Global Supply Chains – Past Developments, Emerging Trends

A speech by Dr Victor Fung
The Luncheon Meeting of Century 21 Club on 24 November 2011
12:15pm at Drawing Room, Grand Hyatt Hotel

It's a great honour to be here. I've been asked to talk about Li & Fung, taking a micro view of the firm, to share the experience of how we developed, then to relate this more broadly to the development of global supply chains. I would also like to share a few thoughts on how – and why – global supply chains are changing.

Li & Fung was founded by my grandfather in southern China in 1906, in the last days of the Qing Dynasty. At that time, the trade in and out of China was controlled by British trading companies called "Hongs". My grandfather was the first to found a Chinese trading company, one that basically by-passed the British. Our trade was mostly with Americans, and was on a direct basis. Chinese porcelain was among the main exports, along with silk, rattan wear and bamboo. We lost everything during the Second World War. When the war ended, we restarted in Hong Kong, which became our headquarters.

Hong Kong had always been an entrepôt, serving the whole of China. But with the change of Chinese government in 1949, the "bamboo curtain" came down. Hong Kong had an influx of 2 million refugees. Also, fortunately for Hong Kong, we had an influx of entrepreneurs from Shanghai, with money, technology and know-how. That was when Hong Kong really began to develop as a manufacturing base. It started producing what we now call low-end consumer products, like flip-flops, plastic flowers and transistor radios. Li & Fung became an exporter of these Hong Kong-manufactured products to the Western world, helping all the local manufacturers that were then springing up.

In the early days, we had a number of factories ourselves. We started a plastics factory in Hong Kong during the world's plastic flower craze, but decided very early on that owning one or two factories would not be enough to supply us. Nor would we be able deal on an arm's length basis with the rest of the market. In the 1950s, we sold all of our factories and became a pure trading company, but a trading company with a difference, as I will explain in a moment.

The next big stage in the development of Li & Fung began in 1979. That was the year when China started its economic opening. In a sense, the story of China's

economic opening is the story of Hong Kong; in many ways, it is also the story of Li & Fung.

Hong Kong in the 1970s was increasingly being priced out of the market as a base for mass production, mainly because of severe shortages of labour and land. The other "little dragons" – South Korea, Taiwan and Singapore – were coming up fast. What saved Hong Kong, thankfully, was the economic opening of China.

Mr Deng Xiaoping created four economic zones next to Hong Kong. The most important was Shenzhen. Back then it was little more than a village, one with just 30,000 people. Now, it is now a city of 12 million people, bigger than Hong Kong with its 7 million.

As I mentioned, Hong Kong's production base had become increasingly uncompetitive. So what Hong Kong did was to rationalise its production with the southern part of China. I use the world "rationalise" because we did not move *all* of the production into China; the infrastructure wasn't there yet.

What we did was retain the high value-added front end and back end in Hong Kong, and then move the labour-intensive middle portion across the border into southern China. The front end included product design, engineering and marketing. The back end was the logistics, the quality control – initially at least, until even that was moved into China – and also banking and distribution.

This combination was so powerful that business grew dramatically, with both Hong Kong and the Chinese mainland developing fast. It was, in fact, this growth model that fuelled Chinese economic growth after Deng announced the "open door" policy. It quickly spread across the entire Pearl River Delta in southern China. The model was then moved up the coast to the Yangtze River Delta, and to the Bohai region.

Basically, it became the model that drove the Chinese economy for 30 years. The question now is: what is the next stage of development?

To attempt an answer to that question, we have to look at what's happened in Hong Kong in those three decades. It's become a highly service-intensive economy. The "what next" means thinking about how we develop the *next* model that rationalises not Hong Kong's production base, but its *services* base with the southern part of China.

Coming back to Li & Fung, we went with this trend of China's opening and began our return to China. But we did so in a way that allowed us to use all the

connections we'd made with global buyers. Now we brought that business into southern parts of China and other parts of the country.

Eventually, people discovered that once you had broken apart the supply chain and production process, moving certain pieces to southern China, you didn't need to stop there. They began asking why not go deeper into China and up the coast. Why not go to Southeast Asia? Why not break the supply chain into bigger pieces?

Right there was the beginnings of the growth of the global supply chain. Let me give you a very specific example of what happens today.

Let's say we receive an order from a US retailer for 100,000 shirts. In the old days, we would have asked, "Which is the best factory?" We would have given it to that factory and earned a small commission. We were basically a broker. Today, when we get an order like that, the first question we ask is, "Where do we outsource the yarn from?" Let's say the answer is Korea. The second stage is where to do your weaving and dyeing to produce the fabric. Let's say we want to do that in Taiwan, so we ship the yarn to two factories in Taiwan – I'll tell you why two factories in a moment. Then we ask ourselves, "Where do we want to finish the garment?" Let's say we decide the best place, because of production capacity and expertise, is Thailand, and we want to do it in three factories in Thailand. I'll tell you why three in a moment.

So we produce the 100,000 shirts, but we have broken the process into different components at different stages of production. And at every stage, we have asked who is the best in class for that particular stage. Of course, at the end of the day, we also need all of those 100,000 shirts to look as if they came from the same factory – the shading and patterns have got to match and so on.

Why do go through this whole complicated process? It boils down to two reasons. One is cost, and the other – very importantly – is turnaround time.

And how long does production take? In the old days, if you gave us an order for 100,000 shirts and asked me how long before I could deliver, I would immediately say, "three months". I'd know that, because the factory I'd give it to would be vertically integrated, with no way to increase production capacity at any given stage. What I have now, however, is *two* weaving or dyeing sources in Taiwan. I am parallel, or double, sourcing. And then I am parallel sourcing again, going to three factories at the finishing level – of course, I could even go to five. In other words, I am now looking for the best in class at each level, to get the best price/value ratio.

The second reason, very importantly, is the time saved. As I mentioned, I used to quote three months. Now, we make deliveries in 10 weeks or less. I was recently told that we can even turn things around in four weeks. Why does that matter? It's a reflection of what is happening in the world. The whole world has basically moved to making products to satisfy smaller and smaller market niches. Global demand is fragmenting. The world is moving more towards mass customisation, more and more niches. This is a challenge not only for production but also for forecasting. Once you take demand and cut it into a large number of smaller niches, it is much harder to predict, as that demand "wiggles" around much more. Forecasting becomes more and more difficult.

Forecasting is also a problem if you have a three-month lead time. You don't really know what you want to buy because by the time your merchandise arrives there may be a mismatch between what your market wants, and what you have produced. It's this mismatch of supply and demand that is the biggest cost in the total supply chain. To prevent yourself from buying the wrong goods, you try to delay the purchasing decision as long as you can so that you find out more about what the real demand is. Then you lock in the order. You are willing to pay a sizeable premium to take delivery with reduced risk.

It takes a great deal of coordination to make a product in six factories in three different economies, instead of in just one factory in one country. The cost of this coordination effort has to be traded off against the benefit. The benefit is the fast turnaround, and also the fact that hopefully you are the best in class in every component, plus better overall.

The coordination cost, however, is now more manageable. This is because of the growth of two enablers, without which this whole phenomenon of global supply chains would not happen. They are: the development of information technology, especially the internet, and the development of global logistics – the ability to get products from here to there, just in time. All of this really happened in the 1990s.

As you can imagine, at Li & Fung we have thousands of orders in our system at any one time, plus bits and pieces of different orders from different factories everywhere. There is absolutely no way we could conduct our business today without very high usage of technology and the internet – just to keep track of where things are. Nor could we conduct it without the growth of logistics and transport firms, one of which describes its role as "synchronised commerce". With this logistical support to move product and components, you are able to achieve the faster turnaround times that I've been talking about.

Li & Fung has been part of this wave of global supply chain development. Some would say that we are the pioneers. Be that as it may, I would submit that the whole world's production is done on the basis of these global supply chains. In fact, I would go further and submit that the whole global supply chain for the whole of the last 30 years has developed on this basis.

Initially, people contrasted this model with the Toyota model, which is vertically integrated with everything hooked in. Now I think the world is very clear. Even automobile companies are taking this dispersed-manufacturing global supply chain approach. This is because with information technology so well developed, you're able to have very accurate, up-to-the second information – real-time information – even when you are some distance from your suppliers, whereas before, when the world was so uncertain, you needed your suppliers much closer and physically hooked in. With the development of IT and modern logistics, it is possible, despite distance, to have the type of control I'm talking about. That's the real phenomenon.

The growth of global supply chains has, in my mind, brought huge benefits to many countries around the world. Let me now move from the level of an individual firm to an economy, or even to a country, and take another look at this phenomenon I call the atomisation of the supply chain.

We don't just cut it into three stages we cut it into many, many stages. Every little bit can go to somebody else. It means that the entire supply has been opened up to a lot more suppliers. It's the democratisation of the supply chain. In the past, if you were a relatively-small company, you could not compete globally. If you were a relatively-small economy you could not compete because you needed the entire "vertical" set up to turn out a finished product. Now, if you are very good in one component, you can be part of *this* global supply chain or part of *that* supply chain, supplying the component at a given stage of production. And you'll be known as being very good at that stage of the production process.

What that means is that small and medium-sized enterprises (SMEs) can now participate in global commerce at a much earlier stage. You can imagine what the scenario would have been if the world had gone in the opposite direction, namely into having a smaller and smaller number of more and more vertically-integrated large conglomerates. But no, the world went the other way. It fragmented production. It took the supply chain and atomised it.

Now, when your company wants to compete, you are actually one team doing a given part of the supply chain against another team. These companies form what we at Li & Fung call a "network"'. The whole world now consists of networks, and we look at ourselves not as controlling the networks, but orchestrating them. When you want to compete in the final product, it's this

network against that network. It's not how well you can play the game yourself. It's how you are able to organise your team members to play the game together. It's become a team sport, not an individual sport. The skills you need are totally different. It's not a matter of controlling your own production, and saying, "Hey, do this, do that".

Let me elaborate. Li & Fung has about 15,000 suppliers globally, in over 40 economies, and we look at that as our network. But it's a very loosely-connected network. Our idea is to take, hopefully, anywhere from 30 – 70 per cent of a factory's production. Now why at least 30 per cent? It's because we want to be one of the largest buyers for a factory, so that we have influence with them. We don't want 100 percent, because once you have 100 per cent you are morally obligated to keep on feeding the factory. Moreover, your supply partner will not be exposed to new ideas from other clients. You want your supplier to keep working with other people so they will be exposed to new ideas they can bring back into the network. So the network is actually a pulsating one, people moving in and out.

It's like running a professional soccer team that, overall, is stable but whose individual players come and go. This is what makes network orchestration more complex. You need different sets of skills. The question of why people want to be part of *your* network rather than someone else's becomes important.

To briefly recap, in the past 20 years the world has moved towards fragmenting the supply chain, dispersing its different component parts, then putting them back together again, using the enablers of IT and logistics. Networks now compete against networks on a global basis. The fact that the whole world is moving in this direction – even industries that once were vertically integrated – has had major implications for international trade and the movement of opportunities and jobs around the world.

To give an example, people look at intra-regional trade in Asia and say, "Boy, look at the growth". They're right. But if you dig deeper, it's mostly from the movement of components, not finished goods. It goes back to the phenomenon of the 100,000 shirts. In the old days, when just one factory produced the shirts, it was one trade movement. Now, with the yarn sourced from Korea, the weaving and dyeing done in Taiwan, and the garment sewn in Thailand, multiple trade movements are involved before the shirts are shipped to end-consumers in Western markets. This is the reality behind the trade statistics.

In recounting the Li & Fung story, I've dwelt quite a lot on how the world and our region have developed in recent decades. Let me turn now to the future.

The picture that I just sketched out is being dramatically redrawn. In fact, I believe we are at an inflection point with the global supply chain. I have some idea about where it's going, but not enough to sit down and write the next model for you. What I *can* do is talk about the forces now impinging on it.

As recently as two years ago, the front pages of the world's leading business newspapers were all about China as "the world's factory", and about "the China price". Today, if you want the lowest-cost goods, I'll not be going to China to source them for you – even though Li & Fung still does a lot of sourcing there. Rather, I'll be going to Vietnam, Cambodia and Bangladesh, which are coming up very strong.

China is no longer the lowest for cost. Wages in the Pearl River Delta have risen by about 30 per cent in recent times. This started partly because of highly publicised unrest among production workers living and working in a large, foreign-owned factory compound in southern China.

Now, under China's 12th five-year plan, it's been decided that the minimum wage will go up by 13.4 per cent per year for the next five years. In other words, the issue has gone beyond a discussion about conditions in the factories, to broader concerns about how to distribute fairly the overall economic pie. It is recognition that, for there to be economic stability, more of the pie needs to be allocated to China's lower economic classes, especially the factory workers.

A deeper phenomenon is that China's economic development has rested heavily on migrant labour flocking from the interior to export factories along the coast. At one point, it was estimated that China had 250 million "internal migrant" workers. Now it's decreased somewhat, but it's still sizeable. The development of modern infrastructure around these export factories meant we were able to ship products directly to markets around the world.

Now, with the current five-year plan, a rebalancing is going on. The emphasis has shifted from export-driven growth to growth which depends more on domestic consumption. Even more significant are profound changes underway within the labour force.

Twenty years ago, a typical worker in an export factory was a young female from the interior provinces like Sichuan and Hunan. These young women would work two terms of three years each, living in pretty basic dormitories in the factory compound and saving enough for a dowry and the purchase of a future home. In time, they would go back to the village and lead a relatively comfortable life.

What is the profile of a typical Chinese worker today? There is more balance between the genders, everybody is "web enabled", and he or she belongs to

"generation Y". That person may go to a city like Shenzhen with no wish ever to return to his or her village to live.

These new workers are ambitious. They want to become, say, a computer programmer and be integrated into the urban community, not to be an assembly worker living in a factory compound. It's a changing reality with deep implications for the whole export factory model.

Let me give you another anecdote that drives home how fast the thinking is changing in China. When news surfaced a while ago of employee suicides at a campus-like compound making advanced IT products in southern China, a major Chinese sportswear brand immediately scrapped plans to build a big production complex in central China. Even though those plans would have provided modern living quarters for workers, the company abandoned them. Instead they rented housing units within the community so that the workers could live as part of the community and commute to work like normal people.

In other words, the idea of having vast factory compounds with dormitories housing migrant workers from all over the nation needs to change. You may still be able to access relatively low-cost labour in China. But factories will need to move to where the workers are, and where they can lead more normal lives.

Let me turn to a couple of other major phenomena are influencing the future of supply chains.

Because over 80% of global consumption is currently in OECD countries, the world has grown used to working off a very simple model: sourcing products in the East and selling them in the West. What's changing today is that big sourcing countries like India, China and Indonesia are also becoming important consumption countries. I'm not suggesting that overnight they will overtake consumption in the OECD countries. But these emerging economies are where *growth* in consumption is to be found. Over time, the total consumption in the world will rebalance. It will be much more nuanced than simply sourcing from the East, and selling to the West. And supply chains will reflect it.

For example, if you set up a factory in China, you'll still think "Yes, we'll export the goods to sell back home or elsewhere." But you'll also think about distribution *inside* the Chinese market. How you structure your supply chains and flows will be very different.

Another major phenomenon influencing the future of global supply arises from changes in the world trade regime.

I'm a multilateralist. I believe nothing can substitute for a strong multilateral system. But I have to admit that in recent years progress towards strengthening the multilateral system has been disappointing. In a sense, the world has settled for second best, namely bilateral trade agreements. Ultimately, this proliferation of bilaterals will alter the equation of world trade. The analogy some people use is that every time you "do" a bilateral, you remove a brick from the multilateral wall. If you take a few bricks, it's not a big problem. The wall is still there. But if you take away more and more bricks, sooner or later it will collapse.

The trend towards bilaterals is likely to increase, given the ebb and flow of international politics. I believe this will be a real impediment to global supply chains. For example, the definition of country of origin is different from one bilateral to another. As a firm, we have to keep track of all these differences. Some in my company, trying to find a silver lining, see them as an entry barrier that will make it harder for others to compete once we've mastered the intricacies ourselves. I don't think it's the right way to look at it. The increasing complexity of doing international trade will eliminate a lot of SMEs. They won't be able to absorb the extra business cost of keeping track of 15 or more bilaterals. I don't see how that can be good for the world.

In closing, I'd like to raise a couple of other points. The world is now much more concerned with sustainability and climate change. I believe these two factors will increasingly determine not only the flow of global trade and investment, but also the flow of work. Given the degree of political emphasis placed on jobs, wherever you go, we can anticipate that much more attention will be paid to how supply chains are structured – to where the work is flowing and where jobs are being created. This attention will not only be paid to *whether* jobs are being created but at what level in terms of value.

Finally, the Japanese earthquake and tsunami last March was also a severe jolt to people working with global supply chains. We call it the Fukushima phenomenon. A lot of vital electronics components and car components emanate from that part of Japan. At one point there were very real fears that shortages of these components would stop or slow production of electronics, cars and other sophisticated products around the world.

Eventually the world got over that, and I think we are now close to being back to normal. But that's not the point. The lesson from Fukushima is that we've drawn the supply chains too tight. We've been optimising for 20 years, and the system has become so efficient. From an engineer's standpoint, there is not enough robustness in the system as a whole. There is not enough protection when you are "single sourcing" vital components, not enough slack in the system to enable you to withstand a shock.

Taken together, I believe all these factors place us at a major inflection point. The whole philosophy behind the design of supply chains is changing. It's going to be fascinating to see where that change will take us. Once thing is for sure, what happens next to global supply chains will impact us all.