



TRANSNATIONAL CORPORATIONS, LEARNING AND INNOVATION

IMPLICATIONS OF THE TRIMs AGREEMENT

INTRODUCTION

The Agreement on Trade-Related Investment Measures (TRIMs) of the World Trade Organization (WTO), which came into effect in 1995, raised serious concerns over its impact on the role of transnational corporations (TNCs) in developing economies. Developing countries were particularly concerned over the impact of the removal of local content and foreign exchange regulations on learning and innovation. Consumers and industries dependent on capital and intermediate goods welcomed the Agreement as it effectively removed the negative effects of the high cost of poor quality inputs that characterised several industries spawned under badly governed import-substitution policies. However, governments were also concerned about the removal of a major channel for promoting technology transfer - that in the past characterised the development of automobiles and producer goods industries in the advanced economies - as well as the possible effects of the withdrawal of foreign exchange controls. Little wonder that the Agreement has remained controversial, particularly in the middle income (e.g. South Africa, Brazil, Malaysia and Mexico) and large economies (e.g. India and China) with an experience of import-substitution policies. The articles in this Technology Policy Brief tackle these issues, the first introducing the key debates involved and the remaining focusing on its implications for learning and innovation in a country each from the continents of Asia, Africa, and South America.

Prasada Reddy (page 2) discusses the critical economic arguments involving the Agreement, its specific features, and some negative experiences associated with the implementation of TRIMs. Although the article stipulates some room for developing economies to negotiate selectively the use of prohibited TRIMs in future, it warns against pursuing costly demand-side instruments favouring instead supply-side technology policies.

Rene Ofreneo (page 5) outlines Philippines' experience with TRIMs in the automobile industry, noting that liberalisation and vacillating trade instruments had already undermined the industry long before the implementation of the Agreement. Ofreneo argues that meeting the commitments to the Agreement will only hasten the industry's contraction.

Eric Wood (page 8) assesses the impact of the Agreement on South African manufacturing by examining the policy environment, the country's record with TRIMs, and investor considerations. Wood states that South Africa had already met TRIM requirements from 1995, contending that it does not have the administrative capacity to benefit from any effort to re-introduce it in future.

The final article by *Ruy Quadros* (page 10) argues that compliance with the TRIMs Agreement allows advanced developing economies to pursue horizontal technology policies to drive learning and innovation around TNC strategies. Quadros asserts that Brazil has achieved the accumulated endowments to raise the export competitiveness of its automobile industry.

TRIMs AND TECHNOLOGICAL CAPACITY BUILDING

The TRIMs Agreement has significant implications for technology transfer and capability building for developing economies. Investment measures that violated the principles of national treatment and the general elimination of quantitative restrictions had found place even in GATT 1947, but the scope of the prohibitions were not clear. Developing and developed countries have used TRIMs in the past to encourage industrialisation, protect jobs, and prevent the outflow of foreign exchange. This article examines the critical issues involved for elucidating policy implications for developing economies.

■ Economic Rationale

Economic arguments on TRIMs remain divided. TRIMs have been used by developing countries mainly to promote industrialisation and other development objectives. Governments perceive that local content requirements foster domestic supplier industries. Several countries successfully developed local supplier industries through 'phased indigenisation programmes' imposed on TNCs. The local content requirements were often supported by import-substitution (IS) instruments, including trade balancing and foreign exchange control. TRIMs have also been used to check the monopolistic power of TNCs to maximise welfare benefits to host economies.

TRIMs tend to be concentrated in some industries, with varying significance. Local content was used more predominantly than export performance requirements in the automobile industry. Both instruments have been used strongly in the chemical industry, but hardly in the computer industry.

TRIMs are still favoured by some developing economies, as evident from a note circulated by the Indian Government on behalf of 12 developing countries prior to the Seattle Meeting of the WTO in 1999, which states that:

domestic content is an extremely useful and necessary tool from the point of view of developing countries. Such a requirement is often necessary for (i) encouraging domestic economic activities in raw material and intermediate input sectors; (ii) up-gradation of input production; (iii)

prevention of wastage of foreign exchange in the import of raw material and intermediate inputs; (iv) ensuring linkages of FDI with domestic economic activities; (v) encouraging indigenization in case of FDI; and (vi) to the development process in other ways. Similarly developing countries also find export performance requirements to be useful and necessary from the point of view of balanced economic growth and national development.

Governments have used a combination of incentives and conditions to extract benefits from foreign direct investment (FDI). A study by Guisinger (1985) found that in cases involving performance requirements, they were also accompanied by incentives. Host governments tended to compensate foreign investors with incentives, but for the foreign company, performance requirements act as disincentives because of the reduction in earnings from the additional costs incurred. Developing countries are increasingly competing with each other to attract FDI.

