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**A Normative Approach to the International Car Industry and  
Global Environmental Governance**

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**A Normative Approach to the International Car Industry and Global  
Environmental Governance**

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### **ABSTRACT**

Changing the behaviour of multinational corporations (MNCs) to internalise environmental externalities is seen as unlikely in the absence of effective regulation by states and international organisations. However, corporations are increasingly keen to represent themselves as being “green”. In the case of the international car industry there is evidence to suggest that concern for environmental sustainability may be more than just rhetoric, because significant commitments have been made to incorporate environmental sustainability in business strategies. Commitments have been made in the areas of technical development; policy and reporting; environmental management; collaborative initiatives; sustainable mobility; public relations; and non-automotive environmental support.

The car industry is an industrial sector dominated by MNCs, and a dominant industrial sector internationally in its own right. Therefore, any behavioural change occurring within it is central to the debate on effective global environmental governance. This paper discusses ways in which explanations for the apparent change in behaviour of the international car industry can be approached, focussing on the role of international organisations, particularly the United Nations Environment Programme and the World Trade Organisation, national governments in car MNCs’ ‘home countries’, changing consumer preferences and finally the role of the car industry itself. It suggests that a normative perspective on the problem is required, but that it may be possible to meld aspects of rational choice-based liberal perspectives with those of norms-based constructivism.

JEL CLASSIFICATION:

KEYWORDS: Car, automotive, environment, multinational, sustainability, regulation

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## Introduction

This paper examines two questions. The first question is: are we witnessing the beginning of a *shift* that sees environmental issues as central to the business interests of the car industry worldwide? If such a shift is occurring, this begs the second question: why should the car industry now be concerned about the environment, particularly given its international economic significance and resulting political power? Although the multinational corporation (MNC)-dominated car industry is chosen as the focus for analysis, the paper places observations about this industry in the broader context of the role of MNCs generally in the business/environment debate. In this context, an international political economy approach is taken to examine the nexus between the economic and political aspects of the regulation of international production vis a vis the environment. Underpinning this approach is the manner in which globalisation and the internationalisation of business through the activities of MNCs means that “politics is in effect ‘stretched’ and societies are entwined” [Held et. al., 1999: 378], or as Dicken notes:

Nation states, whilst essentially political institutions, have become increasingly involved in economic matters, arguably as increasingly competitive economic actors. Transnational corporations, though fundamentally economic in function, have become increasingly political in their actions and impact [Dicken, 1998: 467].

The reason for focussing on the car industry is that it is “the economic sector most emblematic of modern times and of the polluting consequences of modernity” [Orssatto and Clegg, 1999: 264]. It is a fundamentally global industry dominated by MNCs that is also a major contributor to environmental damage worldwide, and so its economic and environmental significance mark it as a crucial case for study. However, there is evidence the industry is taking steps to embed environmental sustainability principles in its business practices. This paper argues that this represents an *ideological shift* that has occurred in the last decade leading the international car industry to *proactively*

address questions of environmental sustainability. Exogenous factors such as the role played by international organisations, nation states and changing consumer preferences have played a role in varying degrees. It is argued that the industry is not just reacting to these factors, but is endogenising them by changing its behaviour to anticipate them. It is further argued that endogenous factors to do with the culture within firms and the industry as a whole have also played a part in the shift. The conclusion, based on the evidence presented in this paper, is that an explanation based on a middle path between traditional liberal internationalist rational choice-based theories and constructivist theories is possible, as the factors that explain the shift present explanations that, at this stage, do not fit neatly into either view presented by these theoretical approaches.

### Theoretical Approaches

Environmental problems are often characterised as cases of *market failure* due to *environmental externalities*. Environmental externalities cause market failure because the environment is often ignored by markets so the price of goods and services does not reflect environmental aspects related to their production. This is because actors lack property rights over the environment, meaning that they can ignore the negative environmental effects of their actions. The cost of negative environmental externalities is often borne by others who were not responsible for them. This is highly likely because the environment is often a *public good* in the sense that it may be jointly consumed by several agents at the same time. When the public good attribute of the environment is a global or transborder phenomenon, as is often the case, then the environment is said to be in the realm of the *global commons* [for example see Boadway and Wildasin, 1984: 57-62; Howe, 1979: 241-252; Bürgermeier, 1997; Hardin, 1968]. How to ameliorate the problem of internationally pervasive environmental externalities is approached in two ways. The traditional approach may be thought of as 'liberal internationalism', and it is challenged by more critical approaches such as constructivism. Both are considered in this section, along with the major divide between them: rational choice as the basis for action.

### *The Traditional Approach – Liberal Internationalism*

I believe it is reasonable to assert that liberal internationalist approaches to international relations, supported by neoclassical economics, are the traditional theories that inform analysis in the business/government/environment debate. The banner of 'liberal internationalism' is used by Burchill as a catch-all term for concepts found in a range of liberal approaches in political science and international relations that apply the ideas of individual autonomy, freedom and rationality to the state, interstate relations and global economic relations generally [Burchill, 1996]. Broadly speaking, it refers to those theories in which, as Goldstein and Keohane approve, "people behave in self-interested and broadly rational ways" [Goldstein and Keohane, 1993: 5]. Such an approach is underpinned by neoclassical economics, and flowing from such theorising firms are viewed as actors that maximise profits and states as actors that maximises their individual prosperity on the international stage [for example, see Mearsheimer 1990: 42]. In an international setting, the way in which states achieve this is through facilitating trade in global markets.

The key assumption in liberal internationalist frameworks is the rationality of actors, whether they be firms or states, and the self-interested manner in which they make rational choices to further their ends [for example see Green and Shapiro, 1994; Ordeshook, 1993]. What this means is that without the intervention of regulators environmental externalities will never be internalised as firms responsible for them can rationally ignore the cost of them. Therefore, states' intervention is required to increase the price of environmental resources so that "trade can take place on the basis of prices

reflecting true social costs” [Ropke, 1994: 17].<sup>1</sup> International organisations are needed to coordinate states’ intervention because without some cooperative mechanism states face a collective action problem where each has the incentive to opt out of regulating firms within their jurisdictions and appropriate the benefits for themselves from so doing [Elster, 1989: 124-134].

