

Political Business Strategies and the Political Economy of Transatlantic Trade: Airbus and Boeing¹

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ABSTRACT

This paper studies the nonmarket environment and possible nonmarket strategies of Airbus, with a focus on the WTO disputes between the European Union and the United States regarding their subsidies for Airbus and Boeing. The paper studies the institutions involved in transatlantic trade negotiations, and analyzes the market for large civil aircraft. It provides an overview of the WTO disputes and where they stand today. Furthermore it discusses optimal strategies for Airbus and Boeing.

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KEY WORDS

international trade, political economy and strategy, World Trade Organization

1. Introduction

Professor Herman Daems is synonymous with strategic management at the Katholieke Universiteit Leuven. He was one of the very best and most respected teachers at Leuven's Faculty of Business and Economics when the first author of this paper was a student at Leuven in the 1980s, and still is today. This paper focuses on companies' political, or nonmarket, strategies, a subject the first author has been teaching at Leuven for the past seventeen years. It is but a small token of appreciation and gratitude for Professor Daems' contributions to Leuven, and for having been the first person to suggest to the first author, in 1988, that he should apply for doctoral programs in the United States (US), rather than for Master of Business Administration programs, as he was naively planning.

The paper analyzes the nonmarket environment of Airbus and formulates strategies to deal with the challenges that arise in that environment. An industry's nonmarket environment consists of the social and political framework it operates in. Legislation and regulation shape market competition and may create opportunities or

represent threats to industries. Industries and companies compete with one another in the nonmarket environment to affect legislation. Integrated business strategies thus have market as well as nonmarket components.

For Airbus the nonmarket environment represents important challenges. Issues of product safety have received increased attention in the media as well as in politics. Moreover, it enjoys significant subsidies from the European Union (EU) and its member states, but these subsidies are being criticized for distorting competition with Boeing and distorting aircraft prices. Aircraft manufacturers in China and other emerging markets are getting ready to enter the market, which might lead to increased competition.

This paper is organized as follows. In the next section we discuss the meaning and relevance of nonmarket environments and nonmarket strategies. Section three presents a political-economic analysis of the political institutions that matter most for the aircraft industry, in the EU, the US, and at the level of the World Trade Organization (WTO). The fourth section focuses on the politics of the WTO disputes between the EU and the US about the subsidies for Airbus and Boeing, and the important issues that arise in the dispute. Section five studies the interests that are affected by the disputes, analyzes the amounts of effective political action they can be expected to take, discusses the nature of the political competition, and formulates elements for a nonmarket strategy for Airbus. Section six presents the conclusions.

The paper concludes that it is in Airbus' interest to pursue a negotiated solution to the WTO disputes. Between 1992 and 2004 the Bilateral Agreement on Trade in Large Civil Aircraft regulated competition between Airbus and Boeing. It set limits on the direct and indirect subsidies the two companies could receive. The Bilateral Agreement set more explicit rules on subsidies than did the WTO (at that time the General Agreement on Tariffs and Trade (GATT)), and for twelve years prevented a major trade dispute from erupting between the EU and the US. In 2004 the US withdrew from the agreement and launched a WTO complaint against the EU for violating WTO rules on subsidies. It withdrew because it thought it would lose less as a result of the end of the Bilateral Agreement than would the EU, and would thus regain competitive advantage. The EU in turn responded by filing a complaint against the US. In the past year the WTO concluded in two separate rulings that some of the EU and US subsidies are in breach of its rules. The two rulings are now being appealed. The final rulings can serve as a reversion point for bilateral negotiations for a new bilateral agreement on trade in LCA. Both companies would benefit from such an agreement.

II. Political Business Strategies

Firms operate in market as well as nonmarket environments. The nonmarket environment consists of the social, legal and political frameworks that surround the companies. Firms interact with consumers and other companies in the market environment,

and deal with interest groups and government bodies in the nonmarket environment. Interactions in the nonmarket environment have become increasingly important due to the general public's heightened attention for such issues as product safety and the environment, and due to the globalization and deregulation of world markets.

The firms' environments are not exogenous, but are shaped by the actions of interested companies and interest groups. As illustrated in Figure 1, the market and nonmarket environments are interrelated.⁵ The Figure presents the environment of Airbus. Its market environment consists of: (1) its competitors, that is, Aviastar, Boeing, Bombardier, and Embraer, the other manufacturers of Large Civil Aircraft (LCA), defined as aircraft that can carry more than 100 passengers and weight over 3,000 pounds; (2) potential entrants, such as the Chinese aircraft manufacturer Comac; (3) the producers of substitute products, such as the producers of smaller aircraft and other means of transportation; (4) suppliers, such as the producers of aircraft components; and (5) buyers, *i.e.*, the airline companies. Airbus competes with other LCA manufacturers and producers of substitutes in its market environment. It develops a market strategy to determine what prices to set, how to cut costs, how to market its products, etc. The goal is to maximize profits. Market environments and strategies are studied using economics.

