
THE CIVIL AVIATION SECTOR IN LEBANON – PART I: INSTITUTIONAL REFORMS

M. Hadi Baaj

The American University of Beirut, Beirut, Lebanon

ABSTRACT

Civil aviation is one of the key contributors to a successful economic system. This has been recognized within Lebanon, which is undertaking developing a new civil aviation strategy encompassing a program of organizational reform, coordinated internationally, to meet the challenges of the new century. Such strategy is vital, as it will provide a coherent vision for the sector, compliment the extensive investments deployed by Lebanon in its aviation infrastructure, and guide future planning and investments. The proposed Civil Aviation Strategy for Lebanon has two major components: (a) institutional reform aiming at creating effective overall legal and regulatory frameworks in-line with current international best practice and (b) implementation of liberalization measures and open skies policy. This paper aims to: (a) present Lebanon's current institutional arrangements, (b) review the institutional arrangements in key select countries (in order to define current trends in best institutional practice), (c) discuss the proposed institutional reforms (which are at the basis of Lebanon's Draft Civil Aviation Reform Law) while showing that they conform with the identified best institutional trends, and (d) outline an implementation plan. The Draft Law has been approved by the Council of Ministers and now awaits Parliamentary endorsement.

INTRODUCTION

Prior to the start of the civil disturbances in 1975, Lebanon's civil aviation and tourism sectors flourished. Beirut International Airport (BIA) handled 2.5 million passengers in 1975 and served as the gateway to the Gulf countries. The national airliner [Middle East Airlines (MEA)], owned a fleet of 20 planes and dominated the skies of the Middle East. Over the next 15 years of conflict, Lebanon's civil aviation sector was decimated. BIA suffered major destruction along with prolonged periods of closure

M. Hadi Baaj is an Associate Professor of Transportation Engineering in the Department of Civil and Environmental Engineering at The American University of Beirut (AUB). Prior to joining his Alma Mater (AUB) in 1994, he was an Assistant Professor of Transportation Engineering at Arizona State University. Since December 1998, he has been serving as Advisor to the Minister of Public Works and Transport. He currently leads the Ministry's efforts (undertaken with assistance from the World Bank and the European Union) to formulate and implement plans to reform Lebanon's transport sector. Dr. Baaj holds a Bachelor of Engineering degree in Civil Engineering from the American University of Beirut and M.S. and Ph.D. degrees in Transportation Engineering from the University of Texas at Austin.

while MEA sustained severe ridership and financial losses. MEA shrunk down to a secondary airliner, leasing nine aircraft only and incurring annual losses requiring a total Treasury subsidy of about USD 400 million. Hiring in the Directorate General of Civil Aviation (DGCA) was minimal, resulting in its employment falling to 340 employees from an allocated 1,100 total. Over the same period, the Gulf countries enjoyed increased oil revenues since 1974 and were developing their own aviation sectors with ambitious airport development plans and major fleet expansion. BIA and MEA had clearly lost their roles and dominance. Following the cessation of military activities, a national plan for the development of the civil aviation sector had to be formulated and implemented. Such multi-component plans called for several changes (Baaj & Chaouk, 2000).

1. Investments in the aviation infrastructure through rehabilitating BIA and expanding its capacity to handle 6.0 million passengers annually should be made. The program, costing about USD 500 million, has been completed and involved the construction of a new terminal building and a new runway.
2. The complete re-write of the Aviation Safety Act should be completely rewritten so as to modernize aviation rules and regulations concerning safety and operations. This came per recommendation of International Civil Aviation Organization (ICAO), following its safety oversight check.
3. All equipment at BIA should be upgraded to enhance the level of safety and as required by BIA's rehabilitation program.
4. Institutional reform of the sector should be completed including the establishment of an independent regulatory authority.
5. A national civil aviation strategy for the sector's growth and development should be formulated, including the restructuring of the national airliner and the possibility of adopting an open skies policy.

External assistance was provided to DGCA by the following organizations.