The use of this 'carrot and stick' approach has sometimes been necessitated by domestic policy distortions and market failures. Since TNCs tend to take advantage of oligopolistic conduct, they often seek market power to extract higher rents from host economies (Hymer, 1979). Local content and export performance requirements may not necessarily result in negative welfare effects when involving markets where scale and increasing returns are important (Krugman, 1989). However, in the long run, it is better to design efficient instruments other than investment measures to address market failure. Competition policies that are applied on a non-discriminatory basis may yield better results.

Some investment measures distort trade flows by inducing firms to carry out inefficient activities. In the short term, the application of TRIMs may generate some benefits. However, the long-term consequences may include impediments to the free flow of trade and investment. For instance, local content may persuade foreign firms to transfer technology and use locally produced parts. Although it fosters development of a local supplier industry, it may not become internationally competitive in the long run. In addition, host governments often face tremendous problems withdrawing them once they are introduced. While the infant industry argument requires that

firms are gradually exposed to international competition, domestic political alignments may prevent its removal. Its knock-on effect on prices and quality may create an inferior and expensive value-added chain in the domestic economy. Domestic industries may build an IS industry, but at a high cost to the host economy - leaving user industries and consumers faced with inefficient inputs and products of inferior quality as a result of restrictions imposed on learning and innovations.

■ Legal Framework

The TRIMS Agreement does not prohibit the use of all investment measures, but only those that violate the GATT principles of "national treatment" (Article III.4) and the elimination of "quantitative restrictions" (Article XI.1). The general conditions for the measure to be prohibited are that: (i) these are mandatory or enforceable under domestic law or under administrative ruling; or (ii) compliance with these is necessary to obtain an advantage. In other words, it also covers the government incentives to encourage firms to use domestically made products in lieu of imported products.

The Agreement does not define the 'trade-related investment measure'. Instead, it provides as an attachment an Illustrative List of examples of laws, policies, or regulations that may be considered a TRIM. In principle, it is any investment measure that discriminates between a domestically produced good and goods produced overseas.

The list of TRIMs include:

- local content requirements;
- trade balancing requirements;
- foreign exchange restrictions;
- domestic sale requirements;
- manufacturing requirements;
- export performance requirements;
- technology transfer requirements;
- licensing requirements; and
- local equity requirements.

However, the Agreement specifically prohibits the use of TRIMs considered to infringe GATT rules on 'national treatment' and against the use of "quantitative restrictions." It is limited in scope as it identifies only five types of TRIMs that are inconsistent with GATT, viz.,

- 1) Purchase or use of products of domestic origin or from any domestic source. Prohibition includes specifying particular products, volume or value of

the local products or as proportion of local production of an enterprise.

- 2) Purchase or use of imported products by an enterprise should be limited to an amount related to the volume or value of the local production it exports.
- 3) Restriction of imports to an amount related to the volume or value of exported local production.
- 4) Restriction of foreign exchange access to an amount of its inflow attributable to the enterprise.
- 5) Restriction of exports by an enterprise by specifying the products so restricted, the volume or value of products so restricted, or the proportion of local production so restricted.

It does not prohibit the use of other TRIMs, including export performance requirements, technology transfer or local equity requirements.

Member States were given 90 days from the date the Agreement came into effect (January 1995) to notify the WTO of any existing TRIMs in their respective countries. The Agreement provides transition periods for the elimination of prohibited TRIMs: two years for developed countries, five years for developing countries, and seven years for least developed countries, from January 1995. Member States were allowed to keep notified TRIMs during this period, but were not permitted to adopt new ones. Notified by 24 Member States were 43 TRIMs, of which 19 were related to the automobile industry and 10 to the agro-food industry.

The Agreement permitted developing and least developed countries to request extensions to the transition period, if they faced difficulties. The requests were considered on the basis of the development, trade, and financial needs of that country. The deadline for elimination of notified TRIMs for developing countries expired on 1 January 2000. Before the deadline expired, nine developing countries submitted requests for extension, ranging from 5 months (Chile) to 7 years (Argentina, Columbia, and Pakistan).

Despite being signatories to the Agreement, a few countries enacted new TRIMs or did not notify some existing TRIMs. For instance, Brazil, Canada, and India did not notify their automotive TRIMs. India notified three TRIMs inconsistent with the provisions of the Agreement: 1) Local content requirements in the production of News Print, 2) Local content requirement in the production of Rifampicin and Penicillin - G, and 3) Dividend balancing requirement involving investment in 22

categories of consumer goods. In addition, India announced a new automotive policy in December 1997 requiring auto manufacturers to sign a memorandum of understanding (MOU) specifying:

- a minimum USD 50 million investment in joint ventures, with majority foreign ownership permitted;
- a waiver of import licenses if local content exceeds 50 per cent;
- 50 per cent local content requirements for completely knocked down (CKD) packages and semi-knocked down (SKD) packages in the first 3 years and 70 per cent within 5 years;
- obligation to export within 3 years, with possible restrictions on imports for CKD and SKD if export requirements are not met.

