Towards sustainable growth in the Chinese automotive industry: internal and external obstacles and comparative lessons

Donnelly, T. , Collis, C. and Begley, J.

Original citation & hyperlink:
Donnelly, T. , Collis, C. and Begley, J. (2010) Towards sustainable growth in the Chinese automotive industry: internal and external obstacles and comparative lessons. International Journal of Automotive Technology and Management, volume 10 (2/3): 289-304.
http://dx.doi.org/10.1504/IJATM.2010.032629

Towards sustainable growth in the Chinese automotive industry: internal and external obstacles and comparative lessons

Tom Donnelly*, Clive Collis and Jason Begley

Motor Industry Observatory, SURGE,
Coventry University Business School,
Coventry University,
Priory St., Coventry, CV1 5FB, UK
E-mail: Thomas.Donnelly2@coventry.ac.uk
E-mail: Clive.Collis2@btinternet.com
E-mail: j.begley@coventry.ac.uk
*Corresponding author

Abstract: This paper concentrates on how Chinese industrial policy towards its automotive industry has developed since the onset of the 'Open Door Policy' in the 1970s. In particular, attention is paid to the legacy of the Communist era and how this has hindered the industry's long-term development. Additionally, discussion focuses on the role played by Foreign Direct Investment in trying to improve China's long term competitive position, and on policy comparisons with Japan and Korea. The paper notes that the Chinese automotive industry suffers from major structural, technical and organisational weaknesses. It explores what steps are being taken to remedy these with the help of government policy so that China might be able to achieve its goal of holding 10% share of the global car market beyond its own frontiers by the decade 2020–2030. In so doing, it highlights the differences in policy with that pursued in Japan and Korea and the 'uniqueness' of the Chinese approach thus far.

Keywords: China; Open Door Policy; Foreign Direct Investment; globalisation; structural reform; developmental economy.

Reference to this paper should be made as follows: Donnelly, T., Collis, C. and Begley, J. (xxxx) 'Towards sustainable growth in the Chinese automotive industry: internal and external obstacles and comparative lessons', *Int. J. Automotive Technology and Management*, Vol. X, No. Y, pp.000–000.

Biographical notes: Tom Donnelly is Professor of Automotive Business and Head of the Motor Industry Observatory at Coventry University Business School. His research interests lie in the international automotive industry, focussing on the UK, European and Chinese industries in particular. He is currently involved in a UK Technology Strategy Board funded project on electric and hybrid cars.

Clive Collis is Visiting Professor of Regional Economics at Coventry University Business School. He has written extensive on regional and local economic development, inward foreign direct investment and has worked on a wide range of both private and public sector projects.

Jason Begley is a Research Fellow in the Centre of Sustainable Urban and Rural Regeneration (SURGE) in Coventry University Business School. His main area of research is contemporary economic history in Ireland and the UK. He has worked on a wide range of projects and is also participating in the UK Technology Strategy Board's project on alternative methods of propulsion in the automotive industry

1 Introduction

The recent emergence of China as the third largest economy in the world has given rise to a considerable degree of debate on what impact the Chinese economy will have on global markets. In recent years, China has enjoyed an annual growth rate in GDP of around 8–9% and, despite the current recession of 2008–2009, this is likely to continue. From 1947 until 1978, China followed a Marxist-Leninist style command economy, but following Chairman Mao Zedong's death, the incoming government embarked on what was called the Open Door Policy and so like other East Asian Developmental States such as Korea and Japan before it, China faced the problems of late economic development, catching up with more advanced economies. Under the premiership of Deng Xiaoping, China recognised that it could not solve its domestic economic problems without inwards Foreign Direct Investment (FDI) (Thun, 2006). A number of key industries such as telecommunications, petrochemicals, avionics and the automotives were designated as 'Pillar Industries' and attempts were made to upgrade and modernise these with Western involvement. This paper will focus on the automotive industry and will investigate how successful Chinese government policy has been in fostering the automotive industry's development so that it is capable of competing in global markets.

Today the Chinese automotive industry is the fourth largest in the world behind the European Union, USA and Japan, boasting an annual output of circa 8–9 million units. Such swift growth from 1980s means that China has little option, but to aspire to play on the global stage, even though many aspects of its auto industry are uncompetitive by international standards (Donnelly, 2008; Russo, 2009). To achieve global status the Chinese industry must deal with two related problems. The first centres on creating a viable, sustainable domestic industry and to achieve this, major structural problems must be tackled. The second focuses on how the industry can catch up with its more advanced international competitors in design, technology and brand equity. Both of these problems need to be tackled simultaneously if China is to compete.

In encouraging industrial development the Beijing government never intended that its industries would be dominated by foreign multinationals. Government policy since the 1990s has harboured the intention that Chinese owned industry would be developed through learning from the Western, Japanese and even Korean multinationals through a series of joint ventures (JV). This, it was thought, would facilitate the creation of strong independent Chinese brands, able to compete globally (Studwell, 2003). In other words, there would be a parallel growth of JV firms and indigenous firms. By 2020–2030, for example, the government envisages that Chinese automotive firms will enjoy a 10% share of the global car market outside their domestic borders (Automotive Business Review, 2006). Clearly, China and its car makers have ambitious targets, which raises the question of how this might be achieved when, at the time of writing, Chinese cars still lag

– despite their catching up – in terms of safety and quality when compared to their more advanced global counterparts (New York Times, 2009) and from little brand recognition beyond China's frontiers (Toncar, 2008). Matters are not helped by manifold weaknesses in design and technology to say nothing of extremely low levels of intellectual property and over-dependence on foreign firms for technologically advanced components (Thun, 2006).

