
Automotive industry in Malaysia: an assessment of its development

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Abstract: This paper explains the evolution and assesses the development of the Malaysian automotive industry within the premise of infant industry and trade protection framework as well as extended arguments of infant industry using a global value chain perspective. The Malaysian automotive industry expanded in terms of sales, production, employment and local content, but failed in industrial upgrading and international competitiveness. The failures can be attributed to (a) lack of political promotion for high challenge-high support environment, (b) low technological and marketing capabilities and (c) limited participation in the global value chain. Although the Malaysian infant industry protection policy comprised many promising initiatives, the national and the overall domestic automobile industry ended up as a captive of the regionalised Japanese keiretsu system in automobile manufacturing. A new transformation is required to push the industry beyond its current performance through a more strategic productive coalition with multiple stakeholders including trade unions.

Keywords: automotive industry; competitiveness; infant industry; trade protection; global value chain; performance; economic crisis; PROTON; Malaysia.

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1 Introduction

The Heavy Industrial Policy in the early 1980s marks a significant change of industrialisation strategy in Malaysia towards building a nationally owned and controlled automotive industry. The inauguration of the first national automotive project, PROTON, in 1983 with the formation of a joint venture between the Heavy Industry Corporation of Malaysia (HICOM), Mitsubishi Motor Corporation (MMC) and Mitsubishi Corporation (MC) of Japan was the Malaysian government's attempt to increase local content, rationalise the industry to achieve economies of scale and upgrade the assembly industry to a manufacturing industry with international competitiveness (Abdulsomad, 1999). Equipped with the protective measures and subsidies in various ways by the government, the first Proton cars were rolled out in 1985. Subsequently, the national automotive programme also established a small car manufacturer (PERODUA) in 1993, a heavy vehicle company (Malaysian Bus and Truck, MTB) in 1994, a motorcycle manufacturer (MODENAS) in 1995, and a light vehicle commercial manufacturer (INOKOM) in 1997. With the announcement of the 'National Automotive Policy' (NAP) in 2006 and its review in 2009, the Malaysian government further confirmed the previous policy of developing a national automotive industry of OEMs and supplier and related industries as envisaged in the early 1980s (MIDA, 2006; MITI, 2009).

Although this kind of 'industrial nationalism' is evident in other developing and developed countries, at least in the early stage of evolution of the automotive industries, many have given up sustaining domestic automotive companies while some have moved on and developed their ability to compete internationally. Japan built its own automotive industry from the ashes of the WWII, and gradually increased its world market shares until Toyota Motor Corporation became the global champion in 2008. South Korea followed the same path from the 1970s, ending up with an automobile maker in the top-10 league in the 21st century. However, Malaysia has not been able to replicate the success stories from Northeast Asia. Therefore, in the case of Malaysia, two important questions prevail:

- 1 Why the Malaysian-controlled automobile industry has not become internationally competitive?
- 2 Whether or not the Malaysian automotive sector can still become a regional and global export industry?

In view of this problem area, the paper first outlines the theoretical debate about the role of active industrial policy in pursuing industrialisation of developing countries. This review will frame the old issues of infant industry policy and import-substitution in a larger perspective of global value chains (GVCs) and how industrial policy can help to insert developing countries, industries and firms into the global economy. The paper proceeds and examines the evolution and development of the automotive industry in Malaysia until the end of the 2000s including the impact of the global crisis in 2008–2009 on the Malaysian automobile industry. Finally, within the established framework, an assessment on the automotive development is made to answer the two important questions. The paper ends with a conclusion summing up the arguments.

2 Theoretical background

In the pre-globalisation era of economic development the automobile industry was considered the ‘industry of industries’ meaning that it had the potential to drive industrialisation ahead due to its linkages and spill-over effects on other manufacturing industries (Dicken, 2007). Because economic systems and dynamics were primarily demarcated by national borders, the key policy intervention in favour of automobile industrial development was infant industry support and for all ‘latecomer’ countries, in particular developing countries, this support would have to be combined with import-related protection against foreign automobile inflows carried by pre-independence dealer subsidiaries, joint-ventures or franchising arrangements. Industrialisation of developing countries therefore often meant de-internationalisation of the specific industries considered.

This template of infant industry protection has been used throughout automobile industrial history by Western countries. However, the infant industry and protectionist measures have been criticised in various way and completely rejected by neo-liberal economists and politicians during the 1980s and 1990s with the emergence of economic globalisation. Hence, Malaysia’s ‘industrial nationalism’ in the automobile sector stood out as a counterpoint or heterodox economic policy intervention at a time where the so-called ‘Washington Consensus’ prevailed. In East Asia it was part and parcel of developmental state thinking that dominated governing circles in Japan, South Korea, Taiwan and Singapore, and with the new Mahathir administration in Malaysia from 1981 the strategic political intent of ‘Looking East’ meant taking Japan and South Korea as economic developmental models (Wad, 1988; Jomo, 1994). In addition, the national automobile project and the heavy industrial policy were part of the ‘New Economic Policy 1971–90’ aiming for the socio-economic uplifting of the ethno-majority of Bumiputeras (primarily ethnic Malays) to the same status as the ethno-Chinese minority.

2.1 The controversy of infant industry protection

Several arguments for and against infant industry protection have been presented (Lynn, 2003). The basic issue has been if the market or the state should drive industrialisation. The protagonists of infant industry protection hold that establishing a new industry is costly and will take time until it can achieve economies of scale and become economically viable. Thus, investors and entrepreneurs would only engage in such a long-term endeavour if they were at least temporarily compensated and shielded by the state until the companies broke even.

