they will not suffer to ensure they won't suffer any type of discontinuity. This is fundamental and attracts these external investors. The scenario that we have today mainly in Sao Paolo is extremely positive in terms of economy, safety and in terms of the return that investors may obtain. In the same way, the business is also established in a way in Brazil. Sao Paolo is one of the main exporters of planes for example. We have aeronautical industry that is extremely competitive and we have, the most important point is that we created governmental tools, planning, strategic planning that do not suffer discontinuity throughout the time and that's why attracts investors to our country."

Prof Macomber: "Thank you. So that ties very much in what Mr Goh said about leadership as well. Now Mr Choo it sounds like you're missing an opportunity because from Brazil you're buying frozen chickens, you could be buying entire airplanes, that might be something else to work on."

Mr Choo: "Actually, the Brazilian aircraft manufacturer, Embraer, has set up a centre in Singapore where they train crews and people for the aircraft and in fact they are setting up a manufacturing centre in China too."

Prof Macomber: "Excellent, thank you. I want to comment on one more of the Pigeonhole questions and I will take questions from the floor. Evidently, there is some technology-averse people in that also you can tell the hot air centre has come on and they are moving a lot of cold air in the room. One of the questions is sort of around definition and frameworks in PPPs, in public-private partnerships and I'll give an academic answer to that then we can start taking questions from the floor. One of them is that an infrastructure kind of project, there are multiple ways to think about, who performs what in the PPP, ranging from a purely privatized thing like an entire electrical power plant or all the capital spending by the private operator, or the operating cost by the private operator and all the tariff risk that borne by the private operator. You can also imagine a situation maybe in the water system where the capital cost initially is done by the government because it's hard to repay in water but the private operator might take the tariff responsibility in the operating cost responsibility. You can also imagine in water or roads a situation where the government as the initial capital investment, government does the ongoing maintenance investment, the government takes the tariff risks but they hire a privatiser for operating points of view to run the tolls, to run the water system, also a common way to do PPP. And the last one is to hire a privatizer just for the administrative piece. So the government might know the assets, the government might take the tariff risks and the assets but the government might say let's outsource all the billing, all the collections, all those kinds of things. So I find it very useful to think about that framework rather than just talk about a generic thing like the private (inaudible) asset.

And the second then we'll take questions from the floors is around the identification allocation of risks. So in PPP projects there's often a project level risk and there's also a country level risk which might be the markets or exchanges rates or something like that. Some of these risks can be controlled, some of them you cannot control. So people in the classic sense will go out and argue about each of those. So project risk that can be controlled is something like construction cost. So that contractually may be borne people by the privatizer. A country risk that cannot be controlled is something like foreign exchange rate so either somebody hedges that or the privatiser bears it or they set off the government. So you can think of the different levels of assets to be privatized in that kind of bucket. You can also think of risks as a two-by-two, as a project risk, country risk, what can I control, what can I not control and you can walk through and hedge each of those. But we didn't come here for an academic talk about those things. So I think I've answered the question from Pigeonhole but are there questions from the floor? So I'd like you to walk to the microphone, tell us who you are and ask your question. It's in the back of the row there and I'm sure if we about the American elections we can get everybody to queue by the microphone to ask questions but Patrick and I won't take them."

Question: "Thank you. My name is Narinder Nair (?) and I am the chairman of Bombay First. If I see the title of your discussion is on reinventing the sustaining cities, you spend a lot of time on public-private partnership and infrastructure. I'd like to make another model of public-private partnership, getting the citizens involved in trying to act a catalyst for the mayors and for the administration, for the government to do something and I'm giving this our own example in Bombay. We established what we called a Bombay First, a truly public-private partnership for the regeneration of the city and we are working with the government and act as the catalyst looking cross sections of areas. I think this is another area which I think could play a very important part for regeneration of the cities."