The Indian Government claimed that the policy did not discriminate against foreign investors. The WTO dispute settlement body rejected this as irrelevant, contending that the Agreement is about discriminating goods and not ownership. India takes the position that:

The Agreement poses problems with respect to the limited transition period available for removing TRIMs and the denial of freedom to countries to channelise investments in such a manner that fulfils their developmental needs. There is therefore a need to review provisions in the Agreement relating to local-content requirements as the existing provisions come in the way of accelerating the industrialisation process in developing countries and deny these countries the means to maintain balance of payments stability. ... Developing countries should be exempted from the disciplines on the application of domestic content requirement by providing for an enabling provision in Article 2 or Article 4 to this effect.

■ Future Options

First and foremost, it is important that all signatories to the TRIMs Agreement follow it to the letter and spirit, otherwise it undermines the whole GATT Agreement and the benefits that accumulate from it.

It is time for developing countries, at least the relatively more industrialised ones, to go beyond the static gains that accrue to IS arguments. Developing countries have been using local content requirements on foreign enterprises for

many years. While it undoubtedly contributed to the development of supplier industries, the lack of competition restricted learning and innovation. In most cases the instrument merely subsidised local industrialists at the expense of consumers.

Notwithstanding arguments on their "footlooseness" and "enclave nature," TNCs open up opportunities for learning. Host country policies should be aimed at utilising these opportunities and assimilating the new knowledge for the benefit of the economy. Developing countries should focus on supply-side rather than demand-side policies to strengthen their national systems of innovation, while local firms should be encouraged to learn and innovate to compete internationally and be allowed to license or purchase technologies from abroad or form alliances with foreign firms.

Since the Agreement prohibits only a few measures, governments can still utilise other options. However, governments must be careful when introducing non-actionable TRIMs. Developing countries may in future negotiate local content requirements in selected industries. For instance, a developing country may submit one or two industries – based on its competitive advantage – in which it wants to develop technological capacities and seek local content requirement for a period of up to 10 years. However, it is very important that developing countries plan for a phased relaxation of this requirement. A conducive business environment - where the bureaucratic hurdles are minimal, political stability exists and the supply of skilled work force and both knowledge and physical infrastructure facilities are adequate - is acknowledged as a sine quo non to attract FDI.

Regional integration and free trade agreements, which extend privileges to partners and are permitted by the GATT Agreement, may induce discriminatory conduct by imposing negative externalities on outsiders either through trade diversion or increased FDI inflows into insiders, thereby distorting the principle of relative comparative advantage. Enterprises in non-member countries may lose export competitiveness to local producers and hence, seek to establish subsidiaries to gain a level playing field within the regional trade area. Non-members may lose out both in trade and investment competitiveness. For instance, in regional trade agreements, preferential trade benefits are

conferred on a product only if it embodies a certain percentage of regional content. 'Rules of origin' determine the country of origin for an imported product. This type of TRIM restricts trade to non-members with implications for FDI flows. For example, AT&T relocated the manufacture of telecommunication equipment from Asia, which was its originally favoured location, to Mexico owing to a requirement that at least nine of ten printed circuit boards be packaged within NAFTA to qualify for trade benefits.

Investment issues are currently spread out in bilateral agreements, General Agreement on Trade in Services (GATSs), and in TRIMs. However, there are strong linkages between trade, investment and technology. Developing countries, therefore, should negotiate a comprehensive multilateral investment agreement.

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TRIMs AND THE AUTOMOBILE INDUSTRY IN PHILIPPINES

This article seeks to outline the reasons for the relevance and/or irrelevance of the TRIMs Agreement for the automobile industry in Philippines.

■ The Automotive Industry in Philippines¹

Philippines has no car industry of its own. What exists is a foreign-owned – mainly Japanese – car assembly industry, which uses mostly imported completely knocked down (CKD) packages and components.

Philippines experienced rapid growth in assembly-type and light processing activities in the 1950s following the introduction of import substitution (IS) policies. Under the IS regime, the import ban on finished products was augmented with foreign exchange controls, and the Central Bank allocated scarce foreign exchange mainly to 'new and necessary industries' such as the car assembly industry. The assemblers used their foreign exchange allocations for CKD imports. The country recorded double-digit annual industrial growth rates in the 1950s, although most of the industries established were of light and assembly type, and depended on imported machines, materials and components.

In the 1960s and 1970s, the ban on completely built-up (CBU) units and foreign exchange controls was replaced with high tariffs. Tariffs were fixed at not less than 100 per cent. The industry grew, and the number of assemblers rose from 12 in 1960 to 29 in 1968.