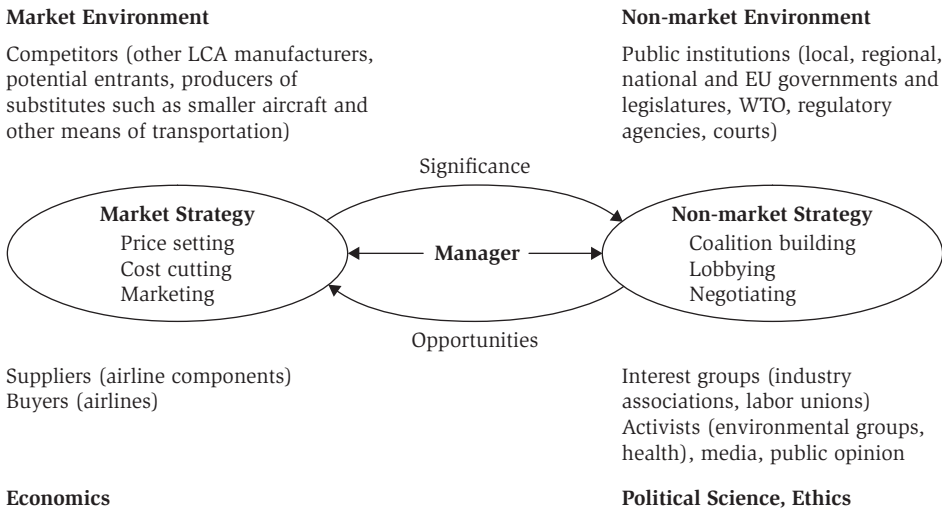


Figure 1. The Environment of Airbus.

The market environment, however, is influenced by the nonmarket environment. Market competition or the lack thereof is determined by the nonmarket environment. This environment consists of (1) public institutions, such as local, regional, national and EU governments and legislatures, regulatory agencies, international organizations such as the WTO, and the courts, (2) interest groups, such as trade associations

of various industries, and labor unions, (3) activist groups, such as environmental and consumer groups, (4) the media, and (5) public opinion in general. Public institutions pass legislation and regulation that affects the market conditions in which Airbus operates. The legislation and regulation are not exogenously given, however. They are influenced by Airbus' actions in the nonmarket environment. In this environment Airbus competes with other interest and activist groups to affect legislation, regulation, and public perception.

Nonmarket strategies, or political business strategies, address the issues that arise in the nonmarket environment and determine how to affect legislation. Strategies in this domain include coalition building, lobbying and negotiating. The nonmarket environment presents opportunities and threats to the industry's market strategy. Subsidies from the EU and its member states have created very positive market conditions for Airbus. Actions by other companies and interest groups represent potential threats. The significance of the nonmarket environment is determined by the impact it has on an industry's market strategies. Analyses of the nonmarket environment are based on political science and ethics.

A firm's activities in its market environment can generate nonmarket issues and stimulate action that reshapes the nonmarket environment. These actions include those of government, such as legislation, regulation, antitrust suits, and international trade agreements, and consumer protests and activist pressure. As an example of the market origins of nonmarket issues, high gasoline prices led aircraft manufacturers to use different materials in the production of aircraft. This may give rise to safety concerns among consumer activists and generate legislative activity to increase safety standards.

Nonmarket issues and actions also shape the market environment. Increased safety standards affect virtually all aspects of aircraft design and manufacturing. Political action to reduce subsidies affects prices, profits and jobs. Environmental concerns lead to stricter environmental regulation and also affect manufacturing and prices.

Successful company performance requires effective market and nonmarket management. Effective nonmarket management needs frameworks for evaluating nonmarket issues and methods for formulating strategies to address them. Market strategies direct market competition and determine revenues and profits. Similarly, nonmarket strategies compete in legislatures, regulatory agencies and public opinion, and determine legislation, regulation and public pressure. In this view, legislation and regulation are considered as the results of nonmarket actions taken by companies and interest groups, and can thus be influenced by firms' nonmarket strategies. From a business perspective this approach is more productive than one which considers government regulation as given and sets up strategies to deal with it.

The nonmarket environment of a firm can be characterized by four *i*'s: issues, institutions, interests and information. Identifying the relevant nonmarket issues is the first step towards a successful nonmarket strategy. The nonmarket issue agenda of Airbus, for example, consists, amongst other issues, of the following issues: safety

regulation and liability rules, fuel economy and emission standards, international trade, antitrust, and subsidies and tax policies.

The next step is an analysis of the interests that are affected by the various issues on the agenda. Individuals and groups with stakes in the nonmarket issues that affect Airbus, for example, are consumer organizations, lawyers and insurance companies, environmentalists, labor unions and other LCA manufacturers. Interests give rise to a demand for political action, that is, for attempts to affect public policy. Whether interests do indeed lead to political action depends on the costs and benefits. The benefits determine the demand for political action. Benefits are usually distributive, but can also be moral. The costs depend on the ability to generate political pressure. It is important to assess the probability that other interests take action and what their objectives are. In general, aggregate as well as per capita benefits play important roles on the demand side, whereas the number of people affected, their resources and their ability to overcome free-rider problems matter on the supply side.

The third step consists of an analysis of the legislative and regulatory institutions that are involved in the issues. In the case of Airbus these are local, regional, national and EU governments, parliaments and courts, regulatory agencies, and the WTO.

The final step consists of the formulation and implementation of a political business strategy. Information plays an important role here. It is the basis of successful political strategies. It is important for companies to know the opinions of the other interests affected by the issues and to inform the institutions that decide on the issues of their own opinion.

The formulation of a political strategy is based on a thorough political analysis along the lines suggested above. The political strategy is subsequently implemented. It involves engaging in political action toward the governments and legislatures that decide on the relevant nonmarket issues and toward the regulatory institutions that implement them. Other interests take actions as well, and the political outcome thus depends on the relative pressures exercised by the various interests. Important at the strategy formulation stage is the setting of clear, primary and contingent objectives. Aligned interests and opportunities for coalition building constitute valuable political assets at this stage.

