■ 論文 ■

On the Way to a Low-carbon Society? Japan's Automobile Market and Industry in the Aftermath of the Financial Crisis

„The automobile industry has for ever left the first 100 years of its history, in which it flourished economically, behind. In its second century, the automobile industry is confronted with challenges of a completely new era. In this new era we will have to approach automobile manufacturing with a complete new set of values.

Fukui Takeo, president of Honda Motor Corporation

BUNGSCHE, Holger

Introduction:

The economic crisis that started with the bankruptcy of the investment bank Lehman Brothers in August 2008 impressively proved that the world car industry and the automobile markets are moving into two different directions.

While in the established and mature automobile markets of the triad of North America, Europe and Japan sales of cars literally collapsed and slumped to a level of the 1970s, the developing markets, first and foremost of China, India and also Brazil were, if at all, only temporarily affected by the crisis and continued or even accelerated to grow. For example in China, a simple reduction of the purchasing tax on cars with less than 1.6 liters engine displacement by 50% together with an incentive program intended to stimulate demand for cars in rural areas, not only helped overcoming a slight decrease of car sales at the end of 2008 and beginning of 2009, but spurred domestic production to an extent that China in 2009 became the largest car producing country in the world with over 12 million manufactured vehicles.

With respect to the world automobile markets, it is therefore undoubtedly appropriate to say that 'balance of power' is shifting away from the triad markets towards these new developing markets. As a matter of fact, without the strong growth in theses developing countries the situation for many established car producers in the USA, Japan and to some lesser extent also Europe would have been much, much worse than it had been anyway.

With regard to Japan and the Japanese auto manufacturers, it is certainly not exaggerated to state that the Japanese car industry has been the second major loser of the crisis only next to the American industry.

The Japanese car manufacturers were not only affected by declining sales in their home market, but they were especially hard hit by collapsing demands in their main export markets, where adverse exchange rate developments in addition squeezed profitability margins. It was first and foremost the slump of the North American market, which confronted the Japanese manufactures with a very difficult and even dangerous situation. In the case of North America, not only the exports from Japan collapsed, which account for almost 35% of all car exports, but the Japanese manufactures, which have a local production capacity of 3.6 million passenger vehicles in 100% Japanese owned factories and another 751000 vehicles in joint venture enterprises, were as hard hit as the American producers themselves. Depending on the manufacturer, the decline in exports in combination with the sluggish domestic demand resulted in a drop in production of up to 70% in Japan during the winter months of 2009. This of course had a tremendous influence not only on company results, but also especially on employment in the automotive sector.

However, it would be somewhat too shortsighted to just attribute the problems of the car manufacturers in Japan as well as an in other advanced automobile countries solely to the financial crisis. As a matter of fact, in the advanced Western automobile countries including Japan, the automobile itself is in crisis. As tightened exhaust fume standards in many developed countries, toll fees for driving into city centers like for instance in London or restrictions for accessing city centers for cars that are not fulfilling the newest exhaust standards, the EU particulate matter guideline or the ‘voluntary agreement’ of the European, Korean and Japanese car manufacturers with the European commission to reduce carbon dioxide emissions, and many other measures show, the automobile is subject to wide social criticism and there is tremendous pressure on the manufacturers to come up with new technologies to improve both the ecological performance as well as the safety of cars drastically.

In some way the situation today quite closely resembles the situation in the 1970s, as the automobile for the first time came under massive criticism for its lack of safety and for the environmental damage it caused. In the 1970s, it were the Japanese manufacturers that first realized that only by means of major technological improvements the automobile will again gain societal acceptance and perceived the crisis of the automobile also as a chance to improve their global competitiveness.

Interestingly, it is again Japan that in April last year under the influence of the current crisis implemented new far reaching tax regulations that, at least effective for a three years period, are intended not only to push sales of more environmental friendly cars, but also to increase the pressure on the manufactures to accelerate new technological developments. At the same time, the Japanese government also introduced an incentive scheme for purchasing new ecological friendly cars. This incentive scheme quite closely relates to the new taxation regulations and by far much more focuses on achieving real ecological improvements and not just on pushing sales in support of the troubled automotive industry like the scrappage incentives in Germany or the USA.

The paper wishes, first, to analyze the influence of the financial and economic crisis on the Japanese automobile industry. Secondly, it intends to investigate the political reactions with respect to their intended ecological effects and their impact on the Japanese manufacturers as well as the import market. In its first part, the paper will briefly discuss the specific differences of the current financial crisis in comparison with the crisis after the burst of the bubble economy in the 1990s. In a second part then, the impact of the financial crisis on the Japanese automobile market, industry and the manufacturers will be explained in more detail, before we will turn our attention in the last part to the government incentive programs and their effects on the car market. A short conclusion will finally summarize the main points again and add some thoughts with regard to the underlying question of the paper, whether Japan is really moving towards a low-carbon society in the automobile sector.

The Impact of the Financial, Economic and Automobile Crisis on Japan in Comparison:

Japan has quite a long experience in managing a financial crisis and dealing with an economic downturn as a result of it. The burst of the bubble economy in 1990 brought not only the economic rise of Japan, which lasted for almost four decades to a sudden end, but also terminated the special development path, often also called the ‘Japanese miracle’, that Japan pursued after the Second World War. The burst of the bubble economy was followed by a long lasting recession and economic stagnation, which is commonly referred to as the ‘lost ten years’. During those ten years, Japan became a very ‘normal’ mature economy with very ‘normal’ problems like unemployment, necessary adjustments of the social welfare system, increasing competitive pressure from developing countries, and other structural problems.

This long experience in tackling problems that arose after the burst of the bubble and especially the long period of economic stagnation after 1990 gave Japan the questionable honor to serve as a negative example for the present crisis, from which one could learn what undesirable consequences insufficient, inadequate and half-hearted countermeasures or simply bad crisis management could have.[1] However, neither the circumstances of the two

1　The at that time newly elected American president Obama for instance stressed at several occasions even before being introduced to his office, crises nor their effects on the automobile industry are comparable. In fact a comparison is even rather misleading. The burst of the bubble economy in Japan undoubdedly led to a reduction of private consumption, which of course affected the sales figures of the car manufacturers to a considerable extent as well. However, the influence on the real merchandise based economy, on business to business activities and especially on exports was rather limited. It has also to be clearly stated that the problems especially Nissan and Mazda encountered, which in the end brought both manufacturers under the control of foreign manufacturers (Renault and Ford), might have become much faster evident because of the burst of the bubble economy; the reasons for the crisis of both companies, however, reached back far into the 1980s and were not related to the change of the macro-economic environment in the aftermath of the burst of the bubble economy.[2] Also the fact that not all car manufacturers were equally affected by the downturn – Honda for instance even managed to improve its position within a relatively short period of time – gives evidence to the different nature of the crisis of the 1990s and the present one. As we will see later, with the exception of two manufacturers, which are producing mainly mini cars (below 660 cc engine size), the current crisis affected all Japanese car producers regardless their respective competitive position to almost the same extent.[3]

As mentioned, the burst of the economic bubble in 1990 had a relatively limited impact on the real economy, but remained to a large extent a crisis of the banking and the real estate sector. Although often criticized as halfhearted or not far reaching enough, Japan succeeded in the aftermath of the crisis to establish a good working financial supervision system that also contributed to the fact that no Japanese bank had to be rescued in the current crisis. Finally, it is only all too often overlooked that despite the stagnating domestic demand after the burst of the economic bubble, the Japanese producing industries, first and foremost the car manufacturing industry, managed to strengthen their position in export markets considerably by expanding their international activities as well as massively investing in foreign production locations, especially in the United States of America. Consequently, the export ratio of the Japanese car industry increased during the 1990s from 40% to over 60%. The resulting dependence of domestic production and employment on exports was also one major reason that the Japanese car manufacturers were, much more than the European ones, especially hard hit by the collapsing demand in foreign markets.

The decisive difference between the crisis of the 1990s and the present situation is that the current crisis in Japan is more than anywhere else affecting the real merchandise based economy, which means the manufacturing industries and especially the export industries and companies with extended production locations abroad. This is remarkable and has to be stressed clearly, since both, export and overseas production, were the two pillars on which the Japanese economy developed after the burst of the economic bubble in the 1990s.

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that America must not make the same mistakes as Japan allegedly did after the burst of the bubble economy. In contrast to Japan, the USA should save the endangered banks and the banking system in order to avoid an economic collapse or a long lasting recession, even if massive financial interventions have to be made. Only by doing so, the American and with it the world economy could quickly recover and enter again a period of economic growth. The advices many experts and president Obama gave, don't lack a certain kind of irony, since in the 1990 it was, besides the International Monetary Fond (IMF) and the World Bank, especially the US administration that advised Japan not to artificially intervene in the financial system and leave the necessary consolidation of the banks and the banking system to market forces. Obviously these advices only apply as long as not the own banks and companies at home are affected.

2 For a more detailed analyzis of the situation of Mazda and Nissan after the burst of the bubble economy see: Bungsche, Holger; Heyder, Thilo: Restructuring Companies: The Post-Merger Era at Nissan and Mazda. In: Reasons and Variety of M&A Processes, Actes du GERPISA, No 36, Mars 2004, GERPISA, Paris, 2004, pp. 57-70. (also online: www.gerpisa.univ-evry.fr/actes/36/gerpisa_actes36.html#)

3 Suzuki and Daihatsu were the only two Japanese producers that didn't experience losses during the current crisis, mainly due to the facts that the demand for mini cars remained relatively stable in Japan and that both companies were almost not affected by the downturn in foreign markets, because mini cars are almost not exported and sold outside Japan. In the case of Suzuki, the strong position the company holds in India also was a decisive factor for the positive development.

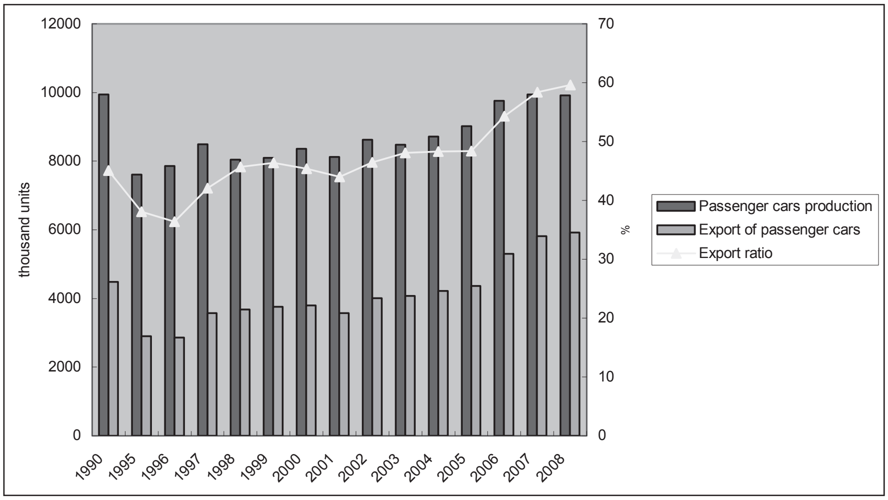


Figure 1: Japanese domestic production, export, and export ratio of passenger cars
(Data: JAMA)

As can be seen from the above figure, domestic production of passenger cars in Japan continuously dropped in the first half of the 1990s due to both, decreasing demand in the home market and less production of cars for export. In 1995, production of passenger cars was 2.337 million units less than in 1990, the year of the burst of the bubble economy. However, about half of the production losses were attributable to only two manufacturers, Nissan and Mazda, which regardless a slight recovery in 1996 and 1997 also continued to lose production volume until the end of the decade. That the decrease in export production by far exceeded the drop of production of cars for the domestic market mainly had, besides the specific company problems of Nissan and Mazda, two reasons. First, especially the European market stagnated in the late 1980s and again after 1992 when the car boom triggered by the unification of Germany came to an end. Second, since the mid 1980s the Japanese manufacturers heavily invested in establishing and expanding foreign production sites. The first target location were the USA in the early 1980s, later followed Great Britain and Spain in the mid 1980s and Eastern Europe from the 1990s on. In addition to establishing production sites in the developed car markets of North America and Europe, Japanese manufacturers continuously also strengthened their presence in growing car markets especially in East and South-East Asia. However, the main investment location for the Japanese automobile producers remained through all the time North America. The concentration of overseas production sites in North America in combination with the high dependence of domestic production and employment on exports tightened the critical situation for the Japanese manufacturers considerably, which had in addition also to cope with drastically decreasing sales figures in their domestic market.

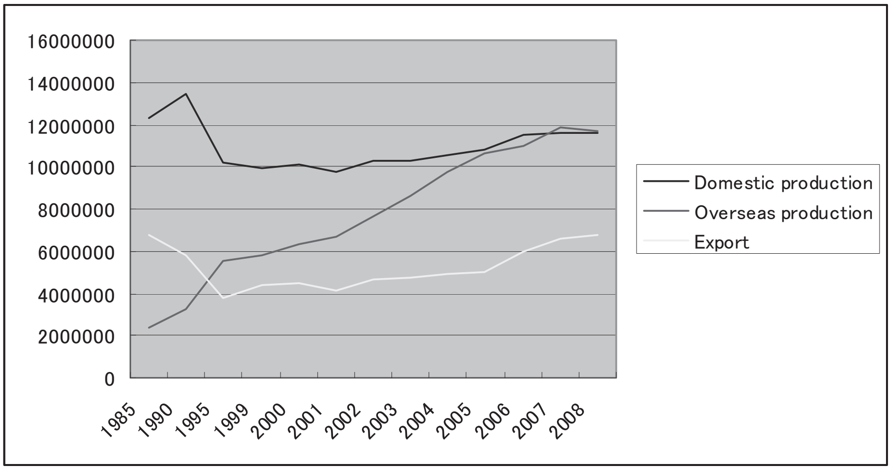


Figure 2: Development of domestic production, overseas production and exports of automobiles including trucks and busses of Japanese car manufacturers
(Data: JAMA)

From the above graph it becomes evident that the Japanese car producers almost doubled their overseas production during the so-called ‚lost ten years' from 3.2 million vehicles in 1990 to 6.2 million in 2000. Until 2008 they roughly doubled their overseas production again, reaching an annual volume of almost 12 million vehicles in 2007 and 2008 respectively. In both years, overseas production volume also exceeded the number of domestically produced cars. Regarding domestic production, it is especially noteworthy that the increase in production volume after 2001 is entirely attributable to a steadily growing number of cars produced for foreign markets. Despite the considerable increase in exports, however, until now domestic production volume never reached the level of the late 1980s again. With respect to this export driven development, the automobile industry might be perceived representative for the development of the Japanese economy as a whole during the last almost two decades. Since the burst of the bubble economy, Japan's weak domestic demand has been counterbalanced by a rapid expansion of exports.

The current economic crisis is confronting the Japanese automobile industry, in the very sense of the word, with a global challenge. Domestic production and employment is not only affected by the downturn in the Japanese market, but to the very same extent by the slump in foreign export markets. In addition to that, in countries with local production sites the Japanese producers are affected by the market developments as the domestic manufacturers are. For instance Toyota, Nissan and Honda were hit by the collapse of the American market as hard as the US manufacturers, of which in the course of the developments two, General Motors and Chrysler, filed for bankruptcy. Only political intervention and government loans saved both American producers – at least for the time being.[4]

The Toyota Shock and its Consequences: Company and Market Developments

The automobile crisis in Japan bears a name, and it is of all the name of the long time best in class Toyota. Hardly ever before in economic history, a company was harder hit by adverse macro-economic developments than Toyota. And it is supposedly also unprecedented that a company within only a few months experienced the fall from the

4 Although the main reason for saving both manufacturers was not national pride in the icons of American industry or economic chauvinism, but simply the fact that rescuing GM and Chrysler was the cheaper solution than bearing the burden of the pension payments to both companies' retirees, it is hardly imaginable that the American government would have intervened in favor of a Japanese manufacturer, despite the fact that the Japanese companies are almost as important for the American automotive industry system as the traditional American car producers.

best company result to not only the first losses in its history, but to losses of an extent that could in the medium term even endanger the liquidity of the enterprise.[5]

However, not only Toyota, but the whole Japanese car industry experienced its worst slump in postwar history. As indicated already above, it were various adverse factors - namely the slump in the domestic market, the collapse of the export markets, sharp market decline in many countries with high production output of Japanese manufacturers, and last but not least an appreciation of the Yen against the US Dollar and the Euro - that cumulated and hit the Japanese manufacturers to an unprecedented degree.

First, we will turn our attention to the overall economic development of the Japanese car industry since August 2008. Disregarding a slight increase in production in September 2008, domestic production of passenger cars collapsed and fell continuously short of the production figures of the same month of the previous year for 13 successive months. The situation became especially critical in winter 2009, when production not even reached half of the volume of the previous year and most Japanese manufacturers were forced to temporarily shut down factories and to discontinue the production of model lines that were especially affected by slumping customer demand.

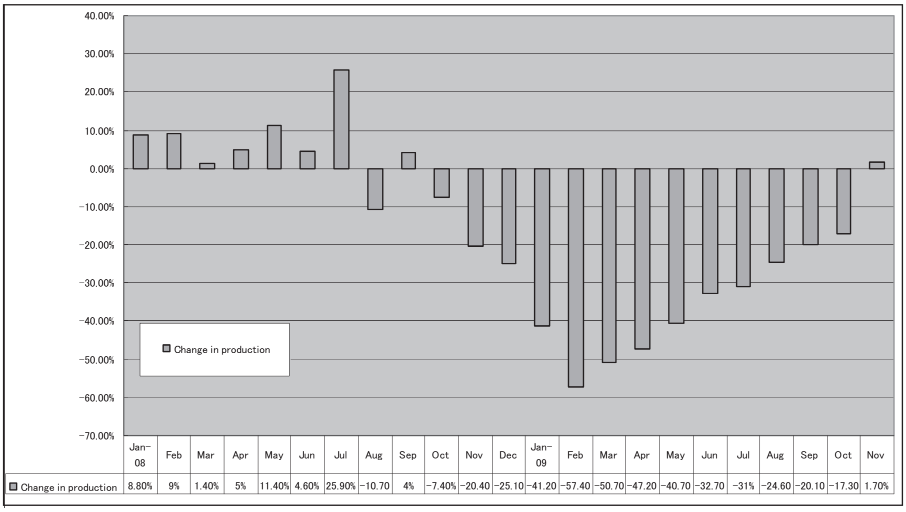


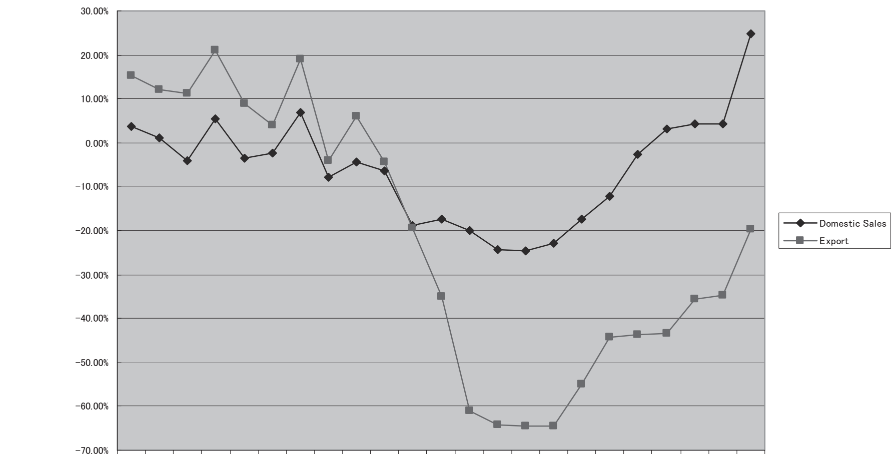
Figure 3: Change in domestic production in percent compared with the same month of the previous year
(Data: JAMA)

The dramatic decrease in production output was attributable to both, a sharp decline in domestic demand as well as a drastic downturn of exports. As can be seen from the graph below, however, it was especially the deterioration of the export markets that hit the Japanese producers severely. As already stated above, it was not only the declining export figures as such, but especially also adverse exchange rate developments that additionally contributed to huge losses of the Japanese manufacturers. That it were in the first place the deteriorating exports that negatively affected domestic production output had various reasons. Definitely, the literal collapse of the North American market, which still is the most important export destination for Japanese cars, played a decisive role.[6] However, even of much greater impact was the fact that in all foreign markets the demand for larger, more luxurious cars, family wagons and sports utility vehicles deteriorated especially dramatically. Because of various reasons, these high value added large cars and SUVs, however, take the lion share in cars exported from Japan. As a result, the

5　Toyota not only reported for the fiscal years 2006 and 2007, ending in March 2007 and March 2008 respectively, the highest profit since the existence of the company, but the highest profit a company in the manufacturing industry in Japan has ever achieved.

6　The US American market alone shrank by about 7 million units in 2009.

global downturn of these market segments cumulated and led to disproportionately high losses of exports from Japan.[7]



	Jan−08	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan−09	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Domestic Sales	3.80%	1%	−4%	5.40%	−3.60%	−2.50%	7%	−8%	−4.50%	−6.30%	−18.90	−17.30	−20%	−24.40	−24.50	−22.80	−17.40	−12.20	−2.80%	3.20%	4.20%	4.40%	24.70%
Export	15.30%	12.20%	11.10%	21%	8.90%	4.10%	19.10%	−4%	6%	−4.40%	−19.50	−35.10	−60.90	−64.10	−64.40	−64.40	−55%	−44.40	−43.60	−43.30	−35.70	−34.60	−19.80

Figure 4: Change in domestic sales and exports in percent compared with the same month of the previous year
(Data: JAMA)

Nevertheless, the crisis showed to what extent the Japanese car industry is still dependent on exports, despite the tremendous expansion of production capacities in foreign markets over the last three decades. As already indicated earlier, this expansion not withstanding, the export ratio of the Japanese automobile industry continuously grew to 60% since the mid 1990s. A result of the current crisis might be that the Japanese manufacturers will reduce their dependence on exports together with the risks on the currency markets, by an accelerated shift of production to foreign countries again. However, for already a long time the Japanese car makers and their trade organization JAMA have been committed to maintain an export ratio of at least 40% in order to safeguard employment in Japan. It seems very unlikely that this policy will be changed and the export ration reduced below 40%, as also various statements of JAMA indicate.

That the sales figures in Japan didn’t collapse as dramatically as in other markets had also several reasons. One reason is that Japan’s automobile market already since the burst of the bubble economy is stagnating on a rather low level. This means that market demand already came in the first place from necessary replacements of old cars and not from new car buyers or customers replacing their cars at a relatively early stage in a car’s lifecycle. The second and supposedly main reason, however, was that the Japanese car market traditionally is a small car market. As in other markets too, the segment of small cars was least affected by the crisis. A specific aspect of the Japanese car market is that roughly 30 percent of market share is taken by mini cars with an engine displacement of 660 cc or less. This market segment, which de facto doesn’t exist in Europe and North America, remained most stable throughout the crisis. As a result of the relatively stable demand in mini cars, the two manufacturers that mainly

7　One reason for this concentration of export on higher priced cars is that, because of the usually higher profit margins of large cars, changes in exchange rates have a lesser impact on profitability than in the case of exports of smaller cars with lower margins. A second reason is that many niche market products and high end models don’t achieve a sales volume in a single foreign market sufficient enough for profitable production in a local plant abroad, so that production is concentrated at one plant in Japan. A third reason is the still higher product quality of cars made in Japan, which is a critical point especially with regard to high end products. And a final reason is that the Japanese manufacturers changed their export strategies in the mid 1980s and early 1990s from exporting high volume models to exporting high value added products in order to restrict the number of car exports. Background of this strategic change had been that the US administration as well as the EU commission urged the Japanese manufacturers to ‘voluntarily’ agree on export limitations to their respective markets.

concentrate on this segment, namely Daihatsu and Suzuki, were the only two companies that didn’t make losses throughout the crisis.

Finally, the fast recovery of the market since June 2009 is attributable to the introduction of an incentive scheme supporting the purchase of ecological friendly cars and a – at least temporary – change in car taxation, which both spurred the demand for new cars considerably. As explained later, both, the incentive scheme as well as the new car taxation system, are especially promoting future engine technologies and low emission vehicles. In contrast to the domestic market, however, exports have not yet recovered entirely until the end of 2009.

A much more differentiated picture about the market development in Japan during the crisis provides the graphic below that splits up the change in sales according to market segments. In Japan the automobile market is divided into three categories: one is the category for mini cars below 660 cc engine displacement that are partially exempted from taxation, one is for small cars up to 2000 cc and the last one for standard cars with engine capacity of above 2000 cc.[8] The graph below displays the change in sales as a percentage of sales of the previous year’s month, which means 100 percent would indicate the same sales volume as in the same month one year ago.

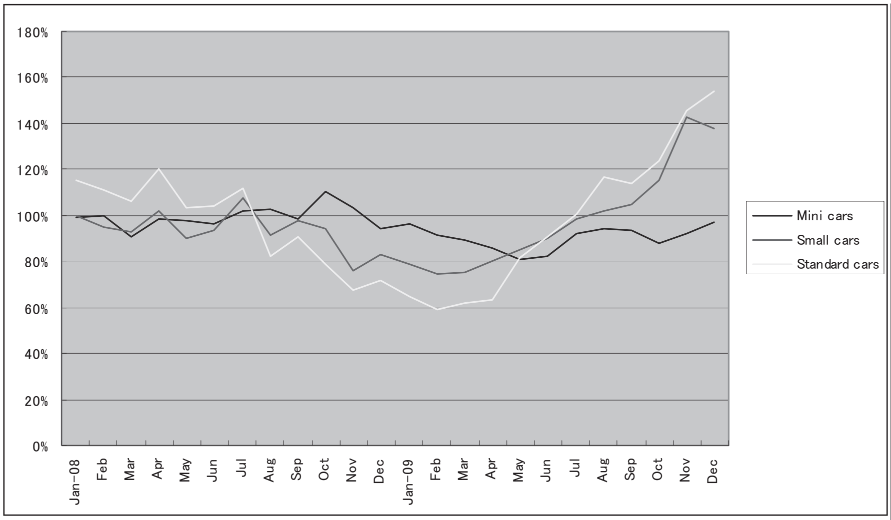


Figure 5: Change in domestic sales of cars according to engine size
(change in percent compared with the same month of the previous year
(Data: JADA)

Like in almost all markets of Europe and North America, also in Japan the segment of cars with the largest engine displacement was affected most severely by the crisis. Sales in this segment slumped to below 60% of the previous year’s level in winter 2009. Next to the segment of large cars, the segment of cars of with an engine displacement of up to 2000 cc was affected the most, however by far not as severely as the so-called standard cars. Least affected, as stated earlier, were the sales of mini cars, which decreased much slower, reaching the bottom with about 80% of previous year’s sales volume only in spring 2009. As in other markets too, the sharp decline in cars with large engine displacements might only be partially attributable to changing customer attitudes or to a shift in consumer behavior towards the purchase of more environmental friendly vehicles. A decisive factor for this slump is that a considerable proportion of large cars are usually bought by public and commercial customers, who

8 Apart from engine size also car length and width are criteria for the classification. The classification is not related to taxation regulations, although tax progression over 2000 cc is much higher than below 2000 cc.

canceled or postponed the purchase of a new car because of the adverse economic situation. The sharp recovery of this car segment in recent months in particular also indicates that there might not be a general tendency away from larger cars towards smaller and presumably more fuel efficient vehicles. However, there might be an overall tendency towards more fuel efficient cars, especially also in the large car segment. Definitely, the small car and the standard car segments profited considerably from the new tax regulations and the eco-car incentive scheme implemented by the Japanese government in April and June 2009 respectively, as also an analysis of new car registrations in Japan since April 2009 will show below.

Government Intervention: New Taxation Regulations and Incentive Scheme for Purchasing Environmental Friendly Cars

In April 2009 new car taxation regulations, the so-called Tax Reduction for Ecological Cars, came into effect in Japan. For an initial period of three years, these new tax regulations will provide incentives for promoting sales of vehicles with greater fuel efficiency and lower exhaust emissions. Depending on engine type and the respective level of exhaust reduction and fuel efficiency, the new regulations allow for a tax reduction of 50 or 75 percent on both, the acquisition tax and the tonnage tax. The acquisition tax is imposed once when purchasing a new car, while the tonnage tax is due each time upon the mandatory car inspection. Cars eligible for the tax reduction must meet the following requirements. For a 75% reduction, the car's exhaust fumes emissions must be 75% lower than the standards set in 2005. At the same time, the fuel efficiency must be 25% higher compared with the new 2010 standards. Cars that only achieve a higher fuel efficiency of 15% are allowed for a 50% tax reduction. So-called next-generation vehicles, which mean cars with future propulsion technologies, are completely exempted from acquisition and tonnage taxation.[9] Cars that fall into this category are hybrid, plug-in hybrid, clean diesel, electric (including fuel cell) and natural gas vehicles. To boost public awareness of environmental vehicles, stickers on the back window indicate the environmental performance of the car. One blue sticker marks the emission level, while one green sticker is indicting the level of fuel efficiency. For cars qualifying for the tax benefits, the affixation is mandatory. As mentioned above, these regulations apply for three years from April 1st 2009 to March 31st 2012.

In addition to the exemption or reduction of the purchase and tonnage taxes, new cars purchased in 2009 and 2010, which meet the requirements of an exhaust reduction by 75% and at the same time a higher fuel efficiency of 25% or 15% are granted a one time reduction of the yearly automobile tax of 50% or 25% respectively.

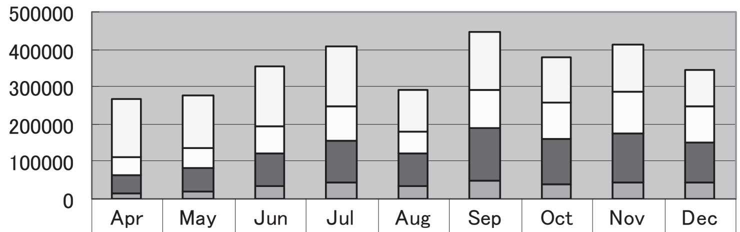
For the fiscal year 2009, ending in March 2010, the purchase of used cars meeting the above requirements had been also supported by a deduction of 300000 Yen from the purchase price in case of cars with 25% higher fuel efficiency, and by half of this amount for cars only achieving an increase in efficiency by 15%. In addition buyers of used next generation vehicles also enjoy a reduction of the 5% purchase tax to between 3.4% and 2.3% until end of March 2012.

These tax exemptions and reductions on the one hand, went along with a yearly 10% surcharge on the automobile tax for diesel cars that are on the road for 11 years or longer and for gasoline powered cars older than 13 years, on the other hand. With regard to heavy duty vehicles a similar tax reduction system was also implemented in April 2009, based, however, already on the new emission and efficiency standards of 2009 and 2015 respectively.

Reacting towards the economic crisis, the Japanese government, in addition to the new taxation system, implemented an incentive scheme for the purchase of new cars in June, which became effective retroactively from April 2009 on as well. This so-called 'Eco-car Subsidy' incentive scheme differed in several decisive aspects from the incentive schemes implemented by other governments like for instance the German 'Environment Premium Scheme' or the US American 'Car Allowance Rebate System' (CARS), both colloquially referred to simply as 'cash for clunkers' or 'scrappage incentive' scheme. First, in Japan not only car buyers handing in an old car have been

9 The reduction or exemption from the tonnage tax applies only once at the time of the first mandatory car inspection after 3 years of usage.

eligible for receiving the incentives, but also customers buying a new car, who do not have a car for handing in or who don’t want to hand one in. Secondly, for receiving the subsidies the new car has to meet certain environmental standards. In accordance with the new taxation regulations, these standards have been especially set high with respect to car buyers not handing an old car in. This means that differently to Germany or the USA not all new cars are eligible for receiving the subsidy. In detail, the requirements are as followed: Buyers handing in an old car, which was on the road for at least 13 years or longer, are receiving a subsidy of 250000 Yen only on condition when buying a car that meets or exceeds the 2010 fuel efficiency standards. Customers, who decide to buy a mini car (below 660 cc), are receiving half of the amount. Much stricter are the requirements for car buyers, who don’t have or don’t want to turn their old car in. For receiving the 100000 Yen subsidy, these buyers have to purchase a car that meets both requirements, (a) being at least 15% more fuel efficient compared to the 2010 standards while (b) at the same time emitting 75% less exhaust emissions compared to the 2005 standards. Again, customers of a mini car receive half of the amount. The budget of the Japanese incentive scheme amounts to 370 billion Yen, roughly 4 billion US Dollars or 3 billion Euros. At first the incentive scheme should end in March 2010, but was extended to end of September 2010 in late November 2009.
Both, the tax reduction for ecological friendly cars as well as the incentive scheme have not only been the driving forces behind the fast recovery of the domestic market in the second half of 2009, but have been exerting a considerably steering effect on the customers’ choice for a new car, as figure 6 also shows.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No reduction	153576	140181	162226	161657	109576	155495	119385	128153	98433
50% reduction	50974	54239	70622	94367	61509	101275	95809	107846	96205
75% reduction	47497	59331	89376	111007	85767	140137	121277	133820	106734
Next generation	15252	21031	34395	42966	33650	48481	40049	42919	43827

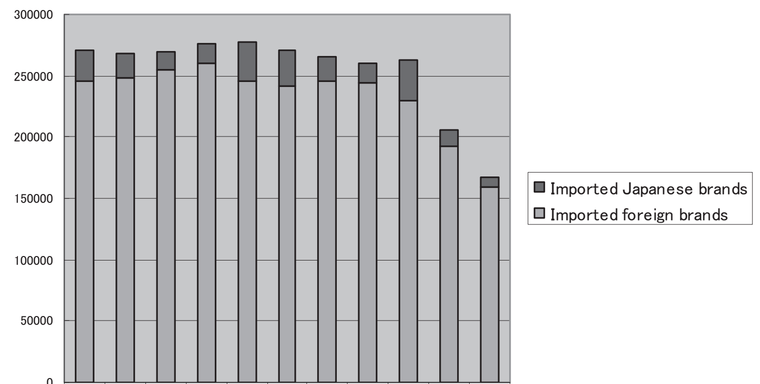
Next generation　75% reduction　50% reduction　No reduction

Figure 6: Development of the Japanese market after the introduction of the new Eco-car Tax Reduction regulations in April 2009
(Data: JAMA)

While in April 57.5% of all sold passenger cars were cars that didn’t meet the requirements for receiving a tax reduction or exemption, their share felt to 28.5% in December. Contrarily to the development of cars not qualified for receiving tax benefits, the sales numbers of so-called next generation vehicles, almost all of them hybrid cars, tripled within only a few months, bring their share up from 5.7% in April to 12.7% in December. In total numbers, however, cars qualifying for a tax reduction of 75% increased the most; next to them, cars that are receiving a bonus of 50%. Both groups make up for half of the sales in Japan since April and take the lion share of 83% of all cars that fall under the new regulations. Since the new tax regulations will apply until March 2012, it is easily predictable that the Japanese car market will continue to profoundly change in the coming years and that the regulations will exert a longer lasting influence on technology development and model policy of the Japanese manufacturers. For the time after 2012, it is planned to introduce an entirely new taxation system solely based on vehicle emissions and fuel efficiency, which will eventually also abandon the privileges for the mini cars. As a matter of fact, the mini car segment didn’t profit that much from the new taxation regulations, since so far only a limited number of cars offered in this segment qualifies for receiving tax benefits. The crucial point is that many cars haven’t cleared the hurdle of an improved fuel efficiency of at least 15% compared to the 2010 standards, which is necessary for enjoying preferential treatment under the new ecological friendly car tax regulations.[10]

Another very important point, which has drawn quite some attention, was the impact of the incentive system and the new tax regulations on the import market. Following complaints from GM, Ford and Chrysler, the US trade authorities protested against the scheme arguing that the scheme’s evaluation criteria and especially the means for measuring fuel efficiency discriminate against foreign imported brands. In fact no single American car qualifies for receiving the purchase incentive. However, differently to the European brand producers, which are offering an at least limited range of cars qualified for the scheme, the US manufacturers since 1990 import cars on the basis of a so-called ‘Preferential Handling Protocol’, thus evading the costly and rigorous testing procedures of the Japanese import authorities.[11] This not withstanding, one has to keep in mind that the Japanese manufacturers much profited from the scrappage schemes in Europe and especially in the United States of America.

First, looking at the development of car imports during the last ten years, we observe that until 2008 the number for cars imported to Japan didn’t change very much and stood stable at around 260000 to 270000 cars per year, of which roughly 10% were vehicles produced by Japanese manufacturers abroad. On average foreign imported brands are taking about 5% market share in overall passenger car sales in Japan, which definitely is very low compared with other major car markets in Europe or North America.



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Imported Japanese brands	25926	19968	14002	16466	31198	28989	19119	15670	32918	13961	8746
Imported foreign brands	245510	247799	255086	260053	246120	241502	246019	243897	230078	192317	159143

Figure7: Development of the Japanese import market since 1999
(Data: JAIA)

Interestingly, the import market grew considerably during the 1990s after the burst of the bubble economy, reaching the highest level in 1995 with over four hundred thousand vehicles, while the overall market declined by

10 Mini car manufacturers like Daihatsu are claiming that not only fuel efficiency, but the whole energy and material used for producing a car should also be considered. In this respect mini cars would have indeed an advantage. However, the discussion in Japan is very similar to the one in the EU with respect to reviewing the CO2 emission targets in 2007. At that time, especially the German premium car makers argued that there would be no pressure on the manufacturers of small vehicles to increase fuel efficiency of small engines, since the 120g per kilometer target is relatively easy to achieve.

11 See: Just-auto.com, US: Japan’s scrappage scheme hits protectionist nerve, 15.12.2009, www.just-auto.com/article.aspx?id=102486&lk=dm (last uploaded: 27.1.2010)

about one million units. This time, however, the import market reacted much more sensitive to the crisis than the overall market. Even before the outbreak of the financial crisis, sales of imported cars were already considerably lower than in the months of the previous year. As a result of the weak demand, even before August 2008 sales of imported passenger cars declined by 21.6% for the whole year 2008, while the overall passenger car market only shrank by 3.9%. In the months after August, the import market declined further, very much in line with the overall market of standard cars. Since the import figures were already on a very low level, however, the slump was not as dramatic as in the overall standard car market. This notwithstanding, one has to state that this time the import market was disproportionately affected by the economic downturn as can be seen from the figure below.

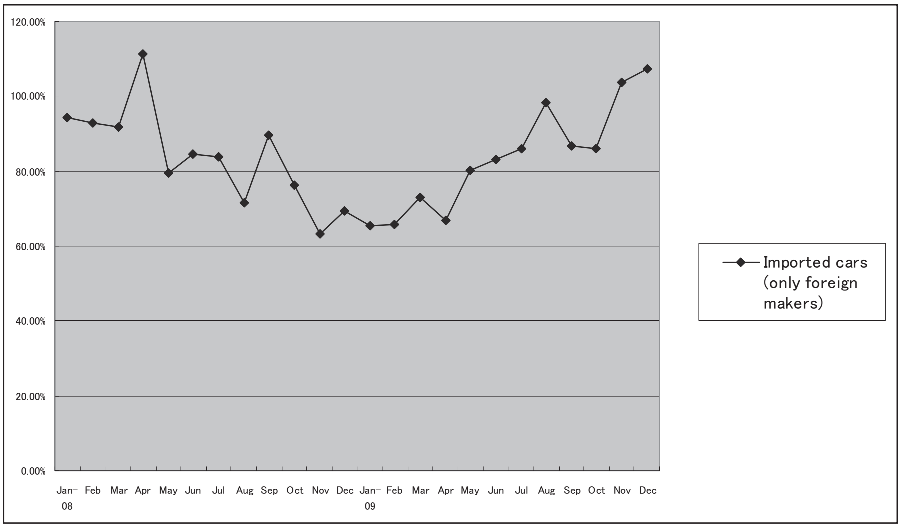


Figure 8: Development of the Japanese import market since January 2008
(Data: JAIA)

With respect to this strong impact of the crisis on the import market, several reasons are to be brought forward. First, almost all cars imported into Japan fall under the taxation classification of standard cars. Before the crisis, cars with an engine displacement of 2000 cc or above accounted for about 90% of all imported cars.[12] Since, however, the slump in the segment of large cars was, as in other countries too, especially severe, imported cars were consequently also especially hard hit. In this respect the development in the Japanese import market closely resembles the developments in the field of exports for the Japanese producers, just the other way around.

Secondly, for whatsoever reason, the current crisis also affected the producers of luxury cars, which are in Japan in the first place foreign producers, to a so far unprecedented degree. Looking closer at the structure of the import market, on average about 75% of all cars imported into Japan are made by German manufacturers. The three German premium car brand producers Audi, BMW (without Mini) and Mercedes-Benz alone, account for about half of all Japanese car imports. In very general terms, during the last two decades the premium car segment worldwide was the fastest growing segment and it was especially the segment most resistant to macro-economic changes. As already stated above, the import segment even grew in the post-bubble period. This time, however, the premium cars including the most luxurious brands were for the first time in an economic crisis also considerably affected. Therefore, also the sales of the large BMWs, Audis and Mercedes-Benz cars, which are in Japan to an overwhelming extent bought by private and not by corporate or public customers, dropped quite drastically as

12　In fact, in principle only Volkswagen with its Polo and Golf models as well as BMW with its Mini model are selling cars with engine displacements of less than 2000 cc on a large scale (over 1000 units per month).

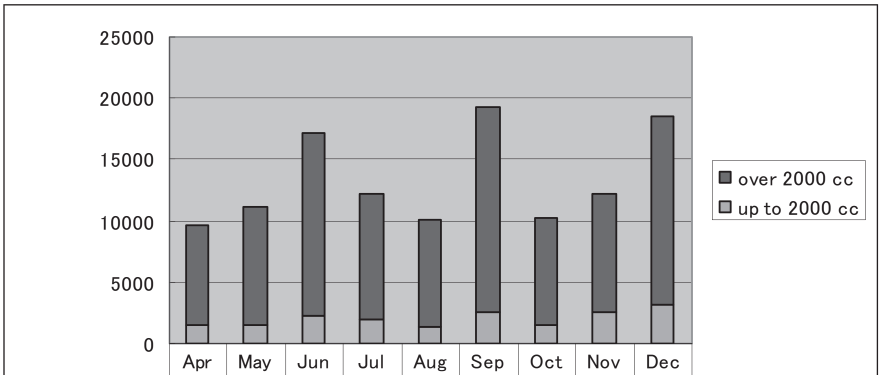
well.

Now, analyzing the further development of the import market since the implementation of the new tax regulations and the incentive scheme in more detail, there is not much evidence supporting the concerns of the US manufacturers, which claim that the incentive scheme is intentionally discriminating imports of foreign manufacturers. However, there is also no evidence to be brought forward that the foreign brand manufacturers would profit from the new regulations as the Japanese producers obviously do, as can be also seen form the sharp increase in sales in the small and standard car segment.

As a matter of fact, the recovery of the import market is proceeding at a considerable slower pace than the large car segment (standard cars) as a whole, on the one hand.[13] On the other hand, however, the overall development of the import market is not to an eye-catching extent differing from the other segments that could justify the accusations of protectionism. Considering the fact that the import market was already considerably shrinking even before the crisis, one can state that it is moving again slowly back to the low pre-crisis level, but definitely not to the level of the beginning of the decade.

However, three final questions arise: First, is the import market moving to smaller and presumably more ecological friendly cars, second, if the answer is yes, is this change attributable to the government’s incentive schemes, and finally, third, are there winners and losers in the import market?

All three questions are not so easy to answer. First, as also the graph below indicates, there is no sudden change observable in the overall import market. However, this might be due to the fact that only in the last three or four months foreign producers, mainly German ones, are offering models that qualify for the eco-car purchase subsidy or/and the tax reduction incentive. With the only exception of November 2009, cars with less than 2000 cc engine displacement still account for less than 20% of all imported cars.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
over 2000 cc	8192	9570	14803	10221	8611	16659	8748	9559	15442
up to 2000 cc	1441	1545	2315	1921	1427	2561	1467	2602	3148

Figure 9: Development of the Car Imports into Japan after April 2009
(Data: JAIA)

However, in 2009 the share of cars with less than 2000 cc engine displacement increased from 15% to 18% compared to 2008. Since this increase is solely attributable to increased sales of cars with smaller engines in the last three months of the year 2009, it is still too early to say, whether this will be a longer lasting trend. Answering the second question, there are, however, some indications that this change of the last three months is indeed due to

13 A comparison with the mini car segment, which is recovering on a still lower level, is to a certain extent misleading, since the mini car segment never dropped as dramatically as the import market did.

the government incentive schemes and that a growing number of customers are choosing foreign cars with smaller engines that qualify for the respective subsidies. This notwithstanding, it is still to early to judge, whether the foreign producers that are offering cars, which qualify for the incentive schemes, are really especially profiting, as the example of Volkswagen will show. The German car maker Volkswagen is the only manufacturer that is offering several models qualified for receiving the government's incentives, of which two Golf versions even clear the high hurdle of 25% increased fuel efficiency, which is necessary to enjoy a tax reduction of 75% and the 100000 Yen purchase subsidy when buying a new car without disposing a 13 year old used vehicle. All through 2008, cars with less than 2000 cc engine size took about 20% share on average in all Volkswagen cars sold in Japan. This ratio of 20% also didn't change in the first quarter of 2009. Beginning from April, however, the share remarkably dropped to a mere 12% on average for the second and third quarters of 2009. In the last quarter, however, obviously as a result of offering more cars that qualify for the incentive schemes, the share of cars with an engine size of less than 2000 cc suddenly jumped to 31% on average with an unusual high percentage of 43% in November. However, neither the drop in April 2009, nor the increase beginning in October really had a noteworthy influence on Volkswagen's overall share in the import market, which just increased by 0.3% in the last quarter of 2009 to 23.6% compared with the spring and summer quarters. Obviously the cars qualifying for the incentive schemes didn't attract new customer to Volkswagen, but customers, who would have bought a Volkswagen anyway took advantage of the incentives and chose a car with a smaller engine. However, as already expressed, it is still too early to reach a final conclusion, since the tax incentives will be still effective until March 2012 and the eco-car purchase incentive until September 2010. Finally, the foreign manufacturers also only recently began to offer cars qualified for receiving the benefits.

Answering the final question, not related to the incentive schemes, however, there are clear losers of the market development and also one winner. Without any doubt the losers are the American manufacturers. The market share of all American brands together almost halved from about 6.5% before the crisis to about 3.5% in the last months of 2009. Contrarily to the American manufacturers, all European producers more or less defended their portion of the Japanese import market. The only clear winner is the Volkswagen daughter Audi. The German premium car manufacturer, like in many other world markets as well, increased its share in Japan from 6.9% in March 2008 to almost 12% in December 2009! Both, however, the decline of the American producers as well as the rise of Audi have company internal reasons and are not related to any external factors like the Japanese incentive schemes.

Conclusion:

Because of several reasons, the Japanese automobile industry definitely suffered the most under the effects of the recent financial crisis. Only the American manufacturers were as hard hit as the Japanese ones, which was, however, due to very different circumstances of the American companies and the American car industry. If the term global crisis applied to anyone, it applied to the Japanese car manufacturers. In addition to the downturn in their home market, the Japanese car producers were, due to their global production networks, in many foreign markets affected by the slumping demand as the local producers were. In addition to this, the export market collapsed and adverse exchange rate developments diminished the profits of the remaining exports. More than any other company Toyota stands in Japan as a synonym for this automobile crisis. That Toyota was able to cope with and handle the dramatic situation as smoothly as it did, is just another sign of the extremely high managerial capabilities this company has.

As it seems, not only Toyota, but the whole Japanese car industry is realizing that the crisis was not just a financial crisis, but to a comparable degree also a crisis of the automobile itself. Definitely, there will be no way back again to 'business as usual'. Also all political indications point to this direction:

The Japanese 'Eco-car Subsidy' together with the at least interim new tax regulations for cars with low emissions and high fuel efficiency until 2012 are, based on a comparison with other national schemes, the most advanced and most focused measured to tackle the adverse effects of the financial crisis on the one hand, and to give a clear direction for the further development of the automobile industry on the other hand. Based on the present consumer trends, the new regulations will considerably change the Japanese car market in the years to come. More than that, the measures will indeed influence the model policy of the Japanese manufacturers and will spur further developments in the field of environmental technologies.

In the past it were production technology and production organization, now it seems that Japan and the Japanese manufacturers perceive leadership in environmental and also in safety technologies as the key issue in order to prevent that together with the markets, which are already shifting towards the developing countries, also the star roles in the industry will be performed by companies from China and India in the future.

It is still too early to reach a final conclusion, but if the measures taken by the Japanese government bear fruits and if further steps like the change of the automobile taxation regulations to an entirely carbon dioxide emission based system in three years are take, Japan and the Japanese companies will be definitely in the frontline on the way to a low-carbon society.

Sources and references:

Books, articles and magazines:

JAMA, Japanese Automobile Manufacturers Association Inc: The Motor Industry of Japan 2009, Tokyo, Japanese Automobile Manufacturers Association Inc.

JAMA, Japanese Automobile Manufacturers Association Inc: *JAMAgazine*, monthly publication of the Japanese Automobile Manufacturers Association, various editions, Tōkyō (in Japanese)

Shūkan Ekonomisuto, 20.1.2009 edition: *Kaimetsu! Jidōsha* (Waterloo of the car), Tōkyō, Mainichi Shimbun-sha, pp. 18-38

Shūkan Daiyamondo, 14.2.2009 edition: *Kenshō! Toyota zaikyō densetsu* (The legend of Toyota's strength on trial), Tōkyō, Daiyamondo-sha, pp. 30-73

Shūkan Daiyamondo, 20.6.2009 edition: *Jidōsha hyakunen-me no dai tenkan* (Automobile upheaval at the 100th anniversary of the car), Tōkyō, Daiyamondo-sha, pp. 31-75

Shūkan Tōyō Keizai, 25.7.2009 edition: *Toyota dotanba* (5 minutes to midnight at Toyota), Tōkyō, Tōyō Keizai Shimpō-sha, pp. 34-79

Internet:

JADA, Japanese Automobile Dealers Association: www.jada.or.jp

JAMA, Japanese Automobile Manufacturers Association: www.jama.or.jp

JAIA, Japanese Automobile Importer's Association : www.jaia.or.jp

Just-auto.com, www.just-auto.com