### *The Rational Choice Model in the Traditional Approach*

Rational choice cannot be defined as equal to neoclassical economics, nor liberal internationalism. As such, it is not a model necessarily bounded by profit or power maximising assumptions. Such versions of rationality are ‘thicker’ than the notion of rationality per se which simply says that actors act in their own interest. Although rational choice defined in this manner has proved to be a parsimonious and useful way of explaining the behaviour of individuals, firms, states and international relations between states, there are four inherent limiting assumptions that are relevant to the analysis here.

First, rational choice models are *ahistorical*. Rationality is assumed to apply at all times, and therefore questions such as path dependency, timing and sequencing of events are not considered as important determinants of outcomes. Secondly, rational choice aims for *generalisability*. ‘Rules of the game’ are examined and equilibrium solutions posited that result from these. It follows that in addition to such solutions applying at all times (ie. ahistorically), they apply in all cases. Thirdly, rational choice *exogenises interests, identities and preferences* of actors. The limited understanding of actors’ motivations that results means that their behaviour is constrained to certain utility (in terms of profit or power) maximising assumptions.

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<sup>1</sup> This is also the view held by the World Trade Organisation (WTO) and United Nations Environment Programme (UNEP) [United Nations Environment Programme and International Institute for Sustainable Development, 2000]; Nordstrom and Vaughan, 1999].

Fourthly, rational choice models *focus on methods* with the research agenda set by the model. By incorporating ahistoricity, generalisability and exogeneity of actors’ interests, identities and preferences parsimony is certainly more likely and one can also say that any resulting model will be widely applicable in theory (or more accurately *by definition*). However, the end result is that most of what remains to argue about is methods.

The first three assumptions mean that approaches employing rational choice mechanisms are static and this limits their ability to explain behavioural change, which is exactly the point of this paper. The fourth limits the questions that can be asked to address this drawback of the first three assumptions. This leaves us seeking a different approach.

### *Critical Approaches – Constructivism*

The rational choice mechanism in traditional approaches is challenged by more critical approaches, such as constructivism. It sees the role of ideas, beliefs and the resulting *norms* of behaviour as providing richer explanations of how decisions are made and institutions constructed. This does not mean that the fundamental problem of internationally pervasive environmental externalities is irrelevant. Quite the contrary. What it does mean is that approaching solutions to the problem becomes more complex, although often more likely of success. By incorporating the examination of norms and the manner in which they are diffused within communities and organisations responsible for environmental degradation, alternative and often more successful approaches for internalising environmental externalities may be suggested. This is the position taken by Ostrom, and in order to do this she says one must admit the possibility that “humans are....fallible, boundedly rational, and norm-using. In complex settings, no one is able to do a complete analysis before actions are taken, but individuals learn from mistakes and are able to craft tools – including rules – to improve the structure of the repetitive situations they face” [Ostrom, 1999: 496].

Here is where it gets really interesting because outspoken critics of international capitalism vis a vis the environment suggest that we are actually witnessing a fundamental change in how firms do business worldwide as they incorporate environmental sustainability concerns in their operations [Suzuki and Dressel, 2002; Hawken et. al., 1999]. This is exemplified in what is becoming regarded as an *ideological shift* towards corporate social responsibility (CSR) that commenced in the 1990s. CSR includes environmental sustainability among a range of initiatives in labour standards, human rights, disclosure of information, corporate governance, public safety, privacy protection and consumer protection. There is a growing body of research that shows environmental sustainability and other socially responsible behaviour on the part of MNCs, such as those in the car industry, to be *voluntary* initiatives. Such initiatives are further identified as being a *global* phenomenon [OECD, 2001; Florini, 2003; Holliday Jr et. al., 2002].<sup>2</sup>

### 3. The International Car Industry's Shift in Behaviour

MNCs are perhaps the most important actors shaping the contemporary global economy. The international car industry is the archetypal example of an industry sector dominated by MNCs and is truly global in its structure and operations. It manufactures and distributes its products on an integrated global scale and today is often taken as the paradigm case of a globalised industry [Paterson, 2000: 264]. Most of the largest car manufacturers have over 40 percent of their production outside their 'home country' [Paterson, 2000: 261], and in addition to the finished product of car firms being produced and traded internationally the international dimension of the product is embedded in its production. This is because various parts and

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<sup>2</sup> For an example of a car MNC reporting on its initiatives in CSR, including environmental sustainability, see General Motors (2002), *Corporate Responsibility and Sustainability Report*, [http://www.gm.com/company/gmability/environment/env\\_annual\\_report/index](http://www.gm.com/company/gmability/environment/env_annual_report/index), accessed 12 June 2003.

components are produced in different countries, so that the final product itself is international in character [Braithwaite and Dahos, 2000: 440-441; Dicken, 1998: 338-348]. Furthermore, collaborative agreements between firms of different 'nationalities', and sometimes cross-ownership, mean that a 'global connectedness' exists in research and development, the dissemination of new production techniques and other advances.<sup>3</sup>

The size and importance internationally of the car industry is such that it could be said to dominate the MNC 'landscape'. It is a sector of international manufacturing and trade so large that five of the top ten largest businesses in the world by sales are car manufacturers and another 3 are in the top 45. Together they account for sales totalling US\$956 billion [The Economist, 2002: 62]. In OECD countries, four to eight percent of GDP and two to four percent of the labour force is accounted for by the automotive sector [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002], but this masks the specificities to some extent because four fifths of world automobile output is produced in the 'triad' of the US, EU and Japan [Dicken, 1998: 319]. So, for example, in 1998 five of the seven biggest US industrial firms alone produced either cars or their fuel [Hawken et. al., 1999: 23].