The answers to the above questions are not easy. Predicated on previous work led by one of the present authors (Donnelly and Morris, 1997, 2003; Donnelly et al., 1997, 2003; Donnelly, 2008), it is the contention that China's ambitions cannot be realised without both internal and external action. The key structural weaknesses in the industry must be countered, while at the same time there needs to be a concerted effort to overcome serious deficiencies particularly in safety and quality, intellectual property ownership, Research & Development, and in managerial and organisational competences. Our view that the first of these obstacles can only be tackled through internal reform, but that the remainder can best be approached by entering into partnerships or strategic alliances with foreign firms, obtaining the services of foreign engineering/service/consultancy firms, working closely with internationally recognised 0.5 or Tier-One suppliers or acquiring overseas firms their technologies, managerial techniques, supply base and dealerships.

The remainder of this article will be divided into five key sections:

a Contextualising the Chinese automotive industry

b Government policy and industrial structure

c China as an international competitor

d Policy comparisons with Japan and Korea

e Conclusions.

2 Contextualising the Chinese automotive industry

In any discussion of China's recent growth and development, it needs stressing that in the latter half of the last century, several other East and South East Asian countries such as Japan, Taiwan, Malaysia and Singapore, too, enjoyed swift of economic growth under the guise of developmental states and so China's experience needs to be seen in this light, while remembering that there is more than one varitant of a developmental state (Cowling and Tomlinson, 2000; Huang, 2002; Thun, 2004). The concept of the developmental state originates with Gershenkron's work on Prussia and Russia where he listed three prerequisites for states trying to catch-up with more advanced and mature economies in industrial growth and development. These insisted on a close cooperation between the state and industry, an efficient banking sector and social stability and harmony (Gershenkron, 1962). To a degree these topics will be addressed at appropriate places in the ensuring discussion and so for the moment, it must suffice to comment on the third proposition by noting that a key objective of China's ruling elite in the Communist Party has been the pursuit of social stability and this it has not been willing to risk in its pursuit of economic development (Harwit, 1995; Kroeber, 2006).

Though automotives were a familiar sight in urban China before the Second World War, it was not until the 1950s that serious attempts were made to build a car industry with the help of the Soviet Union. For emerging economies, a vibrant car and truck industry is often viewed as an engine of economic growth because of both its direct and indirect effects. Not only does it generate employment, skills and advanced forms of work organisation and wealth creation, but it can stimulate local industry through the development of components and related services (Harwit, 1995).

Prior to the Sino-Soviet Split in 1960, output concentrated very much on trucks with what few cars that were produced being reserved for the senior government officials; the private ownership of cars was prohibited (Harwit, 1995). During the 1960s China's economy went backwards when it was almost consumed by its Cultural Revolution and so it was not until after Mao's death that it was possible to progress once more. Nevertheless, in the earliest days of the industry during the Cold War and, fearful of attack from the West, the location of factories was determined not on economic or commercial logic, but on strategic, military policy-making criteria. The consequence was that factories were built, often in almost inaccessible, remote regions in 26 out of 31 of China's provinces (Thun, 2004). The outcome was an extremely fragmented, weak industry with no natural clusters like those in Michigan, the English Midlands or North Rhine Westphalia emerging. The majority of firms were small and devoid of economies of scale, with some producing only a few hundred units per annum. This was the genesis of the industry's structural weaknesses (Harwit, 1995).

Following the accession of Deng Xiaopeng, China tried to follow a do-it-alone policy in automotive development, but realised almost immediately that such organic growth would take too long and so industrial policy shifted (Huang, 2002). At the core of policy was the necessity of opening China's doors to Western firms, and from 1985 onwards, Western car makers led by Volkswagen, Chrysler and Peugeot established themselves quickly in Shanghai, Beijing and Guangzhou, respectively. By 2003, almost all of the world's leading producers had opened a JV production facility in China on terms shaped by the Chinese Government. No foreign entity could own more than half of the rights to a JV with a Chinese firm. The norm was for the Chinese partner to hold a 51% majority (Harwit, 1995).

The reasoning behind the desire of western firms to establish themselves in China was predicated more on market potential in the long term than to leap over tariff barriers and the relatively low cost of labour. Though market size of itself was a sufficient driver to push for market penetration, this has to be seen within the confines of government policy. Initially, one might have considered that the sheer strength of the automotive multinationals gave them an enhanced bargaining power in firm-government negotiations. As has been stressed before, however, China had no intention of being controlled by foreign firms regardless of who they were and so a compromise had to be struck between the *active* embeddedness of the firms and *obligated* embeddedness of the Chinese state to secure as satisfactory an outcome as possible in negotiating the criteria and terms of entry to its territory. Essentially, the multinationals, whose advantages lay in their products, technology, competences and brands, sought market entry and to incorporate their potential Chinese operations into their wider global portfolio. In contrast the government, knowing the strength of China's market potential and its low cost labour base, sought to increase the economic and social welfare of its citizens through attracting inwards FDI. Using its JV requirements, government policy was sufficiently strong enough to force aspiring overseas entrants to compete against each other for the privilege

of entering China (Liu and Dicken, 2006). Beijing chose where foreign firms would be located, who their partners would be, what vehicles would be produced and what degree of local content would be used. In essence Chinese state's terms of engagement with foreign entities was designed to ensure that China would be the main beneficiary of their activities in the country rather than anyone else (Liu and Dicken, 2006).

3 Government policy and industrial structure

As part of the general economic reform movement in the 1980s and 1990s, the Beijing Central Administration pursued a policy of decentralisation by ceding economic authority to the provinces. This was based on the premise that local officials had a greater knowledge and awareness of what was required to ameliorate economic and social conditions in their localities and could take the necessary decisions to effect these. Moreover, decentralisation was also considered a device for controlling social unrest (Chelan Li, 2009). The outcome was to further increase the fragmentary nature of industry generally and of the automotive industry in particular, as provinces built up component industries to support their assembly facilities and rarely allowed the assemblers to source components beyond their own provincial frontiers (Thun, 2006). As Liu and Dicken (2006) have shown 25 out of 31 provinces declared automotives as a local 'pillar industry'. Well meaning though this may have been, as will be discussed below, this has had serious implications for the structure of the automotive industry and has gone some way to preventing its rationalisation, leading to power struggles between the centre and periphery as each vied for economic control (Russo, 2009).

Comment [A1]: Author: Please provide full reference or delete from the text if not required.

In total there are roughly 120 car producers in China, though some estimates are even higher (Thun, 2004). The industry can be divided into three columns: wholly-owned state enterprises, led by the First Autoworks (FAW), Donfeng and SAIC, known as the 'Big Three', and by three smaller firms: Beijing Jeep Corporation (BJC), Tianjin Automotive Plant and Guangzhou Honda (known as the 'Little Three'); the various JV firms and, finally, Chinese independents such as Xiali, Brilliance China, Geely, Chery and Great Wall (Deloitte Touché Tohmatsu, 2006).

Government policy towards the car industry has been fairly all-embracing and focuses on structure, technology and market development. With the designation of the previously mentioned 'Big Three' and the 'Little Three' in 1994, almost as 'national champions', it is clear that the Chinese Government was increasingly aware of the importance of scale in the industry and the need for rationalisation. Repeated policy statements between 1994 and 2009 reflected a desire to ensure that a globally competitive industry emerged (Donnelly, 2008). That there were too many firms in the industry was never in doubt. In the automotive industry small is not beautiful, except for highly expensive niche products. Economies of scale and scope are essential in volume production. Received wisdom indicates that to be effective a production/assembly plant should produce circa 250,000 units per annum (Womack et al., 1992; Deacons, 2004); as late as 2006 no Chinese firm, state or independent had achieved that figure (Deloitte Touché Tohmatsu, 2006).

Comment [A2]: Author: Please reconstruct the sentence to make the intended meaning clear to the readers.

To build a successful auto industry an economy needs a population of circa 50 million people and have an industry capable of producing two million units per annum (Ernst and Young, 2005). By that criteria, China quickly became an established auto producer, but this has been due primarily to Western inputs. For instance, FAW's JV produced just

under a million units in 2006 and SAIC's almost 900,000. In contrast, the combined total output of all the other domestic firms was only 700,000, with many producing only a couple of thousand units annually (Deloitte Touché Tohmatsu, 2006). The above indicates overall low levels of productivity, a situation exacerbated by capacity underutilisation, resulting in high costs. International accepted levels of capacity utilisation are up to 80% (although few plants actually achieve this). In China, even the best JV plants are fortunate to operate at 65–70%; many state owned firms operate at somewhere between 40 and 50% and many others at as low as 20% (Holweget al., 2005; Thun, 2006). The case for rationalisation was and is ripe and recognised as such by government. Ideally the government would like to see no more than between seven or eight major internationally competitive indigenous Chinese firms, whether public or private, in forthcoming years, with two or possibly three capable of producing upwards of two million units per annum (*China Daily*, 2009). Indeed, the Shanghai Automotive Industrial Corporation, Chang'An, FAW and Donfeng Motor Corporation have been invited to lead this operation (Jian, 2009).

From the late 1990s onwards, policy statements down to 2009 have repeatedly called for rationalisation (*China Daily*, 2009), but seemingly the Chinese state finds it difficult to force mergers due to the decentralised power structure in the industry (KPMG, 2004). The main reason for such failure is bound up in the centre-periphery relations between Beijing and the provinces. Structurally weak firms were located primarily outside the major cities and, even though output from many of these companies was small, the regional and provincial authorities were reluctant to close them down and, indeed, were more intent on expanding them. It is not as if such small firms were specialist producers as the vehicles produced tended often to be fairly identical in each province. No matter how weak, such firms were often kept going through various forms of local protectionism, such as soft loans and easy credit from local provincial banks as well as local authority purchasing of their products to ensure a market. Additionally local protectionism provided employment generation, the development of provincial supply chains as well as enhancing automotive production as a symbol of economic prestige (Thun, 2004, 2006). Basically, when there were so many equal candidates for factory closure the fundamental question raised was why should one Province sacrifice its car industry to benefit another? Strong though the intentions in official policy documents may have been, there was no effective way of enacting these. The centre found it difficult to take back the authority it had previously ceded to the provinces without entering into a wasteful power struggle, when it was trying to maintain political and social stability and employment levels at a time when many state owned enterprises were already in the process of shedding labour (Ernst and Young, 2005).

The above should not be taken to imply a degree of rationalisation did not take place, but it has been patchy and to a large extent initially driven by the firms themselves and large civic authorities such as Shanghai and Nanjing rather than by a national government edict. For instance, SAIC has taken a 25% holding in Chery and a 76% stake in Wulung Motors, respectively. Similarly, Donfeng has taken over Jiangsu Yeuda and has also acquired a shareholding in Nanjing Motors (Donnelly, 2008). However, notable these may be, it is clear that there is still a long way to travel before a major rationalisation in China's automotive industry is achieved, but whether this will be effected eventually by government policy or market forces is debateable.

As an alternative to simple mergers and take-overs, the national and provincial authorities have encouraged stronger state firms to either absorb their weaker counterparts or at least take them under their wing. This approach has serious shortcomings in that though the stronger firms can supply capital to their acquisitions, often they can provide little in much-needed managerial or technological improvement since they themselves are often weak in those areas. Indeed, this has been described as the very ill being carried by the sick (Huang, 2002). The flaws in this policy were identified eventually and current 'policy' is moving gently to allow international firms to participate in the rescue process. For instance, SAIC-GM was leaned upon by Shanghai City Council to take over the ailing Wulung Automobile Company in Guangxi Province and become the two largest shareholders. New capital of $99.6 million (679.3 million Yuan) was injected into the company. Much more important though were the company reorganisation and new management techniques and technologies brought by GM to bring these into line with its own systems especially in global purchasing, benchmarking and in upgrading the distribution network, engine technology and design. It may well be that this approach becomes more common in future, given Wulung Automotive's improving business performance (Yang, 2009), but it is hard to see how it can become more widespread without the participation of transnationals

China as an international competitor

Word Trade Organisation (WTO) membership is almost a sine qua non to acceptance in the global trading community and it took sixteen years of negotiations before China was permitted to join in 2001. Suffice to say that the terms agreed were tough and China was obliged to comply with these by 2005. For instance, all tariffs on imported vehicles had to be reduced from their 70% level in 2000 to 25% by 2005 and local content regulations were to be abolished by the same year (Donnelly and Morris, 2003). WTO membership was much more than a symbol of China's acceptance as a full player in the world trading community; it signalled its advent as a force in the global economy. China's ambitions for the role that its automotive industry should play in the world economy have already been alluded to elsewhere and need no recapitulation here. The government was keenly aware of the manifold shortcomings in the industry and over time has set about trying to address these as well as encouraging Chinese firms to upgrade their capabilities to compete in global markets. As noted earlier the key weaknesses lay in design, process technology, R&D, safety and quality. Several reasons have been offered to explain these.

Comment [A3]: Author: Please provide full reference or delete from the text if not required.

One suggestion is that the central government's policy of protecting state-owned concerns through high tariffs and quotas acted as a break on progress; being in a comfort zone until China joined the WTO, these firms, lacking the relevant knowledge and skills, had little incentive to embark on change. Relying on protective tariffs, they were risk averse to investment in R&D or product development through 'learning by doing' and so ended up being reliant on JVs from the 1990s onwards, a time when China's internal market was becoming increasingly competitive (Luo et al., 2006). Moreover, even when they entered China, it has been argued that in early days of JVs, overseas firms, fearing possible intellectual property (IP) theft or piracy, were reluctant to bring their latest cutting edge technologies or their key R&D research capabilities to their Chinese operations, even though national government policy was insistent that this should occur, particularly in design, and so progress was further retarded due to what was considered

weaknesses in China's legal system in dealing with issues of IP theft (Simms Gallagher, 2008).

Comment [A4]: Author: Please provide full reference or delete from the text if not required.

Volkswagen and GM were placed under considerable pressure by both the National and Provincial authorities to open design centres in Shanghai. Both did so, but ensured that ultimate control lay in German and American hands respectively (Donnelly et al., 2003) For instance, with its partner SAIC, GM opened the Pan Asian Technical Automotive Centre (PATAC). Though modern in facilities, this was not a complete stand alone design establishment; it had limited facilities and was integrated into GM's wider global design operations so that the work carried out was of a limited nature. Furthermore, there was a 'firewall' policy that prevented Chinese employees from access to the centre's most sensitive areas. Having little bargaining power, there was little that the Chinese could do to prevent this and so made it extremely difficult for Chinese staff to extract sufficient high value information that could have been of use to other firms (Luo et al., 2006).

While protecting their global interests, it needs pointing out that the role of the JV transnational firms was not entirely protective and highly guarded. Firstly, in addition to introducing international benchmarking targets, certain manufacturing techniques in process engineering and even lean production were introduced with appropriate numbers of Chinese managers and technologists being trained in these either in China or overseas. Indirect evidence of this can be seen in the outwards movement of such officials from JV firms to Chinese independents such as Chery to cascade what they had learned. The same trend can be found in the components sector where lessons have been learned in international purchasing (Luo et al., 2006). However, one cannot escape the fact that over-dependence on JVs has limited the speed at which Chinese firms have moved down the learning curve in the international production of cars. Over-dependence led to too little experiential learning as most of the manufacturing and process developments introduced had taken place outside China and so many 'learning by doing' experiences did not happen (Simms Galagher, 2006). The outcome is that Chinese manufacturers are still weak in independent product development and, even allowing for the fact that the smaller vehicles made by Chinese firms are of a reasonable standard, the larger sedans fall short of international acceptability (Luo et al., 2006; Donnelly, 2008).

The key question is how can China's car industry overcome its weaknesses and compete globally? In 2009, the China State Council announced a revival plan to stimulate the future development. Eight clear goals were laid out:

Comment [A5]: Author: Please confirm that this should be "Seven" instead of "Eight".

- Boost output to ten million units and maintain a future growth rate of 10% until 2012.
- Improve car legislation that restrains the car market and build a structure for electric vehicles.
- Consolidate small and regional car makers by merging the top 14 domestic producers into ten, of which three groups should be capable of producing two million units per annum.
- Promote segments with better fuel economy.
- Encourage automakers to develop their own brands boosting the market share of Chinese brands to at least 40%.
- Make significant progress in vehicle research and design.

- Master key automotive component technology including engine transmission, powertrain, steering, brake, suspension and can-bus systems, as well as modules for hybrid and electric vehicles (Huang, 2009).

Clearly, some of this is aimed at the immediate short term to shore up longer term development. The new package reflects the government's stance on the automotive industry continuing to be a pillar industry (Huang, 2009). The delivery of these objectives will depend very much on how the government, the overseas firms and the state firms interact with each other. Essentially, as noted earlier, there are four ways within which the process of development can be hastened and these are already under way with state approval:

- acquiring foreign firms and/or their technologies
- entering into partnerships with foreign firms
- obtaining the services of foreign engineering/service firms
- working with internationally 0.5 or Tier-One suppliers.

Acquisition is normally the quickest route to accessing new technologies and services and already this has happened as evidenced by SAIC's purchase of the intellectual property of the now defunct British firm MG Rover, thereby facilitating its capability to build the Rover 45 and the Rover 75 (known as *Rowes)* in China (IBM Consulting, 2006; EIU, 2006). Moreover, with the collapse of US and European car firms in 2008–2009, leading Chinese firms have been rumoured to be interested in investing in struggling European companies such as Volvo, Saab and Opel (Automotive News, 2009). Finally, a caveat is that even if Chinese firms do attempt to take over foreign firms and try to operate them as there are serious doubts that Chinese managers have the knowledge and expertise post integration to manage overseas firms and deal with suppliers and dealerships without heavy reliance on outside experts and consultants for a number of years (Russo, 2009).

An alternative route to accelerate the pace of development is the hiring of expatriates from overseas, or to enter into agreements with foreign firms to assist in product and process development. To speed up this process, Chinese state firms with government approval have recruited international and former MG Rover engineers including, a former Director of Quality, to work in China. Likewise, SAIC-GM has encouraged US born Chinese speaking staff to take secondments in Shanghai (Donnelly and Morris, 1997, 2003). Moreover, state enterprises to enter into accords with overseas assembly and component suppliers across a range of issues. This goes beyond the normal Chinese government definition of JVs which is the assembly and distribution of overseas designed cars in the internal market. What the Chinese now seek is to enhance the quality performance of domestic firms by persuading those foreign firms already in Chinese JVs to participate in cooperative development in design, technology and R&D etc., and develop cars for China's internal market. Inevitably, these cars would compete against those made by existing JV firms (IBM Consulting, 2006). If this were to happen (and it probably will), there remains the possibility that the state owned firms might well build these cars on their own account by transferring the knowledge gained and then export them and so compete against vehicles built by their JV partners outside China. Contrastingly, such cooperation also offers the possibility of a less attractive picture. Foreign firms in JV partnerships in the assembly side may choose to source high quality

components mainly from other JV component firms in China and so bypass weaker indigenous Chinese suppliers. This type of pattern has already been apparent in Brazil, Thailand and Mexico and is a scenario that the Chinese would hope to avoid (Thun, 2006).

The third and fourth alternatives available to Chinese firms are to avail themselves of the services of foreign engineering and service firms or to work with 0.5 and Tier-One suppliers which possess global footprints and again this is already happening in line with government policy initiatives. SAIC works closely with the British design and engineering firm Ricardo, in engine building. Chery's vehicles have bodies designed by Pininfarina of Italy, chassis engineered by Lotus of the UK and engines calibrated by Australia's AVL (EIU, 2006; Knowledge Wharton, 2006). Such outsourcing and cooperation is not only a swifter route than organic growth, it hopes to avoid accusations of pirating intellectual property rights which have given rise to disputes with GM, VW and Fiat (Automotive News, 2007). Much of these are short term solutions and while availing themselves of the latest technology advances, Chinese engineers continue to miss out to a degree on the cumulative impact of experiential learning which may continue to hinder their capacity for independent innovation in the longer term. In other words, this is a double edged sword.

The key difficulty facing Chinese car makers in competing globally lies in improving the safety and quality of their vehicles so that they conform to regulations in the advanced markets of the EU and the USA. Only by so doing can the reputations of Chinese brands be established in the eyes of consumers who seek value for money. Currently, Chinese cars remain below international accepted safety levels as witnessed in the failure of five Landwind and also several FAW vehicles in German ADAC safety tests (Weernink, 2005). Until such time as Chinese made vehicles pass these exceedingly costly hurdles they will be denied entry to the lucrative markets of the EU and North America. This in itself helps to explain why so much government policy is directed to improving safety and quality levels with western help and yet it is estimated that it may well take another five to ten years before Chinese cars will be accepted in the West (Automotive News, 2007a).

Comment [A6]: Author: Please confirm the year of publication (whether 2007a or 2007b).

Reference entires:

Automotive News (2007a) 'Great Wall starts work on US$ 257 million plant';, http://autonews.com.apps.pbcs.dll/article?AID=/20070118/REUTERS/7011800.

Automotive News (2007b) 'China car maker Xiali to invest US$386 million', 22 January 2007, http://www.autonews.com/apps/pbcs.dll/article?AID=/200070119/REUTERSans/701,222 (accessed 22 January 2009).

4 Policy comparisons with Japan and Korea

From the 1960s down to the 1990s Japan and to a lesser degree Korea established themselves firmly a major players in the world economy even though until recently Korea was viewed by some as still an emerging economy (Huang, 2002). This section seeks to draw some comparisons between the experiences of both of these countries and China to see what policy lessons if any can be learned. It needs bearing in mind though, that since both Japan and Korea emerged in the international arena, the world economy has changed and is now quite different from what it was between the 1970s and 1990s so care needs to be taken in arriving at judgements on China (Huang, 2002).

In assessing the success or otherwise of Chinese government policy *vis a vis* those of Korea and Japan lack of space necessitates selectivity rather than point by point comparisons and so only the most salient matters such as those surrounding strategy, economies of scale, FDI and institutional arrangements will be raised to see what lessons can be drawn on policy making.

Throughout the period under discussion China at different times looked at both the Japanese and Korean models of development. In the 1980s, Japan's Ministry of International Trade and Industry (MITI) was prominent in discussions, but with the depression in Japan in the 1990s, attention switched to looking at Korean *Chaebols*, as possible alternative role models (Cowling and Tomlinson, 2000; Huang, 2002). Regardless of which model was favoured at any one time, it was clear that success in the volume end of the automotive industry lay in economies of scale. In both Japan and Korea, policy favoured concentrating strategic investment and production on a relatively small number of privately owned firms, who might be termed 'national champions'. In Japan this fitted in well with the cooperative nature of Japanese capitalism, its concomitant belief in rational planning and in the *Keiretsu* structure much as it did with the small number of family owned *Chaebols.* In other words in both countries there were high levels of industrial concentration (Huang, 2002). In China the opposite was true. Internally entry to the automotive industry faced hardly any restrictions. Being fragmented and populated primarily by state owned firms, there was a distinct lack of coherent, strategic investment and a consequent failure to achieve economies of scale which in itself led to cost penalties. This goes some way in explaining the poor performance of the Chinese auto industry when compared with its Japanese and Korean counterparts in controlling costs. Specifically, it also demonstrates a lack of focus in government policy planning as well as a lack of will- power to impose an espoused policy of rationalisation and close inefficient plants, despite the inherent economic logic of so doing.

State ownership of itself does not necessarily lead to inefficiency, but when allied to central institutions too weak to effect reform it can prove very important. In Japan, the politically independent MITI, having a considerable degree of autonomy, was able to push the auto firms towards high levels of investment, productivity and quality, even if MITI has been criticised for perhaps working too much in the interests of Japan's large corporations rather than meet the wider aims of society (Bailey and Sugden, 2007) Korea's Economic Planning Board (EPB) had wide powers and its instrument, the Ministry of Commerce and Industry (MCI), had the authority to impose its decisions on the industry and enforce regulations. In other words, as events proved, concentrating decision making and enforcement in one single entity paid dividends in the evolution of the Korean automotive industry as shown by the success of Hyundai in world markets over time (Huang, 2002).

In China, the situation was quite different due to the highly dispersed nature not only of the industry but of political and economic power. With the provinces having high levels of subsidiarity in economic decision making, the central authorities were in a weak position, which was partly of their own making as they sought political and social stability to preserve the dominant position of the Communist Party in society (Chelan Li, 2008). Relations between the provinces and the centre has already been discussed and there is no need for repetition here, but attention needs to be drawn to institutional weaknesses at the heart of the Beijing Government when compared with the structures in Japan and Korea. Working under the State Planning Board (SPB), the Ministry of Machines and Industry (MMI) superficially looks almost an all-powerful ministry somewhat like its Korean and Japanese counterparts. However, the SPB itself is unable to enforce regulations and policies across China as a whole due to the country's decentralised management structure and the MMI falls into the same category. Diffusion in power and decision making resulted in tension between top-down and bottom-up

planning due to the conflicts between the centre and the periphery which means that industrial policy making in automotive development is highly inconsistent. Focusing more on the MMI, it lacks autonomy and has to work with seven other ministries not all of whom share identical aims and objectives and so its authority to impose strategic planning across the industry is weak. Furthermore its regional bureaux do not report directly to it, but to their respective provincial governments, which adds further limitations to its influence. Even when strategic priorities are suggested from within or from other ministries these are not ranked in terms of importance, but simply added to an aggregated list and have to await their turn for attention. Overall the MMI appears to be strong in formulating policy, but woefully weak in trying to execute it (Huang, 2002).

Turning to FDI, in Japan MITI kept a tight rein on inwards and outwards investment movements and this was reinforced until the 1980s through the imposition of protected tariffs on imports. Policy was designed to protect infant industries and shield them from international competition. Such a policy was only able to go so far, however, and eventually pressure from Japan's large corporations became so intense that MITI's position on outwards FDI was no longer tenable, especially as the yen appreciated in value. Moreover, with the saturation of the domestic market for cars and other consumer durables, Japanese firms sought increasingly to both penetrate new markets and leap tariff barriers overseas (Cowling and Tomlinson, 2000; Bailey and Sugden,2007). MITI found it impossible to swim against the tide and the result was the setting up subsidiaries overseas by Toyota, Nissan and Honda, for example, as well as by component firms (Bailey and Sugden, 2007). In the short run, overseas facilities may have increased for domsrically produced products. In the longer term, however, Japanese car firms purchased from the overseas subsidiaries of component firms and from local providers and so demand for Japanese intermediate goods fell; a situation that was not helped by reverse imports. As this happened across a range of industries, it has given rise to the theory that Japanese industry in the 1990s was hollowed out to the detriment of indigenous SMES, causing serious deindustrialisation in some districts (Kwan, 2002; Bailey and Sugden, 2007). Perhaps the lesson that can be drawn here is with the rise of global demand and saturated markets, the influence of government agencies wanes in the face of market forces and the growing power of large corporations.

Comment [A7]: Author: Please confirm that this should be "domestically" instead.

From China, different lessons can be drawn. Whereas, Japan had a long industrial tradition going back to the pre-1939 *Zaibatsus*, China was a relative late-comer to industrialisation. During the Maoist period it was a highly protected economy that experienced comparative little development. Essentially, China after Mao's death had to develop quickly or risk being left further behind other countries. Like Korea and Japan, it concentrated initially on fairly basic goods before trying to move up the value chain. China, too, protected its industries by tariffs and preferential taxes, but, realising that development following autarchic policies would be too slow had to open itself to inwards FDI (Donnelly et al., 1997). What is important is that while embracing a market economy, it is a market economy 'Chinese style' in which FDI is controlled strictly by the state. China's policy towards overseas multinationals is designed to ensure that overseas corporations do not come to dominate the commanding heights of the economy, which explains the nature of China's JV policy terms and conditions. Outwards FDI from China, too, is controlled and targeted. To date none of China's automotive firms is in a position to set up an overseas subsidiary and FDI exports are concentrated on investing raw materials as China' searches to secure raw minerals, oil and similar goods to nurture its growing economy. Basically, China's economy is not at a stage where there is any

threat of hollowing out and deindustrialisation. It markets for consumer durables, including cars, are far from saturated. For instance, there are there estimated to be around 80 million consumers who could afford to buy cars, for example, but have not yet done so (Deloitte Touché Tohmatsu, 2006). However, there is always the caveat that firms such as SAIC, FAW and Donfeng, the national champions may reach a stage in their growth and development that there is little alternative for the government, but to allow them to invest overseas if they are to compete in world markets via global footprints, as their corporate and maturing strength outweighs wider societal aims (Cowling and Tomlinson, 2000). Finally, China seems to have learned from Japan's experience of an appreciating currency in the 1980s and the difficulties this caused for Japanese exports and so has deliberately kept the Renminbi below its true market value relative to the dollar to maintain the competitiveness of its exports. How long this can be maintained though is debateable in the light of China's rising balance of payments surpluses, which may force an upwards currency revaluation under pressure from the USA and others.

At the time of writing, it is hard to predict whether or not government policy towards the automotive industry will change. As Guthrie (2008) has argued, policy changes are slow to take effect in China and there had been a consistency in dealing with the car industry from the 1990s to the present day. Inevitably, there will be a degree of rationalisation involving plant closures and severe job losses, but this is likely to be the consequences of market forces than the enactment of policy at central or provincial level. Similarly, the policy of selecting national champions will continue, but as in Japan, the interest of the key firms may well run contrary to that of the government as they seek to play a wider role in the global economy in the coming decade.

5 Conclusions

There is little doubt that China is now an established player in the automotive industry even if its actions are confined mainly within its domestic market, with exports being limited to soft markets. Nevertheless, despite the efforts of the 25 years and more, it is safe to conclude that though a considerable amount of progress has been made, the China's automotive industry is not yet ready to compete globally and is unlikely to be able to for at least another five to ten years. Despite this verdict, it is to the government's credit that this pillar industry has prospered, but it is recognised that little would have been achieved without the encouragement of JVs. Rightly policy has focused on the key issues previously discussed and, as has been shown, success was limited due for a number of reasons, such as centre-periphery political in-fighting, weak economic institutions, failings in both the assembly and supply sides and the relative failure of rationalisation policies to weed out weaker firms.

The above failures also help to highlight the consequences of contradictory policies in action due to the decentralisation of power and weak central institutions, resulting in the quasi forms of protectionism afforded by provincial governments to protect employment levels and their vested interests in having a car industry. Such policy deficiencies have hindered the quantitative and qualitative leaps required in firm output, quality and safety levels to meet international standards, thereby denying access to advanced western markets. In contrast, the decision to allow foreign participating the industry appears to have been successful in that new technologies, managerial techniques, processes and benchmarks have been introduced and act as targets which indigenous firms might hope

to achieve in the future. More must be done, and is being done to improve global competitiveness and four clear steps are in hand. These are attempting to purchase overseas firms, investing in overseas partnerships in design and technology and employing experts from overseas. Doubtless this will prove beneficial in the short to medium term, but it is equally safe to argue that the leading Chinese firms will not be able to compete successfully with western multinationals until such times as they own higher levels intellectual property rights and develop high quality independent design and research and development facilities to reduce their current high levels of dependency on foreign partnerships.

Perhaps when comparing the Chinese experience with those of Japan and Korea, attention might be drawn to importance of strong institutions such as Korea's MCI and to a lesser degree MITI to draw attention to the importance of the use of single rather than multiple agencies with either sufficient power or influence to concentrate resources on the stronger entities and allow the weak to wither under the strength of market forces and so bring about necessary industrial consolidation. Finally, it is clear that China follows a unique path when compared to other developmental economies and its comparative experience is indicative of the richness of approach to economic growth and development, even if in China's case this is tempered by the political necessity of securing the dominance of its own political system.

References

Automotive Business Review (2006) 'Chinese exports may bypass mature markets', 2 February, http://economistsview.typepad.com/economistsview/2006/01the_chinese-aut.html (accessed 13 December 2006).

Automotive News (2007a) 'Great Wall starts work on US$ 257 million plant', http://autonews.com.apps.pbcs.dll/article?AID=/20070118/REUTERS/7011800.

Automotive News (2007b) 'China car maker Xiali to invest US$386 million' 22 January 2007, http://www.autonews.com/apps/pbcs.dll/article?AID=/200070119/REUTERSans/701,222 (accessed 22 January 2009).

Automotive News (2009) 'Thought 2009 this periodical has carried numerous reports of Chinese independent firms being interested in the acquiring Saab or Volvo' http://news.alibaba.comarticle/detail/business-in-china/100120900-1-faw-group252.

Automotive News China (2009) 'FAW Group Brilliance Auto reportedly in merger talks'.

Bailey, D. and Sugden, P.R. (2007) 'Kudoka: Restructuring and possibilities for industrial policy in Japan', in Bailey, D., Coffey, D. and Tomlinson, P.R. (Eds.): *Crisis or Recovery in Japan: State and Industrial Economy*, Edward Elgar, Cheltenham and Northampton, MA.

Buckley, C. (2007) 'Chinese deal further blow to Longbridge', *The Times*, 31 January, http://www.csauto.com/news/csminsights/2009/02/Revival+Plan+Outline+and+Ai.

Chelan Li, L. (2008) *The Chinese State in Transition*, Routledge, London.

China Daily (2009) 'China's large car makers woo small rivals', 3 September.

Cowling, K. and Tomlinson, P. (2000) 'The Japanese crisis: a case of strategic failure', *The Economic Journal*, June, Vol. 110, pp.358–381.

Deacons (2004) 'China: New car industrial policy', Hg.Org-HGE Experts, Hong Kong (accessed 29 June 2009).

Deloitte Touché Tohmatsu (2009) *Future Drivers for the China Automotive Industry*, London.

Dicken, P. (2007) *Global Shift: Transforming the World Economy*, 4th ed., Paul Chapman, London.

Comment [A8]: Author: Please cite reference in the text or delete from the list if not required.

Comment [A9]: Author: Please cite reference in the text or delete from the list if not required.

Comment [A10]: Author: Please cite reference in the text or delete from the list if not required.

Comment [A11]: Author: Please cite reference in the text or delete from the list if not required.

Donnelly, T. (2008) 'The Chinese car industry and globalisation', *MIBES Transactions International Journal*, Vol. 2, No. 1, pp.28–40.

Donnelly, T. and Morris, D. (1997) 'European firms and the Chinese automobile industry', *Proceedings of the International Conference on Business Relations between China and Europe*, University of Zongshou, Canton, 29–31 October, Canton.

Donnelly, T. and Morris, D. (2003) 'Structural change in the Chinese car industry', *The Asia Pacific Journal of Business and Management*, Vol. 7, No. 1, pp.42–56.

Donnelly, T., Mellahi, K. and Morris, D. (1997) 'The Chinese car industry and western multinationals: can the technology gap be bridged?', *Proceedings of the Third South China Symposium on International Business*, University of Macau, 23–26 November.

Donnelly, T., Mellahi, K. and Morris, D. (2003) 'The new frontiers of the Chinese car industry', in Alon, I. (Ed): *Chinese Economic Transition and International Marketing Strategy*, Prager, Connecticut.

EIU (2006) *Driven: 'Are China's Car Manufacturers Ready to Compete in the US and Europe?*, Economists Intelligence Unit, London.

Ernst and Young (2005) *China's Automotive Sector at the Crossroads*, Ernst and Young, London.

Gershenkron, A. (1962) *Economic Backwardness in Historical Perspectiveness*, CUP, Cambridge.

Guthrie, D. (2008) *China and Globalisation: The Social, Economic and Political Transformation of Chinese Society*, Routledge, New York.

Harwit, E. (1995) *China's Automobile: Policies, Problems and Prospects*, ME Sharpe, Armonk, New York.

Holweg, M., Luo, J. and Oliver, N. (2005) *The Past, Present and Future of China's Automotive Industry; A Value Chain Perspective*, Global Value Chain Project, UNIDO.

Huang, J. (2009) 'Revival plan outline and aims released: fuelling China's auto industry', *Your Pathway to Strategic Automotive Planning*, 2nd quarter, http://www.csmauto.com/news/csminsights/2009/02/Revival+Plan+Outline+and+Ai (accessed 29 June 2009).

Huang, Y. (2002) 'Between two coordination failures: automotive industrial policy in China with a comparison to Korea', *Review of International Political Economy*, Vol. 9, No. 3, pp.538–573.

IBM Consulting (2006) '*Inside China: how the Chinese view their automotive industry*', IBM Global Services, New York.

Jian, Y. (2009) 'On a hot market, brilliance is left in the cold', *Automotive News China*, 28 October.

Knowledge Wharton (2006) 'Can China gear up to sell its Cars to US consumers? Quality is the key', 20 September.

KPMG (2004) *China's New Automotive Policy*, Canada.

Kroeber, A, (2006) 'China's industrial and foreign policies: what are they and how successful have they been?', unpublished paper, May.

Kwan, C.H. (2002) 'Is FDI hollowing out Japan's industry? www.neti.go.ip/en/china/02110801.html, REITI working paper, Tokyo.

Liu, W. and Dicken, P. (2006) 'Transnational corporations and 'obligated embeddedness' in China's automobile industry', *Environment and Planning*, Vol. 38, pp.1229–1247.

Luo, J., Roos, D. and Moavenzadeh, J. (2006) 'The impact of government policy on industrial evolution: the case of China's automotive industry', IMVP working paper, MIT, August.

Netherlands Business Support Office (2004) 'Automotive in Liaoning and Jilin', Sector Business Report, NBSO, Shenyang.

New York Times (2009) 'Chinese Cars inch closer to US', 16 February 2009, http://www.nytimes.com/2009/01/18/automobiles/autoshow/18CHINA.html?_r=1 (accessed 14 December 2009).

Comment [A12]: Author: Please cite reference in the text or delete from the list if not required.

Russo, B. (2009) 'The path to globalisation in China's automotive industry', Synergistics Limited: http:// synergisticsltd.blogspot.com/ (accessed 26 October 2009).

Simms Gallagher, K. (2006) 'The big three automakers in China: energy, environment and economic development', *All Academic*, http://www.allacademic.com//meta/p_mla_apa_research_citation/1/0/0/5/3/pages1005 (accessed 3 November).

Studwell, J. (2003) *The China Dream*, Profile Books, London.

Thun, E. (2004) 'Industrial policy Chinese style: FDI, regulation and dreams of national champions in the auto sector', *Journal of East Asian Studies*, Vol. 4, pp.453–489.

Thun, E. (2006) *Changing Lanes in China (2006): Foreign Direct Investment, Local Government and Auto Sector Development*, CUP, Cambridge.

Toncar, M.F. (2008) 'The US consumer perceptions of imported automobiles: the challenges for emerging market country manufacturers', *International Journal of Chinese Culture and Management*, Vol. 1, No. 4, pp.439–450.

Walker, T. (1997) 'China heading to be the biggest economy', *The Financial Times*, 3 August.

Womack, J., Roos, J. and Jones D. (1992) *The Machine that Changed the World*, Cambridge, Mass.

Weernink, W. (2005) 'Landwind crash test controversy', *Automotive News*, 17 October.

Yang, J. (2009) 'Revival plan outline and aims released: fuelling China's auto industry', *Your Pathway to Strategic Plan*.

Comment [A13]: Author: Please cite reference in the text or delete from the list if not required.