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The automobile industry of Southeast Asia: Malaysia and Thailand

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With the exception of countries with huge potential markets like China and India the dominant academic view on establishing and sustaining viable *national* automobile projects in Asian developing countries is pessimistic, but still pursued by some developing country governments in Asia. Where do these contradicting views leave the Association of Southeast Asian Nations (ASEAN) automobile industry a decade after the East Asian financial crisis of 1997–1998, and at a time of a new global financial crisis emanating in the US and a downturn of the global economy? And how has automobile manufacturing in Thailand and Malaysia – two countries with sizable automobile markets that pursued different automobile policies and strategies since the early 1980s – adjusted and developed in a context of economic globalisation and emerging regionalisation of the ASEAN auto market in the twenty-first century? What are the lessons to be learned by Thailand's automobile policy that is oriented towards foreign direct investment (FDI) and Malaysia's national-champion policy of motor vehicle manufacturing? The article argues that Thailand appears as a success story in the twenty-first century pertaining to the export success of the Thai-based automobile industry via the value chains of Japanese and American MNCs, while it is last call for Malaysia's national automobile project either to innovate exportable brands targeting less competitive markets in, for example, Islamic countries, or to re-link with MNCs, which again seems to be possible only by giving up local management control, and hence to move beyond Malaysian automobile nationalism.

Keywords: automobile industry; Southeast Asia; Malaysia; Thailand

JEL classifications: L62, L16

1. Introduction

The automobile industry was acknowledged as the 'the industry of industries' in the twentieth century and is considered one of the most globalised industries today (Dicken 2007). The industry was dominated by huge transnational and vertically integrated corporations until the 1970s, deserving being characterised as a producer-driven global value chain (PD-GVC), but since then a wave of restructuring and outsourcing of activities has been ongoing, turning the global industry to be governed in a more relational way by lead assemblers (original equipment manufacturers or OEMs) and core automotive components and parts suppliers if not leaning towards a supplier-driven global value chain (Dicken 2007, Barnes and Morris 2008, Sturgeon *et al*. 2008, Wad 2008).

Automotive experts Graeme P. Maxton and John Wormald have recently argued that the global auto industry is not a value-creating sector but a value-destructing sector beset

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with over-capacity, low profitability, rigid production structures and over-extended product ranges. They claim that a fourth industrial revolution of 'unbundling' the resources and capabilities of the industry is urgent in order to surpass the three former transformations understood as Ford's assembly-line and standard mass production, Sloan/GM's broadening of the scope of models and Toyota's concept of lean manufacturing targeting relentless cost reduction and manufacturing perfection.

Leaving a door open for the survival of two or more Chinese automakers and one Indian (Tata), Maxton and Wormald do not give national automakers in Southeast Asia a chance:

> The peripheral Asian players seem unlikely to survive a Fourth Revolution. South Korea may not be able to support even one major carmaker. Daewoo, Samsung, Kia and Ssangyong have already been absorbed. Proton is an entirely artificial creation, living behind protectionist walls. Hyundai risks being squeezed between competitive pressures, a mature domestic market and the emerging power of the Chinese (Maxton and Wormald 2004, p. 262).

This pessimistic outlook for the establishment and success of *national* automobile projects in Asian developing countries is shared among many researchers subscribing to the global value chain (GVC) theory (Humphrey and Salerno 2000, Humphrey and Memedovic 2003), with the exception of countries with huge potential markets like China and India. The reasons are that the automobile industry is not only a rather globalised industry but also a very capital and R&D-intensive industry with high entry barriers and demanding economies of scale, scope and speed. National automobile projects are thereby deemed futile endeavours and a waste of investment of enormous proportions, which could have been used for alternative and better purposes.

Where do these contradicting views leave the Association of Southeast Asian Nations (ASEAN) automobile industry a decade after the East Asian financial crisis of 1997–1998 and at a time of a new global financial crisis emanating in the US and the downturn of the global economy? Can the Southeast Asian automobile industry still make it at home and abroad? And how has automobile manufacturing in Thailand and Malaysia – two countries with sizable automobile markets that have pursued different automobile policies and strategies since the early 1980s – adjusted and developed in a context of economic globalisation and emerging regionalisation of the ASEAN auto market in the twenty-first century? What are the lessons to be learned by Thailand's automobile policy that is oriented towards foreign direct investment (FDI) and Malaysia's national-champion policy of motor vehicle manufacturing?

The paper aims to address these questions by way of outlining the theoretical framework (Section 2) and then describes key trends and features of the regional automobile industries based on secondary empirical evidence (Section 3). Explaining the divergent performance of the Malaysian and Thai automobile industries is pursued (Section 4) before the paper is concluded (Section 5). The paper argues that the turning point in the comparative evolution of Malaysian and Thai automobile industries came with the East Asian financial crisis which forced multinational corporations (MNCs) in Thailand to emphasise export-oriented manufacturing, while the national automobile firms in Malaysia were unable to pursue this path due to weak technological capabilities, brands and international distributive networks. The conclusion of the paper is that Thailand appears as a success story in the twenty-first century, pertaining to the export success of the Thai-based automobile industry via the value chains of Japanese and American MNCs, while it is last call for Malaysia's national automobile project either to innovate exportable brands targeting less competitive markets (e.g. in Islamic countries) or to re-link with MNCs, which again seems to be

possible only by giving up local management control, and hence to move beyond Malaysian automobile nationalism. However, both the Thai and the Malaysian automobile industries have failed to develop and sustain an internationally competitive and locally controlled automotive component sector of small and medium enterprises (SMEs). The Thai auto supplier industry was marginalised by foreign and especially Japanese auto suppliers, while the Malaysian national automotive policy sustained the evolvement of local auto component suppliers as part of the wider Malaysian policy of ethno-economic and social transformation. The relative higher remuneration levels of Malaysian autoworkers during the pre-crisis era have been under pressure and will probably decline in the post-crisis era if the Malaysian automobile industry is unable to revitalise, expand employment, increase productivity and gain international competitiveness and improved export of automobiles and auto components and parts.

2. Framing the ASEAN automobile industry theoretically between global/regional value chains and domestic institutions and agencies

In the GVC terminology, the automobile industry has been considered a PD-GVC in contrast to for example the global garment value chain which is considered to be a buyer-driven global value chain (BD-GVC) (Gereffi 1995). The motor vehicle manufacturers (the OEMs) have governed the value chain by way of controlling core technologies and products and used different types of organisations to govern the upstream and downstream processes: vertical integration (typically for American corporations in the past), vertical collaboration (typically for the Japanese keiretsu networks) or horizontal collaboration (typically for continental Europe firms) (Wad 2008). With the early establishment of huge auto corporations in the US and the internationalisation of these corporations the leverage of the auto industry resided in the Western world until the Japanese successfully challenged this dominance during the 1970s and 1980s and triggered increased competition, trade wars between Japan and the US and the EU and globalisation and transformation of the automobile industry. During this industrial warfare Western OEMs abandoned Southeast Asia and Japanese OEMs came to dominate the regional automobile market.