In 1971, the Board of Investments (BOI) launched the Progressive Car Manufacturing Programme (PCMP) to promote the development of a genuine car industry through a progressive increase in local content, which was implemented in 1973. The government also launched a Progressive Truck Manufacturing Programme (PTMP) and Progressive Motorcycle Manufacturing Programme (PMMP).

The original target of the PCMP was to increase domestic content from 10 per cent in 1973 to 60 per cent in 1976. The programme sought to save foreign exchange from increased domestic parts manufacturing and expand exports based on a regional automotive complementation program

me covering the Association of South East Asian Nations (ASEAN). The PCMP prohibited imports of CBUs and rationalised the number of participants to five assemblers: Delta Motor Corporation (Toyota), Ford Philippines Incorporated, Canlubang Automotive Resources Corporation (PAMCOR) of Mitsubishi, Franciso/Yutivo/General Motors Philippines and DMG, Incorporated/Nissan Motors Philippines.

However, the devaluation of the peso and a decline in domestic demand, which followed the debt crisis, left the programme in complete disarray by the mid-1980s, with Delta Motors – the Filipino franchisee to assemble Toyota cars – and Ford and GM subsidiaries closing down their Philippine operations. Toyota Motors Philippines acquired Delta Motors. Thus, the PCMP was replaced by the Car Development Programme (CDP) in 1987, which covered passenger cars with less than 2,800cc engine capacity. CDP participants, comprising PAMCOR, Nissan, and Toyota Motors, were expected to generate at least 50 per cent of their foreign exchange requirements through exports. CDP aimed to raise local content to 40 per cent by 1990.

In addition, in 1987 the Commercial Vehicle Development Programme (CVDP) was launched to replace the Progressive Truck Manufacturing Programme. Like the CDP, the CVDP increased the 1990 local content targets to between 13.7 and 54.8 per cent, depending on the make. The CVDP required that at least 25 per cent of foreign exchange requirements were financed through exports.

The CDP was amended in 1990 to include the assembly of smaller cars called 'people's car'. New car assemblers joining this programme included Honda Motors, Columbian Autocar (to assemble Kia), Transfarm (Norkis Gurkel), Italcara Pilipinas (Fiat) and Asian Carmakers (Daihatsu). The CDP was amended in 1992 and 1994 to allow the assembly of high-end passenger cars with engine capacity greater than 2,800cc and new assemblers under the ASEAN Industrial Joint Venture (AIJV) Scheme.

■ Regulation and Deregulation

The government tried to put the vision of a Filipino car into reality by promoting the PCMP in the 1970s and 1980s through a combination of policy measures – import restrictions, tariff protection, and local content targets. However, an incoherent policy

regime and a decline in the economy restricted domestic capability building. Local capacity was further weakened as a result of the World Bank's Structural Adjustment Program (SAP), which reduced tariffs on CBUs to 70 per cent in 1981, 50 per cent in 1982, and 40 per cent in 1993.

Tariffs on CKD imports fell faster, averaging around 30 per cent in the 1980s, 20 per cent in 1993-94, 10 per cent in 1995, and 3 per cent in 1996-97. The rapid fall in tariffs seriously undermined domestic auto parts manufacturers, who lobbied for higher tariffs on CKDs. These were subsequently raised to 7 and 10 per cent respectively in 1998 and 1999.

The car market was further deregulated when the government allowed imports of second-hand parts and vehicles from Japan, South Korea, and Taiwan from the mid-1990s. The government subsequently issued Memorandum Order No. 346 in February 1996, liberalising the import of passenger cars, commercial vehicles, and motorcycles – subject to tariffs, which helped increase new car models and lower prices.

The established car assemblers managed to overcome the more competitive economic environment by expanding the volume of production, especially in 1995-96 when the economy boomed. However, the contagion from the Asian financial crisis of 1997-98 brought deleterious effects to the industry. The closures and downsizing that followed reduced jobs by several thousands. The 20 or so assemblers of Japanese, Korean, and European vehicles had to lower capacity by between 20 to 50 per cent.

The government's minimum requirement for local content was 40 per cent in 2001. While some assemblers claimed that they were able to comply with this requirement, local parts producers complained that actual local content usage is much less and had become insignificant over the years. Tariff liberalisation involving CKD packages and large-scale imports and smuggling of second-hand parts undermined the local content policy.

Some auto parts producers have achieved international competitiveness; e.g. Yazaki Torres in Laguna and EDI in Cavite where thousands of workers produce wire harnesses for export. Ramcar, a 100 per cent Filipino firm, exports world-class batteries. There are also exporters of gearboxes, tires (Yokohama), filters, silencers, aluminium wheels, plastic grills, and rubber hoses.