1. The International Civil Aviation Organization (ICAO) carried out a study of the sector, an oversight safety check. ICAO is currently developing and updating the full set of rules, regulations, and procedures for airworthiness and licensing.
2. The European Investment Bank (EIB) provided funding for the runway and airport facilities rehabilitation and equipment. The funding contract required Lebanon to set up a commercial enterprise to operate the BIA.

3. The Government of France funded nine contracts as part of the French-Lebanese Cooperation Protocol. The contracts were mostly for meteorological, air traffic control, radar and aeronautical information services equipment, software and training, and technical assistance for implementing institutional reforms. Technical studies were carried out by Aéroports de Paris - Institut du Transport Aérien (ADP/ITA).
4. The World Bank funded a study to formulate a civil aviation strategy for Lebanon. Prior to the completion of the study, the new Lebanese Government, which took office in October 2000, announced the adoption of an open skies policy based on fully liberal third, fourth, and fifth freedom rights. This made Lebanon the first country in the Middle East region to adopt such policy, long known for its resistance to open skies (for status of open-skies policy adoption in other regions, see Morrell, 1998; Toh, 1998, and Findlay, Sien, & Singh, 1997). The study's recommendations supported the government's decision on open skies policy adoption and quantified the expected economic benefits of such policy under various traffic growth scenarios.
5. The International Finance Corporation (IFC) provided investment banking services in the context of the potential privatization of the national airliner MEA.

The focus of this paper is not on the open skies policy adoption and its projected benefits (this would be the subject of a separate paper). It is on another key component of Lebanon's civil aviation strategy, namely, the sectoral institutional reforms. The next section presents the current institutional arrangements in Lebanon. This is followed by reviews of the existing institutional arrangements in select countries, with the aim of identifying current trends in institutional best practice. These countries are the United States of America, France, Canada, the United Kingdom, and New Zealand. The proposed institutional arrangements for Lebanon and demonstrates that they conform to the identified current trends in institutional best practice will be discussed along with reviews of the regulatory characteristics of the proposed General Authority for Civil Aviation (GACA). The final section outlines the proposed implementation plan and its risks and challenges and concludes with some remarks.

CURRENT INSTITUTIONAL ARRANGEMENTS IN LEBANON

The DGCA currently under the Ministry of Public Works and Transport is responsible for the civil aviation sector in Lebanon. It is charged with the

following higher level missions: (a) supervising air transport, (b) managing the airspace and ensuring the safety of air navigation, (c) operating the BIA, (d) investigating incidents and accidents, (e) supplying meteorology information to users outside of civil aviation, and (f) performing support functions. DGCA is comprised of seven directorates and departments as shown in Figure 1 (Directorate General of Civil Aviation, 1971).