The key argument against infant industry support and protection contends that if the new industry is a fertile investment opportunity, capital will flow into the industry and generate investments, economic growth and employment. Taking active part in direct industrial investments against the interests of national and international capital governments will only distort efficient market allocation of capital and labour and more basically distort the relative comparative advantages of the country. If subsidies and anti-competitive measures are taken, the policy will in addition create rents and rent-seeking stakeholders and these groups will defend their privileges and make it difficult to scale down policy support whatever the competitiveness of the industry. Moreover, temporary infant industry protection would be very difficult to implement in an effective and efficient way because phasing in, monitoring and phasing out state support and protection would require a series of difficult decisions about selecting entrepreneurs and companies of 'lead' firms. Besides, providing financial resources and skilled labour, developing a capable supplier industry and related business services, setting standard and regulatory institutional frameworks, promoting a healthier sectoral innovation system, providing conducive physical infrastructure and finally setting an appropriate tariff and tax system that promotes affordable automobile purchase for an increasing share of the adult population are also made difficult. Therefore, public resources would be easily locked-in for loss-making industrial projects and these resources would not be available for alternative and more beneficial investments.

The debate peaked about whether it is at all possible for a state bureaucracy to 'pick the winners', the specific companies and entrepreneurs that are compensated to build the new industry. In neo-classic economic theory the market mechanism functions as the selection device, and the market selection is best when the state provides all players with a level playing field and follows a hands-off principle. In a 'developmental state' perspective the state may take on the entrepreneurship and build 'national champions' before they eventually commercialise or privatise the state owned enterprises (SOEs), or the state may select a few local private companies and enable them to establish competitive enterprises in various market segments before state support and import protection are reduced and phased out. In retrospect the crucial problem is whether the state combines support with performance targets and monitor and sanctions business practices accordingly. These two positions have been partly integrated and surpassed by Rodrik (2004) arguing that neither markets nor governments and state agencies can pick winners *ex ante*, but they can pick losers *ex post* and take them out of the game.

2.2 *Re-globalising developing country economies*

According to Schmitz (2007) the global economy is a reality today and domestic based industries cannot develop in the long run unless they link up with and become part of the world market. Emphasising this premise, Hubert Schmitz provides a framework that takes the discussion of infant industry protection beyond the old premise of national industrial economics into the relatively open global economy of the 21st century. Schmitz suggests that we conceive industrial policy as delivering industrial challenges and industrial support. Low challenges, due to e.g. an isolated economy or erection of protectionist trade barriers, may weaken the industry's competitive edge and make it rather complacent appropriating monopoly or state rents and avoid risky investments and innovative efforts, thereby sustaining low levels of productivity. High challenges may either invigorate the industry and bring it on a course of rapid upgrading and increased competitiveness, or undermine existing industrial capabilities and wash-out local firms that are less productive and competitive. The outcome of the 'high challenge' option depends on the support provided to the industry by state agencies (or other stakeholders) enabling the industry to cope with the increased challenges, e.g. foreign competition, and restructure to a higher and adequate productivity and competitive level. The Washington Consensus meant 'high challenge-low support' and implied that trade liberalisation and deregulation of state economic and industrial interventions raised the level of competition for domestic firms without supporting them, and many local firms were downgraded or squeezed out of the (formal) market. Schmitz prefers the 'high challenge-high support' option arguing that it is possible to pursue such a route of 'active industrial policy' even in a globalising economy. But the policy has to be smart and differentiated in accordance with the technological and marketing 'gaps' that the particular developing country industry and firms are facing.

The 'gap' theory suggests that the combination of 'high technology and high marketing' gaps calls for industrial policies that focus on attracting and nursing FDI in strategic sectors of economic development. Local entrepreneurs and firms will not be able to triumph over high technology and marketing barriers at the same time. By way of their competitive advantage MNCs will possess technology and marketing capabilities that enable production and export from the developing country starting a positive trajectory of industrial growth. However, high growth may not necessarily translate into higher value added production as seen in e.g. the foreign controlled electronics industry in Malaysia (Best and Rasiah, 2003; Best, 2007). Only in industries where both gaps are small local firms have a chance to overcome the obstacles and export own products, but such conditions may often pertain to neighbouring emerging markets and be limited to low value added products and will require active state support (export subsidies, tax benefits, global marketing services, etc.). If technological capabilities are available, e.g. as a result of infant industry policies in the past, local firms may access advanced foreign markets (Northern) through linkages with lead firms in global value chains which command distribution networks in Northern markets. This potential has been documented in buyer-driven global value chains linking garments and shoes industries in East Asia to Northern markets (Gereffi, 1999). Even captive forms of insertion have often enabled upgrading of product and process technology of local firms although this form of linkage does not enable functional upgrading to higher value adding activities (Gereffi et al.,

2005). Again, state support of e.g. linkage formation between local and foreign firms will enhance this kind of industrial expansion. Finally, facing a relatively high gap in technological capabilities but a low gap in marketing capabilities, make possible licensing agreements or joint ventures between local and foreign firms as a viable option. Domestic industrial policy and state agencies can once again be important in identifying, importing and transferring licences and increase absorptive capabilities among local joint venture partners and vendors.

2.3 Reconsidering industrial policy of developing countries in a globalising economy

Aiming to analyse industrial policy and processes in a developing country like Malaysia from the emergence of the automotive industry in the 1960s to the global financial and economic crisis by the end of the 2000s Schmitz' gap-matrix must be extended with a global-local market dimension. Adding this distinction acknowledges that the adequacy of technological and marketing capabilities vary according to the market segment or level that the focal firm is targeting. Moreover, the governance and the regulation of the automotive value chain can be analysed at a domestic and global level enabling an understanding of the interaction of local and international factors and stakeholders. Governance of global value chains takes place at the global level ('driveness') and the inter-firm level ('coordination') and it may also be impacted by socio-cultural or institutional norms and values of the context within which it is operating (Coe et al., 2008; Gibbon et al., 2008). International product and process standards have become more and more important as mechanisms of inter-firm governance and extra-firm regulation in global value chains (Nadvi and Wältring, 2003; Ponte and Gibbon, 2005). Within the global automotive value chain several actors of drivenness may exist, e.g. producers (OEMS), producer-supplier alliances or maybe even suppliers (Wad, 2008). And even within one global value chain several market segments may exist which are driven by different forms of governance and lead firms, e.g. the OEM market and the replacement market (Wad, 2006).

This paper will only demonstrate how such a perspective can inform the explanation of the evolution of the Malaysian automobile industry and question the options available for Malaysian industrial policy-making.

3 Overview of Malaysian automobile industry

3.1 Structure and development

In Malaysia, the expansion of sales and production of motor vehicles took place through different phase of development in response to different policy initiatives and other factors: import-based industry 1957–1966; import-substitution 1967–1982; joint national automobile programme with Japanese auto makers 1983–2003; independent national automobile industry from 2004 to the present loosing market shares to foreign controlled (and 'ex-national') firms in the domestic market. Along the way, different policy and political factors shaped the industry (Table 1).

Table 1 Industrial, investment and trade policy

<i>Periods</i>	<i>Events</i>
1957	Malaysia independent as Federation of Malaya. Import of CBUs continues.
1963	Malaysia began to encourage the establishment of the automotive industry.
1964	Policy announcement to encourage assembly and manufacturing of components parts of automobiles.
1967	Six assembly plants approved by the government (mainly joint venture projects with European and local partners). More approvals followed in mid-1970s.
1970	Recommendation for expansion of local content to 40% (Walker Report).
1983	1 st National Car project approved and agreement struck between HICOM, Mitsubishi Motor Corporation and Mitsubishi Corporation.
1984	EON is formed as a sales company for Proton vehicles, but not controlled by Proton.
1985	Launch of National Car Project (PROTON) and production of Proton Saga.
1986	Promotion of Investment Act 1986 offers tax exemptions (Pioneer status & Investment Tax Allowance).
1993	2 nd National Car project (PERODUA) was established to produce smaller and affordable vehicles (PERODUA is expected to complement PROTON and the vendor development programs). Joint venture with Daihatsu, Mitsui and several government controlled companies where Malaysian equity amounted to 68% and Japanese equity to 32%.
1994	3 rd National Automotive Project, Malaysian Truck and Bus (MTB), was established to produce smaller lorries and busses. Joint venture with Diversified Resources Berhad (DRB), Hicom Holding Bhd., Isuzu Motor Ltd, Japan and ITOCHU Corporation.
1995	HICOM with PROTON is privatised and controlling share is acquired by Jahaya, owner of DRB. His death March 1997 in a helicopter crash, a few months before the outbreak of the East Asian financial crisis, turned DRB-HICOM and PROTON into dire straits.
2000	State-controlled Petronas takes DRB-HICOM's controlling share of PROTON. Later government controlled investment agency, Khazanah, acquires the largest stake of 43%. Proton Edar, established 1985, and tied to DRB-HICOM, acquired by PROTON.
2001	PERODUA is restructured from a joint venture (72% Malaysian equity) with a vehicle sales firm (PSSB), vehicle manufacturing firm (PMSB) and engine manufacturing firm (PEMSB) into two joint ventures whereby Daihatsu and Mitsui acquire 51% equity control of the new company, the Perodua Auto Corporation (PCSB) which again controls 51% equity of the manufacturing (PMSB) and engine (PEMSB) companies.
2004	PROTON becomes fully owned Malaysian company. MMC and MC exit as minority shareholders.
2005–2006	Transformation of tariff protection measures to excise tax measures adapting to AFTA. Announcement and launching of the National Automotive Policy (NAP).
2007	MTB becomes majority owned by joint venture partner, Isuzu Motors (51%), acquiring 31% stake from DRB-HICOM in addition to its existing 20% stake.

Table 1 Industrial, investment and trade policy (continued)

<i>Periods</i>	<i>Events</i>
2009	Second stimulus package, including auto scrapping scheme for PROTON and PERODUA and funding of the Malaysian Automotive Institute. Review of national automotive policy (NAP) by October of 2009. Proton Edar and EON merge whereby PROTON consolidates control of total sales network.
2010–2020	NAP policy for 2010–2020: <ul style="list-style-type: none"> • Continuing liberalisation of domestic automobile market. • Incentives for inward FDI aiming to become a hub for production and export of high-value added vehicles (luxury cars, electric (EVs) and hybrid vehicles (HEVs). • Strategic partnership between PROTON and global automaker. • Phasing out of approval permits (APs) for CBU import by end of December 2015 (limited APs will be issued).

Source: Authors

By the end of the 2000s the automobile industry in Malaysia consisted of 15 motor vehicle producers (OEMs) of which six are motor vehicle manufacturers and nine are assembling companies including franchise holders having rights to assemble, and most are non-national car assemblers like Toyota and Honda. As of June 2009, the two designated ‘national’ car manufacturers, Proton and Perodua¹, captured 57.8% of the total vehicle market with 27.1% and 30.7% controlled by Proton and Perodua, respectively² (MAA, 2009a). The national automotive sector in Malaysia has de facto been reduced to one corporation³, Proton, and the totally installed domestic capacity is above 960,000 motor vehicles (MIDA, 2009). Compared to domestic production around 530,000 units in 2008 the capacity utilisation of the domestic automobile industry is 55.2% at the peak of production.

The competitiveness of the Malaysian automobile industry hinges very much on the quality, efficiency and delivery capabilities of the auto components and parts sector. These auto component and part suppliers service two markets, the original parts and components demanded by the vehicle makers (OEMs) and replacement equipment market (REM) where items are being bought by repair shops and individual customers. In 2008, there are around 690 firms manufacturing and supplying over 4000 automotive component and parts (MIDA, 2009) and of this, 70% are OEM supply. The component and parts sector accounted for RM 6.37 billion in sales with RM 4.6 billion and RM 2.0 billion in imports and exports in 2008, respectively. Around 45 components manufacturers export components and parts primarily within low-tech products like steering wheels, rims, brake pads, wheels, bumpers, bodies, exhausts, radiators and shock absorbers. Among the original equipment suppliers (OES) major players include the foreign manufacturers such as Delphi Automotive Systems, TRW, Siemens VDO, Bosch, Denso and Nippon Wiper Blade while the major local players include APM Automotive, Sapura, Delloyd and Ingress (MIDA, 2009). Some of the firms (Ingress, Hicom Teck See, Sunchirin, APM Corporation and Delloyd) have established investment in ASEAN countries like Thailand and Indonesia. Despite some well-established firms in this segment, a majority of the firms are still lacking in terms of technology progress (Simpson et al., 1998; Zadry and Yosof, 2006; Rosli and Kari, 2008; Wad, 2008). In the

OEM segments, transnational OEMs have established ever-rising international standards of global brands including the ISO/TS 16949 (Wad, 2006). Investments in technology and R&D are still too low with around 2% in average during 2000–2005 for OEMs, while other equipment manufacturers only spend around 0.14% (DOSM, 2009, own calculations). Issues of volume, quality, high price, and dependence on technology suppliers for design have made these segments to be more vulnerable especially during crisis. The sector is also unable to compete with the counterpart, Thailand that has well established its parts and component manufacturing clusters.

The quality of the workforce is another pillar of industrial competitiveness. The auto manufacturing and assembly and the parts and components manufacturers generated nearly 50,000 jobs in 2008, with 24,310 and 24,249 employed in the motor vehicle and parts and accessories sub-sectors, respectively, and 6614 jobs in residual transport equipment (Table 2). Proton and Perodua have the largest share of workforce with nearly 70% of the total employment of motor vehicle manufacturers. The industry recorded 4.9% annual average growth rate of employment over the past eight years. Relatively speaking the workforce is highly unionised (above 40%) in one industrial union and several enterprise unions (Wad, 2009b). Employers have no employers' association and collective bargaining takes place at the company level.

Table 2 Total number of employment by industry, 2000–2008

<i>MISC Code</i>	<i>Industries</i>	2000	2002	2004	2006	2008
341	Manufacturer of motor vehicles	14,568	16,988	19,055	21,880	24,310
343	Manufacturer parts & accessories for motor vehicles & engines	18,380	23,499	24,188	25,644	24,249
359	Transport Equipment n.e.c.	5322	5299	6021	6555	6614
	Total	38,270	45,786	49,264	54,079	55,173

Source: MPC, 2009

Note: The employment number is based on survey of selected firms. In average, 16 motor vehicle manufacturers, 100 parts and component manufacturers and 25 other transport equipments manufacturers were surveyed.

Due to the past dependence on motor vehicle assembling and low technology applied, unskilled workers comprise of more than 80% of the workforce while skilled and semi-skilled is around 5–7% (Table 3). The tremendous gap in human resource recruitment and development has to be overcome if the industry attempts to create new advanced automotive technology cluster and enhance its product development. Automotive manufacturers have engaged in skill enrichment programmes, not least the national auto manufacturers. For instance, Perodua's application of the Japanese production standards and procedures requires improvements in human skills. In this aspect, employees receive various training in production control, welding, painting, trim and final maintenance, tooling, stamping and quality control (Rasiah, 2001; Mahidin and Kanageswary, 2004). This has contributed to the development of skilled and semi-skilled workers. Although, Perodua and Proton undertake skill improvements programmes, in average, the industry still lacks the investment in training and employability of skill workers. The training expenditure as a percentage of sales for both manufacturers of motor vehicles and other transport equipments is below 0.10%.

Table 3 Training and skill level

<i>Manufacture of motor vehicles, trailers and semi-trailers</i>				
	<i>Training (% of sales)</i>	<i>Skilled Workers</i>	<i>Semi-skilled Workers</i>	<i>Unskilled Workers</i>
2000	0.06	5.09	5.34	89.58
2001	0.06	5.24	5.40	89.36
2002	0.10	9.36	5.64	85.00
2003	0.07	5.80	5.66	88.54
2004	0.04	6.73	5.92	87.35
2005	0.07	7.09	6.00	86.91

Source: Authors calculation based on annual manufacturing survey dataset, DOSM, 2009

Note: Skilled, semi-skilled and unskilled workers represent the percentage of degree holders, diploma holders and non-degree and diploma holders out of total workforce.

3.2 Domestic and international trade performance

3.2.1 The national champion of Malaysia

The automotive industry in Malaysia expanded tremendously from 1980 to 2009. Total new vehicle sales went up from around 97,000 in 1980 to 537,000 in 2009, and assembling of vehicles increased from around 104,000 in 1980 to 489,000 in 2009 (MAA, 2009b; MAA, 2010), roughly increasing the domestic automobile market five times. Malaysia is primarily buying and producing passenger cars (Wad, 2009). In 2009 passenger vehicles accounted for around 91% of new vehicle registration and of vehicles assembled. However, by the end of the 2000s Proton lacks competitiveness in domestic and international markets in spite of several measures taken to upgrade the corporation over the years. The national auto manufacturer upgraded technologically to original design manufacturing (ODM) in 2000 and to engine manufacturing in 2002. These achievements followed Proton's collaboration with and acquisition of the British sports car maker, Lotus, and technical collaboration with another European engineering firm respectively. However, Proton and other Malaysian auto makers have not entered the automobile technology frontier (e.g. energy efficient vehicles). A persistent ownership delinking of production and sales functions has also marred Proton from its very inception.

In the 21st century Proton lost domestic market shares but it has stayed profitable most of the time and generated additional employment (Table 4). This indicates that in a protected market Proton can be viable with selective government support of the national auto sector. However, advances in domestic and international markets are conditioned by technological and marketing capabilities, and Proton is still suffering from a double gap. It has improved but so did its global and regional competitors.

Table 4 Revenue, employment and exports, Proton, 1999–2009

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Revenue (RM million)	6902.9	8571	7674	6361.2	8483.3	7796.9	4687.3	5621.6	6486.6
Profit after tax (RM million)	311.8	613	809	510.3	442.4	46.7	(589.6)	184.6	(301.8)
Employment	6228	9910	9466	8715	10,300	11,159	9525	11,500	11,500
Domestic Car Sales (units)	195,228	227,229	205,471	146,339	182,924	166,968	88,635	116,911	139,824
Exports (units)	8838	8648	7929	7339	17,243*	12,765	20,528	17,337	17,387
Revenue (Domestic) RM Million	n.a.	n.a.	n.a.	5494.8	7052.0	6441.0	3162.3	4131.9	n.a.
Revenue (Exports) RM Million	n.a.	n.a.	n.a.	866.4	1413.3	1355.9	1525.0	1489.7	n.a.

Source: Company's annual reports

Note: * Sales of new models e.g. GEN 2 increased the exports more than double. Proton also expands to new export markets such as China and Middle East. Financial year ends on March each year.

3.2.2 Trade performance

In 2007, the world share of automotive exports in the total merchandise exports is 8.7% (WTO, 2008). Among the developing and emerging economies (NIEs), China, Korea and Thailand were the top exporters of automotive products. Malaysia's automotive exports are 0.6% of the total merchandise exports of Malaysia. From 2000 to 2007 the automotive exports of Malaysia increased from US\$ 121 million to US\$ 1122 million (Table 5). However, the trend shows that Malaysia's exports share is still far below even that of Taiwan, Philippines and India who mainly concentrate on domestic markets (WTO, 2008). Malaysia's imports show an increasing trend from 1990 to 2007, too. This might also indicate that without the domestic market Malaysia's automotive sector would find it difficult to survive. In turn, Thailand having a positive trade balance exhibits a better position in trade than Malaysia (Wad, 2009a).

Table 5 Exports and imports of automotive products of Malaysia, 1990–2007 (million US\$)

	1990	2000	2005	2006	2007
Exports	121	307	725	920	1122
Imports	1312	1833	3395	3221	3223

Source: WTO, 2008

Note: Automotive products include SITC groups 781, 782, 783, 784, and sub-groups 7132, 7783. Other transport equipment such as railway vehicles, aircraft, spacecraft, ships and boats and its components and parts is excluded. Based on SITC rev. 3.

In the auto components and parts segment, sales, exports and imports show an increasing trend over the years (Table 6). However, the sector is still highly dependent on imports. The negative trade balance of automotive products indicates that Malaysia also needs to improve its competitiveness in component and parts manufacturing. Inability of local suppliers to meet quality, provide cheaper component and parts has encouraged the auto manufacturers to source for import components, and due to commitment to foreign partners in return for technological know-how, suppliers hardly have the avenue to export. With low R&D spending (in average 0.14% for 2000–2005), the equipments manufacturers have limited opportunity to compete with foreign counterparts. Although, exports of the sector increase over the years, it is still far below that of Thailand and other emerging economies. Unlike, China for instance, Malaysia's export competitiveness in this sub-sector experiences very slow improvement (Loke, 2007).