Recognising the car industry as a major manufacturing sector, with internationally integrated investment, production and sales, suggests that it is a leading example of an industry that possesses the *material*

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<sup>3</sup> All three major US producers (Ford, General Motors and DaimlerChrysler) have collaborative of cross-ownership links with Japanese and Korean firms, and the major European firms have joint research programs [Dicken, 1998: 335-339]. For example, Ford has a 33.4 percent share in Mazda; Renault has a 36.8 percent share in Nissan; DaimlerChrysler has a 34 percent share in Mitsubishi; and General Motors has a 49% share in Isuzu and a 10 percent share in Suzuki [Koshiba et. al., 2001: 8-9].

*capabilities* to either reduce or increase global environmental damage. Given this recognition, two contrasting viewpoints emerge. The dominant viewpoint is that the industry's products are a major cause of global environmental damage. On the other hand, there are positive examples of the industry's recent efforts to strike a balance between the imperatives of profitability and environmental sustainability.

### *The Car Industry as an International Force for Environmental Damage*

There is ample evidence of the environmental damage caused by cars. Here is a brief summary. Transportation accounts for 25 percent of total CO<sub>2</sub> emissions, with up to 85 percent of this accounted for by road transport [United Nations Environment Programme, 2003]. This is *exclusive* of related activities linked with transportation such as fuel extraction, processing and transport, manufacturing and exhaust emissions other than CO<sub>2</sub> (eg. cars contribute 90 percent of all carbon monoxide emissions). Cars are also a major cause of acid rain. Road transport accounts for 48 percent of NO<sub>x</sub> emissions in OECD countries on average, and around 60 percent of this is accounted for by cars [Paterson, 2000: 258-259]. In fact, of all land-based modes of transport, cars are the most energy intensive with petrol-powered cars consuming in aggregate more energy and producing more greenhouse gas emissions than any other type of vehicle [International Energy Agency, 1993: 14]. In addition, cars are a prime cause of the depletion of the world's resources [Freund and Martin, 1993: 17-19],<sup>4</sup> and the international car industry produces seven billion pounds of scrap and waste every year [Hawken et. al., 1999: 23]. Based on current growth rates, the number of vehicles worldwide is projected to increase from around 700 million at present to 1.1 billion

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<sup>4</sup> They point out that cars consume 35 percent of the oil used in Japan and 63 percent of the oil used in the US simply in their application (ie. exclusive of related activities such as road building which also uses oil). In the US, car production consumes 13 percent of all steel, 16 percent of the aluminium, 69 percent of the lead, 36 percent of the platinum and 58 percent of the rubber.

by 2020, so if anything the problems caused by cars will get worse, not better, unless dramatic changes are made [Burns et. al., 2002].

Given their economically powerful position, car MNCs have historically put strong political pressure on governments against environmental regulation. They have supported international lobby groups such as the Global Climate Coalition and the Climate Council which have consistently lobbied governments against emission controls to reduce greenhouse gases on the basis that this would lead to severe economic impacts [Porter and van der Linde, 1995: 107; Newell and Paterson, 1998: 683]. And despite the vast scope for improvements in efficiency and thence environmental sustainability within the industry, the big three American firms of Ford, General Motors and DaimlerChrysler make most of their profits from the sale of pick-up trucks and sports utility vehicles (SUVs) which are notorious for their size, weight and high fuel consumption. In the US they account for almost half the total passenger vehicle market, with light trucks alone accounting for 75 per cent of DaimlerChrysler's American output. Far from seeking to differentiate themselves from the production and sale of these vehicles, European and Japanese manufacturers are producing similar gas-guzzlers to compete for market share in this sector ['Storm Clouds over Detroit', 2002; 'Ford's Troubles', 2003].

### *The Car Industry as an International Force for Environmental Sustainability?*

The possibility of the car industry proactively internalising environmental externalities is attractive. Unlikely as it may sound, this possibility is concomitant with Ostrom's theorising that the best way to achieve environmental sustainability is via self-directed regulation by those responsible for environmental damage [Ostrom, 1999]. Is such thinking just 'pie in the sky'? Given the reasons why the car industry is an international force for environmental damage, putting the reader in the mood for the possibility of this contrary view is best done with the example of Toyota. In the early 1990s, the management of Toyota decided that the company should address environmental sustainability as a key challenge. In 1994 the company started designing a vehicle

to be twice as fuel efficient as existing vehicles and the result is the Prius sedan. Launched worldwide in 1997, it achieves twice the fuel economy of similar sized vehicles, releases one tenth the carbon monoxide, hydrocarbon and NO<sub>x</sub> emissions and only half the CO<sub>2</sub> emissions. It does so by using a hybrid petrol/electric engine. Up to March 2003 it has sold 120,000 units worldwide and based on this success Toyota has decided that the development of more hybrid engines will be a priority, including plans for an SUV that will deliver fuel consumption of under five litres per hundred kilometres [Holliday Jr et. al., 2002: 213-214; '\$2.50 a gallon gas?', 2003: 1].<sup>5</sup> The company has now also developed and brought to market a completely alternatively powered vehicle using a hydrogen fuel-cell engine that develops 90kw of power and emits only water vapour [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 30; National Roads and Motorists Association, 2003: 47].

A shift to greener strategies is not something that one would expect the car industry to embrace flippantly or even willingly given that the development and production of any new car model is a complex and expensive process, often with a development period of five years and costs of up to US\$5 billion [Dicken, 1998: 326], with an average model lifecycle incorporating up to 5 'facelifts' over 15 years [Orssatto and Clegg, 1999: 274]. As a result, historically the process of product innovation in the car industry has generally been incremental [Dicken, 1998: 327]. However, Toyota's Prius represents radical innovation and the company's efforts can be found mirrored in the efforts of other car MNCs. For example:

- In 1997, Daimler-Benz committed US\$350million to a program with Canadian firm Ballard Fuels to create hydrogen fuel-cell engines, with forecast annual production of 100,000 vehicles per annum powered by these engines by 2005. Ford later joined the venture

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<sup>5</sup> The fuel consumption figure shown here is a conversion from the 50 miles per gallon claimed in the latter article.

and added US\$420million to the deal [Hawken et. al., 1999: 26; Suzuki and Dressel, 2002: 291].