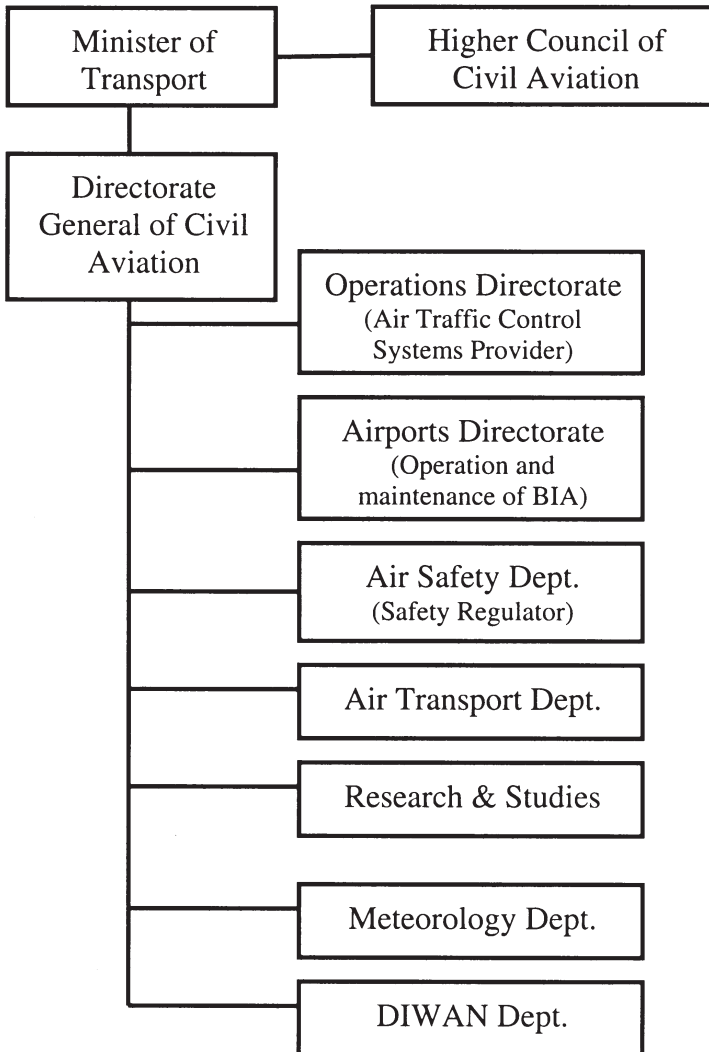


Figure 1. Current Institutional Arrangements in Lebanon

1. The Technical Operations Directorate is responsible for the provision of air traffic services, operation of telecommunications, and the maintenance of aids to navigation and telecommunications, telephone, and electrical equipment.
2. The Airports Directorate is responsible for the operation and maintenance of BIA.
3. The Air Safety Department consists of three sub-departments overseeing aircraft operations, airworthiness, and personnel licensing.
4. The Air Transport Departments consists of two sub-departments overseeing international agreements and legal and economic studies.
5. The Research and Studies Department is responsible for coordinating with international organizations such as ICAO.
6. The Meteorology Department consists of three sub-departments of observation, forecasting, and climatology.
7. The Diwan Department is in charge of the administration, accounting, legal affairs, revenue, documentation and archiving, and purchasing supporting functions.

In addition to the DGCA, a Higher Council for Civil Aviation (HCCA) was established as an advisory body (to the Minister) proposing economic policy for civil aviation, giving opinions on the requests for creation and operation of airlines as well as bilateral agreements. It has representation of all relevant ministries and the two national passenger and freight airlines (who attend but do not vote). Under the current institutional arrangements, DGCA is a monopoly responsible for policy, regulation, airport operation and air traffic control service provision, as well as accident investigation. Transparency has been lacking at all levels and there are no formal mechanisms for competition and dispute resolution. Thus, the need was evident to propose new institutional arrangements for the civil aviation sector that would be in line with current trends in institutional best practice.

REVIEWED INSTITUTIONAL ARRANGEMENTS IN SELECT COUNTRIES

In order to propose new institutional arrangements for Lebanon's civil aviation sector, a series of case studies were performed in order to identify the advantages and disadvantages of the various approaches in different select countries. The countries studied were the United States of America, France, Canada, the United Kingdom, and New Zealand. The goal of

reviewing the institutional arrangements in these countries was to identify the current trends in institutional best practice, so as to ensure that such trends are met by the proposed reform institutional arrangements for Lebanon. These trends related to policymaking, the regulatory framework, the provision of services, competition, and the appeals process. Three broad areas of regulation were examined: (a) economic regulation involving air transport licensing, fares and tariffs' setting, and negotiation of international agreements; (b) safety regulation involving flight operations, airworthiness, personnel licensing, airports standards, and air traffic service standards; and (c) airspace regulation to ensure that an efficient service is provided to meet reasonable demand.

On the operations side, the focus was on the ownership and operation of airports and the provision of air traffic control (ATC) services. The discussion and figures that follow have been adapted from a study that aimed to formulate a national civil aviation strategy for Lebanon (Booz-Allen & Hamilton, 2001).