However, parts exporters are limited to a few components, most of which were developed in response to TNCs' global and regional strategies rather than TRIMs (Ishikazaki, 1996). For example, Japanese carmakers use Philippines and other Asian countries to manufacture labour-intensive and less sophisticated components. Further liberalisation may disperse the value-added chain regionally so that automobile assemblers can source components from different parts of Asia.

A pall of gloom hangs over Philippine car assemblers. TNC car assemblers may favour consolidation of car assemblies in Thailand or China where new large car plants are either already in place or being set up. Domestic assemblers, victims of incoherent policies of the past, and weak domestic demand, currently face competition from used cars and parts imports. In addition, Philippines' obligations under the ASEAN Free Trade Area (AFTA) and the WTO to lower tariffs to not more than 5 per cent by 2003 and 2004 respectively have set the stage for further import penetration into a narrow car market. Not only was the auto industry unable to mature to compete internationally, but it had also been subjected to rapid deregulation even before initiatives were taken to commit to the TRIMs Agreement.

The threat of firm closure and layoffs has brought together a strong constituency opposed to trade liberalisation. The Automotive Industry Workers Alliance (AIWA) has been at the forefront agitating for the postponement of the reduced tariff rates for the car industry under the AFTA and WTO and a halt on imports of used vehicles and parts. AIWA affiliates see bleak prospects from the deregulation initiatives and hence are pressuring the Department of Labour and Employment to set up a Tripartite Industry Council for the Automotive Industry. The fears of AIWA leaders have been exacerbated by the failure of the Japanese automobile companies to disclose their future plans.

Car assemblers have been calling for the maintenance of the present tariff rates, which are already the lowest among the ASEAN countries. The Philippines' tariff rate on cars in 2002 was 30 per cent compared to 80 per cent in Thailand, 45-80 per cent in Indonesia and 140-300 per cent in Malaysia. Domestic car assemblers have also been calling for the postponement of TRIMs commitments.

■ Conclusions

The automobile industry was doomed well before the TRIMs Agreement was incorporated by vacillating tariff rates and weak industrial policy. Now, the forces of liberalisation are threatening to blow away whatever gains the IS policy generated in the 1950s. The few successful parts firms emerged as subcontract manufacturers for Japanese carmakers and global markets, which are not necessarily tied to the local assembly industry. This trend could be one of the few options left for Philippines and other similar developing economies to retain parts manufacturing. However, TNCs might prefer to eventually centralise them in larger economies such as China.

Compliance with the TRIMs Agreement beginning this year, and the AFTA commitment, is likely to hasten the further contraction of the industry. While TRIMs was the basis for the creation of successful automobile industries in developed economies, its poor application in Philippines has drained away its resources. While automobile workers and local partners in joint-venture assemblies and local parts manufacturers will justifiably oppose the removal of TRIMs, the stark reality is that the industry itself had become too costly. The few successful parts manufacturers have become globally competitive and are not necessarily tied to the struggling domestic car assembly industry. Protection pursued in the past bore no relationship with the dynamic infant industry arguments advocated and implemented in Korea and Japan.

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Endnote

1 Most of the historical and tariff details were taken from Rafaelita Aldaba (2002).

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TRIMs AND INVESTMENT IN SOUTH AFRICAN MANUFACTURING

This article assesses the impact of the TRIMs Agreement on South African manufacturing by examining the following questions:

- Which aspects of the current legislative environment in South Africa are affected?
- What is South Africa's record with TRIMs?
- What is the relative importance of the Agreement for investors to South Africa?

■ The Legislative Environment

Following one of the longest periods of sustained industry protection, South Africa commenced a radical trade liberalisation programme in the early 1990s. Major changes took place in the level of import tariffs. In the majority of cases, nominal tariffs fell by over 50 percent of their former levels in the last decade with many reduced to zero. The nominal levels of protection for South African industry are now low by developing country standards. As a result, there have been widespread liquidations, consolidations and job losses within the manufacturing industry. The industries most affected include apparel and steel.

New industry-specific measures to promote competitiveness were introduced in 1995 when the Motor Industry Development Programme (MIDP) replaced a long-standing local content programme for automobile assemblers. The MIDP was designed to encourage higher production volumes of individual models and components by allowing exporters to earn rebates to offset automotive import duties. Also, the industry was exposed to greater global competition through reductions in nominal import tariff levels.

A similar, though less comprehensive programme, was introduced in the textile and apparel sector. Firms in this sector receive credits on the value of certain export products, which can be set against the tariffs on import products. The relative impact of this scheme on international trade has been smaller than in the motor industry. There are many reasons for this, including less integration in global production networks by local companies and less cohesion achieved in the industry locally.

A key outcome of policy changes over the last

decade was to reduce the relative policy bias towards production for the local market in preference to international markets, which coincided with a period of relatively sustained real decline in the value of the Rand against currencies of key trading partners. Exports became more profitable. The removal of the General Export Incentive Scheme (GEIS), which had provided an export subsidy on certain manufactured goods, had the opposite effect. Although this scheme encouraged large numbers of companies to seek their first export markets by increasing export profits, its removal in 1993 did not cause significant reversals from the export market.

Apart from the local content programme in the automotive sector, TRIMs have not played a significant role in the legislative environment in South Africa. With the exception of protective measures prior to 1950, quantitative controls on imports were not widely used. Import tariffs were the preferred instrument. South Africa has not had any infringing TRIMs in place since the removal of the local content programme from the automotive sector in 1995.

The government also introduced a number of programmes to promote domestic firms selectively. The current emphasis is to support investment by small firms, particularly those owned by historically disadvantaged individuals. The measures include investment incentives, investment grants, government procurement programmes, and assistance involving technology transfer and other forms of business support services. Only the government procurement programme may contravene the TRIMs Agreement. However, this issue is still to be clarified.

■ South Africa's Record with TRIMs

There is little doubt that the local content programme in the automotive industry in South Africa had played a crucial role in the industry's development. However, as with most other TRIMs, it was heavily and detrimentally influenced by interest groups.

Local content in the automotive industry programme was measured by weight. This outcome was partly the result of influence by the state-owned steel company, ISKOR. In addition to providing little support for higher value-added components such as engines and electronic components, this scheme supported the assembly of the heaviest cars in the world, which stifled learning, innovation, and competitiveness.

In essence, the local content programme served the purpose of encouraging the development of the local motor vehicle industry. However, it lacked the foresight and political management to ensure its movement toward international competitiveness. The local content programme kept the industry focused almost entirely on the local market. Import tariffs on CBUs of over 60 percent were required to ensure the survival of the small and medium-sized enterprises (SMEs).

The only means to break this impasse was to design incentives, which shifted the focus of attention from local to international markets. This ultimately required power to be wrested away from key interest groups, most notably upstream industries such as steel. It can be argued that TRIMs are vulnerable to capture by powerful local interest groups. Avoiding this requires tremendous political will and a capable and accountable administration.

One of the advantages of the current MIDP is precisely that it provides for no favouritism. By reducing rents, the MIDP was obviously not popular with the upstream industries to the assembly sector, but the government has not wavered from its purpose of building internationally competitive niches within the auto components sector. Where upstream sectors have been unable to adapt to the new environment, bankruptcies have occurred.

■ Investor considerations in South Africa

Key members of the South African cabinet have openly expressed their disappointment and frustration at the low level of investment in South Africa. Exceptionally prudent macroeconomic management since the first democratic elections in 1994, and low levels of government and external indebtedness were just what investors asked for, but they still did not make the hoped-for investments.

Major areas of concern for local investors include foreign exchange restrictions, volatility in the value of the Rand together with medium-term depreciation, low domestic income growth, reduced growth prospects due to the impact of AIDS, restrictive labour legislation, and threats to the maintenance of property rights, internal political stability, regional economic and political stability in Zimbabwe, Namibia, Kenya and the Democratic Republic of Congo. Foreign investors face additional concerns over official attitudes

toward skilled foreigners working and investing in South Africa.

Even where investors are willing to make investments in South Africa, special precautions often apply. An example of this is the widespread practice both by South African and foreign investors to insist that the core intellectual property be held by a foreign entity. In light of these negative factors, it is to be expected that investors look for a premium on their South African investments. There is widespread evidence that this is indeed the case, not least the willingness of wealthy South African residents to accept penalties and lower investment returns in exchange for the privilege of moving their capital offshore.

Nevertheless, investment by both residents and foreigners in South Africa has by no means dried up. The evidence suggests that companies, which are focused on international as opposed to domestic market opportunities, are more likely to offer sufficient returns.

A cursory review of recent foreign investments in new or established businesses in South Africa supports this view. Investments since 2001 by BMW, Volkswagen, and Daimler Chrysler have focused largely on international market opportunities for the 3-Series, Golf 4 and the C-class respectively. Ford invested in an engine plant, which is focused predominantly on export markets. Initially, Toyota Japan took a controlling stake in Toyota SA without any commitment to sourcing cars for overseas markets from South Africa. There is now a limited programme of exporting South African-built Toyota cars to smaller markets.

In the electronics sector, investment has also been skewed toward South African companies targeting foreign markets. Examples of acquisitions in this sector include Ziton by Edwards Systems Technology and Omnipless by the Chelton Group. Ziton exported 80 percent of its products, and Edwards acquired Ziton with a view to closing its US plant and manufacturing the entire group's products in South Africa. All Omnipless customers were foreign from the start. Examples in the information technology (IT) sector include ITouch, Mosaic Software and Intec. In each case, the domestic market represents a tiny fraction of total sales.

Investment interest in South African companies with foreign market focus is not limited to

foreigners. On the Johannesburg Stock Exchange (JSE) there has been a steady increase in the value of what are known as "Rand hedge" stocks relative to domestically-focused counters over the last decade. In addition, most if not all of the venture capital companies in South Africa have a declared strategy of investing only in companies seeking foreign market opportunities.

What are the implications of the international TRIMs Agreement for investments in South Africa?

Firstly, TRIMs have only been used in South Africa to support companies seeking to exploit the domestic market. In today's environment, it is hard to conceive large untapped opportunities in the local market for which it would be worth introducing a TRIM. For investment possibilities in the high technology sector, which often represents some of the better growth prospects, the local market is unlikely to be a significant factor. Even large incentives may be insufficient to persuade investors to locate in South Africa instead of other places or to enable a local player to succeed when it might otherwise have failed.

Secondly, while some East Asian tigers employed TRIMs to support companies seeking to exploit foreign markets, no such precedent exists in South Africa. It could be argued that South Africa lacks the administrative capacity to introduce such a TRIM. In view of this, it is unlikely that any TRIM would be seriously considered by the current South African Government, even if the Agreement had not precluded it.

■ Conclusion

Political and social factors distract FDI from South Africa. Investment legacies and advanced technological capabilities in certain niche sectors have continued to attract targeted investment in companies focused on international markets. All contravening measures were effectively removed from 1995 and hence South Africa was already compliant even before the TRIMs Agreement came into force. Under current conditions, it seems unlikely that any TRIM measure would have a major impact on current investment preferences.

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TRIMs, TNCs, TECHNOLOGY POLICY, & THE BRAZILIAN AUTOMOBILE INDUSTRY

Investment in the Brazilian automobile industry boomed in the period 1995-99, benefiting from a federal incentive scheme – Regime Automotivo (RA). The consequent influx of greenfield investment and acquisitions expanded the already dominant role of TNCs in the industry. However, as a signatory of the TRIMs Agreement, Brazil had to abandon RA and related incentives as of 1 January 2000. This article argues that compliance with the TRIMs Agreement does not necessarily deter TNCs from learning and innovating domestically. Brazil has achieved the accumulated endowments to raise the export competitiveness in the automobile industry. There is still room for technology policies, which may be useful for promoting exports and investment.

■ The Argument

TNCs' strategies have evolved so much that countries with fairly advanced accumulated technological endowments – e.g. Brazil, India, Singapore – still have the chance to strengthen their science and technology infrastructure to stay attractive. Some TNCs are increasingly relocating advanced stages of value chains in host-sites endowed with technological infrastructure. The rich supply of good quality, cheap engineering and technical labour has made Brazil a key target for TNCs. Also, rising integration tendencies of TNCs have given local suppliers the chance to integrate horizontally in component manufacturing, and thus some are now able to serve global markets. These developments – despite being initiated by TNC strategies and global trade governance instruments – have given room for advanced developing economies to introduce technology policies to sustain learning and innovation.

■ Automobile Industry Transformation

The automobile industry has a large economic presence and consequently generates considerable political influence on the Brazilian economy. Vehicle assembly and auto-parts manufacturing together accounted for nearly 13 per cent of industrial output and a quarter of manufactured exports in Brazil in 2001. Brazil's large domestic market absorbed 78 per cent of the 1.8 million vehicles produced in 2001.

Cars, trucks, and components have been critical

to industrial growth and technological upgrading in Brazil since its promotion under the second wave of import substitution (IS) industrialisation in the 1950s. While TNCs have always dominated automobiles, auto-parts manufacturing evolved under the ownership of TNCs and local firms. Rapid growth behind protective barriers has made the automobile industry a major symbol of Brazilian industrialisation since the 1950s.

However, the government faced a dilemma in the early 1990s when economic stagnation and trade liberalisation triggered its first big slowdown. Burgeoning vehicle and component imports and falling domestic demand cut deeply into domestic output. The sudden explosion in imports severely aggravated Brazil's balance of payments. Matters worsened for domestic assemblers and component manufacturers when the Argentinean Government adopted an incentive scheme to promote FDI in automobile production.

The Brazilian Government responded with the RA, which reduced import tariffs on vehicles, components and equipment for enlisted firms in exchange for performance targets - measured on the basis of export and investment in new or existing plants. Also, the RA imposed a minimum average national content of 60 per cent. Import tariffs on finished vehicles were raised to 70 per cent (to be phased down to 35 per cent by 2000) and on auto parts were reduced to an average of 10 per cent. The prime signatories to the RA were TNCs. The Government sent out a clear message that Brazil intends to become a production base for global markets irrespective of ownership.