- The Volkswagen Lupo achieves fuel consumption of only 3 litres per hundred kilometres, and the company has plans to develop models that achieve 2 and 1 litre per hundred kilometres [Hawken et. al., 1999: 26].<sup>6</sup>
- PSA Peugeot Citroen has improved its diesel engines to the point where they deliver 40 percent better fuel economy than a similar petrol engine and emissions are so low that a diesel Peugeot 607 produces particulate emissions that register at the lowest measurable level of 0.004g/km, over 12 times lower than the limit required by European legislation [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 31].

Apart from the examples of technical developments given above, initiatives by car MNCs may also be identified in six other categories considered in turn below.

First, initiatives in *policy and reporting* now see most car MNCs voluntarily publishing annual environmental reports to facilitate corporate transparency. Some follow the Global Reporting Initiative (GRI) guidelines for sustainability reports laid down by the United Nations Environment Programme (UNEP) and the Coalition of Environmentally Responsible Economies (CERES) which aim to harmonise and environmental and social reporting by firms internationally [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 31; Volkswagen AG, 2001; Toyota Motor Corporation, 2002; General Motors, 2002; PSA Peugeot Citroen, 2001].

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<sup>6</sup> The fuel consumption stated is a conversion from the source materials claim of 78 miles per gallon, 118 miles per gallon and 235 miles per gallon for these cars respectively.

Secondly, many car firms have introduced *environmental management systems* to minimise the environmental impact of production processes. They include the European Union Eco-Management and Audit Scheme (EMAS) and the International Standards Organisation's ISO14001. They aim to internalise environmental concerns as a fundamental part of sustainable production. BMW, Porsche, Toyota, General Motors, Fiat and Ford have progressively introduced these systems and improved on them over the period 1992 to the present day [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 27-29; Orecchini and Sabatini, 2003: 31].

Thirdly, a sign that an industry truly embraces an attitude of environmental sustainability is confirmed by the *collaborative agreements* with others into which it enters, as opposed to mere verbal commitments. General Motors requires its product suppliers to have ISO14000 compliant environmental management systems in place, and has Supplier Environmental Advisory Teams that collaborate with its suppliers to find solutions to reduce waste, energy and resource usage and improve eco-efficiency overall. There are also numerous partnerships between car firms and environmental NGOs aimed at improving global or regional corporate citizenship, such as Ford's partnership with Conservation International to protect biodiversity internationally and committing US\$5 million to its work in Mexico and Brazil [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 23 and 28; Ford Motor Company, 2003a].

Fourthly, through *public relations* the car industry is engaging with the broader public. Apart from official reporting on environmental performance, an examination of firms' websites shows that they all have sections on the importance of the environment [see for example Ford Motor Company, 2003b; Toyota Motor Corporation, 2003]. Although this could look like 'window dressing' on its own, when looked at in the context of actual concrete activities discussed here it could also look like a commitment by firms to changing consumer preferences in favour of the environment, or alternatively recognising

those preferences and further promoting their importance. Either way, it demonstrates firms' desire to be associated with environmental protection.

Fifthly, *non-automotive environmental support* sees car firms involved in environmental initiatives not directly related to the production and sale of cars. For example, well in advance of ratification of the Kyoto Protocol PSA Peugeot Citroen has invested in a reforestation project in Amazonia in order to reduce its overall emissions of CO<sub>2</sub>. The project aims to promote biodiversity by using seeds from over 30 native species and has a 100 year timeframe [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 34-35]. In cooperation with the Wildlife Habitat Council, Ford is working with communities at its facilities in the US, UK, Canada, Brazil and Mexico through its 'Wildlife at Work' program to create wildlife sites and educational programs aimed at preserving endangered species [Ford Motor Company, 2003a].

Finally, *sustainable mobility* as an overall goal is included in the business strategies of most car firms. As such, several programs above and beyond specific initiatives such as the development of hybrid engines are being put in place by car firms. For example, Ford has introduced an eco-driving campaign with training courses on driving styles that increase fuel economy and reduce emissions. The program is run jointly with the media and NGOs, and Ford is investigating introducing the program throughout Europe. In 2000, PSA Peugeot Citroen established a think tank, the 'Institut Pour la Ville en Movement', to conduct research on urban mobility in developed and developing countries [United Nations Environment Programme and Association des Constructeurs Europeens d'Automobiles, 2002: 32].

It is probably true to say that up until the mid-1990s there is not much evidence of the car industry proactively addressing environmental concerns, with any gains the result of social activism or government regulations [Hawken et. al. 1999: 24]. The preliminary evidence given

above for environmental sustainability initiatives lends support to a time frame of the mid-1990s onwards, and this is reflected in the views of commentators such as David Suzuki, normally one of the most strident critics of traditional capitalism, globalisation and the environmental degradation in which it results worldwide. In 1993 he declared:

Environmentally responsible corporations may seem like an oxymoron. But as pressure by ecologically aware consumers and activists increases, more and more businesses are cloaking themselves in green rhetoric. How genuine is it or can it be [Suzuki, 1993: 135]?

His answer in 1993 was that it was not genuine, that “the ground rules of profit make it hard to be a friend to the environment” and that “amid...the suicidal demand for steady growth, happy stories are few” [Suzuki, 1993: 138 and 139]. Furthermore, he singled out the international car industry for the enormous social and ecological costs it imposes on societies above all other industries. However, by 2002 he notes that the Global Climate Coalition is losing the support of its members, with big oil and car companies deserting it in the late 1990s. He says this has happened because of a *philosophical shift* within corporate hierarchies manifested in attitudinal changes, such as General Motors supporting a 50 per cent tax on petrol for environmental reasons [Suzuki and Dressel, 2002: 289-290]! He applauds the attitudinal change within Ford quoting the Chairman of Ford, William Clay Ford, who said in his speech to a Greenpeace business conference on 5 October 2000:

We're at a crucial point in the world's history. Our oceans and forests are suffering; species are disappearing; the climate is changing...Enlightened corporations are beginning to...realise that they can no longer separate themselves from what is going on around them. That, ultimately, they can only be as successful as the communities and the world that they exist in....I personally believe that sustainability is the most

important issue facing the automotive industry in general in the 21<sup>st</sup> century [Suzuki and Dressel: 290-291].

Within the decade from 1993 to 2002, Suzuki's attitude has changed from one of pessimism to a decidedly more optimistic view of the possibilities for change, with the car industry at the forefront of moves by big business towards environmental sustainability.

#### **4. Observations on Reasons for the Shift**

If there truly is an ideological, philosophical and behavioural shift occurring within the international car industry, the question is why? Starting at the level of international organisations and focussing down to the level of firms, some proposed explanations for the shift in the car industry's behaviour are possible. These explanations derive from exogenous factors at the levels of international organisations, nation states and consumer preferences. Endogenous factors relevant to individual firms are then also considered.

##### International Organisations

At the international level, the actions of two international organisations are especially relevant: the UNEP and the World Trade Organisation (WTO). In terms of membership, they are the most multilateral international organisations that represent the two sides of the debate studied in the research: the environment and international commerce.

The UNEP cites the 1992 Rio Earth Summit as a watershed in the discussion of environmental sustainability from which various initiatives have sprung. Since then, the UNEP has pursued voluntary partnership initiatives with 22 key industry sectors. For the transport sector it established the 'Mobility Forum', a voluntary partnership initiative between the car industry and the UNEP with the goal of providing “a platform for sharing environmental best practice experience, developing new strategies for sustainable mobility” [United Nations Environment Programme, 2003]. The UNEP

approached the car industry in the context of the following overall belief:

We rely on industry not only for reducing the environmental impacts of the products and services it provides us with; we also increasingly depend upon industry for the innovative and entrepreneurial skills that are needed to help meet sustainability challenges [United Nations Environment Programme, 2002: 11].

In other words, the UNEP sees that the best way to achieve environmental results internationally is via a participatory approach focussing on global industries that are the cause of environmental degradation through their actions, and therefore in whose hands solutions are likely to be found, and encouraging them to voluntarily make the necessary behavioural changes.

It is possible that the WTO will emerge as a major environmental player. The WTO's Committee on Trade and Environment (CTE) was created in 1995 to deal with environmental issues faced with the challenge posed by international environmental movements in the mid-1990s [O'Brien et. al., 2000: 212]. However, while the UNEP has sought to engage with industry directly in a spirit of voluntary cooperation, the WTO's modus operandi is somewhat less direct. A perusal of CTE annual reports since its inception shows it to largely be a forum for the discussion of trade-related aspects of environmental matters, with the main aim of harmonising trade measures with Multilateral Environmental Agreements (MEAs) overseen by other international organisations. It also seems fair to say that the CTE primarily demonstrates willingness of the WTO to include MEA secretariat representatives in discussions, as well as various non-state actors with stakes in the protection of the environment, and generally to facilitate the flow of information between trade and environmentally related policy-setting and enforcement bodies. The conclusion one reaches from reading these annual reports is that it remains unclear as to whether the WTO is in a position to facilitate, let alone lead, attempts to ameliorate the damage from international trade [WTO,

1995; WTO, 1996a; WTO, 1996b; WTO, 1997; WTO, 1998; WTO, 1999; WTO, 2000; WTO 2001; WTO, 2002]. More importantly, politically the WTO may be ruled out as a key player in the move to encourage environmental sustainability in international business because "no important actor wants the WTO to take over environmental policy" [Braithwaite and Drahos, 2000: 260]. It is therefore unsurprising that the CTE has been criticised for its lack of progress on the environment by the World Wide Fund for Nature which has labelled it "politically sterile" [Russel, 1998: 14].

Whatever the merits of the efforts of international organisations such as the UNEP and WTO, the basic question posed by Hurrell and Kingsbury remains: "can a fragmented and often highly conflictual political system made up of over 170 sovereign states and numerous other actors achieve the high...levels of cooperation and policy coordination needed to manage environmental problems on a global scale" [quoted in Saurin, 1996: 79]? Perhaps this why the UNEP believes the answer lies in the hands of the car industry itself and in working cooperatively with it.

### *Nation states*

MNCs are not 'placeless' entities. They are strongly affected by the national environments in which they are based, and particularly by the 'home' country in which they are culturally, and physically embedded. They are "produced through an intricate process of embedding in which the cognitive, cultural, social, political and economic characteristics of the national home base play a dominant part" [Dicken, 1998: 196; see also Pauly and Reich, 1997]. Therefore, the nature of the relationship between the state and business in the three international hubs of the car industry warrant attention on two levels. First, for exogenous factors, in terms of the level of state regulation and intervention in their affairs. Secondly, for the way in which this relationship shapes endogenous culture within firms.

The sheer size and wealth of the US, coupled with an ideology of non-intervention in markets, has meant that the US government has never

had an effective industry policy. It has taken the more indirect approach of creating an *environment* for business [Dicken, 1998: 119-121]. On the other hand, when it comes to regulation the US has taken an approach in keeping with that suggested by liberal internationalism which says the role for government is to intervene to internalise externalities. The US was the first to move on regulations of vehicle emissions, steadily increasing standards from the 1970s onwards and requiring new cars to be fitted with catalytic converters from 1981 [Colvile et. al., 2001: 1542]. Indeed, the 1990 US Clean Air Act's requirements have been estimated to cost the industry US\$8-10 billion a year to implement [Dicken, 1998: 334-335]. However, the current administration is no longer as zealous about such concerns, refusing to ratify the Kyoto Protocol and effectively taking global warming off its regulatory agenda. Given this development, the US response to environmental matters may increasingly come from the local and state level and much innovation may rely heavily on the efforts of individual firms [Leaf et. al., 2003: 308; Parker, 2001a: 94].<sup>7</sup>

Most continental European countries have had industrial policies central to their economic wellbeing in the post-war period, as opposed to the more market-rational or *laissez faire* approach to industry characterised by the US. For example, France has a long tradition of state-involvement with the promotion of 'national champions' in key industrial sectors to promote the country's international competitiveness. The French government still owns Renault. In Germany, the federal government has actively pursued industrial intervention to achieve industry policy objectives, while at the same time devolving much responsibility to provincial governments (the *Länder*) for intervention in regional economic matters [Dicken, 1998: 115-117]. One of these, Lower Saxony, owns 18.6 percent of the

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<sup>7</sup> The former note that California has introduced very stringent regulations on vehicle emissions that lead national regulation, while the latter points to Ballard Power Systems, a Canadian company whose fuel cell technology has been supported and adopted by the major US car firms for their hydrogen-powered prototype vehicles.

shares in Volkswagen [Hutton 2002: 239]. All European states, including the UK, have had strong regional policies through which they have intervened to provide special assistance to specific geographical areas and competitively 'courted' MNCs to locate in these areas, and they have worked with their car industries to form partnerships to develop prototypes of new vehicle technologies [Dicken, 1998: 118; Bleviss, 1990: 94]. Beyond such national intervention, the creation of a single market in 1992 has fostered the creation of regionally integrated production networks for EU car producers and their suppliers. Such regional integration has effectively removed technical and physical barriers and reduced the cost of design and manufacturing variations [Dicken, 1998: 333-334].

On the environment, the EU moved to catch up with US regulations from the late 1970s onwards, and introduced legislation in 1993 to make the fitting of catalytic converters to new cars mandatory [Colvile et. al., 2001: 1542]. Since then, environmental legislation in the EU has got increasingly strict to the point where there is a downward trend in total vehicle emissions despite increasing traffic volumes. Certain greenhouse gas emissions (NO<sub>x</sub>, HC and CO) are predicted to fall by 85 percent by 2020 compared to 1990 levels [United Nations Environment Programme, 2002: 28].

The EU's Working Party on the Construction of Motor Vehicles (Working Party 29) sets standards for its car industry. It is influential beyond the borders of the EU because besides the 28 European states who are contracting parties to it, another 27 non-European car manufacturing member states are non-contracting members including the US, Japan, South Korea, Canada and Australia. Therefore, Working Party 29 has become the pre-eminent forum for the exchange of information on, and international harmonisation of, regulatory standards and technological advances in the international car industry. The EU effectively "rules the roads" of the world in setting standards to the point that Working Party 29, originally a regional organisation, has successfully transformed the international regulation of motor vehicle standards in what represents "a move away from national sovereignty in favour of mutual recognition of type

approvals, based on increasingly internationally harmonised performance standards” [Braithwaite and Drahos, 2000: 448].

Business and government relations in Japan have long been characterised by a spirit of *partnership* with the state performing the role of a *guiding hand*. Though not a centrally planned economy, Japan can still be thought of as a developmental state where the government has a vision for the goals of the private sector, arranges preferential allocation of capital to targeted industry sectors as well as key firms, and has a bureaucratic architecture designed specifically to consult and work with firms and industry sectors (such as the Ministry of International Trade and Industry) [Dicken 1998: 121-125].

Although Japan is characterised by a strong partnership approach between government and industry aimed at encouraging development and international competitiveness, it is also true that regulation has not generally been as tough as in the EU or US [Braithwaite and Drahos, 2000: 271]. Instead, the strong culture of international business competitiveness that has been created has been manifested in its firms being early movers to new technologies in anticipation of international standards. This is suggested in the development by Toyota of the Prius and in the fact that this company was the first in 1988 to introduce a car with a catalytic converter in the UK despite the fact that at the time unleaded fuel was difficult to purchase [Beaumont, 1993: 917].<sup>8</sup> Japan’s competitiveness means it now dominates world automotive trade, and that it has been described as “the single most important force stimulating change among competing firms in the other major producing countries” [Dicken, 1998: 321]. With Japanese car firms having identified environmental issues as a priority area for action they are seen as the “saviours of the environment” by some commentators [Koshiba et. al., 2001: 3-4; Bleviss 1990; Parker 1996; Parker, 2001b]. This is because they have *chosen* to embrace

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<sup>8</sup> Beaumont points out that a five litre petrol can had to be fitted in the boot to deal with this drawback!

environmentally-friendly technologies as a way of enhancing corporate performance. Parker sums this up neatly as follows:

Rather than being ‘lucky’ as suggested by some commentators on the fast sale of hybrids when they were launched in North America at a time of rising gasoline prices (2000), the success of the new hybrid technology can be traced to the foresight and planning of firms that recognised mounting environmental pressures and responded. Supportive policies were created by government, industry associations and competing firms, with the end result being a race to deliver new technologies for cars in the 20<sup>th</sup> century that are less damaging to the environment [Parker, 2001a: 109].

To round up the above discussion on nation states, what is suggested is that what the EU’s Working Party 29 has achieved as a global force for regulation of the industry, Japan has achieved through the competitive edge of its firms supported by government partnership. It may be the case that US firms are ‘chasing’ Japanese firms who have embraced environmental technological advances as a competitive strategy, and EU firms who find themselves in the politically powerful position of being at the centre of international standard-setting.