An important concept in this context is the rent chain. Rents are the profits companies and other market participants, such as employees, earn above the profits they would make in a perfectly competitive market. Political action is usually driven by distributive considerations, *i.e.*, interests take action if they see an opportunity to make more profits or fear they might lose money if they did not engage in political action. Often industries seek to obtain legislation that protects them from competition and thus allows them to earn economic rents.

Not only company shareholders, but also employees and suppliers are affected, if an industry obtains special favors from politicians. Suppliers and employees typically manage to acquire part of the rents. Employees are better paid than they would be in competitive markets, suppliers manage to charge higher prices, as their buyers are

not subject to fierce market competition. Employees and suppliers form part of the rent chain, that is, the different aligned interests whose rents are affected by a non-market issue. The rent chain may also include wholesalers, distributors, retailers and consumers, as well as the communities the industry operates in. It also includes the different activities within the industries' companies (the companies' value chains).

Figure 2 illustrates the concept of the rent chain. Rent chains can be extended by building coalitions with other industries. The different components of the rent chain may prove to be important political assets to an industry. Politicians care about getting re-elected and need votes to that effect. As a result they tend to be more concerned with an industry's employees and chain of suppliers than they are with the owners of the different companies in the industry and their profits.

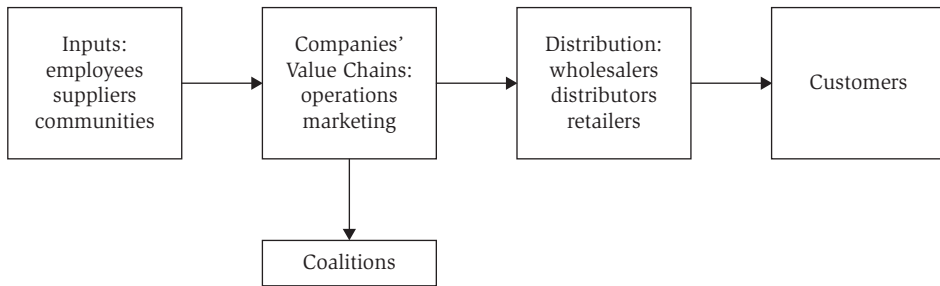


Figure 2. The Rent Chain.

III. The Political Economy of Transatlantic Trade

This section analyzes the decision-making procedures of the political and regulatory institutions that play a significant role in Airbus' nonmarket environment. The purpose of this analysis is to identify the pivotal actors within each institution, and to assess the likelihood and potential of policy changes in the nonmarket environment. We focus on the EU, the US and the WTO.

A. The European Union

The Council, the Commission and the Parliament are the EU's principal legislative institutions. The Council is an intergovernmental body and consists of representatives of the 27 national governments. The Commission and the Parliament are supranational bodies. The 736 members of the Parliament are directly elected for five-year terms. The 27 Commissioners are appointed by the Parliament and the Council. The Commission can be considered as the EU's executive, whereas the Parliament and the Council constitute the two houses of its legislature.

These three institutions play distinct roles in the legislative process. The Commission initiates legislation. It makes the policy proposals and has considerable agenda-setting powers. The Commission also has regulatory and judicial powers in areas such as antitrust. Moreover, it represents the EU in international trade negotiations. Legislative proposals by the Commission need the Council's approval for adoption. The Parliament's role differs depending on the procedure being used. On trade issues the codecision procedure is used. Under this procedure the Parliament can amend legislation together with the Council and its approval is required for adoption. In international trade negotiations the Commission first receives a negotiating mandate from the Council. The mandate sets boundaries to what the Commission can do. During negotiations the Commission stays in close contact with the Council through the Trade Policy Committee, a committee of member state representatives. It also consults regularly with Parliament representatives. Negotiated agreements need the approval from the Council and the Parliament for adoption.

Most often the Council uses qualified majority rule to make decisions, but it usually tries to reach a consensus. If consensus cannot be achieved, however, the member states vote and qualified majority is the decision rule. The total number of votes in the Council currently is 345. The countries' vote shares depend on their relative sizes. A qualified majority requires 255 votes, about 74 percent.

One can expect member states are home to production and other facilities of Airbus and its suppliers to be more sympathetic to Airbus concerns than member states with no such presence. The Council is a political institution: it consists of 27 government ministers, each of whom represents his own member state. Ministers can be expected to pay more attention to Airbus concerns, as the industry creates more employment and adds more value to their member states' economies.

Airbus has sites in four EU member states: France, Germany, Spain and the United Kingdom. Sites in France and Germany employ about 20,000 people each. In the United Kingdom and Spain Airbus employs fewer than 10,000 people. These four member states can be expected to defend Airbus' interests most strongly. Together these four member states have 114 votes in the Council, not enough to push legislation through the Council on their own, but enough to block legislation that would harm Airbus' interests. Many more member states are home to Airbus suppliers and can thus also be expected to defend Airbus' interests. Member states that favor free trade and do not have a significant presence of Airbus or its suppliers can be expected to be the most opposed to subsidizing Airbus. In general northern EU states are more in favor of free trade than their southern counterparts.

Since at 74 percent the qualified majority threshold is quite high, policy changes usually require broad agreement across the policy spectrum. Changes to the EU's policy toward Airbus and the conclusion of new trade agreements are thus likely to require the support of at least some of the member states that strongly defend Airbus' interests, and some of the member states that most favor free trade. Policy making is thus likely to involve negotiations and compromises.