The RA helped stimulate a large increase in investment in the Brazilian auto industry, which rose from US\$10 billion in 1990-1995 to US\$17 billion in 1996-2000. The investment boom was accompanied by extensive restructuring, which aided the rise in productivity and competitiveness in the second half of the 1990s. Scale economies and technological upgrading helped narrow Brazil's technological gap - both product and process - with more advanced economies in the automobile assembly and parts manufacturing industry.

The RA helped transform the automobile industry in two ways. First, a major surge in mergers and acquisitions transferred ownership of most large Brazilian component producers to foreign businesses, which dichotomised the industry by the late 1990s. Vehicle assembly and manufacturing of high value added components were completely controlled by

TNCs, and simple auto parts manufacturing was carried out by many Brazilian SMEs. Traditional players such as Volkswagen, General Motors, Mercedes Benz, Ford, Fiat and new entrants - e.g. Renault, Peugeot, Toyota, Honda - control all assembly activity and the higher value added segments of auto parts manufacturing.

Second, the massive investment by TNCs helped industrial upgrading in the automobile industry. Product and process technology development (PPD) mushroomed, which acted as a catalyst to attract new FDI. The number of new car platforms launched in the 1990s increased by 400 per cent from the 1980s figures

Part of the investment under the RA was used to update and accelerate learning and innovation in product and process technology. The transformation in the intensity and quality of technological activities in the auto industry can be assessed by the growth in engineering jobs, which rose from 4,000 in 1993 to 6,000 in 2001. This was remarkable given that total employment in the industry fell in the period. The assembly and components industries accounted for 15 per cent of R&D expenses of the manufacturing industry in the late 1990s.

R&D activities in the Brazilian car industry have been concentrated in the adaptation of global platforms to local conditions and the development of related derivatives. However, new product development has characterised specific models, packages and targeted at the local market - e.g. 1000cc engines for sub-compact models, alcohol fuel engines, stronger suspension and absorbers. Moreover, some TNCs have chosen their Brazilian subsidiaries as "centres of competence" in particular technologies - e.g. Fiat in suspension and absorbers, Mercedes Benz in natural gas engines and Mahle in engine rings. TNCs have increasingly replaced their multi-domestic approach with an integrated global approach to locate R&D activities (Medcoff 1997; Bartlett and Ghoshal 1998). TNC subsidiaries in Brazil have consequently experienced deepening of PPD activities aimed at serving the global corporation. The development of sub-compact models by Fiat, General Motors and Volkswagen - where their Brazilian subsidiaries recently became project centres for sub-compact cars designed for developing countries - strongly follow the new approach. Yet, not all subsidiaries followed the same route. Ford, for instance, has centralised further PPD in its European R&D centre.

The growth in PPD competency has brought major ramifications for investment and exports. Design centres have strengthened Brazil's position in export markets – to China, Mexico, Italy and other South-American countries. Subsidiaries of General Motors and Mercedes Benz export engineering services to other subsidiaries. Also, Brazil's emergence as a major site for these projects has given Brazilian subsidiaries decision-making powers in the selection of suppliers, which has raised demand for local suppliers (Salerno et al, 2002). Further, the accumulation of PPD capabilities and the low cost of Brazilian engineering labour have attracted more investment in R&D. Fiat plans to expand PPD activities in Brazil to supply the Fiat group of companies world-wide. The Brazilian automobile and components industry should experience further expansion, learning and innovations through the increased participation of TNCs. In brief, the enlargement of PPD capabilities in TNCs' Brazilian subsidiaries in the auto industry is a potentially strong leveraging instrument for stimulating investment and exports.

■ Conclusions

This article advances the argument that recent liberalising initiatives under the WTO have left adequate room for manoeuvre in economies with accumulated technological capabilities. The RA, which targeted restructuring and modernisation of the Brazilian automotive chain in the late 1990s, was superseded in January 2000 by the TRIMs Agreement. Many factors are now seen as critical in sustaining international competitiveness. The global restructuring of the auto industry, with growing horizontal integration of value chain segments, has offered advanced developing economies like Brazil significant learning and innovation opportunities from the enlargement of PPD activities. Although TNCs continue to dominate ownership of manufacturing assembly and the higher value added components, the deepening of such activities in Brazil and the consequent growth in demand for local SMEs has helped stimulate investment and exports. The capacity of the South American domestic market (in terms of size and stability) to sustain economic output scales and productivity growth remains unclear.

The new evolving trading environment, with the TRIMs Agreement, does not prevent advanced developing economies like Brazil from using TNCs as important planks to access export markets more easily – particularly Mexico, China and other Asian countries. Given the significance of engineering and technical labour – explicit and tacit – in stimulating PPD activities in TNCs, technology policy should be the basis of future industrial promotion in developing economies. Advanced developing economies in particular should adopt technology policies to promote learning and innovation. Incentives and grants for education, training, and

R&D are compatible with the TRIMs Agreement and hence should be supported to stimulate exports and investment in developing economies.

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