Table 6 Sales, exports and imports of auto components and parts (RM billion)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Sales	3.00	3.93	4.65	5.19	4.90	4.91	5.86	5.25	5.46	6.37
Imports	1.10	1.14	1.21	1.48	1.50	2.24	3.98	4.08	4.50	4.60
Exports	0.44	0.32	0.53	0.73	0.86	1.07	1.40	1.85	2.70	2.00

Source: MIDA, 2009

3.3 Impact of recent credit crunch

The unfolding global crisis since 2008 has had a diverse impact on the global automotive industry hitting developing countries less severely and later than developed economies (Wad, 2010). The shrinking exports growth and private investments of Malaysia

(as a result of the crisis) has ultimately impacted the industries, labour market and subsequently the earnings. Overall, the industrial production index shows a contraction in all the industries in the first and second quarter of 2009. The passenger cars and commercial vehicles segments maintain a positive production growth in 2008 but in 2009 production index of passenger cars showed a contraction of 10.5%, 11.6% and 3.5%, in quarter 1, 2 and 3, respectively (Table 7). Similarly, the commercial vehicle market segments was robust in 2008 and 2009 despite the global downturn recording a positive growth for the period of 2008 and 2009 except in first and second quarter of 2009. However, the growth is very much lower when compared to the growth in 2008.

Table 7 Sales of passenger and commercial vehicles in Malaysia (annual change %)

	2007				2008				2009			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales of Passenger Cars	4.1	4.9	25.1	42.4	25.7	27.8	10.4	10.5	-10.5	-11.6	-3.5	18.5
Sales of Commercial Vehicles	-70.9	-60.1	-60.1	55.3	13.0	20.3	11.2	13.3	5.4	-10.6	-3.8	9.7

Source: BNM, 2010

Comparing the figures during the Asian financial crisis of 1997/98 and the current global crisis, the figure shows that the impact was much greater in 1998 where the total vehicle sales for the year were down to 155,332, recording a decline of 59% from the previous year (Table 8). In contrast, the decline in growth between 2008 and 2009 was only 2% on an annual base. In 1998, the collapse was seen in production of passenger and commercial vehicles where it decreased by nearly 170,216 and 52,693, respectively from 1997. Vehicle sales of Proton, Perodua and non-national automakers contracted by 57%, 43% and 85% respectively (MAA, 2009b), while employment were reduced by 14%, 11% and 38% respectively (Wad, 1999).

Table 8 Comparing sales during two major crises

Years	Passenger Vehicles	Commercial Vehicles	Total Vehicles
<i>During Asian Financial Crisis 1997/98</i>			
1997	307,907	70,334	378,241
1998	137,691	17,641	155,332
1999	239,647	26,171	265,818
<i>During Global Financial Crisis 2008/09</i>			
2007	442,885	44,291	487,176
2008	497,459	50,656	548,115
2009	486,342	50,563	536,905

Source: MAA, 2009b (accessed 6th August 2009 and 8th March 2010)

Note: Registration of new vehicles. Reclassification of 4x4 vehicles by 1st January 2007. 4x4 vehicles are excluded for the period 1997–1999 but included in 2007–2009.

The same collapse was seen in production of vehicles in 1998 where it decreased by nearly 194,000 units from 1997 or -57% (MAA, 2009b) distributed with -57% for Proton, by -43% for Perodua and by -85% for non-national auto makers, while employment were reduced by 14%, 11% and 38%, respectively (Wad, 1999).

In 2009 the government announced the 2nd Stimulus Package, totalling RM 60 billion, to cushion the impact of crisis. In assisting the private sector in facing the crisis, RM 29 billion has been allocated for various programmes. The automotive industry will benefit in the following ways: (a) RM200 million is allocated for the Automotive Development Fund mainly to develop the automotive industry and vendors as well as to establish the Automotive Institute of Malaysia; (b) support for the auto-scraping schemes of Proton and Perodua where RM 5000 discount is given for cars at least ten years old (Bursa, 2009). The government's assistance could provide cushioning effects to the auto industry, yet, but it did not completely restore the level to that of earlier periods. Although the auto-scraping scheme benefits the industry in the long run, stringent credit facilities with an increase in interest rates (as of second week of April 2009, interest rate for hire purchase increased from 2.35% to 3.35% on average) and lower valuation for second-hand cars did probably make the auto-scraping scheme less effective currently. The scheme will also consequently reduce the demand and the sales of automotive industry. Loan disbursements for passenger cars recorded 8.2% contraction on year to year basis (Jan-July 2008 and Jan-July 2009) while the total disbursement contracted at 5.6% (BNM, 2009).

In sum, the weak but anyway increased export of automotive products in absolute terms from Malaysia during the 2000s was not caused by sustained higher export competitiveness of Proton, but rather, seemed to hinge on the overall expansion of the domestic automobile industry and more specifically on the de-nationalisation of the other so-called 'national projects' – in particular, Perodua. This trend has at the same time re-established the hegemony of Japanese automakers in Malaysia and makes the Malaysian automobile industry a satellite of the regional keiretsu system of Japanese automobile corporations.

4 Assessment of the unsuccessful automotive development and performance in Malaysia

The paradox of the national automobile policy of Malaysia is that the Malaysian government and administration did several right things along the way but this was not enough to break the vicious circle of low competitiveness of the national projects. Why? The answer is to be found in the political economy of Malaysian industrialisation, its regional position, its timing and fragility vulnerable to 'chance'.

The foundation of Proton as a joint venture between state owned enterprise (SOE) and Japanese MNC was a result of the New Economic Policy (NEP) aiming for creation of a Bumiputera (primarily Malay) business community and a Bumiputera labour force in the modern sectors of Malaysian economy, matching the strong Chinese business and worker urban communities. This should among other things have come about through expansion of state-controlled heavy and chemical industries launched in the early 1980s. But forming such a local-foreign joint venture automaker presumes, theoretically speaking, that a low marketing gap persisted in the domestic market and that marketing capabilities for international sales could be built in time. However, the domestic automobile market

was controlled by Chinese Malaysian businesses in assembling and distribution, and this business elite was not part of the national automobile alliance but deliberately excluded due to the NEP (Jomo, 2007, p.33). Thus, existing production, sales and management experiences and competences were neglected. However, the disintegration of production and sales companies into Proton and EON in 1984 partly included Chinese distribution capabilities in EON but this decision went against the international norm of the international automobile industry, also classified as a producer-driven global value chain, where lead firms govern the whole chain of globally distributed companies. This mistake was replicated in 2000 when the second national automaker, Perodua, was split into a production organisation under Japanese control and a sales organisation under Malaysian control, enabling Malaysian stakeholders to generate rents from the subsidiary of the world's leading automaker, Toyota Motor Corporation that controls Daihatsu which again controls Perodua's manufacturing units. The integration of Proton's production and marketing functions was finally begun in 2009.

The timing of the automotive nationalism of Malaysia did not fit the preconditions for infant industry protection. The early move was taken in the 1980s, and although neo-liberalism was on its rise automobile exports were still something for the future and international sales capabilities could be created in due time. When the national automobile manufacturers could start exporting the world automotive market was changing towards a more liberal system influenced by the WTO trade regime which included the TRIMs policy prohibiting in the long-term clauses requiring high local content, joint venturing and import-export balanced subsidies. The global automobile corporations were also competing over market shares and consolidating to reduce excess capacity and turn around loss making or less profitable enterprises. Even though Proton had not built marketing capabilities domestically. Proton targeted the British market in particular. Vehicles were sold under the production cost and far below the price in Malaysia, but the Proton vehicles were of low quality and lost reputation incurring additional costs in servicing. Proton did the usual mistake among late coming automakers exporting from the very start to the most competitive markets in the global North.

Finally, the Malaysian-Japanese automobile alliance did transfer standard product and process technology and created production capabilities among workers and administrative employees, but it did not support the creating of international sales capabilities. Proton was also predominantly managed by Japanese managers and technicians preventing organisational capabilities to emerge. When an experienced Bumiputera with management experience and clout was given control of Proton in mid-1990s, indigenous leadership might have evolved but this unique industrial leader was killed in a helicopter crash in 1997 throwing newly privatised Proton into a mess of corporate governance which was terminated with the de facto re-nationalisation of Proton in 2000. Hence, government-linked Proton has never been managed and owned by a large and private local company as it was the case in Japan and South Korea. The weak technological, marketing and management capabilities of Proton did also impact the upgrading of its auto supplier base because such an upgrading requires that the lead OEM to transfer technology, train vendors, form collaborative production and innovation networks and organise the supply chain in an optimal way. This seems not to be the case in Malaysia where an infant OEM had to upgrade itself while upgrading its suppliers, too (Wad, 2008). Indeed, there is a significant technological gap between PROTON and its suppliers

(Abdullah et al., 2008) and Proton switched partly to global first-tier suppliers in the 2000s. In addition, weak linkages with research organisations including universities limited any indigenous technology developments (Rasiah and Chandran, 2009).

The contribution of the automotive industry is limited to the employment generation, development of local vendors and the pride of national car ownership. However, except the pride of national ownership, the government could have created the same or even more spill-over effects of employment and local vendor development with less cost by allowing foreign participation. In fact, Malaysia could probably have been the automotive hub surpassing Thailand as the 'Detroit of the East'. The opportunity cost of the state interventionist strategy is numerous ranging from high societal cost in owning a car, lack of development among suppliers, limited success of parts manufacturers, lack of technological development, and international trade and current account deficits in automotive products.

The NAP policy of 2006 and its review by 2009 reconfirmed the thrust of the Malaysian automobile nationalism but scaled down the ambitions. The Malaysian government has withdrawn from national projects it could not handle, and it now raises the challenges allowing for FDI into high-value adding and innovative segments and weed out protective pockets for rent seeking, thereby enabling contract manufacturing by Proton and DRB-Hicom with large idle capacity. Moreover, it has started to internalise and institutionalise coordination and information externalities by way of establishing the Malaysian Automotive Institute (MAI), thereby providing resources for gap filling in technology, marketing and management. And finally, it continues the search for a strategic partner without back-stepping on the claim for securing the Proton brand and the survival of its local auto suppliers. In sum, it has pursued an incremental reform policy switching path slowly and without triggering a nationalistic outcry and political resistance while saving Malaysia's credentials as the largest car passenger market in ASEAN and aiming for an orderly transformation of Proton from a national project to a corporate strong hole of a global automaker. Yet, to build a strong productivity coalition the Malaysian government must include autoworkers and their trade unions because they possess hands-on knowledge and organisational capabilities to contribute with employee-driven innovation (Wad, 2009b). Autoworkers' unions are not part of the MAI 'automotive community' (MAI, 2010).

Basically, Malaysia's automobile industry is still too fragmented to provide for economies of scale in the domestic market of Malaysia. The challenge of industrial rationalisation faced by the Malaysian government in early 1980s is the same today, after the national programme failed to generate international competitive automakers. The denationalisation of Perodua and MTB has changed export potentials for the better but also left Proton as the sole national champion struggling to become competitive. The merger of EON and Proton Edar sales and services network at the Malaysian market in 2009 is a step forward but still has to be implemented (Fourin, 2009, p.56). Once again Proton will go for the world market, but the world market is becoming even more competitive with the increasing capabilities of Chinese and Indian automakers although it is also in turmoil with defaulting US companies, restructuring and technological problems dragging even Toyota down into a swamp of recalls and judiciary complaints. The advantage of Malaysia is still that the trend is for a growing economy, rising incomes and improved road infrastructures enabling an auto hungry population to afford motor vehicles purchase and use. In addition, Malaysia has huge biomass resources and production capabilities which can be translated into biofuel with proper development and

application of bio technology. The innovation frontline is very much about renewable energy and the greening of the automobile industry and transport system (Wad, 2010). Malaysia has a unique change to explore and exploit this window of opportunity, but it cannot do it alone. It has to allow biotech MNCs to network with local firms, organisations and R&D institutions to make this opportunity a reality.

The evolution of the Malaysian automobile industry testifies to the strengths and weaknesses of Schmitz 'challenge-support-gap' theory. The fragmented automobile industry of the 1970s was determined by Malaysia's policy of trade protection and infant industry promotion via joint ventures (JVs) and local content requirement. JVs controlled by foreign automakers did not deliver local production and employment, nor export and foreign earnings. The Malaysian government embarked instead on nationally controlled JVs and gradual upgrading and wholly ownership although it faced a double gap of capabilities in automotive technology and marketing. It could only control the domestic market, and increasing export over time was hampered by its MNC partner, its outsourcing of distribution and sales (EON) and the rapidly globalisation of the automobile industry. From the 1990s national automotive development seemed foreclosed having captured the domestic market and the only option to capture exporting potentials will be to closely collaborate with MNCs or other global players. Therefore, the industry requires a shift from market seeking investment to efficient seeking investment, that is, from a focus on the domestic market to a focus on the export capability of the industry. In Thailand, the government allowed foreign wholly owned automotive subsidiaries in the 1990s which again switched to exporting after the East Asian financial crisis in 1997–1998. The foreign controlled subsidiaries in Thailand specialised in commercial vehicles (pick-ups) and obtained a global product mandate in this segment (Abdulsomad, 1999; Wad, 2009a). Attracting FDI became a feasible way of building and inserting a late-late comer domestic automotive industry into an increasingly globalised automotive sector in the 1990s characterised by a capital, technology and marketing intensive global value chain led by transnational corporations of OEMs and first tier suppliers. At least, for developing countries without the market size and huge domestic capacity like China and India. However, ongoing adjustment for new global market ups and downs may have an adverse impact on the industry. For instance, motor vehicle exporters in Thailand were hit more than domestic market-oriented automakers in Malaysia during the global financial crisis 2008–2009 (Wad, 2010).

5 Conclusion

Over the years from 1980 to 2009 the Malaysian automotive industry has expanded production five times and evolved from an assembly industry towards a manufacturing industry focusing on passenger car manufacturing while generating rising employment and average wages among its workforce. However, the national automotive programme has been scaled down to Proton being the only OEM controlled by Malaysian capital and no more being the market leader. Japanese car makers are again dominating the auto market and industry. Moreover, the industry still lacks the competitive advantage to penetrate international markets due to its lack of technological and product upgrading especially among parts and component suppliers, low levels of skills among employees and weak global marketing capabilities. Despite the efforts of Proton in developing local suppliers, a high dependence on domestic market and technology agreements has limited

the performance of these suppliers at a regional and global scale. Although the impact of current global crisis is moderate because Malaysia's automotive industry is not significantly export oriented this is only a temporary relief, but the earning capabilities are shrinking during the crisis, domestic demand is declining and the lacklustre performance of the automotive industry is continuing. The stimulus packages by the government and introduction of new models have to some extent cushioned the progress of the industry in a positive way, but the stimulus package targets the national automotive sector only, and this discrimination of non-national auto makers is turning them away from investing in Malaysia. Not only is an international automotive alliance pertinent for the stand-alone Malaysian auto maker, Proton, to reduce excess capacity through e.g. contract manufacturing, counter market hegemony of Japanese automakers and move to the frontier of automobile innovation. A comprehensive national productivity coalition is a strategic necessity, too, in order to create high-performance work systems and business models. Autoworkers and their trade unions must be part of such a coalition enabling innovation bottom up mobilising workers with hands-on knowledge and workplace experience about the state of production processes. Creating a more dynamic automotive cluster through productivity enhancement and strengthening of innovation processes is still an option for Malaysia, but not in the disguise of 'industrial nationalism'.

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Notes

- 1 Formally Perodua is classified as a 'national' motor vehicle maker, but the manufacturing subsidiaries are 51% equity controlled by Japanese Daihatsu Motor Co. (41%) and Mitsui & Co. (10%) through the Perodua Auto Corporation where they have 51% equity. Thus, Perodua is in reality controlled by Japanese firms and in particular Daihatsu Motor Co., although Malaysian interests control the sales company and the overall holding company.
- 2 In passenger vehicle market, Perodua and Proton control 33.8% and 29.7%, respectively.
- 3 Formally speaking PERODUA, MTB and INOKOM are also 'national' projects, but only INOKOM is today majority owned by local capital (controlling shareholder is Sime Darby with 51%). INOKOM does only have 1.1% of total vehicle market in 2009 and is doing contract assembling for Hyundai (MAA, www.maa.org.my, www.inokom.com.my).