Prof Macomber: "Thank you. May I direct that question to Mr Aparecido? So the question is about a bottom-up engagement of the people in decisions about sustaining cities and clearly that's your background as to people. I also think it's interesting asked somebody from Mumbai because India doesn't really have a strong mayor system. It has a strong state system so the Chief Minister is more in-charge and there isn't really a Bloomberg kind of figure in that regards but that's very much what you have done in Sao Paolo in terms of having a metropolitan area come together. So perhaps Mr Aparesido you can talk a little bit about involving the people, individuals, citizens and the decisions about the state and also some of the things you learnt about getting all these different mayors to work together and that might be responsive to the excellent question from India?"

Mr Aparecido (interpreter): "In participation of the citizens, the building and solutions and also is very important. In Sao Paolo, there are 39 districts, 39 cities, around 32 million inhabitants. It is the third biggest city in the planet after Tokyo and New Delhi. Today these issues, we are not able to solve issues in an isolated way. We cannot fight for examples floods in certain districts without engaging the neighbouring districts. So we created this government instrument so that there can be a decision-making process made with the citizens so that the best decisions can be taken and that the population can have a big role in these decisions. We also have a partnership between the state and the public partnership in relation to health, to hospitals. So the state hospital and the citizens manage the hospital. For us, it's very important in terms of efficiency that can be found in the Health Department. The participants participate intensely in this mechanism. This is an important mechanism. Society must always accompany this process because it's way to enhance efficiency with the population's participation. You also mentioned partnerships between the private in which the state builds the MRT line and the people will operate these lines. The private initiative will not manage the infrastructure so there are several different mechanism in which we can build these partnerships. But the participation of society through the Parliament or grassroots organisations is fundamental chase these efficiency and to make sure that there is a, in order for the citizenship, the citizens to gain from the situation."

Prof Macomber: "Okay. Thank you. So Patrick, let me ask you a follow-up sort of global perspective around this. Yesterday, Minister Kamal Nath was talking about India as being the biggest democracy and the most rowdy democracy. So can imagine situations where the participation of the people isn't necessarily moving everybody in the same direction. One can also imagine situations where participation of the people as very powerful force where developers and government are aligned. Can you give us some examples of some places where you've seen that place work or not? And how do get it accomplished?"

Mr Phillips: "Yeah, it's a challenge because of the open-ended nature, the potentially open-ended nature of the public participation or the process by which consensus is ultimately achieved. Often times, the government is essentially if they are progressive and enlightened, leads the public through some sort of process to arrive at a defensible and reasonably concrete vision for a particular project or initiative and the developer gets involved to implement and execute. What we've seen more increasingly lately is the developer playing a much more instrumental role in achieving that consensus, in that planning. The challenge for the developer, of course, is managing the cost and time associated with the process and it's not uncommon for projects to get sidetracked or to ultimately not be able to achieve because of that lack of consensus or the open-ended nature of the process and it's expensive and time-consuming. But I think when the government and the developer work closely together within some kind of finite or bounded process with a limit on the time and cost, there can be really effective way to do that. But it's a rare development. It's a relatively short list of developers who are willing to go through that kind of process but I think that's where you get the optimal result."

Prof Macomber: "So I want to make a comment about that and then I'll ask each person to make sort of a closing thought, a few sentences about a solution. So the question is a very direct question about how do we advance the cities using the tools of private investment? But I want to make a comment about the involvement of the people from something that Carlo Ratti said earlier in the Smart Cities session where now you have so much connectivity, so much awareness, so much tweeting, so much *pigeonholing* and that there can be extremely involvement but it very much changes the relationship between the citizens and the people who are trying to move in one set of consistent direction and there aren't best practices in this regard. This is up on the air. That's what Carlo Ratti said was the big question is about top-down development or bottom-up development. So in a sense, the gentlemen's question is exactly the core, a question that we don't know the answer how that participation will be engaged and coordinated or not. So let me just start from Mark and just say in our last little bit, the topic here is about private investment towards a sustainable and liveable city and we are supposed to be the solution panel because we are the money panel. A good rule of thumb, a good something observed, a good best practice around how to accomplish these things as finance types?"

Mr Ebbinghaus: "Yeah, I think there's a few levels that you can look at it. You can look at the asset level, which is predominantly what we've been talking about today, PPPs around the world can be very politically quite significant issues particularly when one uses a pay-type system. So in a mature market particularly, that tends to get a bit more sort of (inaudible). I think in emerging sort of market cities, there are additional challenges. Something I just want to touch on which I think is a different way thinking way of it is a public-private partnership in a broader context and because we are in Singapore, I want to bring Singapore into it. Singapore started off an emerging city not so long ago and rapidly turned into a mature market city probably in record time.

I think one way Singapore looked at the public-private approach was to create its own enterprises, create enterprises, seed it with public money but then bring on private money. The creation of CapitaLand, Keppel may portray where it is essentially a public-private partnership where a public enterprise slowly evolves into a commercial enterprise and it's sort of home grown. So I think that model in Singapore work particularly … SOEs in China working on the same sort of model to some degree and it's a slow transition where it starts off as government, the public private sort of (inaudible) investment. I know the subject today was more on at the asset but I just want to put a different spin on it because I think it's particularly important in emerging markets where government sponsorship and giving people licenses to operate and the mandate to operate can be done in different ways, bringing private sector capital … "

Prof Macomber: "That must be a signal. Maybe the fireworks are happening? Is it, 8, 9.30 or 11? No, it's not the show outside. Mr Aparesido, to conclude, one takeaway around how do you, maybe how do you use private sector to bring these benefits to the public?"

Mr Aparecido: "Thank you. First, I think that if we could summarise democracy and social fairness as the most important (inaudible) that gives us this guarantee and governance and the protagonist by the state, the public power in many of its own definition of what are the strategies for the development in the social areas and finding new ways to invest and to finance the big things to bring to the citizens, good quality of life and also the PPP is our specific case of Sao Paolo. The state of Sao Paolo is very important mechanism that will (inaudible) the public investment in a way that it will grow further in the solution of this strategic plans. Without any doubt, it can only reach this level of investment and infrastructure. Investors as we need today in terms of world and particularly in terms of

Brazil and Sao Paolo, we can only achieve these if we are very clear and transparent regarding to investment putting together the public and the private investments."

Prof Macomber: "Great, thank you. Patrick?"

Mr Phillips: "I'll say two things. One would be to create ongoing mechanisms or forums for a constructive dialogue between the public and private sectors in these jurisdictions so that there is an atmosphere of trust that emerges over periods of time. And the other essential ingredient will be an enlightened public that understands the relationship, the beneficial and symbiotic relationship between the public and private."

Prof Macomber: "Thank you. Mr Choo, a final thought to takeaway in this regard."

Mr Choo: "I think the government must set out the ground rules, do the masterplan and parts of the masterplan can be carried out by the private sector so that there's a clear ground rules and clear outcomes that is required by the government as well as by the people."

Prof Macomber: "And Mr Goh, the last word, the takeaway on the topic of how private investment can help the public realm?"

Mr Goh: "Yes, the great thing about going last in a panel like this I can say I agree with all the rest. The tough thing really is it's tough to find anything else to say but I'll just end with this and that is a lot has been said for the private sector the focus is always on the bottom line and that's the issue. But I actually think it's somewhat different. Although the objectives of public sector and the private sector can be different but because of this virtual cycle of (inaudible) and growth, there can be a middle path that the public sector and the private sector can mutually build on that would actually lead to a very favourable outcome. And if you look at successful partnership between the public and private sector, all of them have managed to basically stay on this path and I echo Patrick's view that dialogue is what needs to happen in order to get more and more of this project on the middle path."

Prof Macomber: "Well, thank you. There's no question that there are many, many people moving to cities. There's no question that there's a shortage of resources. There's little question that most governments are going to need help to accomplish things therefore private capital has to be engaged in ways that works for the private sector and mostly work for the people. It's been a great pleasure for me to learn from our five panelists and to learn from all of you so please join me in thanking the panelist today."

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