### *Consumer Preferences*

Surveys abound of growing consumer preferences for environmental sustainability. Specific surveys are backed up by general findings, such as those of the annual World Values Survey coordinated by the Institute for Social Research at the University of Michigan. The Survey has been conducted since 1981 and covers 65 societies with national samples of 1,000 people in each [World Values Survey, 2003]. Those surveyed in industrialised societies exhibit a pronounced *shift in preferences* towards environmental protection over this period of time. Not only have environmental concerns taken on “unprecedented salience” as a *shift in attitude*, but that they have also manifested themselves as a *shift in behaviour* on the part of individuals in terms of political activism through membership of

environmental organisations, and voting for political parties with strong environmental credentials from the 1980s onwards. In fact, in the 1990-91 survey (just prior to the 1992 Rio Earth Summit), 93 percent of individuals surveyed in Western industrialised societies approved of the environmentalist movement [Ronald Inglehart, 1997: 237-243 and 296].

This change in preferences may constrain states and firms nationally and internationally from seeking economic growth at any environmental cost. Attitudinal shifts on the part of consumers may also provide demand-driven incentives to invest in environmentally friendly products and promote behaviour that seeks the approval of environmentally aware buying publics, especially car MNCs that have traditionally been seen as environmental pariahs.

### *The Car Industry*

While it is possible that environmental initiatives of car MNCs may be driven by exogenous factors such as the actions of and regulations imposed by international organisations and states, it is also possible that they may be adopting environmentally friendly technologies and processes in order to gain a competitive edge in *anticipation* of future regulations. More than this, they may even be acting pre-emptively to avoid imposed regulations altogether. Such behaviour represents an endogenisation of exogenous factors because it means that states do not need to *exercise* their power in order for it to be realised, because car MNCs have gone beyond what is legally required. For example, in 1998 the Association des Constructeurs Europeens D'Automobiles (ACEA) oversaw voluntary commitments by EU car manufacturers to reduce fleet average CO<sub>2</sub> emissions to 140g/km by 2008 (along with a range of other targets associated with vehicle emissions) [Association des Constructeurs Europeens d'Automobiles, 2002: 5]. These commitments were made in advance of any mandated by the European Commission, and they were described by the ACEA as follows:

[The] ACEA's ground-breaking commitment is a 'flagship' that places ACEA at (sic) forefront of a new policy option. It brings together the Commission and ACEA into a new partnership based on mutual trust, and shows a new way to address environmental issues" [Association des Constructeurs Europeens d'Automobiles, 2002: 11].

The European Commission subsequently accepted these voluntary commitments on 5 February 1999 saying it was "satisfied with the undertakings given by the ACEA" [Association des Constructeurs Europeens d'Automobiles, 2002: 21].

It is also possible that individual car MNCs see such behaviour as a way of gaining a competitive advantage over rivals. This is the strategy suggested by Porter who notes that "selling poorly performing, unsafe, or environmentally damaging products is not a route to real competitive advantage in sophisticated industry and industry segments, especially in a world where environmental sensitivity and concern for social welfare are rising in all advanced nations" [Porter, 1990: 648]. Porter's view is echoed by the World Resources Institute and UNEP which see competitive advantages for businesses that voluntarily adopt environmentally sustainable strategies [United Nations Environment Programme, World Resources Institute and World Business Council for Sustainable Development, 2002: 3]. Focussing on the car industry specifically, the Chairman of Ford, Bill Ford, has echoed this view in stating his "strong belief that – in addition to being the right thing to do – preserving the environment is a competitive advantage and a major business opportunity" [Holliday Jr et. al., 2002: 26], and General Motors' executives see their company's investment in alternative energies as part of a long-term competitive business strategy [Burns et. al., 2002].

Overall, Braithwaite and Drahos find that "the change in business leaders' attitudes on this issue is unmistakable [because] many believe that green is lean and profitable" [Braithwaite and Drahos, 2000: 268]. But they also find, as a result of extensive interviews and empirical research, that "it is a mistake to reduce the strategic trade

manoeuvres of car makers to no more than self-interested profiteering....much of the strategic trade manoeuvring represents the dedicated work of engineers at Hyundai who really want to make cars safer for people" [Braithwaite and Drahos, 2000: 451]. All this points to endogenous factors within the car industry and its individual firms driving moves for environmental sustainability, that the OECD sees more generally as a growing "culture of integrity", or what Florini sees as "an enlightened view of long-term self-interest" [OECD, 2001: 19; Florini, 2003: 8].

Finally, whether hard exogenous political/economic realities or well-meaning endogenous altruistic motivations are to the fore, any commitments made establish the *expectation* of changed behaviour. Behaviour must shift to some extent due to the accountability of firms for their stated commitments. This is because "managing an inquisitive and possibly hostile public must be part of maintaining a positive image, but public relations without environmental action will surely backfire" [Athanasiou, 1996: 232]. Such behaviour may become effectively endogenised over time. To illustrate by way of example, and to return to Toyota, it has been said of the company that it "has a basic ability to turn crises into opportunities...Its global strategy isn't simply the result of vision, it's also an opportunistic strategy that emerges whenever Toyota responds to the unexpected" [Koshiba et. al., 2001: 10]. Therefore, it is possible that despite a more limited role for the government in setting environmental regulations, the internationally competitive culture of Japanese firms fostered by the government over a long period of time, coupled with an internal culture within Toyota that seeks to rise to challenges and be seen to do so, has become a source of competitive advantage for the firm and a reason why it has achieved international success with its environmentally-friendly technologies.

## 5. A Way Forward

A research agenda that builds on the preliminary observations made in this paper needs to take car MNCs themselves as case studies for the focus of analysis. They need to be examined in a holistic way

within a constructivist framework in order to highlight combinations of *characteristics*, and the comparison of *configurations* between cases. The purpose must be intensive study to try "to capture the whole individual" with the aim being *Verstehen*: "understanding the meaning of actions and interactions from the members' own points of view" [Eckstein, 1975: 81].