From a Japanese historical perspective, articulated by Akamatsu in the 1930s and elaborated by others (e.g. Mathews 2006), Japan became the lead goose in a flying geese formation (of auto-manufacturing neighbours). From a critical perspective the rise of domestic automobile industries was embedded into a regionalised keiretsu production structure turning Japanese automobile firms into (micro) lead geese flying all over Southeast Asia and followed by their Japanese suppliers, while local firms chased the flock in order to link up with the advanced automotive firms (Hatch and Yamamura 1996). Regionalisation was as important to the evolution of Southeast Asian automobile industries as the globalisation of the automobile sector, and the regional value chain had been driven by Japanese OEM producers and their core suppliers since the 1970s. The predicted regional division of labour among neighbouring countries at the macro level turned into a regional Japanese keiretsu network at the meso level and micro level. Furthermore, it showed up to be very resilient against both indigenous national automobile projects and the return of Western automobile makers in the 1990s (Doner *et al.* 2004, Takayasu and Mori 2004). The question is whether, how and why the pre-crisis industrial organisation in the Southeast Asian automobile industry changed during and after the East Asian financial crisis in 1997–1998?

The explanatory framework and interpretive perspective used in this paper mixes a historical-institutionalist perspective with the GVC perspective (see Doner *et al.* 2006). It takes the growth and net export of automotive goods (motor vehicles and parts) as the

dependent factors and proxies of the viability of domestic automobile industries and firms. These outcomes are conditioned by the industrial regimes regulating automobile businesses and created by governments' automobile policies and strategies. Within these automobile regimes the key mechanisms (the drivers) influencing industry growth and export are the automobile GVC and the strategies and capabilities of the lead firms (the OEMs and first-tier suppliers or FTSs) together with the response of local OEMs and lower tier suppliers. Finally, this dynamic is again embedded in the domestic political economy (e.g. overall growth and income levels, political institutions and the systems of innovation and industrial relations) and the global economy (e.g. trends of boom or burst, long waves of technological development, socio-political discourse and power constellations and conflicts). Hence, the actual composition and changes of the automobile industries in the ASEAN-5 (countries with automobile manufacturing) in general and Malaysia and Thailand in particular are conceived as the outcomes to be explained, while the explanatory factors consist of the industrial regime (automobile policy), the capabilities and strategies of the OEMs and the FTSs, the capabilities and strategies of the local assemblers and suppliers and the overall political economy (including developmental state capacity of intervention, national innovation system [NIS] and industrial relations [IRs]). The empirical evidence used for this analysis is overwhelmingly secondary data.[1]

3. The post–1997 financial crisis trends of ASEAN-5 auto industries

The year 2000 is interpreted as the first 'normal' year after the East Asian financial crisis, although the effects and impact of the crisis varied among the ASEAN-4 (see Rasiah 2001a, 2001b for the developments in the 1990s ASEAN-4 auto industry). The year 2000 is also the last year before the burst of the global IT bubble which caused economic slowdown in 2001 followed by renewed economic growth on a steady level during 2002–2007. Hence, the period from 2000 to 2007 is conceived as 'normal' relative to the extraordinary situations of business turmoil and decline within a region during 1997–1999 and compares to the years of continuous and high economic growth and rising income per capita at the aggregate level nation-wise and region-wise 1965–1996. Moreover, Vietnam was added to the list of ASEAN countries (Thailand, Malaysia, Indonesia and the Philippines) hosting an automobile industry (hence, ASEAN-5).

3.1. *Production structure, growth and sales*

Motor vehicle production of passenger cars and commercial vehicles improved among all countries from 2000 to 2007, but the Thai industry leapfrogged with nearly a quadrupling of production or an expansion of 285% (Table 1).

Only Vietnam chased Thailand in this hyper growth, while Malaysia and Indonesia saw more modest growth of around 40%, and the Philippines stalled after reaching a high peak of production in 2004. The implication is that after a rather equal size of motor vehicle production in Malaysia, Thailand and Indonesia in 2000 Thailand surpassed Malaysia and Indonesia by 200% during the next four years, and in fact more motor vehicles were manufactured in Thailand alone than in the rest of the four together. Vietnam was the laggard with 20,000 units assembled, but Vietnamese production is rising fast from the very level (below 7000 units) in the first year of the post–East Asian crisis.

A regional division of labour had emerged between the ASEAN-5's auto industries in 2000, in which Thailand was the core site of commercial vehicles, while Malaysia was the

Table 1. ASEAN-5 motor vehicle production (in units) 2000–2007.

Country	2000	2002	2004	2006	2007	Change 2000–2007	Percentage of change
Malaysia	284,600	395,000	372,916	502,973	413,440	128,840	45
Thailand	325,888	595,649	927,981	1,193,903	1,238,460	912,572	280
Indonesia	292,710	299,257	408,311	296,008	419,040	126,330	43
The Philippines	41,840	53,683	70,728	41,603	42,000	160	0
Vietnam	6862	13,197	19,868	18,211	20,750	13,888	202

Note: All types of motor vehicles (passenger cars, light commercial vehicles, heavy trucks, busses). Changes 2000–2007 own calculation. The figures for Indonesia, the Philippines and Vietnam are estimates in certain years.
Sources: OICA correspondents survey, various years. Available from: http://www.OICA.net [Accessed 5 June 2006 and 17 March 2008].

core location of passenger car manufacturing, followed by Indonesia and Vietnam that also gave priority to passenger car production (Table 2).

During the following seven years Thailand specialised further into commercial vehicles, while the Philippines switched to passenger car production, and Vietnam deepened its focus on this automobile segment. Thailand's speciality became the 1-ton pickup truck that came to be produced by foreign OEMs, which transformed Thailand into a hub of global pickup production outside the US (Doner *et al.* 2006). However, due to the tremendous growth Thailand turned out as many passenger cars as Indonesia and Malaysia. If this trend continues Thailand will be the undisputed centre of automobile production in the ASEAN, and Malaysia's option to become the passenger car hub of Southeast Asia may be gone.

Production of motor vehicle was lower than the domestic sales of automobiles in Malaysia, Indonesia, the Philippines and Vietnam in 2000 and 2007, indicating a certain degree of net import (Table 3). In Thailand the acceleration of export made Thai automobile makers less dependent on the local market, and the hyper growth of motor vehicle assembling was double the growth of motor vehicle sale. In the Philippines sales rose while production declined after 2004, indicating e.g. more liberal international trade regulations of automobiles. Moreover, second-hand car imports overtook the sale of locally assembled new vehicles in 2000–2002 (Ofreneo 2008, p. 74). Sales of motor vehicles in Singapore are not included, but the yearly sales amounted to 120,000–140,000 units during 2004–2007. In total, 1.870 million motor vehicles were sold in the ASEAN-6 (including Singapore), and therefore the ASEAN motor vehicle market has scale when it is fully integrated into a free trade area.

Table 2. ASEAN-5 passenger car production (in units) 2000 and 2007.

Country	2000		2007		Change in % points
	Passenger cars	P.c. of total	Passenger cars	P.c. of total	
Malaysia	258,500	91	328,300	79	27
Thailand	135,888	42	308,500	25	127
Indonesia	257,058	88	304,300	73	18
The Philippines	15,540	37	33,000	79	112
Vietnam	5062	74	20,000	96	295

Note: All 2007 car figures are estimates.
Source: Same as Table 2. Percentage of passenger cars to total motor vehicle production based on Table 2.

Table 3. ASEAN-5 motor vehicle sales (in units) 2000–2007.

Country	2000	2002	2004	2006	2007	Change 2000–2007	% change
Malaysia	343,173	433,840	487,605	490,768	487,176	144,003	42
Thailand	262,109	409,459	626,026	682,500	631,250	369,141	141
Indonesia	309,514	317,763	483,094	317,312	434,499	124,985	40
The Philippines	84,132	85,587	88,075	99,541	117,903	33,771	40
Vietnam	16,549	32,093	40,138	40,823	40,823	24,274	147

Source: www.just-auto.com. Available from (data 2000–2002): http://www.just-auto.com/images/features/feb03/0302asia783_02 [Accessed 13 March 2008); (data 2004–2007) http://www.just.-auto.com/ articleprint.aspx?ID=93863 [Accessed 13 February 2008].

3.2. *International trade*

Specialising in commercial vehicle manufacturing the Thai automobile industry outperformed the automobile industries in the other four ASEAN-5 countries. Production overtook domestic demand, and the question is how well the Thai auto industry performed in terms of international trade. High export may not generate e.g. a huge trade surplus if value addition is low in the country of assembling.

The Thai auto industry was the only one of the ASEAN-5 industries that generated a trade surplus on both export and import of motor vehicles in 2000, 2004 and 2006, and this surplus increased by 400% during the period, surpassing the rise of automobile production (Table 4). All other ASEAN-5 countries ran trade deficits in motor vehicles. The Malaysian deficit was equal to the Thai surplus in 2000, but over the period 2000–2007 the Malaysian deficit rose nearly 50%, while the Thai surplus increased dramatically. The Philippines's deficit followed the reversed trends of automobile production: it decreased in 2000–2004 and increased again in 2004–2006.

The Thai surplus was twice as high as the total deficit of the other four ASEAN-5 countries together in 2007 (Vietnam excluded). Malaysia managed to stop the rising deficit in net international motor vehicle trading from 2004 to 2006, while Indonesia started reducing its deficit from US$790 million in 2004 to US$600 million in 2006.

Trade of auto components and parts is taken to be the second trade performance indicator of the auto industries in the ASEAN-5 countries post the crisis. While no comparable figures are available on auto component production, international trade figures provide an indication of the international performance of these industries (Table 5).

Table 4. ASEAN-4 motor vehicles export and import (US$ mio.) 2000 and 2004.

	2000			2004			2006		
Country	Export	Import	Surplus	Export	Import	Surplus	Export	Import	Surplus
Malaysia	105.8	1255.2	−1149.4	117.9	1683.0	−1570.1	209.4	1720.4	−1511.0
Thailand	1620.8	442.8	1178.0	3652.2	538.0	3114.2	6608.9	519.7	6089.2
Indonesia	22.4	352.6	−330.2	150.0	939.2	−789.2	411.4	1013.7	−602.3
The Philippines	5.4	622.6	−617.2	159.8	439.7	−279.9	91.9	705.6	−613.7
Vietnam	n.a.	n.a.	n.a.	n.a.	n.a	n.a.	n.a.	n.a.	n.a.

Note: Calculation of surplus is done by author.
Source: UNCOMTRADE, HS 1992; motor vehicles 8702 and 8703 and 8704.

Table 5. ASEAN-5 export and import (US$ mio.) of automobile parts 2000 and 2004.

	2000			2004			2006		
Country	Export	Import	Surplus	Export	Import	Surplus	Export	Import	Surplus
Malaysia	134.8	298.3	−163.5	276.1	617.7	−341.6	424.7	985.7	−561.0
Thailand	503.7	1335.2	−831.5	1412.0	2944.3	−1532.3	2500.2	2558.6	−58.4
Indonesia	221.8	1120.3	−898.5	532.6	986.4	−453.8	908.5	904.2	4.3
The Philippines	568.4	230.8	337.6	1172.3	388.9	783.4	1400.3	353.5	1046.8
Vietnam	n.a.	n.a.	n.a.	54.2	32.2	22.0	n.a.	n.a.	n.a.

Note: Calculation of surplus is done by author.
Source: UNCOMTRADE, HS 1992; parts and accessories of motor vehicle 8708.

The remarkable trend in the trading of automotive components and parts is that the Philippines was the only country with a trade surplus and that this surplus more than doubled from 2000 to 2006. Indonesia's trade deficit eliminated over these six years, while Thailand nearly got rid of its deficit (below US$60 mio.). Malaysia accounted for the largest and most worsening deficit in automobile parts, and this deficit was a third of the deficit generated by the Malaysian auto industry in motor vehicle trade (Tables 4 and 5). The compounded international trade surplus of Thailand in total international trade of motor vehicles and components/parts was around US$6 billion in 2006. Moreover, the Philippines with its competitive component and parts production generated a remarkable compounded surplus in its trade balance in automobiles and components and parts at around US$500 million in 2006. Finally, Malaysia made a deficit in both sectors and ran an aggregate net trade deficit of more than US$2 billion in 2006.

With the rise of China and India as huge automobile markets and low-cost manufacturing sites in Asia the integration of the automobile industries in the ASEAN countries has appeared as an alternative framework for competition for FDI in the 'developing triad of Asia'. Table 6 demonstrates that Thailand has risen to an export country in the automobile

Table 6. Export of motor vehicles and parts between Malaysia and Thailand and relevant ASEAN and Asian countries, 2000 and 2006 (US$, in million).

	Export from			
	Malaysia		Thailand	
To	2000	2006	2000	2006
Malaysia	x	x	56.9	423.7
Thailand	16.0	97.6	x	x
Indonesia	1.2	23.3	39.0	554.2
Philippines	0.7	52.3	31.4	392.4
Vietnam	0.1	5.3	2.3	42.2
Japan	13.3	25.1	130.2	437.7
China	1.9	21.9	4.9	63.6
India	0.5	5.2	8.9	124.0

Note: Figures comprise motor vehicles and parts (HS92, 8702, 8703, 8704 and 8708).
Source: UN COMTRADE.

industry, surpassing Malaysia on all selected destinations and exporting much more to Malaysia than Malaysia exports to Thailand.

3.3. *The political economy of automobile industries in the ASEAN-5*

Thailand exports at the same level to Malaysia, Indonesia and the Philippines as it does to Japan. And although its export to Vietnam, China and India is much lower, it has picked up very much from 2000 to 2006. Overall, Thailand has a rather diversified export structure in Asia, of which the selected countries account for over US$2 billion out of a total export of more than US$9 billion, i.e. nearly 25%.

The ASEAN-5 automobile industries generate employment, turnover, investments and public revenues, which have socio-economic impacts on their societies, but data on these matters are difficult to obtain for the ASEAN-5 countries. The Organisation Internationale des Constructeurs d'Automobiles (OICA) provides certain figures, which probably concern the year 2004 (or earlier years), probably provided by the motor vehicle manufacturers (and not the automobile parts firms) and covering the sector of motor vehicle manufacturing (Table 7).

The Thai auto industry is outstanding in terms of employment generation and turnover. Investment figures of Thailand and Indonesia are not directly comparable, and in terms of public revenue the OICA only discloses the data on Thailand. An estimate of the total ASEAN-4 employment in the early twenty-first century is between 200,000 and 300,000 persons in auto assembling and an additional 100,000 to 150,000 in auto components and parts (estimating components and parts manufacturing to be half of the employment in auto assembling), in total 300,000 to 450,000 persons. The International Metalworkers' Federation (IMF) informed in 2004 that the Japanese auto industry employed 185,700 in auto assembling and 460,500 in parts and accessories in 2002.

Another important question is how autoworkers performed in terms of income development, e.g. net hourly earnings (in purchasing power). The IMF's purchasing power data in the automotive industry indicate that the German and American autoworkers earned the most; the Japanese, French and Korean are in the middle; and workers in Thailand, Malaysia, Indonesia and the Philippines are in the lower group (IMF 2007). Among the ASEAN-4 countries, Malaysian automobile workers earned the most in 1997, and they

Table 7. Key figures of the automotive industry in ASEAN-4, in the early twenty-first century (2004 or latest available figures).

	Employment (persons)	Turnover (mio. €)	Investments (mio. €)	Public revenue (mio. €)
Malaysia	47,000	6084	1263	n.a.
Thailand	182,300*	11,658#	443	2871
Indonesia	64,000	3858	1071	n.a.
The Philippines	n.a	n.a	n.a	n.a
Vietnam	n.a	n.a	n.a	n.a

Note: #Gross production value instead of turnover. *IMF (2007) Auto Report 2006/2007, Table 3.2 provides figures about Thai employment in motor vehicle assembly (including engines and bodies), which say 101,700 persons in 2000. Doner *et al.* (2006; Country Case Studies, Thailand) state that the automobile industry employed in total around 8% of Thailand's workforce in 2006 – that is, 2.9 million of 36.3 million (ILO LABORSTA) and a much higher figure, but probably they meant the workforce in manufacturing.
Source: OICA (2006).

Table 8. Purchasing power in motor vehicle industry, selected countries, 1997, 1999, 2001 and 2005.

Motor vehicle industry (LV and MHV)		Net hourly earnings local currency	Net hourly earnings (US$ PP)	Hours and minutes	Hours and minutes, mid-sized auto
Country	Year				
Malaysia	1997	5.41 R	1.81	20 min	7460 h 57 min
	1999	n.a.	n.a	n.a.	n.a.
	2001	3.56 R	0.94	41½ min	12,359 h 33 min
	2005	n.a.	n.a.	n.a.	n.a.
Thailand	1997	45.91 B	1.51	29 min	17,425 h 4½ min
	1999	n.a	n.a.	n.a.	n.a.
	2001	n.a	n.a	n.a	n.a
	2005	91.20	2.22	20 min	6907 h 54 min
Philippines	1997	24.68 P	0.86	45 min	n.a
	1999	48.32 P	1.24	33.5 min	10,347 h 41 min
	2001	42.52 P	0.86	28 min	14,110 h 28½ min
	2003!	42.24*P*	0.76	*31½ min*	*13,139 h 12½ min*
Indonesia	1997	3500.00 R	0.76	25½ min	20,000 h 00 min
	1999	n.a.	n.a.	n.a.	n.a.
	2001	5275.34 R	0.51	42 min	25,590 h 46 min
	2005	10,994.62 R	1.12	20 min	24,557 h 24 min

Sources: IMF (1998, 2000, 2002, 2004, 2006).

continued to do so in 2001 (no data on Thai workers in 2001, however) (Table 8). For the period 1997–2005 (excluding Malaysia) the relative increases are high among Thai and Indonesian autoworkers, while the Filipino autoworkers see wages declining after 1999–2003. The changing wages relate to the diverging trends of the respective auto industries, indicating that the trajectories of the industries frame the changes of wages (Table 8). In fact, productivity trends correlate heavily with wage trends in most industries.

Summing up, the Thai auto industry is specialising as a commercial motor vehicle production site with expanding production and international trade in the early twenty-first century, increasing trade surplus in motor vehicle manufacturing, while auto components and parts trade are generating a rising trade deficit. Yet in combination the Thai auto industry makes a trade surplus and contributes significantly to Thai employment, business turnover, investment and public revenue. The Philippines came up as the only country with a surplus (and increasing surplus) in the trade of auto components and parts, while the Malaysian auto industry faced a rising trade deficit in both motor vehicles and auto components and parts.

Malaysian and Thai automobile production stood at the same level of production at the outbreak of the East Asian financial crisis, but the two industries performed very differently in the wake of the crisis in the sense that Thai automobile industry switched successfully to export-led growth, while the Malaysian national automobile industry stalled and later declined at the domestic market which again grew much slower and in which non-national and Japanese-controlled automobile makers captured higher market shares. This post-crisis divergence will sooner or later impact employment conditions of autoworkers. Although Malaysian autoworkers in the past seemed to have done better in net income terms relative to the other ASEAN-4 workers, including Thai autoworkers, the relative decline of Malaysian automobile sector will probably affect the wage and working conditions in the future

irrespective of the relatively high level of unionisation in the industry (Wad 2007). Thai autoworkers at least regained and surpassed the wage level of the pre-crisis era in 2005 (comparative data missing for Malaysia; Table 8).

4. Drivers of key ASEAN auto industries in the twenty-first century

What explains these differences and similarities? Four drivers of the selected ASEAN-4[2] auto industrial developments will be considered following the extended GVC perspective: the automobile policies of the ASEAN-4 governments, which create an important institutional environment of automobile business; MNC automakers, which are understood as global auto chain leaders; the MNC half- and first-tier suppliers, which have gained increasing leverage during the 1990s and twenty-first century; and the political economy including the national innovation system and the industrial relations system.

4.1. *The auto industrial regimes of the ASEAN-4*

Both Malaysia and Thailand pursued import-substitution industrialisation policies for the automobile industry from the late 1960s, but the two countries diverged in the 1980s when Malaysia started its national automobile programme while Thailand gave priority to foreign MNCs in the early 1990s. Initiating a regional dimension of national automobile markets in 1996 after the emergence of the EU with a Single European Market 1992 and the North American Free Trade Agreement (NAFTA) plus the World Trade Organization (WTO) in 1994, national protectionism should increasingly be substituted by regional (ASEAN Free Trade Area or AFTA) protectionism from 1996 with intra-ASEAN trade barriers being reduced to maximum 5% tariffs if the product contained more than 40% local content by year 2000. The goal of a regional free trade area in automobiles was postponed due to Malaysian resistance, but Thailand and the Philippines eliminated the local content clauses in 2000 after having opened up for FDI much earlier. Malaysia treated the trade of components and parts as a non-sensitive product and included it in the AFTA regime in 2000, but the Malaysian government dragged its feet regarding OEMs. Malaysia abolished its Local Material Contents Programme and Mandatory Deletion Programme in 2002. The 'automobile AFTA' was formally achieved in 2004, when Malaysia included its OEM industry into the Common Effective Preferential Tariff (CEPT) regime of the AFTA. But even after 2004 national political considerations continued to erect non-tariff barriers for cross-border flows of motor vehicles and auto components and parts, owing to which national interests were jeopardised in the interpretation of the respective governments and state agencies. Malaysia switched for example from tariff to tax protection of its domestic automobile industry, taxing the small- and medium-sized automobiles, where Malaysian national automakers were located, less than other segments.

The industry-specific battle partly explains the dismal performance of intra-ASEAN trade in automobile products and the higher level of Thai export to ASEAN countries, while Malaysian export is dismal although slowly rising in recent years (Table 6). The biases in intra-ASEAN trade will probably increase the political regulation of cross-border trade, and the implementation of the free trade area will continue to be a negotiated political process until the Malaysian government opens up for majority foreign control.

The political dimension of the ASEAN auto market has been immanent since the inception of the ASEAN complementation agreement in 1969, the Brand of Brand Complementation (BCC) of 1988 and the cross-industry ASEAN Industrial Cooperation (AICO) of 1996 (Shimokawa n.d.). Between 1998 and 2001 ASEAN even pursued what has been

called 'developmental regionalism' (Nesadurai 2004) designed to positively discriminate ASEAN capital against outside capital. With the decline of FDI inflows to ASEAN and the concomitant acceleration of FDI inflow to China the ASEAN governments abandoned this state-based capital regulation.

Based on the growth and export performance of Malaysian and Thai automobile industries the two industrial policies – Malaysia's state-driven national automobile industry and Thailand's MNC-driven automobile industrialisation – seem to condition two different outcomes. Malaysia's dedication to the National Auto Programme, aiming for a full-fledged auto industry with production of a full range of passenger cars, vans, truck and buses together with motorcycles and auto components and parts, succeeded at a protected domestic market to the point at which national automakers held 90% of the market share. However, the national champions failed on export markets, especially the UK market, and this lack of international competitiveness turned out to be a disaster when the East Asian crisis undercut local demand and forced several ASEAN countries to increase export by way of pursuing more liberal policies and basing their automobile industry on foreign firms. However, why could Malaysia not do it when Korea managed to establish a Korean-owned industry during the 1970s, which internationalised successfully in terms of export and FDI during the 1990s? And why did the Thai industry get back on track and increased export-oriented growth after 1998?

The paradox is that Malaysian governments did the right things some of the time, but failed in respect to two crucial matters: mobilising existing domestic automotive business capabilities and tying state support to performance criteria. Malaysian governments had fragmented the automobile market since 1967 by way of handing out many assembling licences to private firms uncommitted to localisation of components and parts production. In the early 1980s the government decided to go for scale economies in automobile production and lined up with the weakest Japanese automaker, Mitsubishi Motors, in a majority-controlled joint venture, Proton (Jomo 1994, Machado 1994). The government manipulated protections and subsidies in such a way that Proton easily gained the dominant market share by the end of the 1980s. When an indigenous automobile entrepreneur emerged Proton was restructured into a private company with political-institutional backing. When Mitsubishi Motor Corporation (MMC) resisted functional upgrading and exporting based on Malaysian designs and brands Proton obtained design capabilities through the acquisition of the UK-based company Lotus, which specialised in engineering sports cars and fancy designs. While continuing to pay high royalty using foreign engines Proton allied with a foreign engineering company, developing and designing its own engines. At the turn of the century Proton launched its own designed model, and a few years later it produced a model with its own engine technology. In sum, the Proton management and political supporters did something right, although the investment project might be questioned and was criticised from its very inception for neglecting alternative and better investment projects (Chee 1994).

Yet these steps of industrial upgrading were not enough. The government relied on a new layer of industrialists and workers from the Malay community, and it did not mobilise existing industrial capabilities (Chinese entrepreneurs) for the national programme. Korea relied on its chaebol conglomerates which were owned or run by Korean entrepreneurs and managers. Korea had a lot of experienced businessmen and industrialists, while Malaysia had few when restricting the pool to the Bumiputera community, illustrated by a tragic helicopter crash that took out the owner–CEO of the national flagship, Proton, turning the development of Proton into jeopardy at a crucial moment in the mid-1990s (Wad 2001). Korea supported technological imitation, learning and innovation on a massive scale, while

Malaysia did not invigorate a comprehensive automobile innovation system (Kim 1997, Rasiah 1999). And the Malaysian government did not establish performance rating and tied it to indicators of international competitiveness as the Koreans did. All these flaws can be attributed to the overall political economy of Malaysia and its socio-ethnic-oriented New Economic Policy (NEP) (see Henderson and Phillips 2007 regarding the electronics industry).

Unlike Malaysia Thailand did not follow state-led automobile industrialisation beyond trade protectionism (Abdulsomad 2003). Thailand liberalised its automobile industry from the early 1990s while adding programmes in support of the development of a Thai-owned supplier base, e.g. Board of Investment Unit for Industrial Linkage Development (BUILD; Busser 2005). But until 1997 such an overall liberal and market-driven policy did not generate comparative better results than Malaysia's 'automobile nationalism', either in terms of industrial growth or in terms of export. The only significant outcome was the specialisation into pickups in Thailand due to domestic demand shaped partly by tax privileges for this segment. More than 60% of all vehicles made in Thailand in the 1990s were pickup vans, and this segment also came to dominate export when it took off after the East Asian financial crisis (Doner *et al.*, 2004, Takayasu and Mori 2004). Hence, it took a financial crisis to demonstrate the different potentials in the two industrial strategies.

When the Thaksin government took power in the early twenty-first century a new industrial plan for the automobile industry was announced in 2001. The goal was to turn Thailand into the 'Detroit of the East' (Busser 2005, p. 33), and the plan included several new initiatives: the linking of industry support to export performance, the establishment of the Thai Automotive Institute and an increased emphasis on public–private collaboration and consultation to the point of a corporatist model, 'Thailand Inc' (Doner *et al.* 2006). But no massive investments were undertaken. The Thai automobile industry continued without much state support and strategic regulation, and it was predominantly driven by the MNC lead firms (Abdulsomad 1999).

The sub-conclusion is that industrial policy did not play the decisive or the only role in the successful turnaround of the Thai automobile industry and in the stalling of the Malaysian automobile industry. Rather, the drivers might be located at the micro level of the interplay between business and firm capabilities and strategies.

4.2. *The auto transnational corporations (TNCs) in ASEAN-4*

Until recently, Malaysia was the only country in ASEAN where automobile production and sales were not dominated by Japanese automakers (Table 9). Malaysian Proton is a government-linked company and equity controlled by Malaysian interests after MMC's exit in 2004 as a minor shareholder (together with Mitsubishi Corporation). Proton has been the largest volume producer in ASEAN-4, and while it used MMC's technology and complex components/parts it had incrementally acquired capability and developed its own design and engine technology. However, its market share has been declining from a peak of 74% in 1993 to nearly 20% in 2007. With the changed automotive policy under the Badawi government from 2004 Proton was squeezed by cheaper, high-quality Japanese models launched by Toyota and Honda. The former Malaysian equity-controlled automobile company Perodua, specialising in small models based on technology and design supplied by its minority shareholder Daihatsu, finally became the best-selling make in Malaysia. Proton could not offset the declining market share in Malaysia with export expansion, and the company turned into red during 2007 after several years in black but returned profitable in

Table 9. TNC automakers' motor vehicle production in ASEAN-4 and worldwide 2004 (motor vehicle units).

	Malaysia		Thailand		Indonesia*		Philippines		World	
	2004	2006	2004	2006	2004	2006	2004	2006	2004	2006
Toyota and Daihatsu	167,920	239,379	259,540	462,710	171,760	146,590	14,490	13,980	7,779,849	9,120731
Honda	19,110	25,710	114,330	124,920	33,820	19,560	5700	12,810	3,237,434	3,669,514
Nissan	–	74	32,952	29,755	2640	2164	1044	312	3,190,219	3,223,372
Mazda	4860	2120	108,410	111,127	–	–	6560	660	1,275,080	1,396,412
Mitsubishi#	(166,710)	(57,990)	125,326	150,679	48,198	11,628	8400	8400	1,428,563	1,313,409
Suzuki-Maruti	–		–	–	76,464	37,044	–	–	1,976,824	2,297,277
Isuzu	–	1680	140,145	165,839	17,370	10,685	7320	5441	1,101,542	523,648
Japanese total									19,989,511	
American GM, Ford	966	790	92,574	113,997	–	–	–	–	15,609,500	15,194,353
European PSA, Renault	–	5821	96	–	643	–	–	–	19,481,140	5,849,329
Proton	–	76,010	–		–		–		–	79,072
Total motor vehicle production	372,916	502,973	927,981	1,193,903	408,311	296,008	70,728	41,603	64,165,255	69,333,605

Note: #The figures of Mitsubishi Motor Corporation in Malaysia 2004 seem to include Proton models which have been build on MMC licences and technology (models until the Waja and Gen2). In the view of Japanese automakers such models are Japanese, makes although the company is majority-owned by indigenous interests like Proton. Separate Proton figures are provided for 2006.*Figures for Indonesia in 2006 are estimates.
Source: OICA 2005, 2007.

early 2008 after launching new models and targeting emerging markets like Iran, Indonesia and China (Just-auto 2008).

In Thailand, Japanese makers controlled 81% of domestic sales and 60% of export in 2001, while American firms had 7% of domestic sales but 60% of export production; European makers only held 4% of domestic sales (Takayasu and Mori 2004, p. 225). In terms of individual automakers, Mitsubishi Motors topped with 34% in 2001, followed by GM with 28% and Auto Alliance Thailand (Ford Mazda) with 24% in 2001. Toyota only exported 12,000 units or 7% of total export this year. Also for 2001, Takayasu and Mori (2004, pp. 228–229) observed that the Thai market and exports were dominated by the GM Group, followed by Toyota Group, followed by the DC Group with Ford Group as number four.

Since then, the order has been reshuffled due to problems among European- and American-dominated alliances. The DC Group dissolved, with Daimler divesting from Chrysler, Mitsubishi and Hyundai, and GM and Ford faced huge problems in their home market, the US. Since 2007, Toyota/Daihatsu is the largest auto group in the ASEAN-4 markets individually and hence also at the aggregate level, while Toyota/Daihatsu was only at par with Mitsubishi in Malaysia (Table 9). In 2006, American automakers are only making their impact in Thailand, and more so if the joint venture of Ford-Mazda is included. The European automakers have more or less disappeared from the main ASEAN automobile industry in 2006.

These trends of automobile production by companies testify to the difficulties of Western firms re-entering the ASEAN automobile industry and market. With auto AFTA in the horizon in the early twenty-first century automobile MNCs did line up for increased competition in order to improve their market share. From 1998 to 2003 Ford/Mazda invested US$1.3 billion in Asia and was planning to invest US$500 million in Thailand by the end of 2003, but Ford investments would also flow to the Philippines and Indonesia, while Malaysia was considered irrelevant at that time (Ahmad 2003). The management took Malaysia to be an uncertain location as long as the national auto policy persisted. In practice, Ford increased its stake in Associated Motor Industries (AMI) to 49% and took management control to improve productivity before Ford finally abandoned assembling after pressure to relocate production from the Kuala Lumpur industrial area. Ford has been taking a regional view on AFTA and was shifting from a duplication of production to specialisation at a regional level with one model in one plant. German VW's Audi planned to invest 6 billion baths to build a plant with a capacity of 50,000 units in 2006 in order to turn Thailand into its production base in ASEAN (Wiriyapong 2003). VW had also been engaged in long-lasting but aborted talks with the Malaysian authorities about participating in the Proton project. The Korean Hyundai and the Japanese Honda and Daihatsu have invested in the Malaysia automobile industry since the financial crisis, with Daihatsu gaining ownership majority of the manufacturing companies (assembling and engine) of Perodua, which still preserves the status as national auto manufacturer.

This trend demonstrates that the Japanese automakers by and large dominate automobile production in the ASEAN-4. They do also take the largest share of the motor vehicle production worldwide, but here they are not market leaders and engaged in tense competition with American, European and Korean automakers. Toyota is close to become the leading automaker of the world, and it has already taken the lead position in all ASEAN-4 countries. In the two upcoming key markets in Asia, China and India, the Toyota Group is far behind other global automakers like the GM Group and has even been surpassed by the Japanese Honda in 2006.

Table 10. Structure of the automobile components and parts Industry in ASEAN-4, 1998.

Firms	Malaysia	Thailand	Indonesia	Philippines	ASEAN-4
Japanese	61	209	82	54	406
Western (US and European)	19	21	7	5	52
Total Triad	80	230	89	59	458
Total foreign and local auto suppliers	200–250	750–800	150–200	150–200	1250–1450

Source: Farrell and Findlay 2001, Table 3.8, p. 45.

4.3. *TNC auto suppliers in the ASEAN-4*

In accordance with the dominant position of the Japanese automakers in the ASEAN market Japanese auto component suppliers dominated the foreign sector of the ASEAN-4 auto industry at the peak of the East Asian crisis, but local firms formed the majority in terms of sheer numbers of firms (Table 10).

Considering the resilience of the regional Japanese keiretsu system in the automobile industry and the growth of Japan OEMs in the post-crisis era from 2000 Japanese components and parts suppliers should be very present and should be exercising their leverage in Southeast Asia. This seems also to be the case if the ownership structure of the automobile supplier industry is used as an indicator (Table 11). Hiroaki's figures (Table 11) are probably biased towards a better coverage of Western firms than Japanese firms, but they are not comprehensive enough to provide a valid picture of the whole industry around 2003. However, the table indicates again that Japanese auto suppliers are clearly dominating foreign auto supply industry located in the ASEAN-4 on the assumption that joint ventures are controlled by foreign interests due to their superior technology and management capability.

The data indicate moreover that both Japanese and Western auto suppliers have used the joint venture mode of entering the ASEAN-4 auto component and parts market. This pattern probably reflects the past protectionist regimes, the political demand for local capital participation and the 'under-scaled' ASEAN-4 national markets for auto supply. Since 2003 the intra-ASEAN market has been opened up for rather free trading of auto components and parts in formal terms, but in practice it is still monitored and influenced by national policy makers and interest groups. Yet, components and parts have always been less tariff-protected relative to the trade of complete build-up units (CBUs) and complete knock downs (CKDs).

Table 11. Ownership structure of automobile components and parts manufacturers in ASEAN-4, ca. 2003.

		Malaysia	Thailand	Indonesia	Philippines	ASEAN-4
Japanese[#]	Subsidiaries	2	7	8	4	21
	JV firms	15	53	24	13	105
	Total	17	62	32	17	126
Western	Subsidiaries	1	3	2	2	8
	JV firms	14	25	5	5	49
	Total	15	28	7	7	57

Source: [#]Hiroaki 2003; own calculations.

In 2005 the Thai Automotive Industry Association estimated that the Thai automobile industry comprised 14 automakers, 709 first-tier suppliers and 1100 second- and third-tier suppliers (Kohpaiboon 2008, p. 24). Of the more than 700 first-tier suppliers 287 were foreign-owned, 68 were joint ventures (JVs) and 354 were Thai-owned. Kohpaiboon (2008, p. 7) calculated that the OEMs in Thailand seemed to rely increasingly on local-produced components because the ratio of real import value of parts to locally assembled cars decreased from around US$9 million per 1000 units in 1990 to around US$1 million per 1000 units in 2005.

The market position of Japanese auto suppliers in the large Thai market is very strong after Thailand missed a golden opportunity for establishing a strong indigenous Thai auto supply industry in the 1990s, and Japanese suppliers moved into Thailand before the financial crisis changed the political outlook (Lauridsen 2004). Yet in spite of increased Thai policy support for the local auto suppliers in the post-crisis era the position of Japanese and other foreign auto suppliers has been strengthened. Local Thai suppliers have been downgraded or even pushed out of the market (Busser 2005, p. 14, Doner *et al.* 2006, Busser 2005, pp. 38–41, Kohpaiboon 2008, p. 10). Japanese OEMs in Thailand source primarily from Japanese affiliates (Toyota to the extent of 90% and Mitsubish and Isuzu to the extent of 70–80%; Busser 2005, p. 14, 2008, pp. 38–39). However, foreign auto suppliers have also brought new technology and routines to Thailand after they increasingly gained ownership control and reduced licensing agreements (Kohpaiboon 2008, p. 10). Denso, the key supplier of Toyota, has diversified its presence in Thailand tremendously from 1973 to 2005 when it established a Denso Training Academy in Thailand, and from the mid-1990s Western auto suppliers like Dana, TRW Steering & Suspension, Visteon, Johnson Controls and Delphi Automotive Systems entered Thailand (Kohpaiboon 2008, p. 11).

Overall, foreign multinational enterprise (MNE) auto suppliers have taken over the auto supplier market of Thailand, increasing their numbers from around 30 companies in 1971–1985 and adding 300 foreign suppliers over the following period of 1987–2005, and Kohpaiboon concludes 'Thailand becomes the site of world class automotive clusters in Southeast Asian region' (2008, p. 12).

A trend similar but less pronounced is found in Malaysia, where the national auto champion (Proton) lost market shares to foreign-controlled makers like the former national auto project Perodua. In Malaysia, Proton – and Perodua – have been supporting the development of national auto vendors, but this has not been a very successful process of technology transfer and learning, probably due to the lack of high-tech capabilities of Proton (and partly Perodua) during their own phase of technological upgrading (Wad 2006). In 2005, Proton is said to have used 287 direct suppliers and 3000 sub-suppliers for 80% of components out-sourced (Malaysiakini 2005). An independent audit (2004/2005) found that out of 185 local vendors included only 4 were graded A, with the top rank based on German standards, 13 were graded A/B, 134 B and 34 C, which is below global standards. Among foreign suppliers, 18 achieved grade A and 6 A/B; that is the foreign suppliers fared much better than the local (Malaysiakini 2005). Based on a sample of 99 suppliers of Proton in 2004, Rosli and Kari (2008, p. 115) concluded that local suppliers were unable to compete with foreign suppliers in terms of economic and financial performance indicators, confirming the general impression of lower capabilities among local firms relative to foreign subsidiaries or joint ventures.

Although there is plenty of room for import substitution due to the amount of imported components and parts (7.2 million RM in 2004 relative to the amount of domestic production (5.2 million RM in 2004; Mohamed and Kari 2005, p. 15) the local Malaysian auto supplier industry is unable to compete effectively. It lacks export capacity (70% were surviving

on their local market customers), does not have its own technology and is engaged in low-scale production of low-technology products (Mohamed and Kari 2005, p. 14). Rasiah (2004, pp. 138–139) is the only one to bring a little comfort to this bleak outlook, hinting that investment in R&D is higher among local automobile suppliers than among foreign suppliers operating in Malaysia, although R&D is at a low level and R&D investment probably flows to low-value-adding activities.

A comparative multi-case study of the processes of technological development among Thai and Malaysian auto suppliers aimed the assessment of domestic auto supplier firms according to investment capabilities, production capabilities, minor change capabilities, marketing capabilities, linkage capabilities and major change capabilities (Abdulsomad 2003). Based on this capability assessment, Abdulsomad (2003) classified the firms in four groups: progressive firms, progressing firms, stagnant firms and declining firms. The result was that some locally owned suppliers in both countries had achieved 'progressive' firm status, but no indigenous firms in the sample demonstrated linkage capabilities and innovative capabilities. However, several local firms had reached the stage of minor change capabilities and marketing capabilities, and Thai-owned suppliers had created independent marketing capability contrary to Malaysian suppliers that were dependent on the OEMs (Abdulsomad 2003, p. 267).

In sum, the local automotive supplier industry has suffered during the post-crisis era in which foreign OEMs and even the Malaysian national OEMs have relied more and more on foreign first-tier suppliers. Local suppliers seem to be marginalised and pushed into after-market niches. Only the mass volume of pickup production and export in Thailand provides a bit comfort for the local Thai supplier industry, while another success story seems to be unfolding in the Philippines after liberalisation of its automotive industry at the expense of an underdeveloped OEM industry (Ofreneo 2008).

Despite the regional stronghold of Japanese automobile suppliers they do still have a long way to go to reach the top ten league of global automobile suppliers. Only Denso and Aisin Seiki, two of Toyota's first-tier suppliers, have made it to the fourth and seventh ranks respectively in 2004 (based on sales US$; Wad 2008, p. 58), which is one step up for both in 2005 (Barnes and Morris 2008, p. 37).With the rapid growth in the Asian automobile industry over the next decade automobile suppliers which have their core activities in this region may climb the global supplier ladder due to this global restructuring, and in Asia, Asian (especially Japanese) firms do much better. Among the global top 25 suppliers in 2003 5 had more than 40% of their sales in the Asia-Pacific market, and they were all headquartered in Japan (rank in parentheses): Denso 65% (3), Aisin Seiki 80% (8), Yazaki 43% (18), Calsonic 66% (20) and Koyo Seiko 60% (23) (International Labour Organization [ILO] 2005). This gives Japanese suppliers a comparative advantage, but the strategy of 'follow sourcing' pursued by global OEMs will probably count more and force global first-tier suppliers to localise production in East Asia and in ASEAN too if and when automobile production is increasingly integrated at a regional level – and Thailand and the Philippines may be the winners in Southeast Asia.

4.4. *The political economy of automobile industries*

These different automobile policies among the ASEAN-5 countries and especially the two diverging strategies of Thailand and Malaysia, relying on different actors and generating diverging outcomes, might be interpreted as the result of the same underlying power structures varied in accordance to the social weaknesses of the dominant political and business elites. This is most obvious in Malaysia, where the NEP aimed for creating a new Bumiputera

business community while eradicating poverty, and the national automobile policy was used as one mechanism to translate this development policy into practiced. In the name of NEP a new set of national companies and businessmen were constituted together with the mobilisation of a new Bumiputera labour force, marginalising the existing automobile skills and capabilities among Chinese businessmen and workers. Yet without building a new strong and supporting knowledge and innovation system in general (Felker 1999, Rasiah 1999) or specifically for the national and non-national automobile industry besides Bumiputera vendor and foreign–local linkage programmes (Sadoi 2003, Rosli and Kari 2008), the national automakers were taken to be the drivers of the development of a national automobile industry. In the medium term the automobile industry was concentrated and centralised, creating at least one volume producers but without international competitiveness to make sustainable inroad into foreign markets and without time to learn from past failures, as the Japanese and Korean automakers did in the 1960s and the 1980s respectively.

Regarding the labour market the industry-based system of IRs in the automobile industry was undercut and transformed into a firm-based IR (Wad 2004a, 2004b). While Proton and Perodua and other non-national OEMs built in-house unions (Rasiah 2001a), the industrial union survived and retreated into the parts subsector and managed to keep a high level of unionisation and negotiate collective agreements with relatively high remuneration, which again were imitated by enterprise unions at the national companies (Wad 2004a, 2004b). Overall, wages and working conditions were maintained at a fairly high level in a cross-industry perspective, but wages fell during the immediate post-crisis period, only to pick up in the following years.

Thailand presents another picture targeting the same power issue in another way. Chinese businesses have been much more assimilated in Thai business, and the indigenous Thai political-economic elites have a lot of economic strongholds in the agro-industrial complex and many other areas of the economy like tourism (Hewison 1997, p. 110). Hence, the Thai elite did not pursue an ethnic-based 'ethno-economic nationalism' and did not give high priority to the automobile industry but choose the liberal, market- and MNC-driven strategy to make the automobile industry grow. It did not work well until the financial crisis which pushed the MNC affiliates to the brink of bankruptcy, and at this moment they decided to transform Thailand into a global hub for commercial van production, exploiting the comparative advantage of the Thai industry and labour market due to a depreciated currency, liberal trade policy and weak trade unions. Also the Thai polity woke up, and democratisation progressed. The new Thaksin government of 2001 launched a plan to make Thailand the 'Detroit of the East', but not much came out of this plan, allowing the MNCs to pursue their own agenda, i.e. liberalising cross-border trade. Yet Itarakumnerd (2006, p. 117) contends that the Thaksin government did partly succeed transforming a 'weak, fragmented and slow-learning' innovation system 'into one that can become stronger, more coherent and faster-learning', but a military coup overturned the Thaksin government in 2006.Over time the niche production of pickup trucks delivered volume and a platform for the whole industry to grow and the concentration on pickup trucks decreased over time (Kohpaiboon 2008, p. 5). The price to be paid was the relegation of Thai suppliers to lower tier status, while foreign MNC suppliers entered the Thai market and gained first-tier status. The Thai autoworkers had always been weakly unionised and fragmented into a set of enterprise unions, and the federation of enterprise unions have not been able to strengthen the unions and undertake collective bargaining in a coordinated manner at the industry level (Wad 2004a, 2004b). Yet a prospering industry and the demand for skilled or semi-skilled labour do provide fertile ground for improved wage and working conditions, especially in American subsidiaries which are linked to parent companies unionised by

United Auto Workers (UAW). Japanese firms are instituting enterprise-level bargaining and human resource policies which aims to create productivity alliances between management and labour (Arnold 2006).

Turning into a real automobile free trade area, the AFTA market, based on a population of half a billion people, is interesting in its own right, with a sale of vehicles around 1.3–1.5 million in the early 2000s, back to its pre-crisis level, and around 1.9 million in 2007, reaching out for 2 million around 2010. However, while the ASEAN countries aim to foster a regional car industry with global reach and competitiveness and MNCs have established a production capacity of nearly 1.6 million cars in Thailand alone by 2006 (Kohpaiboon 2008, p. 9), ASEAN faces increasing competition in auto assembling and component manufacturing from China, which has become the fourth largest auto production site in the world by 2003, and now also from India. Employers take every opportunity to point out, as did Mr Shinji Takeuchi, president of Denso International Thailand Co., when he said that 'if Southeast Asian countries did not improve their competitiveness, their automobile industries would be swallowed up by China' (*The Daily Yomiuri*, 08 September 2004).[3] This statement is to be understood in the context that ASEAN also wants to establish a free trade area agreement with China from 2011. Meanwhile MNC automakers in Thailand have been lobbying for bilateral free trade agreements between Thailand and Japan to secure free trade of components and parts and indirectly discriminating their American competitors as long as no bilateral free trade agreement exists between Thailand and the US.

5. Conclusion

In Southeast Asia, Thailand went decisively for the open-door policy at the right moment of time, the East Asian financial crisis in 1997, allowing fully owned subsidiaries of foreign automotive MNCs and abandoning local content requirements in 2000. Thailand aimed towards turning Thailand into the 'Detroit of the East', and with the sunk cost of MNC automakers in Thailand they had no choice but to start exporting. This turned around the Thai automobile industry into a road of success although the Thai-owned auto supplier sector became marginalised in the same wake. In Malaysia, a state-driven national automobile programme was on trail in early 1980s, building 'national champions' within a protected marked and in JV alliance with Japanese OEMs. This strategy is on the road to failure and de-nationalisation, even to the point of forfeiting the opportunity to build a stronghold of passenger car manufacturing. However, Malaysia has leaned the lessons of contemporary successful automobile-producing countries like Japan and Korea that export has to start in emerging markets, where quality standards are not that high, and not in the mature and advanced markets of the Global North, where competition is intense and customer demands very high. Indonesia tried to follow Malaysia in cooperation with Korean automakers (Kia, Hyundai/Kia) but gave up under the financial crisis, and the Philippines decided for the Thai route to auto industrial expansion around 2000, and the country is on a feeder road to success in the automobile components and parts industry. Vietnam's automobile industry is growing rapidly but from a very low level and in alliance with foreign OEMs.

The turning point in the comparative and competitive evolution of the Malaysian and Thai automobile industries came with the East Asian financial crisis which forced the MNCs in Thailand to emphasise export-oriented manufacturing, while the national automobile firms in Malaysia were unable to pursue this path due to weak technological capabilities, brands and international distributive networks targeting the 'wrong' markets (especially the

UK). Thailand appears as a success story, pertaining to the inroad of a developing country industry into a global market segment (pickup trucks) via the value chains of MNCs and over time diversifying into other export segments. In Malaysia, it is last call for Proton, the genuine remains of the national automobile programme, if Malaysia's comparative advantage of its huge passenger car industry is not to be run down by Thai-based automakers. The national Malaysian automobile industry has either to design, manufacture and marketing exportable brands targeting less competitive markets (e.g. in Islamic countries) or to re-link with one of the lead MNCs of the global industry. The last option seems to be possible only by giving up local management control, as it has been successfully pursued in the case of Perodua but unsuccessfully in the case of Proton. Proton has recently coped successfully with the challenges, turned out new products, recaptured domestic market shares, regained profitability and targeted neighbouring high-growth emerging markets. If Proton and the rest of the industry cannot compete internationally the Malaysian automobile industry is doomed, and so are the jobs and relative income advantages of Malaysian automobile workers of the era before the pre-East Asian financial crisis.

Notes

1. The data sources include several surveys undertaken by global union federations (e.g. IMF) or international business associations, e.g. OICA that provides statistics on countries, types of vehicles, automobile makers and year. The OICA data are provided by the affiliated associations and are not necessarily the final and valid data; e.g. production of Malaysian PROTON has not been reported until recently but has been subsumed under Japanese Mitsubishi Motors. However, OICA provides the most differentiated datasets available.
2. Vietnam's automobile industry is excluded due to its small size.
3. Lall and Albaladejo (2004, p. 1457) are of the same opinion: 'China's threat in medium-technology products is also growing. Over time it is likely to mount a serious competitive challenge in products such as automobiles, machinery and simple electronics. Here the challenge will be equally to the new and the mature Tigers'. The new Tigers include the ASEAN-4 countries, while the mature Tigers refer to Hong Kong, Singapore, South Korea and Taiwan.

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