The Parliament and the Commission both use simple majority rule for decision-making. Forming majorities can thus be expected to be easier in these institutions than in the Council. This works both ways. That is, obtaining support for Airbus may be easier, but finding support for changes that hurt it may be easier as well. In the Parliament the four member states with Airbus sites have 293 seats (40 percent), a considerably larger vote share than in the Council (32 percent). In the Commission they only have four votes (15 percent), however. Forming a pro-Airbus coalition may thus be easier in the Parliament than it is in the Council and the Commission. The members of the Commission and the Parliament most often do not vote along country lines, however. Party affiliations play an important role in the Commission and especially in the Parliament. The center-right currently has a majority in all three institutions. This may suggest that they would be hostile to subsidies to Airbus for economic efficiency reasons, but nationalism and the defense of European interests at the international level may prevent such hostility from arising.

B. The United States

In the US the legislative branch at the federal level, the US Congress, has the authority to set trade policy and approve international trade agreements. However, Congress has delegated the conduct of trade negotiations with other countries to the executive branch. Within the executive branch leading such negotiations is mainly the responsibility of the Office of the US Trade Representative. The Trade Representative is appointed by the President.

The US conduct of trade negotiations is broadly similar to the way the EU organizes them: the executive negotiates and the legislature has a veto right at the end of the process. There is one important difference, however. In the EU the Commission consults regularly with the Council and the Parliament during trade negotiations. As a result the Commission is confident that they will give their approval to trade agreements when it concludes them.

In the US, by contrast, it is far less certain that Congress will approve an agreement concluded by the Trade Representative. Congressional approval represents a domestic constraint for the Trade Representative in his negotiations. Paradoxically such a constraint may actually strengthen the US position in trade negotiations, as it may cast doubt on the approval of an agreement and may be used by the Trade Representative to obtain more concessions from other countries.

C. The World Trade Organization

The WTO administers trade agreements, settles trade disputes and provides a forum for trade negotiations. It has 153 members, including the EU and its member states. Decisions are made in meetings of government ministers (Ministerial Councils, held

about every other year) or their representatives (General Councils, and Goods, Services and Intellectual Property Councils, held several times per year). Decisions require consensus.

Some decisions, however, such as settlements of trade disputes, are delegated to committees of experts. The dispute settlement system operates as follows. It starts with a member's formal request for consultations with another member. If these consultations do not lead to an outcome that is acceptable to the member that requested the consultations, that member can request that the WTO's Dispute Settlement Body, in which each member is represented, establish an expert panel to rule in the dispute. The panel studies the dispute, and issues a report. The report can be appealed, in which case it is sent to an Appellate Body. This body in turn issues a report. The Appellate Body's report (or, if there is no appeal, the expert panel's report) becomes the WTO's ruling, unless it is overturned by consensus, which is highly unlikely. If the WTO rules that a member is violating its duties as a member, this member needs to correct its policies. If the member fails to do this, it needs to provide compensation to the complaining members. If no compensation is provided, the WTO can allow the complaining member to impose sanctions.

Trade agreements that result from the WTO rounds of trade negotiations require the approval of all its member countries for adoption. Further rounds of trade liberalization can thus succeed only if the EU and its member states approve their results. EU member states can be expected not to agree to deals that would harm the EU. Whether that means that they will not agree to deals that harm Airbus depends on their concern for Airbus and its suppliers, and on the benefits they expect from trade liberalization in other industries. They may agree to measures that hurt the Airbus, if they expect the consumers' benefits and the benefits from trade liberalization in other industries to outweigh the costs for Airbus. The final outcomes of forthcoming rounds of trade negotiations will depend, amongst other factors, on the bargaining strengths of the EU and its member states, and on the political action undertaken by Airbus and other aircraft manufacturers.

IV. The WTO Disputes on Airbus and Boeing

A. The Market for Large Civil Aircraft

The LCA industry is dominated by two companies: Boeing and Airbus. Many producers did not survive the storm of corporate bankruptcies and mergers in the aircraft industry during the 1990s (Carbaugh and Olienyk, 2004). In the US, Boeing acquired its former rival McDonnell Douglas, while aircraft manufacturer Lockheed withdrew from the LCA market. In Europe, smaller aircraft producers, such as Fokker and Dornier, were forced to leave the market as Airbus grew stronger.

Today, Boeing and Airbus are the only two companies producing large, wide-body aircraft. These are aircraft with two passenger aisles: the Airbus A330, A340, A350 and A380; and the Boeing 747, 767, 777 and 787. Both companies also produce large narrow-body aircraft: the Airbus A318, A319, A320 and A321 (the A320 family); and the Boeing 737. These aircraft can typically carry no more than 200 passengers, and tend to have a maximum flight range of less than 4,000 miles, whereas large wide-body aircraft can usually carry more passengers and fly farther. Large narrow-body aircraft also include the Boeings 717 and 757, both still in service but no longer produced. Their market is more competitive than the market for large wide-body aircraft, and will not be the main focus of this paper. It includes such other producers as Avistar (Tupolev), Bombardier and Embraer.

Over the years, competition between Airbus and Boeing has become more fierce and intense. Both companies have similar product offerings (Heymann, 2007). Nonetheless the two companies have pursued somewhat different strategies in other respects. During the 1990s Boeing increasingly diversified into the defense, space and security markets. Today its commercial aircraft division accounts for little more than half of its revenues (Boeing, 2010a). Airbus, by contrast, remains focused on the production of LCA. For purposes of comparison, the following information only considers the companies' commercial aircraft divisions.

Both companies employ impressive numbers of employees: Boeing's commercial aircraft division employs more than 60,000 people, most of whom in the US (Boeing, 2010b). Airbus has 52,500 employees, most of them working in member states of the European Union. (See <http://www.airbus.com/company/people-culture/>.)

The duopoly in the LCA market has resulted in significant profits for both firms. In 2010 Boeing's commercial aircraft division made a profit of more than \$3 billion on revenues of \$31 billion (Boeing, 2010a). Airbus achieved a profit of about \$400 million in 2010 on revenues of around \$40 billion. (See the annual results of EADS (European Aeronautic Defence and Space Company) – Airbus Commercial Division at <http://www.eads.com/eads/int/en/investor-relations/events-reports.html>.)

Total LCA sales currently amount to close to \$100 billion per year (Airbus, 2010). Over the years to come the market is expected to continue to grow strongly. For decades Boeing was the dominant firm in the LCA market. Recently this has changed. Airbus first equaled Boeing, as far as the numbers of orders are concerned, in 1994, as can be seen in Table 1. Since 1999 their numbers have been similar. As far as aircraft deliveries are concerned, Airbus took the lead in 2003 and has retained it ever since, as can be seen in Table 2. Figure 3 illustrates the evolution of the growing but volatile market.

The characteristics of the LCA market help to explain the emergence and persistence of the current duopoly. First, the *launch costs* of an aircraft program are very high, usually up to 50 percent of the total costs of the aircraft program (Knorr *et al.*, 2010). An aircraft program is the complete sequence of actions from the design to the last sale of a particular airplane model. Launch costs include the costs of develop-

Table 1. Airbus and Boeing Orders (1993-2010).

Orders	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Airbus	38	125	106	326	460	556	476	520	375	300	284	370	1055	790	1341	777	271	574
Boeing	239	125	441	708	543	606	355	588	314	251	239	272	1002	1044	1413	662	142	530

Sources: company websites.

Table 2. Airbus and Boeing Deliveries (1993-2010).

Deliveries	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Airbus	138	123	124	126	182	229	294	311	325	303	305	320	378	434	453	483	498	510
Boeing	409	312	256	271	375	563	620	491	527	381	281	285	290	398	441	375	481	462

Sources: company websites.

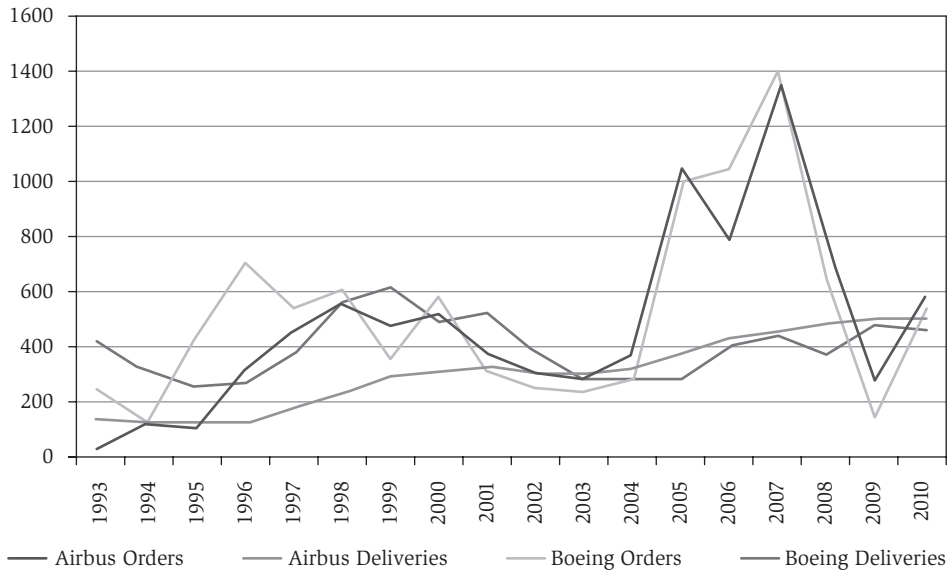


Figure 3. Orders and Deliveries of Airbus and Boeing (1993-2010).

ment, construction and overhead related to the start-up of a new aircraft program. They may in some cases exceed the value of the company, as was the case for Boeing in the 1970s when it developed the 757 and 767. The uncertainty about the success of a new model of airplane makes the production of aircraft a *risky* business. For this reason, aircraft manufacturers only start producing a new airplane model when a certain threshold of orders is already achieved (Fisher, 2002). Moreover, the length of the investment cycle, the time that elapses between the investment and its amortization, further increases the risks (Heymann, 2007). It will be clear below that the high-risk nature of the LCA industry is at the heart of the disputes between the EU and the US about Airbus and Boeing.

Second, the LCA market is characterized by strong *economies of scale* and a steep *learning curve* (Pavcnik, 2002; Heymann, 2007). The economies of scale are the result of the previously mentioned high development costs and the elevated construction costs of aircraft factories. The learning effects are due to the technological complexity of the production processes. Labor costs related to the production of an airplane decline by 30 to 40 percent as the accumulated output doubles (Benkard, 2000). Achieving a high output level is thus of the utmost importance.

Third, there are important *economies of scope* in the aircraft industry. Research achievements and innovative technologies can be transferred easily from one model of airplane to another (Heymann, 2007). To reap the benefits of these economies of scope aircraft producers often develop and produce variations of existing airplane models, and establish product families rather than design new models. Both Boeing,

with its many variations of the Boeing 737, and Airbus, with the A320 family, have pursued this route. Moreover, airlines prefer to buy different and differentiated products from the same family, as this lowers their maintenance costs and the training costs of their personnel (Knorr *et al.*, 2010).

Fourth, as a result of the characteristics mentioned above aircraft programs tend to have a *long lifespan*. Boeing in particular has some aging product lines. Its aircraft models sell on average for more than 28 years (Pritchard and MacPherson, 2004). The 777 and 787 are the only Boeings equipped with technology as recent as from the 1990s, while its other models, the 737, 747 and 767, are still being produced with their initial 1960s and 1970s designs. Airbus uses more recent technologies, thus heightening its appeal with consumers. Its oldest model still under production, the A320, was not introduced till 1988. Hence, Airbus seems better prepared for the future.

Fifth, due to the characteristics mentioned above, the LCA industry has enormous *barriers to entry*. The persistence of the current duopoly thus seems likely, until China decides to enter the market. Moreover, the huge costs involved form an important barrier to exit. The development and production of an airplane require a huge capital investment that is largely sunk, and thus constitute important barriers to exit (Heymann, 2007).

B. The 1992 Bilateral Agreement between the EU and the US

The establishment of a duopoly in the LCA market led to tensions between the EU and the US. These were temporarily cooled down with the conclusion of a bilateral agreement in 1992, after years of bilateral negotiations (Carbaugh and Olienyk, 2004; Pavcnik, 2002). The agreement went further than the 1979 Plurilateral Agreement on Trade in Civil Aircraft, which was concluded within the WTO (then the GATT). The Plurilateral Agreement eliminated import duties on civil aircraft and a number of other aviation products, established rules for public procurement, and set limits to government support to the civil aircraft industry. The 1992 agreement is known as the Bilateral Agreement on Trade in Large Civil Aircraft.

Both sides recognized the need to go beyond the Plurilateral Agreement and reduce government support (Fisher, 2002). Nonetheless the Bilateral Agreement did not seek to completely eliminate subsidies in the LCA industry, but allowed the EU and the US to continue to provide a certain level of support to their respective aircraft industries (Pritchard and MacPherson, 2004). The Bilateral Agreement was not concluded within the WTO, and thus cannot be the basis for a WTO dispute (Wouters and De Meester, 2007).

The Bilateral Agreement focused exclusively on LCA, and imposed stricter limits on government support. In particular it limited direct subsidies to 33 percent of total launch costs. Moreover the support needed to be granted in the form of loans. The

interest rate for these loans was not to be lower than the government's cost of borrowing, and the loans needed to be repaid within 17 years. Furthermore the Bilateral Agreement limited indirect government support to three percent of the country's LCA industry turnover. Indirect support did not need to be repaid. The rules on direct support were mainly targeted at Airbus, which benefited from such support. The rules on indirect support, in turn, limited the US practice of providing support to Boeing through the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD).

In the Bilateral Agreement the EU and the US further agreed to increase transparency and provide each other with regular information on their LCA programs. Termination of the agreement required mutual consent or a one-year notification by either party. Both parties agreed to engage in consultations if conflicts were to arise.

Observers noted that the US benefited more from the agreement than did the EU (Hayward, 2005). While the EU had to abandon production subsidies and became severely limited in the launch support it could grant, the US only had to accept limits on its indirect subsidies that were hard to verify. In the years after the conclusion of the agreement prices for LCA rose significantly, suggesting that both companies may have benefited (Irwin and Pavcnik, 2004).

C. The Disputes

On 6 October 2004, the US announced its unilateral withdrawal from the Bilateral Agreement, and filed a complaint against the EU and four of its member states (Germany, France, the United Kingdom and Spain) under the WTO's dispute settlement system. This case is known as Dispute Settlement (DS) 316, European Communities – Measures Affecting Trade in Large Civil Aircraft. The US claimed that Airbus had received subsidies inconsistent with the 1947 GATT Agreement and the 1995 WTO Agreement on Subsidies and Countervailing Measures.⁶ The EU responded by filing a counterclaim (DS317) on the same day, alleging that Boeing had received illegal indirect subsidies. It filed an updated complaint in June 2005 (DS353).

1. The US Complaint

The US complained about the following measures taken by the EU and its member states: (1) the financing of the design and development of aircraft (launch aid); (2) research funding; (3) infrastructure and infrastructure-related grants; (4) corporate restructuring measures; and (5) EIB loans. The claims concerned all Airbus aircraft models, but mainly targeted the subsidies granted for the A380 and A350. The US argued that these measures constituted specific subsidies under Articles 1 and 2 of the SCM Agreement.

The US further claimed that the measures had adverse effects on it, in violation of Articles 5 and 6 of the SCM Agreement. It further complained that the measures affected imports and exports in a manner inconsistent with Article XVI:1 of the GATT Agreement. The US also stated that the measures reduced the benefits the US would otherwise enjoy from the GATT Agreement, in violation of Article XXIII:1 of the GATT Agreement. Finally, it argued that certain launch aid provided for the A340 and A380 constituted illegal export subsidies, in breach of Article 3 of the SCM Agreement.

From the US point of view the high-risk nature of the LCA industry was at the heart of the dispute. The US argued that the development of the A380 was too risky a venture for a company and would not have been pursued by a company that bore the risks of its ventures. The US further claimed that the EU rather than Airbus bore all the risks, and that the risk-free way in which Airbus could conduct its business limited competition (Carbaugh and Olienyk, 2004).

The US further stated that Airbus had benefited from generous government support since its foundation in 1970. The EU allegedly provided support to Airbus through several channels. Its most controversial subsidy was the launch aid. The main focus of the US complaint is the launch aid given for the A380 (3.7 billion dollar) and the A350 (1.7 billion dollar) (Knorr *et al.*, 2010). Another major channel was its series of framework programs for research. The fifth framework program (1998-2002) gave the aviation industry 784 million euro. Its successors, the sixth (2002-2007) and seventh (2007-2013) framework programs, granted the aviation industry 857 million and about 1.5 billion euro, respectively. It is not clear to what extent these subsidies benefited Airbus, but as the main European aviation manufacturer, it could be expected to receive a large part of this support.

In addition to the EU, national, regional and local authorities allegedly granted support to Airbus as well. Maennig and Wittig (2010) and Knorr *et al.* (2010) present a detailed overview of these grants. The Aviation Research Program of the German Ministry of Economics and Technology provided the aviation industry with grants for research and development projects. This benefited the development of the A380. The regional government of Hamburg had its own aviation program that supported Airbus and several regional contractors working with it. Moreover, the German Ministry of Education and Research provided support, but the extent to which Airbus benefited from it is unclear. The cities of Hamburg and Nordenham further invested in infrastructure to encourage the expansion of Airbus activities.

France's alleged support, as provided through the Budget Générale of the Ministère de L'Équipement, des Transports, du Logement, du Tourisme et de la Mer, added up to a total amount of about two billion euro for the 2000-06 period. The amount provided to Airbus was not disclosed, but Airbus is considered to have been the main beneficiary of this program. In Toulouse, infrastructure projects worth 182 million euro enhanced the accessibility of the Airbus facilities.

The United Kingdom launched a Technology Program in 2005 that provided the aviation industry with a yearly budget of 73 million euro. Company-specific ac-

counts were not made public. Spain provided grants as well, but once more the exact amount provided to Airbus was not disclosed. The total program was worth 125 million euro. Moreover, the respective national governments established systems of export financing, thus helping Airbus to mitigate its credit risks. As a result of these forms of export financing Airbus saved more than 2 billion euro over the 2000-06 period.

The EIB provided additional support. It partially funded airlines' investment projects, thus accelerating the renewal of passenger fleets and spurring aircraft demand. These measures allegedly provided benefits worth more than 2 billion euro to Airbus, whereas Boeing benefited to the amount of 700 million euro only.

The WTO panel issued a ruling on the US complaint in June 2010, finding some of the EU subsidies to Airbus to be illegal. Both the EU and the US appealed.

2. The EU Complaint

The EU and its member states filed a counterclaim accusing the US of providing subsidies to Boeing that are inconsistent with the SCM and GATT Agreements. In particular it claimed that the following measures constituted subsidies that were inconsistent with the SCM Agreement: various tax and non-tax incentives provided by the state governments of Kansas, Illinois and Washington, and local authorities in these states; financial and other support provided by NASA, the DOD, and the Departments of Commerce and Labor; and tax exemptions under legislation on Foreign Sales Corporations (FSC), and the Extra-Territorial Income (ETI) Exclusion Act and its successor acts. The EU put the total amount of the alleged subsidies at 19.1 billion dollar between 1989 and 2006. More than half of this amount, 10.4 billion dollar, was accounted for by the NASA subsidies.

The EU further contended that the measures had adverse effects on it, in violation of Articles 5 and 6 of the SCM Agreement. It also argued that the FSC and ETI acts and their successors, as well as tax measures in the state of Washington constituted export subsidies prohibited by Article 3 of the SCM Agreement. Finally it claimed that the US had violated the Bilateral Agreement.

Most of the alleged US subsidies were indirect subsidies, making it difficult to assess their extent. NASA and the DOD offered favorable procurement contracts and research subsidies to Boeing's non-commercial business unit,. These contracts and benefits allegedly benefited Boeing's commercial aircraft department through substantial spillovers (Pritchard and Mac Pherson, 2005) and an increased profit margin (Heymann, 2007). Calculations by the EU estimate NASA support to be around 10 billion dollar, while the DOD is alleged to have provided dual use technology worth more than 2.4 billion dollar to Boeing at no cost. Furthermore, NASA and the DOD allegedly waived intellectual property rights worth more than 700 million dollar, and granted more than 3 billion dollar in technology subsidies.

The EU further objected to local and state government support in Washington (3.5 million dollar) and Kansas (900 million dollar). These subsidies provided support for the establishment of production facilities for the Boeing 787. Other support was granted by the state of Illinois and the city of Chicago, which gave illegal tax incentives and relocation grants to Boeing. Moreover, Boeing received substantial FSC tax breaks (2,2 billion dollar over the 1989-2006 period), which were already judged to be inconsistent with WTO provisions.

Due to the growing internationalization of its production, Boeing was able to attract important support from foreign governments as well. Japan, where Boeing sub-contracts an important part of its production, provided more than 1,5 billion dollar to Boeing in loans remarkable similar to the ones provided by the EU to Airbus. Italy granted 590 million dollar to Boeing to upgrade its Alenia plant in Southern Italy (Knorr *et al.*, 2010). The total of these illegal subsidies is deemed to be up to 23.7 billion dollar (European Commission, 2011).