In the United States of America airports are generally publicly owned and operated on a non-for-profit basis. Charges are typically set by legally binding User Agreements. There is no federal regulation of charges and, where these agreements do not exist, disputes sometimes go to the courts. The Federal Aviation Administration (FAA) of the U.S. Department of Transportation (USDOT) is the safety regulator and the provider of air navigation services. Its Office of Accident Investigation liaises with the National Transportation Safety Board to investigate air accidents. Anti-competitive behavior in the aviation sector (like other sectors of the economy) is investigated by the Justice Department's Anti-Trust Division. The Office of Aviation Negotiations of the Department of State deals with international aviation affairs while coordinating with the FAA's Office of Policy, Planning, and International Aviation. The aviation industry is regularly reviewed by the General Accounting Office which reports to Congress. The advantages of the U.S. system are a clear separation of economic regulation and service provision, transparency in regulation, and strong institutions for research and investigation. However, the FAA simultaneously operates the air navigation services, regulates its safety, and investigates its accidents. Additionally, the fact that air navigation services are free at the point of delivery implies weak market signals. Figure 2 shows the institutional arrangements in the U.S.

France has a highly centralized institutional framework. The DGCA (acting through different directorates) is: (a) the economic policy maker, economic regulator, and international agreements' negotiator (Air Transport Directorate), (b) the safety regulator (Safety Directorate), and (c) the provider of air traffic control navigation services (Directorate of Air

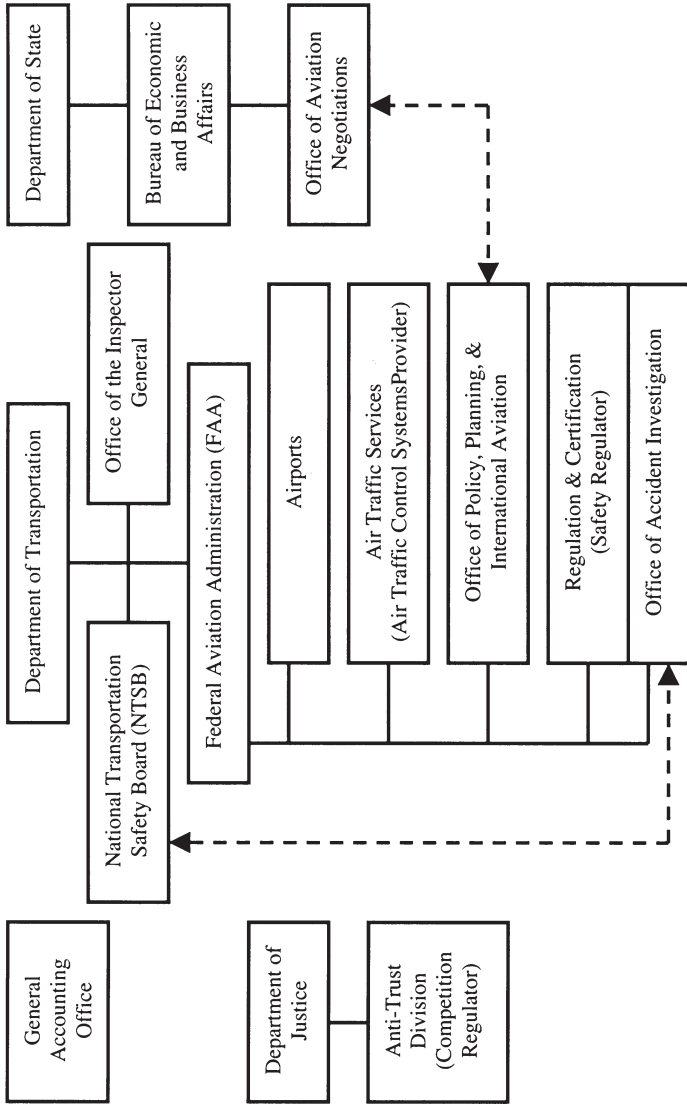


Figure 2. Institutional Arrangements in the Civil Aviation Sector in the United States of America

Note: From *Civil Aviation Strategy*. Technical Report submitted by Booz-Allen & Hamilton. (2001). Beirut: Ministry of Public Works and Transport. Copyrighted 2001 by Ministry of Public Works and Transport. Adapted with permission.

Navigation). Airports are publicly owned and are supervised by DGCA's Airports Directorate. Accident investigation is conducted by the Accident Investigation Bureau which reports directly to the Minister of Transport (who authorizes aviation charges). While infrastructure projects have been timely completed to match the demand, regulation of the sector has been producer-led rather than user-led and political interference has been high due to the centralized structure of the sector. Figure 3 shows the institutional arrangements in France.