Why take such an approach? The answer is that it is necessary to get first-hand perspectives from the firms themselves and car industry peak bodies in the EU, US and Japan, including via interviews of key personnel. This is because although it will be important to back up views expressed with hard evidence and data, it is dangerous to base conclusions solely on the latter without the former. The clearest illustrative example that comes to mind is a study conducted by Porter and van der Linde and its rebuttal by Palmer et al [Porter and van der Linde, 1995; Palmer et. al., 1995]. Porter and van der Linde demonstrate that companies with high environmental standards are more competitive. They conclude that "companies must start to recognise the environment as a competitive opportunity – not as an annoying cost or postponable threat" [Porter and van der Linde, 1995: 114]. However Palmer et al, coming from a position of neoclassical economic orthodoxy, dispute this claim for two reasons. The first, somewhat unsurprisingly for commentators coming from their position, is by using a theoretical model. However, this is less convincing than the second which is evidence gained from actually *speaking* with the vice presidents or corporate directors for environmental protection at

four key MNCs<sup>9</sup> with the following result: “while each manager acknowledged that in certain instances a particular regulatory requirement may have cost less than had been expected, or perhaps even paid for itself, each also said quite emphatically that, on the whole, environmental regulation amounted to a significant net cost to his company” [Palmer et. al., 1995: 127]. In other words, while the hard evidence and data might support the claim that higher environmental standards confer a competitive advantage on firms, this does not tell us anything about the attitudes of key decision makers with these firms, specifically whether they are likely to be proactively favourably disposed to embracing environmental sustainability.

Ostrom’s work on environmental management provides further support for this approach. As noted earlier, she relaxes profit maximising rational actor assumptions in the context of environmental externalities. In so doing, to explain actors’ behaviour she builds a more complex model with seven possible components that explain actors’ behaviour, each with rules for action. She notes that as a result “the search for rules that improve outcomes obtained in commons dilemmas is an incredibly complex task involving a potentially infinite combination of specific rules that could be adopted” because “if only five changes in rules per component were considered, there would be  $5^7$ , or 75,525 different situations to analyse” and therefore that “no set of policy analysts could ever have sufficient time or resources to analyse over 75,000 combinations of

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<sup>9</sup> They are: Dow, 3M, Ciba-Geigy and Monsanto.

rule changes and resulting situations” [Ostrom, 1999: 519]. She concludes that it is the resource users *themselves*, those directly causing the environmental damage, in whose hands the solution is most likely to lie. This view is supported by Hafkamp who says “it is striking to note that there are no typologies where other actors [besides government] with *their* instruments (companies, consumers, environmentalists) are included” [Hafkamp, 1997: 260]. Hence, given the complexity and number of the variables involved a case study approach is most appropriate at this stage, because the most manageable research agenda is one in which key office holders’ answers to questions about their firms’ motivations for incorporating environmental sustainability will help to define the hard evidence needed to support or refute their claims.

## 6. Conclusion

Explaining the actions of the international car industry with respect to environmental sustainability requires further research. Specifically, case studies of individual car MNCs from the industry’s triad of the US, EU and Japan are required. However, this paper has presented some observations on car firms proactively addressing environmental concerns in six areas: technical development; policy and reporting; environmental management; collaborative initiatives; sustainable mobility; public relations; and non-automotive environmental support. Explanations for the industry’s shift in behaviour lack clarity at present, but both exogenous and endogenous factors appear to be playing a part in varying degrees. Perhaps most interesting is the suggestion that some exogenous factors have effectively been endogenised by the industry. This necessitates an analysis on several levels, including the actions of international organisations, the role of nation states, and the imperatives of consumer preferences. The way in which individual firms may have generated action to address the challenge of environmental sustainability as a result of these exogenous factors, in addition to their internal cultures, also requires further investigation.

Porter and van der Linde say that there is more than profit maximisation going on in firms because “the world does not fit the Panglossian belief that firms always make optimal choices” [Porter and van der Linde, 1995: 99], and from the discussion in this paper an intriguing possibility may be suggested. It is that *both* rational profit maximising motivations and behaviour based on norms may explain the car industry’s shift in behaviour. Although the two are often presented in a way that makes them appear mutually exclusive, this need not necessarily be the case. March and Olsen say:

“Any particular action probably involves elements of each [logic]. Political actors are constituted both by their interests, by which they evaluate their expected consequences, and by the rules embedded in their identities and political institutions. They calculate consequences *and* follow rules, and the relationship between the two is often subtle” [March and Olsen, 1998: 952 with italics added].

Hall similarly sees the attraction in “occupying the middle ground” which permits the possibility “that human beings have values, but that equally they are purposive calculators” and that to lean too much one way or another is to lean towards “false extremes” [Hall, 1993: 42-43]. Legro too argues that neither of what he terms the “polarised positions” is sustainable, and that a balancing point somewhere between the two extremes is more likely to pertain [Legro, 1997: 31]. This suggests a more holistic explanation in which aspects of the liberal internationalist rational choice model still holds to some degree but preferences are tempered by ideas, norms and practices that lead to a concern for the environment, and therefore must be taken into account too. It fits with the idea that firms must face political and economic realities, and alter their behaviour in order to sustain competitive advantage, but that there are also other dynamics at work. In other words, firms are not just constrained by factor endowments, but also by more intangible factors to be inferred from their behaviour. Therefore, at the end of the day it may be possible to identify a degree of harmonisation between liberal internationalist and constructivist viewpoints.

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## 8. Biographical Note

John Mikler is a PhD candidate in the Discipline of Government and International Relations at the University of Sydney. He holds a Bachelor of Commerce, majoring in Economics with Honours from The University of New South Wales and a Master of International Studies with Merit from the University of Sydney. Professionally, he has 10 years experience in policy development and implementation through several positions with the Australian Commonwealth Public Service. These include positions with the Department of Industry Technology and Commerce (1990-1995), the Australian Broadcasting Authority (1995-1997) and AusAID (1999-2000). He has also worked as a strategist with a local council (1997-1998) and in business development and marketing positions with the Australian National University (2000-2002).

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