The WTO panel issued a ruling on the EU complaint in March 2011. It found some of the US subsidies to Boeing illegal. The ruling will be appealed.

v. Nonmarket Strategies for Airbus

The nature of the political competition on an issue determines what political strategies may be optimal for a company to pursue. The political competition for Airbus is very different within the EU than it is at the international level. Within the EU Airbus benefits a lot from the various forms of subsidies and other benefits it receives from different levels of government. These subsidies are paid for by the taxpayers.

Even though the subsidies may amount to billions of euros, and may be vital for Airbus' success, they represent a very small amount per taxpayer. Therefore, taxpayers have very few incentives to engage in political action on this issue. This is usually the case for taxpayers: their individual incentive to engage in action is limited. Moreover, there are millions of them, which makes it difficult to get organized and undertake effective political action together. As a result little action is taken. For Airbus, by contrast, the benefits are substantial. So, it has a strong incentive to take action. This type of politics is often referred to as client politics, because of the close relations that often develop in such situations between the company affected and the politicians involved. At the EU level Airbus is thus likely to get its way, as it evidently has for the past 40 years.

In an environment characterized by client politics it is often to the advantage of the company involved to invest in its relations with local political representatives and other politicians who may sympathize with them, and with the key players in the political process. Lobbying can be an important aspect of such a strategy. Moreover, it may be in the company's interest to build coalitions with suppliers, buyers, employee

organizations and other organizations whose interests are aligned. That may increase the effectiveness of the political action it undertakes.

At the international level Airbus' political environment is not as advantageous. In trade negotiations with the US interests at the opposing side of the argument are well organized and have a strong incentive to take political action. Boeing is not as easy to deal with as the EU taxpayers. The type of politics Airbus is confronted with at the international level is often referred to as interest group politics, because there are well organized interests at both sides of the issue. It is often the case that companies find themselves in a situation of client politics at the national or EU level, whereas the nature of politics at the international level is interest group politics: it may be relatively easy for a company or industry to obtain government protection at the national or EU level, but at the international level the situation is more complicated.

In situations of interest group politics political outcomes are often the result of negotiations. It may then make sense to develop a political strategy that focuses on building and using bargaining strengths and reaching out to achieve compromises.

The EU and the US reached such a compromise when they concluded the Bilateral Agreement in 1992. This Agreement was more specific than existing WTO rules and thus clarified for both the EU and the US what they would consider as acceptable levels of subsidies. It guaranteed that no trade dispute would break out, as long as they both stuck to the provisions of the Agreement. The Agreement resulted in twelve years of dispute-free trade relations between the EU and the US, as far as the LCA market was concerned.

In 2004, however, the US withdrew from the Agreement and filed a WTO complaint against the EU for its subsidies to Airbus. As the Agreement was not concluded within the WTO framework, it was not the basis for the US complaint, but rather the complaint argued that the EU had broken WTO rules. Since nobody forced the EU and the US to conclude the Agreement in 1992, it can be assumed that they both benefited from it. For some reason the US must have thought in 2004, just a few weeks before the Presidential elections, that it was no longer in its interest to stick to the Agreement.

The US may have concluded this for a number of reasons. First, Airbus' market share had dramatically increased between 1992 and 2004, as was seen in Tables 1 and 2. This must have given the US an incentive to be stricter with regards to the allowed level of direct subsidies. Second, Airbus was developing the A380 that would directly compete with the Boeing 747. Third, Airbus was in the initial stages of launching its A350 program that would compete with Boeing's planned 787. This was probably the final and most important element in Boeing's decision to file a complaint. It is interesting to note that Boeing filed its complaint less than three weeks after Airbus confirmed it was starting its A350 program.

The US thus preferred a judgment based on the WTO rules to sticking to the Agreement. This does not necessarily imply, however, that the US would rather have both the EU and the US remove the subsidies that were deemed illegal by the WTO

or compensate the other for the adverse effects caused. More likely is it that the US sought the WTO rulings to negotiate a new bilateral agreement that would be more advantageous to itself than was the old Agreement. Such a new agreement would of course be preferred to the WTO rulings by both the EU and the US. In the end a negotiated solution remains the most likely outcome of the WTO disputes. Therefore it is in Airbus' interest to resume a strategy that focuses on negotiations and the reaching of compromises, once the final rulings by the WTO's Appellate Body are in.

VI. Conclusions

The paper analyzes the nonmarket environment of Airbus and formulates strategies to deal with the most important challenges in that environment. Airbus enjoys significant subsidies from the EU and its member states, but these subsidies are being criticized for distorting competition and are the subject of a WTO dispute.

The paper concludes that it is in Airbus' interest to pursue a negotiated solution to the WTO dispute. Between 1992 and 2004 the Bilateral Agreement on Trade in Large Civil Aircraft regulated competition between Airbus and Boeing. In 2004 the US withdrew from the agreement and launched a WTO complaint against the EU for violating WTO rules on subsidies. It withdrew because it thought it would lose less as a result of the end of the Bilateral Agreement than would the EU, and would thus regain competitive advantage. The EU in turn responded by filing a complaint against the US. In the past year the WTO concluded in two separate rulings that some of the EU and US subsidies are in breach of its rules. The two rulings are now being appealed. The final rulings can serve as a reversion point for negotiations for a new bilateral agreement on trade in LCA. Both companies would benefit from negotiations and such an agreement.

NOTES

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5. The Figures and analytical framework presented in section 2 are based on Baron (2009).
6. More specifically, the US claimed that the EU and its member states violated Articles 1, 2, 3.1, 3.2, 5, 6.3 and 6.4 of the SCM Agreement, and Articles III:4, XVI:1 and XXIII:1 of the GATT Agreement.

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