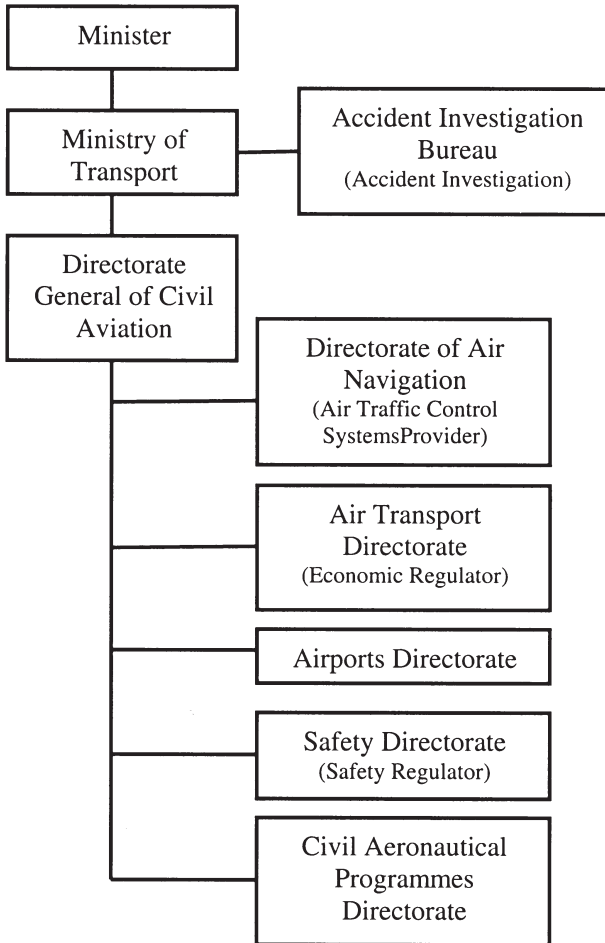


Figure 3. Institutional Arrangements in the Civil Aviation Sectors in France

Note: From *Civil Aviation Strategy*, Technical Report submitted by Booz-Allen & Hamilton. (2001). Beirut: Ministry of Public Works and Transport. Copyrighted 2001 by Ministry of Public Works and Transport. Adapted with permission.

Canada uses a mix of direct governmental regulation of safety and general transport and competition authorities for economic regulation. The Canadian Transport Agency (established in 1997) is the economic regulator and the appeals body for the air navigation charges. The Canadian Competition Bureau of the Federal Ministry of Industry is the competition regulator. Air navigation services are provided by Nav Canada, a private not-for-profit corporation, which has representatives of all stakeholders in its Board of Directors. This arrangement has been reported to be a success for all parties involved (Betancor & Rendeiro, 2000). The Civil Aviation Tribunal is the appeals body for Ministerial decisions. The Federal Ministry of Transport is the safety regulator while accident investigation is conducted by the Transportation Safety Board. The 26 essential airports identified within the National Airports System (NAS) are leased to Canadian Airport Authorities. The leasing of NAS airports has given them greater commercial focus, however, the not-for-profit status of Nav Canada results in weak efficiency incentives. Figure 4 shows the institutional arrangements in Canada.

In the United Kingdom the Civil Aviation Authority (CAA) under the Department of Environment, Transport & the Regions (DETR) is the economic regulator (Economic Regulatory Group, ERG) and the safety regulator (Safety Regulation Group, SRG). Air navigation services are provided by National Air Traffic Services (NATS), a public corporation. NATS is being considered for transformation to a public/private partnership which would be regulated by the CAA's ERG. The Competition Commission of the Department of Industry and Trade is the competition regulator. The three London airports and the four Scottish airports have been privatized and are owned and operated by the British Airports Authority (BAA), a private shareholding company regulated by the CAA's ERG. Accident investigation is the responsibility of the Air Accidents Investigation Branch of DETR. Such institutional arrangements have led to a user-driven system that ensured full separation of transparent regulation from service provision, albeit at a costly regulatory framework due to its large overhead. