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## **Logistics: Connectivity for Goods and Services**

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## LOGISTICS: CONNECTIVITY FOR GOODS AND SERVICES

### **Introduction**

The purpose of this paper is to briefly outline the evolution of logistics into its current comprehensive supply chain focus; consider logistics issues in a policy framework; consider some of the drivers which will see the demand for logistical services and their capabilities increase; and, draw some implications for APEC with respect to the need for increased consideration of logistics as a strategic policy, research and capacity sharing issue.

### **Executive Summary**

In an era of increasing global activity where tariff and other barriers to trade have fallen as a result of previous APEC achievements, logistics is best viewed broadly and strategically as an integral contribution to widening and deepening supply-chains and their complex management. Just as the corporate approach to managing logistics requirements has evolved from a cost-cutting approach to a strategic value-adding approach, the consideration of logistics policy, research and capacity building issues needs to similarly evolve.

The common approach for most of the 20<sup>th</sup> century was for businesses to view and organise the trade and transport aspects of moving their production to consumers in domestic or international markets within individual corporate structures.

Now there is fertile and aggressive competition between local and global corporations who specialize in individual areas or offer an entire range of logistical services to move goods from producers to businesses and intermediaries. More deliveries are now being made to consumers direct as the internet acts to disintermediate the traditional distribution processes. Business models now apply which see workers transported within and between countries to deliver services *in situ* rather than goods being shipped to a service provider for repair.

These are stark demonstrations about the growth of the services sector in the global economy as businesses pursue greater efficiency and the competitive edge of being the first-mover to anticipate, address and meet business and consumer needs.

The Global Financial Crisis is adversely affecting current economic growth and consumer confidence. This is no reason for policy inaction. The private sector is reviewing priorities and seeking greater efficiencies. Concurrently, the government sector in each economy should be examining policy and regulatory settings to implement measures that reduce costs for business. This will encourage greater economic activity and better place economies to benefit as growth returns.

As incomes rise and technology improves to provide consumers with exposure to new goods and services and businesses with greater capability to do things differently and better, the demand for logistical services will increase.

The challenge now for APEC and its member economies is to embrace the wider paradigm of global connectivity and recognise that policy and regulatory approaches to the current “silos” of at-the border and behind-the-border will need to be considered more holistically to comprehend the matrix of interactions between economic, trade and logistical issues that underpin today’s trade and commerce.

Further, it points to the need for greater connectivity and integration between APEC Committees. This Joint Policy Dialogue hosted by the Committee for Trade and Investment and the Economic Committee is a good step.

## ***The evolution of logistics to supply-chain management***

Logistics is commonly regarded as the coordination of activities to transport and trade goods.<sup>1</sup> The logistical requirements associated with trade in services should also not be overlooked. As APEC economies account for more than a third of the world's population (2.6 billion people) and in excess of 41% of world trade, it is apparent why there is an interest in logistics. If efficiency gains can be made from better logistics, they can contribute to the APEC region maintaining its record of being the most economically dynamic region in the world.

As early as 2002 when APEC's Committee on Trade and investment commenced developing the first Trade Facilitation Action Plan (TFAP1), the then empirical view of using international transportation costs as a benchmark measurement process for trade facilitation was being viewed as inadequate. A greater range of indicators was developed and used by the World Bank<sup>2</sup> to better match the processes and transactions involved in trade and a wider approach, including trade facilitation, was included in a framework to examine logistical issues.

The World Bank's Logistics Performance Index<sup>3</sup> published in 2007 is a tool reflective of a new understanding about the deeper and broader scope of logistics and is designed and published as a policy resource, as clearly set out by Mr Danny Leipziger in his foreword to the Report

*The Logistics Performance Index(LPI) and its underlying indicators constitute a unique dataset to measure country performance across several dimensions of logistics and to benchmark that logistics performance against 150 countries. It provides the empirical basis to understand and compare differences in trade logistics as well as to inform policy with respect to difficult bottlenecks and tradeoffs. As a tool for policymakers, professionals, development agencies, and other stakeholders, it will directly support the fast-growing agenda for reforms and investments in trade and transport facilitation.*

The LPI complements APEC's focus on developing practical measures which reduce costs to business, for example the cost reduction targets of Trade Facilitation Action Plans.

Corporate management approaches to logistics have also developed as its wider scope is recognized. As, an American consultant, quoted in *The Economist* says

*"Supply-chain management is an evolution of logistics. Logistics tends to be tactical, supply-chain management is strategic."<sup>4</sup>*

The need for policymakers to also change their approach to addressing and setting government policy measures for logistics services is also being suggested.

*The LPI suggests that policymakers should look beyond the traditional "trade facilitation" agenda that focuses on road infrastructure and information technology in customs to also reform logistics services markets and reduce coordination failures, especially those of public agencies active in border control. This demands a more integrated, comprehensive approach to reforms all along the supply chain.*

One study<sup>5</sup> analysed the link between competitiveness and the physical flow of goods and developed a supply chain framework for logistics, including government policy and regulation, which is summarized below:

*...three major areas have to be dealt with in order to optimize the flow of goods throughout the logistics chains: (a) transportation, (b) business logistics, and (c) trade facilitation. This*

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1 There is no universal definition of logistics. An Australian Bureau of Transport Economics 2001 Working Paper *Logistics in Australia – a preliminary analysis* refers to a range of approaches covering processes, functions, frameworks, flows and strategic management.

2 Wilson John S, Mann Catherine, Yuen Pau Wooc, Assanied Nizar, Choie Inbom, Trade Facilitation: A Development Perspective in the Asia Pacific Region, study prepared for APEC CTI, October 2002

3 Jean Francois Arvis, Monica Alina Mustra, John Panzer, Lauri Ojala, Tapio Naula, Connecting to Compete: Trade Logistics in the Global Economy – the Logistics Performance Index and Its Indicators, Report 43005, 2007

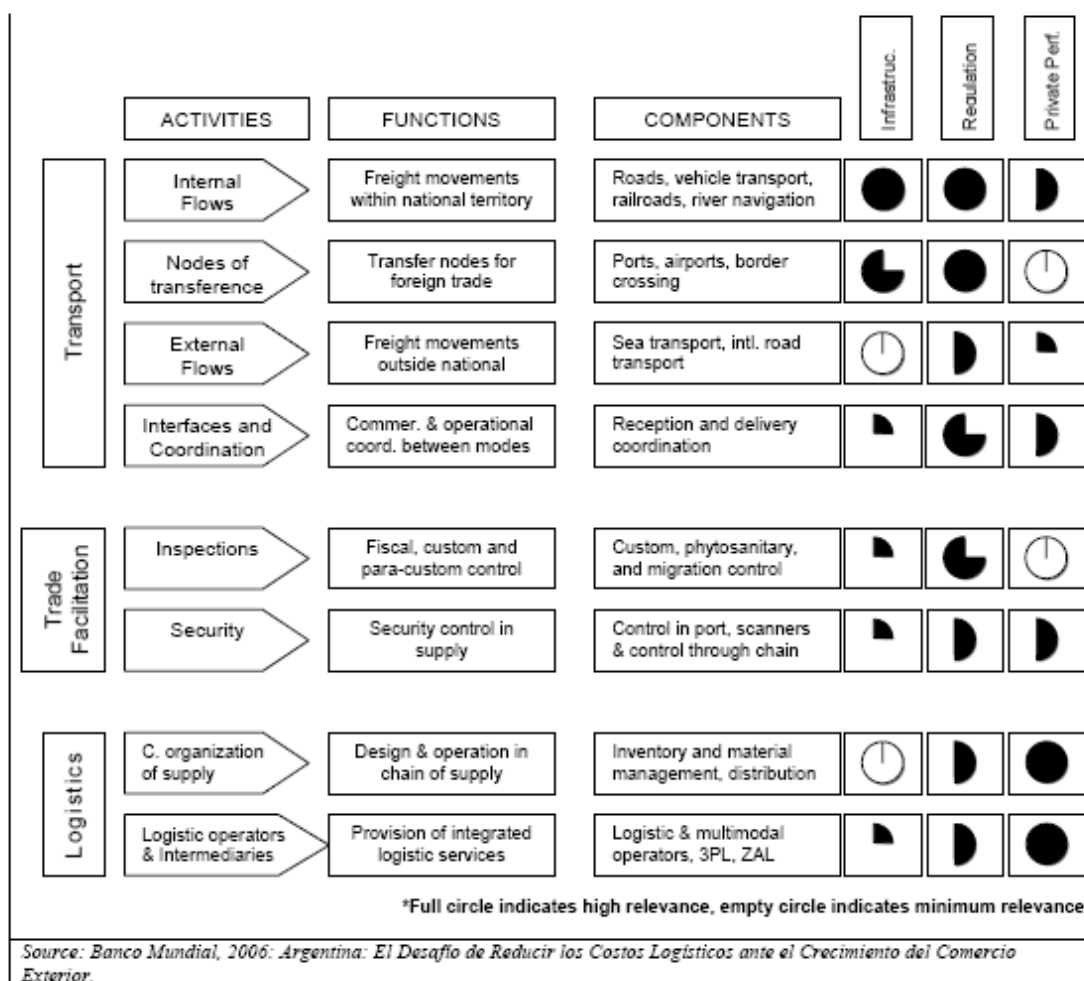
4 The physical internet, *The Economist*, 15 June 2006

5 World Bank, Improving Logistics Costs for Transportation and Trade Facilitation, Policy Research Working Paper 4558, March 2008

conceptualization of the factors involved in the flow of goods makes clear that the analysis and policy options should not be limited exclusively to infrastructure bottlenecks (infrastructure being considered the hard component of logistics) but should also consider the rules and procedures regulating the services (soft component). Thus, the performance of a country's logistics system depends on the activities of both the public and the private sectors.

Figure 2 shows the impact that the supply of infrastructure, rules and regulations, and the performance of the private sector have on each of the activities defined. It also makes it possible to appreciate the diversity of instruments, both public and private, that converge to define the efficiency of the logistics system.

FIGURE 2: ACTIVITIES CONDITIONING THE MOVEMENT OF FOREIGN TRADE FREIGHT



This concept of supply chain also implies that the weakest link of the chain will provide a choke point for the effectiveness of the chain. Just as this has operational issues that the corporate sector has to deal with, it means that for policy and research issues must be considered holistically and careful consideration needs to be given to the prioritizing and implementation of policy measures by individual economies to ensure the weakest links are addressed first.

### Logistics, Economic Development and Economic Welfare

It is well accepted that economic growth reduces poverty or increases wealth. This is reflected in the Millennium Development Goals (MDGs). The United Nations MDGs 2008 Report notes that most developing countries' efforts to achieve the MDGs benefited from the improved economic growth and relatively low inflation since 2000.

A corollary of this outcome is that as a person's poverty reduces or wealth increases, expectations about lifestyle and choices of consumption expand. Coupled with this expansion is the impact of wider knowledge about national and global products in addition to local products through greater education and greater access to the internet. As demand grows for a greater range of products there is a greater derived demand for more logistics activity and efficiency.

Technological developments have also been a driver themselves in enabling businesses to do things differently and at lower cost. It is expected that further developments will lead to benefits for logistics and continue as a driver of greater logistical capability, efficiency and demand for services.

Economies which emphasise competition and other elements of APEC's LAISR agenda will see the creation of companies that use innovation to establish a competitive advantage. Again, this outcome is likely to lead to increased logistical requirements and demand for logistical services as such companies focus much more on actively anticipating and meeting consumer demands for the latest items or business demand for cutting edge work practices. The first-mover benefit from anticipating and meeting consumer preferences is now increasingly recognized and is a component of the competitive edge that innovative companies aim to achieve.

This brief outline of the links between economic development (albeit currently affected by the impact of the GFC) and the demand for logistics services indicates that over the long term, continuing economic growth in individual economies and globally will give rise to an increase in demand for logistical services and an increasing capability, complexity and efficiency in the supply of logistical services.

Viewing logistics within a framework of increasing economic growth and welfare accords with the shift in focus of logistics being a narrow cost-cutting approach to being a source of profits through productivity gains and value-adding.

*...some companies have re-engineered their supply chains to gain a huge competitive advantage. What has put Wal-Mart ahead of Sears in retailing, Dell in front of Hewlett-Packard in the personal-computer business and Zara ahead of Marks & Spencer in fashion? Things like transport, purchasing and warehousing...are coming together as a strategic item on the chief executive's agenda. There is a reason for this. "Supply-chain leaders are very aware of how a company runs because they have to deal with all the different components of the operation," says Rick Blasgen, who used to work for a big American food group and now runs the Council of Supply Chain Management Professionals.<sup>6</sup>*

In 2000, Australia's Productivity Commission identified the changing nature of the wholesale and retail trade sectors of the economy and considered it *...appropriate to view wholesale and retail activities as part of a 'value network' rather than as sequential links in a chain.*<sup>7</sup>

In analyzing why Australia's wholesale sector was the largest contributor to record aggregate productivity growth from 1993-94 to 1998-99, the PC noted that the following developments within the sector were consistent with the productivity upsurge<sup>8</sup>

- *the widespread adoption of productivity-enhancing technologies (eg barcoding, paperless pick systems and automatic re-ordering processes) which moved the sector from a storage-based system to a fast flow distribution network; and*
- *greater competition acting as a catalyst for rationalisation (through mergers, acquisitions and firm exits) and outsourcing of non-core functions.*

The impact on profitability from these improvements comes from automated stocktakes being able to be done in days compared to weeks and a reduced need for working capital through better inventory to output ratios and fewer hard assets such as logistics and transport services being outsourced.

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6 The Economist, op cit

7 Productivity Commission, Staff Research Paper, p. xvi, October 2000

8 Ibid, p. xii

Another relevant observation from Australia was that as the business sector adopted newer technology and refined work practices, more focus was given to whether regulatory settings and charges remained effective. Legal requirements for physical documents were therefore adapted to e-commerce, vehicle designs and weight limits were changed and fees and charges were more aligned with cost recovery.

The link between logistics and its contribution to productivity growth and the wider structural reform and regional integration agendas for APEC can also be inferred from a 2008 paper analyzing the productivity gap between Europe and the United States which, since 1995, diverged from a long term period of convergence.<sup>9</sup>

*Since the mid 1990s, the European Union has experienced a significant slowdown in productivity growth, at a time when productivity growth in the United States significantly accelerated. The resurgence of productivity growth in the United States appears to have been a combination of high levels of investment in rapidly progressing information and communications technology in the second half of the 1990s, followed by rapid productivity growth in the market services sector of the economy in the first half of the 2000s. Conversely, the productivity slowdown in European countries is largely the result of slower multifactor productivity growth in market services, particularly in trade, finance, and business services.*

*While Europe needs to find mechanisms to exploit service innovations for greater multifactor productivity growth, the traditional catch-up and convergence model of the 1950s and 1960s may not help Europe get back on track.*

*First, because Europe had reached the productivity frontier by the mid 1990s, it now may require a new model of innovation and technological change to make better use of a country's own innovative capabilities .... Arguably innovations in services are more difficult to imitate than "hard" technologies based in manufacturing. The greater emphasis on human resources, organizational change, and other intangible investments are strongly specific to individual firms. Moreover, the firm receives most of the benefits of such changes, which reduces the legitimization for government support such as research and development and innovation subsidies to support "technology" transfer in services. Service activities also tend to be less standardized and more customized than manufacturing production; they depend strongly on the interaction with the consumer and are therefore more embedded in national and cultural institutions. In this situation, the spillover of technologies across firms and nations becomes much more difficult. ... a simple "copying" of practices from other countries—or even from other firms within the same country—is not the most likely way for ...service companies to attain greater productivity growth.*

*Second, a more flexible approach towards labor, product, and capital markets ...would allow resources to flow to their most productive uses. ...restrictive product market regulations, in particular those limiting new entry, hinder technology transfer and have a negative impact on productivity... Even though most European countries have begun to make changes to institutional arrangements that increase flexibility and competitiveness in labor and product markets, such changes vary greatly across countries. The changes that have occurred depend, for example, on the size and maturity of the industry, the industry concentration, the nature of the education system, the availability of capital for startups, the sophistication of the consumer, and the characteristics of the legislative framework.*

*The present drive in Europe towards a greater openness of service product markets...specifically aimed at creating a common market for services across the European Union, may hold the potential to increase productivity growth across Europe in the coming decade.*

### **APEC's future approach to examining logistics**

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<sup>9</sup> Bart van Ark, Mary O'Mahony and Marcel P. Timmer, The Productivity Gap between Europe and the United States: Trends and Causes, Journal of Economic Perspectives, Volume 22, Number 1, Winter 2008, pp25-44

This paper seeks to establish that the scope of logistics services has been expanded and they are now being viewed in a more strategic and holistic context. This new paradigm to consider logistics recognises that the demand for logistics will increase as economic growth, rising incomes and technological developments occur.

A continuing focus on productivity growth, innovation and new technology will also add to the capability of the sector to do more and better things. More effective and efficient logistics services will contribute to economic growth.

The inescapable conclusion is that logistics is an issue on which APEC should increase its focus.

In June last year, the APEC Seminar on Trade Logistics was conducted in Beijing, China. Its purpose was to create an opportunity for APEC economies to examine the current status of trade logistics in the region and explore ways to enhance APEC cooperation in this area. The APEC Secretariat publication of the seminar papers noted that it was the first time that APEC trade officials had talked about trade logistics.

In the APEC Singapore 2009 Symposium held in October 2008, logistics was discussed in a plenary session which emphasised the wider, holistic nature of logistics services by being entitled *Enhancing Physical Connectivity*. The papers presented and the response of break-out session feedback indicated a significant interest in the subject and encouraged further work to be done in the area by APEC. An excellent presentation to the Symposium on *Why Physical Connectivity Matters* by Ms Anna Strutt, Senior Lecturer in Economics at New Zealand's University of Waikato Management School is provided with this paper.

This Joint Policy Dialogue further progresses APEC's consideration of logistics and will provide an opportunity to address how APEC can approach the examination of the increasingly complex and comprehensive logistics services.

This paper suggests the need:

- To recognise that the demand for logistics services will increase as economies develop, the supply and capabilities of logistics will continue to evolve through technology and productivity drivers, and that government policy and regulatory settings influence the efficiency and the standard of logistics services across the entire length of domestic and global supply chains.
- For collaboration between private and government sectors as logistics spans areas including infrastructure (involves both private sector and governments), services (private and government), regulation (government), competition (private and government through competition policy settings).
- To consider and address policy and regulatory approaches in a holistic connectivity and supply chain context, thus recognising that weakest links will be the choke points. This suggests a one size fits all approach may not be appropriate and individual economies should focus on priorities that match their level of development and correctly phase and implement reforms and initiatives
- For good connectivity and coordination between APEC Committees as logistics activities cover a subject spectrum handled by CTI, EC and FMP.
- To recognise the impact of the Global Financial Crisis on current growth and consumer confidence but note that inaction now will miss the opportunity to develop policy and implement initiatives that will facilitate and encourage greater economic activity.