



# Transnational Production Networks in the Automobile Industry and the Function of Trade-Facilitating Measures

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Research

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## Foreword

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This report on the automobile industry provides from a comparative perspective a number of important insights, not only on the chosen industrial sector, but also on regionalisation processes in general. In particular Heribert Dieter teases out the role of State and non-State (essentially business leaders) in promoting processes of economic regionalization in both continents. In the European case, he highlights the way in which the politically driven development of a single European market has caused changes of strategy in the automobile industry in order to take advantage of lower cost production in new EU entrants, and to develop regionally integrated production networks. In the Asian case, State actors have been less visible in processes of regionalisation. Nevertheless, the outsourcing say of Japanese automobile companies can not be divorced from a number of political decisions pursuant to the Plaza agreements which significantly increased the value of the yen.

In both the European and Asian cases the countries receiving substantial amounts of FDI in order to develop their own automobile sectors - both as manufacturers and/or component suppliers - have not been passive recipients. The industrial strategies of these host governments need to be kept in mind.

Drawing from the European and Asian examples, the author demonstrates the importance of trade policy in affecting the commercial and industrial decisions of automobile manufacturers. In the Asian case he shows how the problems arising from rules of origin can have deleterious results for automobile manufacturers in setting up transnational production networks. Thus he argues for developing in Asia a single regulatory scheme, concretely a Pan Asian cumulation of origin framework. While he sees an East Asian Customs Union as a better option, a cumulation of origin scheme would at least be an improvement on the present opaque system.

This case study by Prof. Dieter comes after his Report on East Asian Integration: Opportunities and Obstacles for Enhanced Economic Cooperation, published by Notre Europe in January 2006 as part of its research programme on regionalisation dynamics around the world.



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## Abbreviations

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ACTU Australian Council of Trade Unions

AFL-CIO American Federation of Labor and Congress of Industrial Organizations

AFTA ASEAN Free Trade Area

AICO ASEAN Industrial Co-operation

APEC Asia Pacific Economic Co-operation

ASEAN Association of Southeast Asian Nations

AUSFTA Australia-US Free Trade Agreement

BBC Brand-to-Brand Complementation

CIE Centre for International Economics

EBA	Everything But Arms
EFTA	European Free Trade Association
EMEAP	Executives' Meeting of East Asia and Pacific Central Banks
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GM	General Motors
GSP	Generalised System of Preferences
HS	Harmonised System
ILO	International Labour Organisation
IMV	Innovative International Multipurpose Vehicle
NAFTA	North American Free Trade Agreement
SACU	Southern African Customs Union
TAFTA	Australia-Thailand Free Trade Agreement
TCPA	Toyota Peugeot Citroën Automobile
WCO	World Customs Organisation
WTO	World Trade Organisation

## Introduction: Globalisation and Regionalisation

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**G**lobalisation continues to influence both the policies of states and the strategies of companies, in particular of transnational corporations. Since globalisation is both an overused and underspecified term, it needs to be defined: The term is employed here to describe the continuing integration of economic activity facilitated by both the general trend towards liberalisation and the technological advancement that reduces transactions cost. Governments are both actively shaping globalisation – for example by liberalising their trade policies – and they are passively affected by decisions of other governments and other players, e.g. transnational corporations. In a similar manner, transnational corporations do influence today’s global economy – for example with their investment decisions – and the regulatory environment that governments continue to provide influences them.

These two dimensions evidently interact with one another: firms’ strategies respond to the economic policy decisions in sovereign states, but private sector players also try to influence the policy sphere, but intergovernmental agreements can also result in the change of strategies of companies (Freysenet/Lung 2004: 42).

Governments try to react to the changes in the global economy with a variety of measures, one of them being the wave of bilateral trade agreements that we currently witness. Transnational corporations in turn respond to these changes in the regulatory environment by adapting their production strategies accordingly.

This report will look at the transnational production networks that have emerged in Europe and in Asia, using the car industry as an example. Using the term transnational production networks – rather than global networks – is a choice that reflects my perception that states and national boundaries continue to matter. As will be demonstrated in this report, despite the trade liberalisation of the past decades governments continue to have substantial influence on the shaping of production networks (and other investment decisions). Consequently, the term global production networks would imply that government have become irrelevant – a position that is not tenable when looking at today's global economy.

The developments in the car industry are particularly interesting, for they demonstrate the changing nature of production processes quite clearly. In that sense, the automotive industry can be identified as the archetypical global industry, which contributes significantly to the homogenization of the global economy. It would, however, be misleading to think that globalisation would result in a convergence of production processes. Rather, a remarkable diversity of production processes can be observed (Freysenet/Lung 2004: 42). Although this diversity could be attributed to historical developments that may not continue to last much longer, there is also evidence that globalisation does not lead to both homogenous products and production processes. Ford developed a global platform concept that was used in the production of the aptly named car, the Mondeo. Ford has stopped this project and has returned to regional strategies. The company's attempt to globalize product and process was a failure, and subsequently Ford has returned to a regional approach, for example the restoration of its European subsidiary, Ford Europe (Freysenet/Lung 2004: 52).<sup>1</sup>

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<sup>1</sup> One could argue that a car that was attractive for Asian and European buyers simply was too small for the American market, at least in the years before oil price rose sharply.

In this report, two regions will be analysed that show differences as well as similarities, Europe and (Southeast) Asia. The reason for looking at Europe is evident: The European Union and its neighbours have developed a remarkable degree of integration still unrivalled by any other integration project. Southeast Asia has been selected because it has become a remarkably dynamic region for the automotive industry. However, the current dynamism may be short-lived if the region does not continue its path of further trade liberalisation, but instead will engage in discriminatory bilateral trade agreements.

Whilst both in Asia and in Europe complex networks of transnational production have emerged, trade policy has taken diverging directions. In Europe, both the enlargement of the European Union in 2004 and the creation of an even larger area for the sourcing of inputs in 1999 have enabled European manufacturers to deepen intraregional division of labour. In Asia, however, the relatively recent trend towards the creation of bilateral free trade agreements could undermine the exploitation of comparative advantage in the region. Bilateral free trade agreements require the complex and costly documentation of the origin of products, which in itself is a barrier to trade. Even more problematic are the local content requirements in free trade agreements. Rather than facilitating the regional division of labour, manufacturers have to consider very carefully the effects of sourcing decisions for the “nationality” of the final product. In Asia, there is no scheme that facilitates the Pan Asian sourcing of inputs, unlike in Europe, where the PANEURO regime enables producers to buy inputs from the cheapest source without risking tariff preferences.

In the last decades, the global economy has been affected by two distinct, but related developments: the increasing transnationalisation of production networks and the rapid emergence of regional trade agreements (Dicken 2005: 1). Both developments are important for developed and developing countries alike. Transnationalisation of production networks results in the relocation of production to other countries, and these changes affect the economic prospects for workers in many parts of the world.

In this report, I will look at the consequences of government-driven economic integration on the strategies of private-sector transnational production networks. Although it is clear that a relationship exists between state and private sector decisions, the direction of causality is not clear. Do state-driven processes of regional integration, e.g. the creation of a free trade agreement, result in changing investment decisions of the private sector? Alternatively, the investment strategies of the private sector could result in a pressure on states to create regional integration processes (Dicken 2005: 12). Andrew Staples, following concepts of Susan Strange, argues that commercial considerations follow political decisions, and that there is there is relatively clear hierarchy (Staples 2006: 16).

Even if one assumes that political decisions are more important, Europe and Asia still show diverging trends. Undoubtedly, the integration process in Europe is primarily driven by political motives, whilst in Asia economic considerations appear to be predominant. Even though, de facto integration processes can only develop because trade policy and other domestic policies do encourage that. However, the consequences for a specific sector, the car industry, are similar in both regions: Transnational production is facilitated.

Organising manufacturing in transnational, yet regional production networks has significant advantages over both national and global networks. Firstly, regional production networks are likely to exploit the limits of economies of scale, an advantage over national networks. Secondly, regional production networks reduce the costs of logistics and allow faster delivery. Thirdly, regional approaches permit greater customisation of products and smaller inventories when compared with global production networks (Dicken 2005: 12).

Hypothesis: Both in Europe and in Asia, the car industry is actively using the opportunities of regional production networks. This process is very developed

in Europe, and it is increasingly relevant for Asia. However, the transnationalisation of production is significantly less complex in Europe, where the existing trade regimes facilitates rather than hinders that process. For Asia, this European experience might provide useful hints for the further development of the bilateral and

regional trade regimes. In particular, the Pan European regime on rules of origin is a legal construct, which lacks an equivalent in Asia. With the increasing importance of preferential trade regimes in Asia, this issue is of growing relevance.

This report is organised as follows. In the second chapter, I will analyse the effects of bilateral free trade agreements on the administration of production. In particular, the consequences of rules of origin and the advantages of the cumulation of origin – a regime that exists in Europe since the late 1990s – will be considered. In the third chapter, the changing patterns of production in Europe will be analysed. Here, two companies have been selected: First, Audi's facilities in Hungary will be looked at. Audi has ceased to manufacture engines in Germany and has transferred production to Hungary. However, only relatively few vehicles are made there, whilst the large majority of vehicles continues to be made in Germany. A different picture is presented when analysing the Dacia Company, which is Romanian low-cost producer owned by Renault. Dacia's only relevant model, the Logan, is an example for a production process that can easily be replicated in other parts of the world and is similar to Toyota's IMV project, which will be discussed in chapter four. In addition, transnational production networks in Southeast Asia will be analysed in that chapter. It will be demonstrated that there is great variation between the strategies employed by Toyota, Mitsubishi and Honda.

In conclusion, I will sum-up the diverging patterns in Europe and Asia and will suggest the development of more comprehensive integration in Asia, either by introducing a Pan Asian regime for the cumulation of origin or, better still, the creation of an East Asian integration project that avoids the systemic disadvantages of bilateral free trade agreements, i.e. a customs union.



## I - Bilateral Trade Agreements and the Consequences for Production Networks

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**A**lthough supporters of bilateral free trade agreements are suggesting that these measures are trade facilitating, in reality this may not always be the case. The main reason for that is that free trade agreements require the documentation of the origin of a product.

### 1.1. The Trade-Restricting Effects of Rules of Origin

In an entirely open world economy with no restrictions of the flow of goods, rules of origin would not matter because it would be irrelevant where goods originate. Today, however, the origin of a product matters, in particular in preferential agreements. All free trade areas including bilaterals require rules of origin to establish the “nationality” of a product. The reason is that in FTAs participating countries continue to have diverging external tariffs. One country might have a high tariff on, say, cars in order to protect domestic producers, whilst the other might have a low or no tariff on that product. Since only goods produced within the free trade area qualify for duty free trade, there have to be procedures that differentiate between

goods produced with the FTA and goods from the rest of the world. The preferential system becomes complicated. Moreover, expensive: On average, the cost of issuing and administering certificates of origin is estimated to be five percent of the value of a product (Dieter 2004: 281; Roberts and Wehrheim 2001: 317).<sup>2</sup>

In the past 40 years, the use of rules of origin has changed significantly. After decolonisation, many developing countries used rules of origin as instruments to enhance their economic development. Rules of origin were used to increase the local content of manufactured products and to protect the infant industries in those economies against foreign protection. This function of rules of origin is of minor importance today. Rather, developed countries use strict rules of origin to protect their aging domestic industries.

When criticising the negative consequences of rules of origin, there is a caveat. By paying the appropriate tariff, they can be easily overcome. Since peak tariffs continue to cause difficulties in some sectors, the protectionist effect of rules of origin should nevertheless not be underestimated. The combination of tariffs and stringent rules of origin can be an efficient instrument for the protection of a market. One example for that approach is the textile market in NAFTA, where rules of origin require the yarn to be spun in NAFTA (yarn-forward rule) or even the fibre to be produced in NAFTA (fibre-forward rule), which is used for many textiles containing cotton. The consequence is that Canadian or Mexican textile producers cannot source their cotton from, say African cotton producers, but instead have to buy cotton from US producers. Rules of origin are opaque protectionist instruments.

### **1.1.1. Methods for Establishing Origin**

First, it is important to understand that there are two categories of certificates of origin, non-preferential and preferential ones. The former are used to differentiate between foreign and domestic products, for instance for statistical purposes, for anti-dumping or countervailing duties or for the application of labelling or marketing requirements (Jakob and Fiebinger 2003: 138). The second type is the one that can distort trade because it provides preferential access to a market.

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<sup>2</sup> In NAFTA, the costs of meeting rules of origin requirements have been estimated at two percent of the value of all Mexican exports to the United States (Dee 2005: 22).

To begin with, customs regulation does not permit multiple origin of a product. Current customs regulation requires that a single country of origin is established (Jakob and Fiebinger 2003: 138). There are four methods to establish the “nationality” of a product, to establish origin. There is natural origin and origin due to substantial transformation, this category being subdivided into three other forms: a change in the tariff heading, a minimum percentage of value added and specific production processes (Estvadeordal and Suominen 2003). Natural origin (wholly produced or obtained) is the least complicated approach. This applies to raw materials and non-processed agricultural products, i.e. to a relatively small part of international trade.

A change of tariff heading is already much more complicated. The Harmonized System (HS) is a set of regulations that has been agreed upon in the World Customs Organisation (WCO). It consists of 1241 categories on the four-digit level and more than 5000 categories on the six-digit level. If a product receives a different tariff heading after the production process, this can be used to qualify for origin. This method has considerable advantages. It is both transparent and easily established. Using the Harmonized System is simple, easy to implement and causing relatively little cost. The necessary documentation is undemanding. The trouble is that a change of tariff heading does not necessarily constitute a significant step in the production process. Minor changes to a product can lead to a change of tariff heading. Furthermore, if a final product consist of a large number of components, documenting origin becomes complicated, and therefore costly (Woolcock 1996: 200). Therefore, merely requiring a change of tariff heading to establish origin is the exception in FTAs.

The minimum value-added rule is probably the most complicated method to establish origin. Incidentally, it is also the most widely used scheme. A certain percentage of the value of the product has to be produced within the FTA to qualify for duty free trade.

The calculation of minimum value added is difficult and varies between different free trade areas. It also varies between product categories. Furthermore, technical details have to be considered. Which methods to calculate local content are

accepted? For example, are capital costs counted as local content?<sup>3</sup> If so, up to which percentage? In FTAs between developing and developed countries, the lower wages in the poorer countries ironically result in a disadvantage, because the minimum value added can be reached more easily if wages are higher.

Finally, specific production processes can be identified and agreed upon in order to establish origin. The trouble is that this method both requires complex negotiations on agreed production processes and continuous updating. Due to the changing patterns of production, new forms of production emerge that would constitute substantial transformation, but unless they are listed in the catalogue of agreed production processes, they would not qualify for duty free trade.

Various free trade agreements have demonstrated how complex rules of origin can be. The NAFTA rules of origin cover more than 200 pages. There are byzantine regulations on local content, for instance a 62.5 percent local content requirement for motor cars (for more details Dieter 2004). However, complex rules of origin are not an American speciality. In some FTAs in Asia, rules of origin are just as complex. For example, in the Japan-Singapore Economic Partnership Agreement, the Japanese government insisted on detailed, product-specific rules of origin, which cover 200 out of the 360 pages of the agreement (Ravenhill 2003: 308).

For producers, these rules of origin result in an additional administrative effort rather than a facilitation of trade. An example where this is particularly obvious is the clothing industry in Asia. Today, state-of-the-art production chains need as little as three weeks from sample making to delivery. Production and sourcing processes are divided into up to 10 or 12 stages in various countries. By introducing rules of origin, this model will no longer be manageable due to the complexity of rules of origin (Dee 2005: 39). Of course, one might argue that slowing down the international division of labour is a useful development. That is an entirely different debate: Preferential trade agreements are justified because they are supposed to facilitate trade, rather than obstruct it. On balance, rules and certificates of origin create arbitrary incentives that contribute to the rise, not decline, of transaction costs in international trade (Garnaut and Vines 2006: 10).

<sup>3</sup> In NAFTA, the cost of capital for machinery can be included (Krueger 1995: 8).

### 1.1.2. The Cumulation of Origin

One of the most important issues for the viability of transnational networks of production is the question whether the cumulation of origin from different FTAs is possible. Cumulation of origin is an important exception from the principle of giving preference only to products produced within an FTA (Jakob and Fiebinger 2003: 144). The underlying question is whether in overlapping FTAs inputs can be sourced from various member countries and still achieve origin.

The European Union has been actively promoting free trade areas both with other European as well as with non-European countries. This has resulted in complicated rules of origin that potentially harm transnational production processes and could reduce the competitiveness of European manufacturers. In Europe, this awareness has led to the Pan European cumulation of origin. In 1997, PANEURO was established, which permits the cumulation of origin between the free trade areas of the EU and the European Free Trade Association (EFTA). PANEURO today covers as many as 50 FTAs (Estevadeordal and Suominen 2003: 16).

What is the cumulation of origin? Bilateral cumulation is the conventional version: It permits the use of intermediate products coming from the other country in an FTA. Diagonal cumulation permits the use of intermediate products from all countries that are participating in the cumulation scheme without risking origin. Diagonal cumulation can also be called the cumulation of origin between free trade areas. Full cumulation of origin is more comprehensive still, because it allows the use of intermediate products from all countries, but this type of cumulation is rare in customs administration (Estevadeordal and Suominen 2003: 5; Priess and Pethke 1997: 782). Full cumulation would dilute any preferential arrangements, because from wherever an input would be sourced, this would count as an input from within the free trade area.

Outside Europe, hitherto there are only limited attempts to permit the diagonal cumulation of origin. To date, there are some early attempts in South-East Asia. But the rapid increase of bilateral and plurilateral free trade agreements in the region calls for a Pacific-wide diagonal cumulation of origin, if increasing welfare indeed were the main goal of the free trade agreements.

For companies in Asia, this poses a challenge of increasing relevance. Transnational production regularly requires the sourcing of inputs from the cheapest producer worldwide. If bilateral FTAs result in the limitation of inputs from these two countries, the consequence is potentially a welfare-reducing diversion of trade. Take the FTA between Singapore and the USA. If a manufacturer in Singapore will have to use intermediate products from either Singapore or the USA to achieve origin, but the cheapest provider of inputs comes from, say, Thailand, this would be trade diversion. To use another example: Singaporean clothing manufacturers that used to source their fibre and cloth from other Asian producers may have to switch to more expensive American producers in order to qualify for duty free access to the USA. Rather than using the cheapest supplier worldwide, the cheapest supplier from within the free trade area is used. In other words: Trade is diverted, which results in – following conventional trade economics – a welfare reduction.

Since this rationale has to be applied for each individual bilateral free trade area, it is obvious that this situation undermines the competitiveness of producers in a region where free trade agreements are mushrooming. Rather than working towards the increase of efficiency, companies get preoccupied with achieving origin – a waste of time and resources.

Rules of origin and their application have to be taken into consideration when evaluating the usefulness of free trade areas. They make transnational production processes more complicated, if not impossible. The inherent need for documentation of the production process is resulting in additional bureaucratic procedures. They may contribute to trade diversion, because manufacturers may use the cheapest supplier from within the free trade area rather than the cheapest supplier worldwide.

Rules of origin, indispensable parts of free trade agreements, do not contribute to trade facilitation. Rather, they can be used as protectionist devices. In particular, badly designed rules of origin can create barriers to intra-industry trade (Inama 2005: 577). Of course, there is considerable variation between free trade agreements with regard to the stringency of their rules of origin. However, even when generous limits for establishing origin are chosen, the complex administration remains. Clearly, companies that are unwilling to meet the requirements of rules of origin can always opt out and simply pay the appropriate tariff, which in turn would reduce the utility of the free trade agreement to zero.



## II - Trade Policy and Transnational Production in Europe

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The European Union represents a comprehensive model for regional integration, and the second half of the twentieth century has served to consolidate a process that was initiated soon after World War II. The original six member countries included three major automobile producers: Germany, France and Italy. Belgium benefited from its membership and received significant foreign direct investment in the automotive industry in the 1960s and 1970s (Layan/Lung 2004: 58).

It is not necessary to rehearse all the stages of the European integration process here, but the major changes with regard to the car industry should be considered. In 1973, the United Kingdom joined the EEC, together with Denmark and Ireland, both not being important producers of automotive products. The joining of Greece also was not important for the automotive industry, but the arrival of both Spain and Portugal in 1986 was. In addition, Germany's unification in 1990 and the joining of Sweden, Austria and Finland enlarged the automotive region. In the former East Germany, substantial new investments were made in the automotive industry. Sweden has a substantial own car industry, and both Austria and Finland have significant component and assembly factories. The last widening of the Union

happened in 2004, and the addition of Eastern European countries has effects on the car industry. In particular, new or modernised facilities have become operational in Poland, Hungary, the Czech and Slovak Republics as well as in Slovenia. Romania, not yet a member, is another Eastern European country that has become integrated into the European automobile system.

The restructuring of the 1990s and the integration of Eastern Europe into the region's automotive space also put pressure on suppliers, many of which were too small to both develop the new products required by the manufacturers and simultaneously expand their production facilities into Eastern Europe (Jürgens 2003: 19).

In the 1960s, the countries of the then European Economic Community were creating a joint economic space, but primarily foreign companies took advantage of it. In 1967, the French journalist Jean-Jacques Servan-Schreiber published his best-selling essay "The American Challenge", in which he criticised the fact that American transnational companies – rather than Europeans – were taking advantage of the integrated European market.

Since then, European companies have been utilizing the advantages of European integration. The process of integration has in fact led to substantial reorganisation of existing production networks and to the creation of Pan European networks by both existing and new transnational corporations (Dicken 2005: 14). One can even argue that the entire EU can be seen a gigantic international production complex made of the networks of companies that cross national boundaries and form their own trade networks (Amin 2000: 675). Looking at Europe with a comparative perspective, it is obvious that the redefinition of the production system and the supply and demand links in Europe are more advanced than in any other region (Lung/van Tulder 2004: 16).

## 2.1. Regional Economic Integration in a Single Regulatory Sphere

The integration process in Europe reached a relatively advanced level as early as 1968, when the customs union between the original six members was completed. Since 1974, the common external tariff of the EU stands at 10 percent (van Tulder/Lung 2004: 32). For passenger cars, this level of protection is relatively high when compared to the regime applied in the United States, where the tariff for cars stands at 2.5%. It is, however, quite low when compared to the tariff for light in the US, where the tariff is as high as 25%.

While the EU itself is a customs union, it did negotiate a number of free trade agreements with other countries and regions. In fact, one could argue that the creation of a trade agreement was the most widely used foreign policy of the European Union. There are several types of preferential agreements, some comprehensive trade agreements, others providing preference for developing countries. However, the result is that the European Union today organises trade with as few as 10 WTO member countries based on the most-favoured nation clause. With all the other 139 countries, there is some kind of preferential agreement (World Trade Organization 2004: 21).<sup>4</sup>

Because of those FTAs, the EU effectively opened up its own automotive market to a large number of countries. In addition, the cumulation of origin was in fact extended to a large number of countries, which resulted in greater flexibility for manufacturers in securing inputs from a larger pool of countries (van Tulder/Audet 2004: 33). The result of these policy changes has been a substantial increase in competitive pressures for established manufacturers and in general, more options both for component producers and manufacturers of vehicles.

Without the creation of a single regulatory sphere, the integration processes could not have taken place. There are two important steps to be considered: First, the expansion of the European Union in itself enlarged the space for business. Second,

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<sup>4</sup> However, with the largest non-European countries, such as Japan, Canada and the United States, trade is on MFN-basis.

the PANEURO scheme that enabled the enlargement of the area available for sourcing of components without having to consider local content requirements of the EU also had a significant impact. However, this trade-policy effect is not always taken into consideration. For example, Rob van Tulder claims that “the legal status of European-based firms enabled those firms to evade EU local content regulation, more easily set up supplier networked and integrate them in their own regional networks” (van Tulder 2004a: 79). This, however, is a misinterpretation. The “legal status” of a firm does not matter, what matters is the trade regulation. WTO rules do not permit the discrimination between European and non-European producers, but they do permit the discrimination between European and Non-European production.

The collapse of the socialist regimes in Eastern Europe opened new opportunities for Western European producers. In fact, in car manufacturing Eastern Europe today has become a pole of attraction, assuming the role the Iberian Peninsula had had in the 1970s and 1980s (Freyssenet/Lung 2004: 43). The importance of changes in trade policies should not be underestimated. With the collapse of the Berlin wall, the process of integration commenced. As early as 1992, free trade agreements between the EU and Eastern European countries were implemented. The creation of the Central European Free Trade Agreement (CEFTA) had two effects. First, the tariffs between CEFTA and EU countries were reduced to zero. Second, the tariffs vis-à-vis the rest of the world was raised (van Tulder 2004a: 84). Trade regulation facilitated the regional division of labour. This process was followed by further harmonisation of technical requirements. From 1993 on, these specifications were uniform for the entire EU.

In contrast to American producers, who had production facilities outside the USA as early as the 1920s and 1930s, European manufacturers were very timid in their regional integration strategies. Although some had production facilities in other parts of the world, there was very limited investment in intraregional division of labour (Freyssenet/Lung 2004: 46). German producers built the cars for European markets in Germany, just like French producers or Swedish manufacturers. Although there was a (more or less) integrated European market in the 1970s and 1980s, manufacturers produced exclusively from their national facilities. As late as 1989, most of the European automobile industry’s productive base remained concentrated in the manufacturers’ country of origin (Freyssenet/Lung 2004: 47).

**Table 1: Trade Agreements of the European Union**

	Partner	In force/status	Type of agreement
1	EU-Malta	1.4.1971	CU industrial goods
2	EU-Cypruss	1.6.1973	CU industrial goods
3	EU-Andorra	1.7.1991	CU industrial goods
4	EU-San Marino	1.2.1992	CU
5	EU-Switzerland	1.1.1973	FTAG
6	EU-Iceland	1.4.1973 1.1.1994	FTAG FTAS
7	EU-Norway	1.7.1993 1.1.1994	FTAG FTAS
8	EU-Poland	1.3.1992 1.2.1994	FTAG FTAS
9	EU-Slovak Republic	1.3.1992 1.2.1994	FTAG FTAS
10	EU-Czech Republic	1.3.1992 1.2.1995	FTAG FTAS
11	EU-Hungary	1.3.1992 1.2.1994	FTAG FTAS
12	EU-Romania	1.5.1993 1.2.1994	FTAG FTAS
13	EU-Bulgaria	21.12.1993 1.2.1995	FTAG FTAS
14	EU-Estonia	1.1.1995 1.2.1998	FTAG FTAS
15	EU-Latvia	1.1.1995 1.2.1998	FTAG FTAS

16	EU-Lithuania	1.1.1995 1.2.1998	FTAG FTAS
17	EU-Turkey	31.12.1995	CU industrial goods
18	EU-Slovenia	1.1.1997 1.2.1999	FTAG FTAS
19	EU-Faröer Islands	1.1.1997	FTAG
20	EU-Macedonia	9.4.2001 (signed)	FTAG
21	EU-Croatia	29.10.01 (signed)	FTAG
22	EU-Palestine Authority	1.7.1997	FTAG and FTAS
23	EU-Tunisia	1.3.1998	FTAG
24	EU-Morocco	1.3.2000	FTAG
25	EU-Israel	1.6.2000	FTAG
26	EU-South Africa*	1.1.2000	FTAG
27	EU-Mexico	1.7.2000 1.3.2001	FTAG FTAS
28	EU-Chile	negotiations (since 2000)	
29	EU-Gulf Cooperation Council	negotiations (since 1999)	
30	EU-Mercosur	negotiations (since 2000)	

\* The FTA includes the countries of the „Southern African Customs Union“ (SACU).  
 FTAG=Free Trade Agreement Goods; FTAS=Free Trade Agreement Services, CU=Customs Union  
 Source: Dieter 2005: 210.

An indication of the success of the integration of production in the automotive industry is the rising percentage of intraregional trade in automotive products. In 1980, intra-regional trade represented 58 percent of the EC's automotive exports, and by 2000, this figure had risen to 70 percent (Layan/Lung 2004: 59).

However, one important characteristic of the automotive industry is the continuing change. A number of factors contribute to this: the geographical structure

of demand, changing competitive interactions as well as variations in the institutional framework. Firms are continuously trying to transform these changes into a competitive advantage. In particular, the inclusion of Europe's peripheral areas into Europe's automobile system and the ability of car manufacturers to deepen the division of labour across national boundaries have improved the competitive position of European producers (Layan/Lung 2004: 70; Heneric et al. 2005).

In effect, European producers now benefit from a workforce that is flexible and inexpensive. However, these advantages may only be significant temporarily. In the long run, wages in Eastern Europe will rise significantly, although they may not necessarily converge with Western European levels. A similar phenomenon could be observed in the Iberian Peninsula, where the competitive position deteriorated due to substantial wages rises. However, even in Western Europe a large diversity of wages levels continues to exist, for example between Italy and Germany. Furthermore, even within one country with a well-organised union wages differ. For example, wages for Volkswagen workers for a long time were about 20 percent higher than the wages paid by Mercedes, BMW and Audi.

## **2.2. Production Processes in Europe: The Automotive Industry**

In the early 21<sup>st</sup> century, the European car industry appears to be competitive, probably more competitive than ever. In 2002, 16.9 million vehicles were produced in Europe (Layan/Lung 2004: 73). Probably more important, the luxury end of the car market is firmly in European hands. The strength of European manufacturers is reflected in the fact that foreign producers are taken over by European companies. Whilst in the 1980s and 1990s American companies bought European manufacturers, of late this trend has been reversed. Ford bought Jaguar and Volvo in the late 1980s and mid 1990s, and General Motors bought Saab at the end of the 1990s. But subsequently Daimler acquired Chrysler in 1998, and perhaps most surprising was the take-over of Nissan by Renault a few years later.

Probably the most dramatic change in the European car industry in the last two decades has been the transformation that has taken place in the Central and Eastern European automobile space. Industrial development in Eastern Europe,

in particular in the car industry, has been subject to a process that Rob van Tulder labels as “peripheral regionalism” (van Tulder 2004a: 75). Whilst this process has improved the political autonomy of these countries, in economic terms they did not gain all that much autonomy, for they occupy a depend position in the production networks of western producers (van Tulder 2004a: 75).

In the transformation of the economies of Eastern Europe, the car industry has been a leading driver of change. As early as 1996, the car and component industry in important countries like Hungary, Poland and the Czech Republic was virtually completely in foreign hands. Volkswagen, General Motors/Opel, Fiat and Renault actively led Western European carmakers into Central and Eastern Europe (van Tulder/Ruigrok 1998: 19). However, in recent years manufacturers from East Asia have been starting to produce vehicles in Eastern Europe, e.g. Toyota, Kia and Hyundai.

Ulrich Jürgens has emphasised that European and Japanese manufacturers demonstrate diverging approaches to modularisation of production. Toyota and Honda in particular prefer to give suppliers rather limited responsibilities and prefer to retain their competence in all dimensions of vehicle production. Their aim is to keep control over the value chain of production. By contrast, European manufacturers tend to increase responsibilities of suppliers, even if this results in a loss of competence in some areas. Consequently, European manufacturers tend to give suppliers responsibility for the development of new products and delegate the organisation of supply chains to the producers of modules (Jürgens 2003: 20).

Because of these two trends, suppliers have to both expand their skill base – necessary for producing modules – and move production facilities to new factories close to the car manufacturers Eastern European assembly plants.

The results of these changes are a diverging pattern of production in Asia and Europe, or rather when comparing Asian and European manufacturers. The industry structure in Europe is now characterised by independent and innovative suppliers that supports the further division of labour between car manufacturers and suppliers. Suppliers develop specific competence even for important compo-

nents that the final producers do no longer have. Network structures of specialised independent suppliers have emerged as the basis of the new European automotive system in the late 1990s. This diverges from the pyramid structures employed by Japanese manufacturers (Jürgens 2003: 32). Coincidence or not, the pattern of the Japanese manufacturers is akin to the so-called flying-geese-model, which had the Japanese economy as the technological and commercial leader of the region, whilst the other countries should engage in a regional division of labour with lower levels of required technological competence.

In Europe, the existence of a pool of specialised small- and medium-sized companies supports the tendency of specialisation and further outsourcing. The European car industry can employ a large, diversified firm structure for shared product development and joint production tasks. In turn, these small- and medium-sized companies rely on an infrastructure for research and development that is partly sponsored by governments (Jürgens 2003: 32).

### **2.2.1 Network Configurations in the Car Industry**

Networks of production as such are not a new phenomenon. Dicken defines a production network as the “nexus of interconnected functions and operations through which goods and services are produced, distributed and consumed” (Dicken 2005: 4). Traditionally, however, those production networks existed within national economies. The major change that we witness is the transnationalisation of production networks: The nodes and links extend across national boundaries and – in many cases – even across regions.

Yun suggests three subcategories of networks. First, hub networks refer to collections of regional affiliates that are closely linked to the parent firm, but do not interact much with one another. Second, cluster networks are representing a closer interaction between the affiliates. Typical examples are the clusters of suppliers in the car industry that are organised in the vicinity of car factories. Third, web networks are vertically integrated networks with intensive interaction between the companies in the web. Manufacturing activities are placed in technologically appropriate sites according to a firm’s own division of labour (Yun 2005: 12).

Although these transnational production networks are the consequence of private sector decisions and business strategies, these market processes do not develop without substantial government influence. In particular, as Dicken observed, the precise nature and articulation of transnational production networks are deeply influenced by socio-political, institutional and cultural conditions in the respective societies (Dicken 2005: 4f). Both national and international regulation affects the decision of private sector players for production arrangements.

### **2.2.2. Audi / VW: Audi Hungaria Motor Kft. in Győr/Hungary**

Audi Hungaria Motor Kft. in Győr is one of the most important suppliers of engines for Audi and the rest of the Volkswagen Group. The Hungarian subsidiary produces four-cylinder, V 6 and V 8 engines and, in co-operation with the Ingolstadt plant, assembles the TT Coupe and the TT Roadster. Both these vehicles are produced using VW Golf components such as engines, gearboxes and the chassis. The company was founded in Hungary in February 1993, after production locations had been compared all over Europe. Within a few months, a site location comprising 250,000 square metres had been acquired and building commenced on the production halls covering an area of 100,000 square metres in total. The plant site has been extended to almost 1,660,000 square metres to date. With a workforce of 5,022 employees in the meantime, the plant has been Hungary's biggest exporter and one of the country's highest-revenue companies for a number of years. Almost everything in the Audi plant – apart from the actual building of the engines – is subcontracted out to local suppliers (van Tulder/Ruigrok 1998: 44). Hungary was particularly well positioned for accommodating component production since the country had been supplying components to USSR car manufacturers for decades (van Tulder/Ruigrok 1998: 44).

According to the annual production figure for 2005, a total of 1.69 million engines were built at the engine production facility in Győr. The production total was made up of 1.4 million four-cylinder engines, 243,322 six-cylinder engines and 37,630 eight-cylinder engines. As vehicle production figures for the year 2005 show, a total of 8,368 of the TT Coupe and 3,939 of the TT Roadster were built. The location is being continuously expanded and a new factory unit – the tool making shop,

in which a total of 40 million euros were invested – was just officially opened in 2005.<sup>5</sup>

**Table 2: Audi Group: Production of Engines**

	2005	2004
Audi Group	1,695,045	1,485,536
of which		
Audi Hungaria Motor Kft.	1,693,609	1,480,630
Automobil Lamborghini S.p.A.	1,436	1,678

Source: Audi: *Facts and Figures 2005*: 2.

**Table 3: Audi Group: Employees**

	2005	2004
Audi Group Average for the Year	52,412	53,144
of which		
Audi AG	44,902	44,918
Ingolstadt	31,236	31,150
Neckarsulm	13,666	13,768
Audi Hungaria Motor Kft.	5,046	5,146
Lamborghini Group	725	726
Auto Germa S.p.A.	836	770

Source: Audi: *Facts and Figures 2005*: 5.

<sup>5</sup> [http://www.audi.com/audi/com/en1/company/production\\_locations/hungary.html](http://www.audi.com/audi/com/en1/company/production_locations/hungary.html).

For a major German manufacturer like Audi, the relocation of the entire engine manufacturing to Hungary represented a significant step. Audi had hitherto been one of the least internationalised producers in Germany. Production facilities were limited to two German Federal States (Bavaria and Baden-Wuerttemberg).

With hindsight, the strategic decision to relocate the entire engine manufacturing to Hungary contributed to an increase of efficiency within the company. The relocation of a labour-intensive part of manufacturing to a country with highly skilled workers that received moderate wages made sense, at least commercially. Of course, German workers and German trade unions were not enthusiastic about that step. However, the argument put forward by the Audi management at the time was that by reducing the cost for a major component of Audi cars the competitiveness of the company would be enhanced, which in turn would make jobs in Germany safer. Indeed, more than a decade after the creation of Audi's only major manufacturing base outside Germany the firm continues to thrive, and no further outsourcing of manufacturing has been envisaged. Employment in Germany continues to be high: In 2005, 85.6 percent of all jobs in the firm were located in Germany.

The decision followed the creation of a free trade agreement between the European Union and Hungary, which became operational on 1 March 1992. Without this agreement, it would have been commercially less attractive to invest in Hungary. However, one would draw misleading conclusions if the situation in Europe in the early 1990s would be seen as being identical to the situation in Asia today. Even in 1992, the further, deeper integration of Eastern Europe into the European Union was on the cards (Lung/van Tulder 2004: 18). Consequently, the Free Trade Agreement between the EU and Hungary could always be considered as a transitional regime, due to be superseded by a broader integration scheme. Therefore, the investment decision of Audi reflected the viability of commercial calculations based on a framework provided by governments.

### **2.2.3. Renault in Romania**

In 1943, the Romanian State set up facilities for the production of airplane components in the suburbs of Pitesti. In 1966, Dacia was granted a license to manu-

facture Renault vehicles. The Romanian State then built the Pitesti automobile plant adjacent to the automotive parts plant on the Colibasi-Pitesti site. Following Dacia's privatization in 1999, the Pitesti site underwent a radical transformation to bring it up to European standards. This site now applies the same work methods used at all Renault production sites. Today the Pitesti production site is among the most efficient of the Renault group. This body assembly and power train factory is now a modern, ISO 9001 certified plant operating according to the AQD standard (Dacia Quality Action, based on the AQR or Renault Quality Action standard).

Renault had played a key role in the creation of the Romanian automotive industry. In 1966, Dacia – a state-owned company based in Pitesti – began manufacturing Renault 8s and, from the 1970s, Renault 12s under license. The co-operation lasted 35 years. Dacia began by assembling different Renault models under license and went on to produce vehicles independently. Today, cars based on former Renault models remain omnipresent in the Romanian automobile market. In 1998, the Romanian government announced the privatization of Dacia. When the government's state property fund launched a call for tenders, Renault responded by acquiring a 51% equity stake in Dacia.

The acquisition was completed in 1999. Renault gradually raised its stake to 99.3% in 2004. The Renault group invested €489 million over a five-year period to upgrade Dacia, involving the modernization of the Pitesti production facilities, decontamination, personnel training and the establishment of new working conditions. The aim was a radical improvement in quality of the vehicles produced in Pitesti. As an initial step, these investments readied the factory for the production of SuperNova, the first product of the "Dacia renaissance" in 2000.

Most importantly, investments paved the way for the production of the Logan, the key product for penetrating emerging markets. This entirely new car marked a break from the then prevailing product line modelled on former Renault vehicles. It highlights the cooperation between Dacia and the Group's team of engineers from the Technocentre in France. The Logan was designed using digital simulation and computer-aided design and manufacturing tools. Even production processes were developed digitally. The challenge was to offer a modern and, given the envisaged markets, robust vehicle priced at about € 5,000. 6. Dacia sold 164,406 vehicles sold in 2005, including 51,130 for export.

Total production was 175,998 vehicles in 2005. In Romania, Dacia's market share stands 45.1% at end-2005. The Dacia plant in Pitesti has a surface area of 2,900,000 m<sup>2</sup>. Dacia employed 12,273 people in 2005. Products manufactured in Pitesti primarily the new Logan passenger car and some light commercial vehicles.<sup>7</sup> There are three types of engines (K7J, K7M, F8Q) as well as three types of gearboxes (NG1, NG7, JH3) made by Dacia. These components are used in Renault cars manufactured elsewhere in Europe.<sup>8</sup> The Dacia Logan is, as mentioned before, the company's key product. It was developed with a budget of € 350 million, a very modest sum compared to other projects. The car was deliberately kept very simple, and that simplicity is reflected in the low development costs. Already, the Logan is sold in 42 countries (2005). Dacia has started to sell Logans in Western Europe in June 2005. Despite the fact that the Logan has been primarily engineered for markets in less-developed countries, it is also exported to OECD-countries, where it directly competes with cheaper models made by Renault, such as the old Clio, which continues to be produced in a simply version.

However, Renault is not intending to cater for all markets from the Dacia factory. By 2007, six new Logan production sites shall be opened: In Russia, Colombia, Morocco, Iran (2006), India and Brazil (2007). Trade policy again is the main driver for these decisions. Russia, for example, has relatively steep tariffs on motor vehicles. The tariff for passenger cars is 25 percent, but not less than one euro for every 1cm<sup>3</sup> of engine capacity.<sup>9</sup> These customs regulations would result in a tariff of about € 1,400 for a

6 [http://www.renault.com/renault\\_com/en/main/10\\_GROUPE\\_RENAULT/0\\_Acteur\\_mondial/30\\_Dacia/10\\_Presentation/Historique/index.aspx](http://www.renault.com/renault_com/en/main/10_GROUPE_RENAULT/0_Acteur_mondial/30_Dacia/10_Presentation/Historique/index.aspx)

7 These include a pick-up and a double cab (LCV).

8 See [http://www.renault.com/renault\\_com/en/main/10\\_GROUPE\\_RENAULT/60\\_Acteur\\_mondial/30\\_Dacia/10\\_Presentation/Pitesti/index.aspx](http://www.renault.com/renault_com/en/main/10_GROUPE_RENAULT/60_Acteur_mondial/30_Dacia/10_Presentation/Pitesti/index.aspx).

9 See the website of the Russian customs authorities at [http://www.customs.ru/common/doc/ct/section\\_XVII/Section%20XVII\\_Group%2087.doc](http://www.customs.ru/common/doc/ct/section_XVII/Section%20XVII_Group%2087.doc).

Logan with a 1.4 litre engine – and such trade regulations make local production commercially attractive.

At the same time, Dacia uses a complex network of suppliers. The company employs 42 tier-one suppliers from 16 different countries. Again, trade regulations matter. If Romanian manufacturers could not have sourced from the cheapest supplier within the PANEURO region, it would probably have been more difficult to sell a vehicle at the budget price of € 5,000. 10

**Table 4: Renault Group: Worldwide Rollout of Logan Program, Sales (\*)**

	2004	2005
Dacia brand		
Romania	20,274	88,276
Turkey	477	8,317
Central Europe	2,074	16,631
Eastern Europe	0	1,450
Western Europe	6	13,714
Africa, North Africa, Middle East	37	6,532
Asia-Pacific	0	309
Latin America (Guadeloupe, French Guiana, Martinique)	0	162
Total Logan under the Dacia brand	22,868	135,390
Renault brand		
Russia	0	7,067

10 See the Renault website at [http://www.renault.com/renault\\_com/en/main/10\\_GROUPE\\_RENAULT/60\\_Acteur\\_mondial/30\\_Dacia/10\\_Presentation/Chiffre\\_cles/index.aspx](http://www.renault.com/renault_com/en/main/10_GROUPE_RENAULT/60_Acteur_mondial/30_Dacia/10_Presentation/Chiffre_cles/index.aspx).

Latin America (Colombia, Venezuela, Ecuador)	0	2,876
Total Logan under the Renault brand	0	9,933
Total Logan	22,868	145,323

(\*) Provisional Figures

Source: Renault Group: Annual Report 2005: 80.

**Table 5: Renault Group: Dacia Production by Model (in units) (\*)**

	2004	2005
Dacia Production		
1300	7,184	0
Solenza	36,369	5,694
Logan	28,612	152,164
Total passenger cars	72,165	157,858
Pick-Up 1300	22,555	19,871
Total LVCs	22,555	19,871
Total Dacia production	94,720	177,729

(\*) Provisional Figures

Production data taken from: (i) vehicle deliveries to sales entities for 2004 data, (ii) vehicles leaving the production line for 2005 data.

Source: Renault Group: Annual Report 2005: 81.

### 2.2.4. The Toyota Peugeot Citroën Automobile Joint Venture in the Czech Republic

The emergence of Eastern Europe as a location for the production of cars represented a challenge for Asian car manufacturers. After the expansion of the European Union in 2004, production in Eastern Europe promised to have a number of advantages. First, vehicles produced there would not attract the EU's tariff on cars, which at the current rate of ten percent is a significant hurdle. Since Eastern European countries have - since 2004 - been fully integrated into the European market, this access to one of the world's largest vehicle markets was hard to ignore for Asian manufacturers. Since many of these manufacturers are competing in price-sensitive sections of the market, production within the EU has already been attractive in the past. Toyota and Nissan have, of course, been producing with the EU for decades. Second, however, production in Eastern Europe promised to be even more attractive than in Western Europe. The availability of skilled labour at very low cost levels provided an additional incentive. Third, the rising purchasing power in Eastern European countries has resulted in an increase of vehicle sales in these markets. Since many of the vehicles bought there tend to be simpler, cheaper cars, producing in Eastern Europe for the regional market was an additional inducement.<sup>11</sup>

Toyota has responded to these challenges in an innovative manner. Rather than producing in a facility that is fully controlled by Toyota – the approach implemented both in Western Europe and in Southeast Asia (see the following chapter) – the company entered a joint venture with Peugeot. As early as 2000, Toyota and Peugeot Citroën considered cooperation in Eastern Europe. The two companies agreed in principle on 12 July 2001 in Brussels to create “Toyota Peugeot Citroën Automobile” (TCPA). The joint-venture agreement was finally signed on 8 January 2002. Construction of the factory in Kolin, 60 kilometres east of Prague, began in September that year. As early as December 2004, trial runs began in Kolin. Since February 2005, the factory is raising production, leading to two-shift operation in June and three-shift operation in October. On 19 December 2005, the first 100,000 cars had been produced in the Kolin plant (Toyota Peugeot Citroën Automobile 2007).

<sup>11</sup> However, until today exporting to Western Europe continues to be much more important. For example, General Motors is exporting 97% of its production in Gliwice, Poland. TCPA also exports over 90% of the vehicles produced in Kolin (Bursa 2007).

In the joint venture, Toyota and Peugeot produce a subcompact four-door vehicle. The vehicles are sold as Toyota Aygo, Peugeot 107 and Citroën C 1. The investment in the factory exceeded 650 million Euro. The capacity of the factory stands at 300,000 vehicles per year. At this stage, most of the vehicles are exported out of the Czech Republic. The vehicles mix on the assembly line can be altered quickly to respond to changes in demand. Whilst originally a model mix of 1/3 for each model was envisaged, this mix can be revised easily because the three vehicles are virtually identical, with the exception of the exterior design. Nevertheless, 90 percent of the cars' components are alike.

The in-house production depth stands at about one third of value added. The rest comes from around 140 suppliers. Most of the suppliers are producing in the Czech Republic, too. About 80 percent of the parts used to manufacture cars in Kolin are fabricated in the Czech Republic. In total, about 10,000 jobs have been created, out of which 3,000 in the factory itself and another 7,000 in companies that supply parts and services to TPCA.

The two companies have contributed their respective strengths to the joint venture. Of course, in the case of Toyota the contribution has been Toyota's expertise in vehicle manufacturing. Further, Toyota has been responsible for the car's design. Peugeot has taken responsibility for parts purchasing. In engine technology and manufacturing, the division of labour is along the specific expertise of the two companies. Toyota is responsible for petrol engines, Peugeot for diesel engines.

However, investment of Toyota in Eastern Europe is not limited to TPCA. The company has built two engine plants in Poland. The first, in Walbrych, produces engines and gearboxes for TPCA. The factory employs about 1,800 employees. The second factory, in Jelcz-Laskowice, is making diesel engines for Toyotas manufactured in Toyota's plants in the United Kingdom and in Turkey (Bursa 2007). Of course, these intraregional production networks could not have been commercially as successful as they are if trade restrictions would have obstructed this intra-regional division of labour.<sup>12</sup> In May 2007, Toyota is planning to open a major parts warehouse in Krupka in the Czech Republic.

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<sup>12</sup> Production in Turkey benefits from the customs union between the European Union and Turkey.

As mentioned, TPCA is using a substantial number of suppliers in Kolin. A range of them has established production facilities in the region around Kolin. Not surprisingly, Toyota's expansion into the eastern European market has been matched by moves of its traditional Japanese suppliers. Aisan, Asmo, Daido Metal, Denso, Futaba, Tokai Rica and Toyoda Gosei have opened production facilities in the Czech Republic. German and other European suppliers, such as Brose, Pierburg, Kiekert and Bosch, have also established subsidiaries in the Czech Republic.

In TPCA, Japanese suppliers played a very important role. Since Toyota has been responsible for the manufacturing process in Kolin, the established close relationship between manufacturer and supplier – known as the Keiretsu system – was implemented in TPCA. The flexibility and the high degree of synchronisation of production in the Keiretsu regime was an important factor in the smooth start-up phase of the assembly process. In essence, Toyota has been able to transfer a production philosophy from an Asian into a European context. This is a remarkable achievement. It demonstrates that the core pillars of Toyota's concept – trust, continuing improvements and relentless reflection – are a management strategy that can be applied in various cultural settings.

Considering the complex structure behind the endeavour, the success of TPCA therefore is primarily based on three factors.

- First, the Czech Republic as a production site offers proximity to one of the two largest car markets in the world. This proximity, of course, reflects not just geographic nearness, but the fact that with regard to trade, the Czech Republic is part of the European single market.
- Second, Bohemia and Moravia have a long tradition in manufacturing, which was not broken during the socialist years. From the start of the operation, the skill level of the workforce has been very high.

- Third, the joint venture brought together the skills of two successful manufacturers. Toyota contributed production skills and petrol engine technology, Peugeot added diesel engine technology and competence in the small-car segment.

In essence, these factors are important for the success of the venture. However, the integration of the Czech Republic into the European Union has been the decisive one. Without that move, the Czech Republic would probably not have risen to its current prominence as a manufacturing site in Europe. Trade integration has been essential for the deepening of international production networks.

### III - Asia's Puzzling Preferential Trade Agreements

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The character of regionalism in the Asia-Pacific has been changing significantly. Whereas up to the turn of the century most countries in the region concentrated on participating in the multilateral trade regime, today there is a marked shift. Almost all countries in the Asia-Pacific have embarked on a new course for their trade policy. Bilateral trade agreements are mushrooming all over the world, but the Asia-Pacific is the region with the most prolific supporters of bilateralism (Lloyd 2002: 1282). Frustrated with the lacklustre development of APEC, and in view of the FTA networks of the European Union and the USA, Asian countries are following the bilateral trend (Hufbauer and Wong 2005: 3; Ziltener 2005: 279). The implementation of discriminatory trade arrangements is arguably the most significant development in intergovernmental relations since the Asian crisis of 1997 (Ravenhill 2003: 300). This crisis exposed the weaknesses of existing institutions, such as ASEAN and APEC, and led to both monetary regionalism in finance and regionalism in trade (Dieter and Higgott 2003: 431).

The wave of bilateralism in trade has been fuelled by the weakness of existing regional organisations for economic integration, APEC and ASEAN in particular (Camroux 2001: 7). Webber has convincingly argued that the Asian financial crisis

has been the cause both the decline of APEC and ASEAN as well as the rise of new forms of regional cooperation, ASEAN+3 in particular (Webber 2001: 342). He suggests that the inability to respond to challenges posed by the financial crisis has severely weakened ASEAN's credibility (Webber 2001: 350). In the crisis, ASEAN's fair weather cooperation lost its shine (Rüland 2000: 444).

In the Asia-Pacific, the financial crisis of 1997 and 1998 continues to be a watershed. Since that crisis, the strategies for shaping external economic relations have changed, both in trade and in finance. Before 1997, the emphasis was on multilateral organisations, i.e. on the International Monetary Fund and on the World Trade Organisation. Today, two trends are emerging – monetary regionalism in finance and bilateralism in trade (Dieter/Higgott 2003). In trade, the change is more visible than in finance, where progress to date is somewhat limited (Dieter 2005b: 302-317). By contrast, bilateral trade agreements are truly mushrooming in East Asia. For instance, China has already sealed or is currently negotiating free trade agreements with 25 countries – up from zero two years ago (The Wall Street Journal, 3 October 2005: 1).

Although the analysis of the systemic consequences of this trend, i.e. the consequences for the WTO, is not the main goal of this report, they should be considered briefly.<sup>13</sup> Ross Garnaut and David Vines have argued that the trend towards discriminatory bilateral agreements is “... an ill-thought-out early-twenty-first century response, and it is deeply disturbing” (Garnaut and Vines 2006: 2). I will demonstrate in this report that one of the reasons why preferential bilateral agreements are not convincing is their administrative complexity and the trade diversion that they may cause. The automotive industry is particularly useful for demonstrating both the positive effects of transnational production networks and the negative consequences that bilateral preferential trade agreements can have for the international division of labour.

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<sup>13</sup> For a discussion of the relationship between multilateral and bilateral regulation see Matsushita 2004: 192f.

### **3.1. Bilateral Trade Agreements in Asia: The Evolution of the Noodle Bowl Syndrome**

The degrees to which bilateral free trade agreements or other forms of PTAs are sub-optimal in comparison to the multilateral freeing of trade are well explained in the theoretical economic literature and need not be rehearsed here. However, why do so many bilateral trade agreements flourish? Obviously, there are differing motives, but a major one appears to be the fear of being shut out of other agreements in times of low esteem for, and trust in, the multilateral trading system. However, one has to distinguish between the motives of a small player, say Singapore, and the motives of a large player, say the USA. Singapore's government intends to ensure access to the American market. Even without any other reason this appears to be a sufficient explanation. But what are the motives of the USA? One possible answer is that America's government is increasingly frustrated with the rulings of the WTO. More and more often, the US has to accept decisions of the WTO's dispute settlement mechanism that it does not wish to accept. The alternative to the WTO is bilateralism: Disputes can be settled bilaterally between the parties, not by the WTO. Power and hierarchy are thus returning into international trade.

As Bhagwati noted, bilateralism in trade is a global phenomenon and one in which the world's major economic power, the US, is currently showing a form of unaccustomed leadership the world could well do without (Bhagwati 2001). Staunch defenders of free trade like Jagdish Bhagwati are continuing to fiercely criticise these deals and call them a 'deadly threat to the multilateral trading system' (Bhagwati/Panagariya 2003).

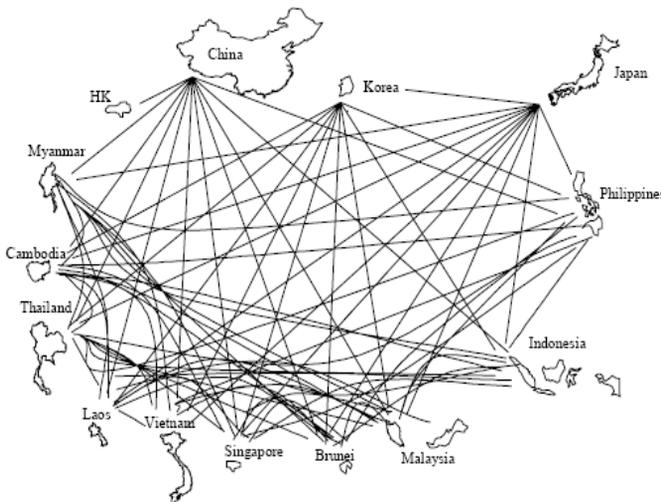
Notwithstanding the global nature of this trend, other region-specific reasons lie behind it in East and Southeast Asia. At one level, bilateral trade arrangements are felt to give regional policy elites greater control over their own national trade policies, reflecting a view that their influence over deliberations within the context of the WTO are not always as significant as they would wish. To this extent, they are a statement of sovereignty. They are also a reflection of the decreasing salience of ASEAN as an economic organisation, if not necessarily a political organisation. But, given the historical success of GATT/WTO in reducing tariffs and to a lesser extent

non-tariff barriers, the benefits from regional free trade agreements, it should be noted, are much less significant than they used to be.

Richard Baldwin has characterised the situation of East Asian regionalism harshly: “When it comes to East Asian regionalism, the state of play is easily summarised – it is a mess. Dozens if not hundreds of trade deals are under discussions, under negotiation, or already signed” (Baldwin 2006: 3).

For Baldwin, the high level of regional division of labour in combination with the current trend in trade policy leads to fragility of the production process. In the event of a dispute, neither WTO discipline nor top-level regional management can be counted on (Baldwin 2006: 15). Although such disputes are not likely, it is useful to underline that unrestricted regional trade is an important building bloc for the region’s economic strength, and consequently disruptions – whether political or administrative – put this competitiveness at risk.

Figure 1: Bilateral Trade Agreements in Asia - The Noodle Bowl



Note: The map shows FTAs signed or under negotiation in January 2006. East Asia is defined here as the 10 ASEANs, China, Japan and Korea.

Source: Baldwin 2006: 3.

The consequence of the noodle bowl is an increasing fragility of production in East and Southeast Asia. The variation of rules between the various bilateral agreements is causing significant problems for the private sector (Montes/Wagle 2006: 46). What has been termed 'Factory Asia' might be at risk. Richard Baldwin has identified three factors that contribute to this fragility. First, each nation's industrial development and the competitive position of companies in these countries depend on the smooth functioning of intra-industry trade flows. Second, the tariff cutting that created Factory Asia was done unilaterally by most Asian countries. These tariff cuts were not 'bound' in the WTO, and consequently they are not subject to WTO discipline. This so-called bindings-overhang means that tariffs in Asia could go up overnight without violating WTO rules. Third and most important, there is no political regulation in the region that could substitute WTO discipline. By contrast, European regulation has both top-level management, i.e. the European Commission, and WTO discipline, because European countries have bound their tariffs at very low levels (Baldwin 2006: 1f). Thus, the private sector in Europe has a better, more transparent political and trade environment than the private sector has in Asia, at least when considering the conditions for trans-national production.

### **3.2. Regionalisation of Production, Trade and Investment in the Car Industry**

Although the process of regional integration in Asia is far less advanced than in Europe, regional production networks have nevertheless been developed. Initially this process was driven by Japanese firms, but increasingly manufacturers from South Korea Hong Kong, Taiwan and Singapore also joined that trend (Dicken 2005: 14). The economic geographer Tetsuo Abo called this process "spontaneous integration" (Abo 2000). In political science, that process, driven by commercial considerations, is identified as de-facto regionalisation (Higgott 1997).

In Japan itself, American manufacturers had started production in 1925, when Ford commenced production of knockdown kits. General Motors soon followed. In 1936, the Japanese military government introduced the Automobile Manufacturing Industry Law, which required compulsory licensing for car production. The only two

companies that were granted a licence were Toyota and Nissan, and the American producers were forced to close their production sites and leave the country (van Tulder 2004b: 207). This early episode, which set the stage for industry policy in Japan and beyond, illustrates the high level of government intervention in the development of the automotive industry in East and Southeast Asia.

In Asia, car production continues to be dominated by Japanese producers, although South Korean companies are quickly catching up. Outside these two countries, major production facilities are found in China, Malaysia, Taiwan and Thailand (Dicken 2005: 15). Foreign direct investment has played a crucial role in the development of car manufacturing in Asia, particularly in Southeast Asia (Staples 2006: 6). Many of these production sites are controlled by Japanese companies (Yoshimatsu 1999: 495). Through a network of assembly plants and joint ventures with domestic firms, Japanese cars are assembled in Thailand, Malaysia, the Philippines, Indonesia, Taiwan and China. The market share of Japanese producers reaches surprising dimensions: In Thailand, their share is over 90 percent of the market (Dicken 2005: 15).

Thailand has become the third largest exporter of automotive products in Asia, after Japan and South Korea. Due to the export orientation of the foreign investment, Thailand has become the South East Asian export hub for Japanese, American and European manufacturers. There is an emphasis in production on pick-up trucks, small, basic cars and on components. At the end of the 1990s, Thailand already had more than 700 component producers (Dicken 2005: 17). The Asian crisis was a major turning point. After the crisis, the lowered exchange rate of the Thai baht was an incentive to expand exports from Thailand. In contrast to the situation before 1997, when Thailand exported virtually no cars, by 2000 the country exported more than 150,000 cars, more than one third of the total production of 420,000 (Shimokawa 2004: 149).

The process of regional concentration of automotive production in Thailand continues to date, and that development is not limited to final manufacturing, but also includes suppliers (Shimokawa 2004: 154). Whether this trend will continue is unclear, but it is not unlikely that political resistance from other ASEAN countries

against such a concentration process may continue and eventually could rise.

The high levels of foreign direct investment into Southeast Asia has not happened solely because of favourable conditions for production. Due to rapid economic growth and rising income levels, demand in Southeast Asia rose dramatically in the 1980s and 1990s. Whilst in 1985 the level of sales in the ASEAN 4 (Thailand, Indonesia, Malaysia and the Philippines) was as low 335,258 units, they more than quadrupled to 1,457,044 units in 1996, the last year before the financial crisis hit the region (Yoshimatsu 1999: 498).

### **3.2.1. Government Policies: Industrial Policy, Local Content and Import Controls**

Whilst the Asian financial crisis of 1997/98 had a severe immediate impact on the car industry in the region, in particular on local sales, it nevertheless created an opportunity for change. Both for governments in the region and for manufacturers, the crisis may in effect have catalysed a process of “creative destruction” (Staples 2006: 32). However, apart from the financial crisis the emergence of China as a competitor for foreign direct investment may also have contributed to the revision of government policies. Local content requirements were reconsidered, and the implementation of the ASEAN Free Trade Area AFTA was speeded up. Whereas the creation of indigenous automakers is no longer envisaged (with the exception of Malaysia), the Southeast Asian region is now well integrated into the global car industry. Regarding trade policy, the creation of (relatively) homogenous market under AFTA has been an incentive for Japanese and other manufacturers to create regional production networks.

Thus, the development of transnational production networks in Asia by Japanese manufacturers has not been a purely market-led development. Governments, with their capacity to shape markets, have had a decisive influence. High levels of import protection have encouraged Japanese car manufacturers to produce locally. This situation differs sharply from that in Europe, where both a regional market for cars and a regional production network have been developing. By contrast, the markets for automobiles in Asia continue to be individual national markets, some of which are heavily protected against imports (Dicken 2005: 15).

Not only the host governments, but also the Japanese government actively encouraged the relocation of manufacturing out of Japan. Utilising substantial funds under the overseas development assistance programs as well as other programmes from the Japan External Trade Organisation (JETRO) and the Overseas Economic Cooperation Fund (OECF), the Japanese government helped to establish the infrastructure necessary for foreign direct investment (Yoshimatsu 1999: 497). The relocation of production out of Japan to other Asian countries since the 1980s has been a response to changes in international and external conditions, e.g. exchange rate fluctuations, as well as trade conflicts, in the 1980s in particular. Japanese transnational corporations have systematically created production networks through accelerated FDI. These changes have not only improved the competitiveness of Japanese firms, but have also contributed to the de facto integration processes in Asia and to the regionalisation of production (Yun 2005: 1).

Therefore, without the changes in trade policy that have occurred in the 1990s, in particular the liberalisation of intra-ASEAN trade, the integration of production in the region would not have been attractive. For automobile manufacturers, unrestricted access to the entire South East Asian regional market is essential for achieving economies of scale and for the development of full production, rather than the assembly of completely knock-down kits (Dicken 2005: 17).

The development of production networks reflects the economic policies of the individual countries. The example of the investments of the Japanese electronic components manufacturer Denso illustrates this. Denso's first operations in South East Asia were established in Thailand in 1972, followed by investments in Indonesia in 1975, Malaysia in 1980, the Philippines in 1995, and Vietnam in 2001. Today, Malaysia is Denso's most important production site, followed by Indonesia and Thailand (Dicken 2000: 17). Although most component production is for local markets to provide components for car manufacturers, Denso is exporting a significant part of its output. From its Malaysian operations, 30 percent of output is exported, whilst export figures for Thailand are 24 percent and 20 percent for Indonesia (Dicken 2005: 18).

Within Southeast Asia, the trade and industry policies toward the automotive industry differ sharply. On the one extreme is Malaysia, which has been trying to build-up its own car industry, the Proton. On the other end of the spectrum is Thailand's approach, which has liberalised the automotive industry and has not tried to develop a "national car". However, even Thailand does not employ a liberal trade policy regarding the automotive industry, but continues to employ rather high tariffs for cars.<sup>14</sup> Furthermore, in the early days of industrialisation in Southeast Asia, the Thai government provided significant tariff incentives for local assembly of vehicles (Yoshimatsu 1999: 497).

The creation of regional production networks would not have been possible without trade policy measures facilitating this regional division of labour. An early and successful measure was the Brand-to-Brand Complementation (BBC) scheme that was adopted by ASEAN countries in 1988 (Yoshimatsu 1999: 506). The scheme allows intra-regional tariff preferences and local content accreditation. The aim was to enable production of components utilizing economies of scale. BBC has been considered a success. Between 1991 and 1996, production of vehicles in the region more than doubled, although this cannot be attributed to BBC only (Freysenet/Lung 2004: 48).

The scheme had been promoted by Mitsubishi and has been utilised by Mitsubishi, Toyota and Nissan (Shimokawa 2004: 143). Japanese automakers have developed a parts complementation scheme based on this scheme. One example is Toyota, which established a regional complementation scheme soon after the approval of its BBC scheme in November 1989 (Yoshimatsu 1999: 506).

Despite providing some benefit, the BBC scheme suffered from Indonesia's exclusion. The government in Jakarta regarded the scheme as both providing too few benefits to its own auto industry and impeding the development of its own parts industry (Yoshimatsu 1999: 507).

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<sup>14</sup> For example, tariffs on cars with more than 3,000 cc continue to be as high as 80 percent, with only marginally lower rates under the Thai-Japanese Free Trade Agreement (Dieter 2006: 29).

In effect, the BBC scheme is a sector-specific trade policy instrument that is not very comprehensive. It is limited to intra-company trade, and that in itself limits the further division of labour. Compared to the PANEURO regime, the BBC scheme has to be considered the be a very early type of trade facilitating measure.

Due limitations of BBC led to the creation of a broader regime, the ASEAN Industrial Co-operation (AICO), which was agreed upon in 1995. Whilst AICO approved products would get a preferential tariff rate of 0 to 5 percent as well as local content accreditation, the catch is that it required at least 30 percent local ownership (Yoshimatsu 1999: 509).

**Table 6: BBC and AICO in Comparison**

	BBC	AICO
Contents	Expansion of mass production effects resolve obstacles for private business by reducing high tariffs; trade facilitation for specific parts made by a specific manufacturer	Promotion of trade deregulation considering WTO regulations; recognition of each country required
Items included	Automobile parts	Finished products, semi-finished products, raw materials
Authorising party	ASEAN Secretariat	Industry Ministry in each country
Terms and conditions	Limited to automobile parts. BBC products fulfil the rules of origin regulations of AFTA	Established in each ASEAN country, minimum 30% equity of manufacturing company required
Problems	Limits trade facilitation to company to company scheme, approval required	Diverging industry policies result in different approval policies in the ASEAN countries

Source: Shimokawa 2004: 145.

The BBC scheme required 50 percent ASEAN content and contributed to the strengthening of the regional division of labour. Japanese manufacturers were fostering the scheme because importing components from Japan had been too expensive and exposed to currency fluctuations (Shimokawa 2004: 147).

### **3.3. Production Processes in Asia and Strategies of Japanese Carmakers**

Japanese automakers have a long history of overseas production since the 1960s, the prime aim being the production for local markets. This, in turn, was primarily induced by trade protection in those markets. Japanese companies exported for the world market from Japan, and produced locally for local markets (Yun 2005: 19). As discussed below, this pattern has changed somewhat in recent years.

Three Japanese manufacturers receive scrutiny in this report: Toyota, Honda and Mitsubishi. These three companies show diverging strategies and demonstrate varying levels of success. Toyota and Honda have more comprehensive internationalisation policies, both of which proved to be most successful even in the turbulent 1990s. However, the contribution of foreign profits to overall profits differed: From 1980 to 2000, the share of profits from foreign operations in total profits was low to moderate for Toyota (10 to 30 percent), but continuously high for Honda, with foreign operations on average contributing more than 60 percent to the company's profits. However, Toyota's relatively low share of foreign made profits to total profits is rather a reflection of its strength at home than of its weakness abroad: Toyota in 2002 sold more cars in Japan than its four main competitors combined (van Tulder 2004b: 215). Toyota's biggest market continues to be Japan.

Toyota employs an internationalisation strategy that is slow, prudent and low-key, trying to avoid political backlashes in the host countries. Therefore, Toyota has continued to place emphasis on high local content, culminating in the IMV project that is not using any components produced in Japan. Honda enjoyed a much weaker production base at home and was thus forced to internationalise early and comprehensively. Whilst Toyota could build on its strength at home, Honda was forced to leave Japan and grow abroad (van Tulder 2004b: 217).

### 3.3.1. Toyota and its IMV Project

Toyota has been producing outside Japan for several decades. The company's regional production network is probably the most extensive of all Japanese manufacturers in Asia. Outside Japan, Toyota operates 16 manufacturing operations in seven countries. In the past, however, these production sites were relatively disconnected and operated autonomously (Staples 2006: 17). In contrast to other manufacturers, Toyota has reaped a profit from its foreign operations in every year since the early 1980s (van Tulder 2004b: 215).

A key strategy of Toyota in recent years has been the Innovative International Multipurpose Vehicle (IMV). Thailand was selected as the hub for the production of IMV. The project comprises five models: three pick-up trucks, a minivan and a Sports-Utility vehicle. The vehicle uses the same platform for all five models, which cuts costs significantly. Toyota has strengthened the local supplier base, although the localisation rate (percentage of value-added that is sourced locally) differs from model to model. In 2002, localisation rates were 79% for pick-ups, 74% for the Corolla, 55 for the Soluna and 49% for the Camry. The comparison of the localisation rates for the Camry, which is produced in a range of countries, show that Thailand compares favourably: Localisation rates for the Camry are 79% in Australia, 80% in the United Kingdom (Pan European sourcing) and 60% in North America (Staples 2006: 24). Although these rates are quite high already, Toyota's intention is to move close to 100 percent in ASEAN. This appears to be realistic, given that the localisation rate has risen to 96% for the Hilux pick-up since the introduction of the IMV project (Staples 2006: 24).

The production of the IMV series started in August 2004. The goal was no less than to provide a vehicle for as many as 140 markets. IMV vehicles are built in four main assembly countries: Thailand, Indonesia, South Africa and Argentina. Sales markets include comprise in Asia, Africa, Europe, Oceania, Central and South America and the Middle East. In addition to the four main production countries, there is local assembly in India, the Philippines and Malaysia.

Major components - engines in particular - are produced in Toyota facilities in Thailand, Indonesia, the Philippines and India. For Toyota, the IMV project represents a significant step towards the further internationalisation of the company. The production process is almost entirely organised outside Japan. Toyota has created a global operating platform that operates without major Japanese inputs – expertise and managerial skills of course excluded. This strategy has two advantages: First, a high localisation rate is the consequence of sourcing from a low-cost region, rather than from comparatively more expensive Japan. Second, transaction costs, both for logistics and potential import duties, are less important.

**Table 7: Toyota: Main Production Bases of the IMV Project**

Country	Production model	Start of production	Annual production capacity	Export destination
Thailand	Pick-ups SUV	August 2004 November 2004	2007: total 350,000 vehicles (of which approximately 152,000 for export)	Asia, Europe, and other regions, including Oceania
Indonesia	Minivan	September 2004	2006: 100,000 vehicles (of which app. 12,000 vehicles for export)	Asia and Middle East
South Africa	Pick-ups SUV	April 2005	2007: 120,000 vehicles (of which app. 60,000 vehicles for export)	Regions including Europe and Africa

Argentina	Pick-ups SUV	February 2005	2006: 65,000 vehicles (of which app. 45,000 for export)	Central and South America
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Source: Toyota: *Annual Report 2005*: 31.

**Table 8: Toyota: Manufacturing Companies in Asia**

Country	No.	Start of operations	Products (as of 31 March 2005)
China	1	July 1997	Steering parts, propeller shafts
	2	July 1998	Engines
	3	May 1998	Continuous velocity joints
	4	Dec. 1998	Forging parts
	5	Oct. 2002	Vios, Corolla, Crown
	6	Dec. 2000	Coaster, Land Cruiser Prado
	7	Sep. 2003	Land Cruiser
	8	Dec. 2004	Engines
	9	Jan. 2005	Engines, engine parts (cam shafts, crank shafts)
	10	May 2002	Press parts
	11	May 2002	Plastic parts

	12	Dec. 2004	Stamping dies for vehicles
	13	2006 (planned)	Camry
Taiwan	14	Jan. 1986	Camry, Corolla, Vios, TUV, Hiace, Wish, Dyna
Philippines	15	Sep. 1992	Transmissions, constant velocity universal joints
	16	Feb. 1989	Camry, Corolla, Innova
Vietnam	17	Aug. 1996	Camry, Corolla, Hiace, Land Cruiser TUV, Vios
Thailand	18	July 1989	Engines, propeller shafts
	19	May 1979	Stamped parts
	20	Dec. 1964	Camry, Corolla, Hilux VIGO, Soluna- vios, Wish
Malaysia	21	Feb. 1968	Camry, Corolla, Hiace, TUV, Vios, engines
Indonesia	22	May 1970	Camry, Kijang Innova, engines

Source: Toyota: *Annual Report 2005*: 126-127.

The changes in Toyota's production in Asia have transformed the separated factories of previous decades into an interconnected regional production network. Toyota has both qualitatively and quantitatively exploited the advantages offered by the ASEAN Free Trade Area AFTA and by positioning the ASEAN countries as key producers, export base and market for finished products. The result of these changes is the emergence of a multi-layered regional network (Staples 2006: 19).

### 3.3.2. Mitsubishi's Strategies in China and ASEAN

Mitsubishi has been less successful than both Toyota and Honda with its foreign operations. Profits generated from its domestic operations were used to cover the losses that resulted from its foreign operations (van Tulder 2004b: 215). In effect, the weakness of Mitsubishi at the end of the 1990s and the – in the meantime abandoned – partial takeover by Daimler-Chrysler can be attributed to the losses from its foreign operations.

For Mitsubishi, Thailand is as important as a manufacturing base as it is for Toyota. The company manufactures a one-ton truck there, which is exported worldwide. This operation, according to Mitsubishi's annual report, contributes significantly to the group's earnings. The company has been reorganising the factory in 2005 and expects to increase sales of vehicles produced in Thailand.

**Table 9: Mitsubishi: Main Operations in ASEAN Region**

Country	Name	MMC's Equity Interest (%)	Major Products and Models	Production
Thailand	MMTh	99.80	Triton, Lancer and others	Local production (vehicles)
The Philippines	MMPC	51.00	Adventure and Delica	Local production (engines)
Indonesia	MKM	32.20	Engines and transmissions	Local production (engines)

Source: Mitsubishi Motor: *Annual Report 2005*, p.32

Mitsubishi's strategy appears to be far less comprehensive than the plans of Renault or Toyota. There is some production in Asia outside Japan, but Mitsubishi has not attempted to create production networks like Renault or Toyota have. The company operates two plants in Thailand and one in the Philippines as well as six in China (Staples 2006: 23).

In part, this may reflect the restructuring pressures the company was confronted with on home territory. Furthermore, Mitsubishi was emphasising its co-operation with the Malaysian manufacturer Proton, which received expertise from Mitsubishi (Yoshimatsu 1999: 495). This ill-fated co-operation was terminated in 2004, but may have consumed a substantial amount of managerial capacity of Mitsubishi.

### **3.3.3. Honda's Strategies in China and ASEAN**

For Japanese carmakers, Honda has set the pace for the internationalisation of its production. It was the first carmaker to have an assembly plant in the USA. In the mid-1990s, regional divisions were set up and the local production of models designed specifically for these divergent markets started. Honda's chairman coined the phrase: Think globally, act locally ((Freyssenet/Lung 2004: 53).

Compared to Toyota, the Asian operations of Honda are modest and, like Mitsubishi's, less integrated than Toyota's operations. Honda produces a variety of products in the region, but it is difficult to identify a clear strategy. Excluding the motorcycle and power product manufacturing, the company employed in the whole of Asia (outside Japan) about 7,000 people in its manufacturing operation.

**Table 10: Honda: Principal Manufacturing Facilities in Asia**

Country	Location	Start of operations	Number of employees	Principal products manufactured
India	Greater Noida	Dec. 1997	952	Automobiles
	Gurgaon	May 2001	2,365	Motorcycles
Indonesia	Karawang	Feb. 2003	1,029	Automobiles
Malaysia	Alor Gajah	Jan. 2003	1,020	Automobiles
Pakistan	Lahore	Oct. 1993	386	Automobiles
The Philippines	Manila	May 1973	526	Motorcycles and power products
	Laguna	Mar. 1992	666	Automobiles
Taiwan	Pingtung	Jan. 2003	793	Automobiles
Thailand	Ayutthaya	Jan. 1993	2,151	Automobiles
	Bangkok	Apr. 1965	2,537	Motorcycles and power products
Vietnam	Vinhphuc	Dec. 1997	894	Motorcycles

Source: Honda: *Annual Report 2005*: 102.

In contrast to the approach taken by Toyota, Honda has developed a rather broad, yet shallow production base in Southeast Asia. Honda selects the production site of any given component or model on a strict efficiency criteria basis. Therefore, Honda manufactures modern vehicles in Thailand, whilst the Philippines have been selected as the hub for component production for export. This system is embedded in Honda's global manufacturing system, which allows Honda to rapidly reorganise production should demand change (Staples 2006: 20). However, Honda's production network is particularly vulnerable to changes in trade policies. For example, using the Philippines as a hub for component manufacturing depends on the ability to export these parts duty-free to the country of assembly of the vehicle *and* the ability to export the finished product without facing high duties in the final market. Consider the following example: Assuming that Thailand and the United States will implement the Free Trade agreement, which has been negotiated for a number of years, and assuming further that Honda will intend to produce a vehicle in Thailand for export to the USA, which is falling in the category "light-trucks" (tariff position 8704 in the Harmonised System). In an FTA between Thailand and the USA, the export would be duty free, whereas this category of vehicles normally attracts a duty of 25%. If, however, substantial parts of the value-added would not be sourced from either Thailand or the USA, the finished product would disqualify for duty-free access to the American market. Of course, this depends on the strictness of the rules of origin in the (yet to be implemented) Thai-American FTA. However, this example shows that Honda's strategy very much depends on relatively unrestricted international trade. In the absence of cumulation of origin schemes and with an increase in the number of bilateral trade arrangements in the Asia-Pacific, this strategy could turn out to be inferior compared to Toyota's more regionally focussed alternative.



## Conclusion

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**T**he analysis has shown that trade policy has an imported influence on the commercial decisions of car manufacturers both in Asia and in Europe. Without trade liberalising measures, the creation of transnational production networks probably would not have happened, at least not that quickly.

The European experience underlines the importance of cross-border trade and the advantages of transnational production networks. A prominent example is the case of Audi, which uses its Hungarian plant to produce a labour-intensive part of a car – the engine. This relocation of an important part of the manufacturing process has resulted in substantial job creation in Hungary. It has not, however, led to dramatic job losses in Germany, but instead may have contributed to the stabilisation of employment in the German plants of Audi. Since a major component can be sourced from a relatively low-cost production site, the company is quite able to compete on price, which would have been more difficult without the relocation of the engine production.

This structural change can be witnessed in the entire European car industry. Beyond the examples analysed in this report, there is more evidence when looking at other manufacturers. Take Volkswagen and Porsche, who relocated the body manufacturing of their sports-utility-vehicles (VW Touareg and Porsche Cayenne) to Slovakia. In the case of Porsche, the final assembly still takes place in Germany, but a significant proportion of the value-added is created in Slovakia.

Whilst these examples are just the more prominent ones, they demonstrate the usefulness of a single regulatory sphere for efficiency and competitiveness. The European Union – having achieved a single market – enables companies to source inputs from a range of countries without having to consider the origin of the product. Furthermore, the relocation of production to low-cost countries in Eastern Europe has enabled manufacturers – not just in the car industry – to improve their competitive position. Nevertheless, Europe has an additional advantage, which is the possibility to source inputs from many other associated countries organised in the Paneuro scheme. With that diagonal cumulation of origin, European manufacturers can buy inputs from non-EU countries, e.g. Switzerland Turkey, and still have all advantages unrestricted trade flows with relatively little administrative burden.

This picture differs from Asia. On the one hand, the car industry in Southeast Asia in particular has developed well and shows – just like its European competitors – a remarkable degree of transnational division of labour. As in Europe, this process has been facilitated by trade liberalisation. Even quite restrictive regimes such as the BBC scheme in ASEAN have contributed to the creation of transnational production networks.

Yet the process of regionalisation is far more fragile in Asia than in Europe. First, the preferences granted are not always WTO bound, i.e. countries can terminate them without violating WTO rules. Second, the supranational structures to safeguard unrestricted trade in the region are weak, and even in ASEAN there appears to be little peer pressure in this regard. Third, the recent push toward bilateral preferential trade agreements is hindering a further division of labour in the region. These preferential agreements require complicated certificates of origin, and in effect, they contribute to parallel regulatory spheres. These, in turn, are an obstacle for

further division of labour within a region.

Thus, there is ample scope for institutionalising the existing transnational division of labour. Two proposals should be considered. First, Southeast and East Asia can develop a regime of Pan Asian cumulation of origin. Similar to the PANEURO regime, diagonal cumulation of origin would be permitted between the participating free trade agreements. For example, a semi-finished product produced in Indonesia (ASEAN FTA) is used in a product manufactured in Singapore. This product is then exported to Japan under the FTA between Singapore and Japan. The input from Indonesia would then be “counted” as having Singaporean origin. Clearly, Pan Asian cumulation of origin is only a second-best solution, but it would represent an improvement over the current complex and increasingly intransparent trade regime.

However, the creation of an East Asian Customs Union would be better still. Often misunderstood, a customs union represents a more advanced form of regional integration than a free trade agreement. Apart from liberalising trade within the integration scheme, the participating countries agree on a joint external tariff. Of course, in a region as diverse as Southeast and East Asia such a step represents a major step. It would require those countries that continue to implement relatively high levels of protection for industry to bring those measures down significantly. Furthermore, it would necessitate the dramatic lowering of protection in agriculture in countries where this sector continues to be highly protected, e.g. Japan and South Korea. One should not ignore those formidable obstacles for an East Asian customs union.

Nevertheless, this endeavour would be the first-best option for regionalisation. It would entail – once established – a low level of administrative measures. Rules of origin would be significantly less complex than in free trade agreements, and, above all, the rules would be uniform for the entire region. Trade would be facilitated rather than obstructed. The intraregional division of labour could be deepened and transregional networks of production could be expanded. Efficiency would be greatly improved. Of course, the adjustment process would be difficult and politically painful. Sectors previously exposed to little competition would oppose such a move, and the demonstrations of South Korean farmers during the WTO ministerial meeting in Hong Kong in December 2005 clearly illustrate the level of resistance that can be expected. However, compared with the current

trend of uncoordinated, conflicting patterns of integration that we witness in the first years of the 21<sup>st</sup> century, a broader integration scheme provides significant advantages.

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### Transnational Production Networks in the Automobile Industry and the Function of Trade-Facilitating Measures

This report provides from insights on how regionalisation affects the automobile industry, and on regionalisation processes in general. Heribert Dieter teases out the role of State (essentially business leaders) in promoting processes of economic regionalisation in both continents. Drawing from the European and Asian examples, the author demonstrates how trade policy affects the commercial and industrial decisions of automobile manufacturers.

In the Asian case he shows how the problems arising from rules of origin can have deleterious results for automobile manufacturers in setting up transnational production networks. Thus he argues for developing in Asia a single regulatory scheme, concretely a Pan Asian cumulation of origin framework. While he sees an East Asian Customs Union as a better option, a cumulation of origin scheme would at least be an improvement on the present opaque system.

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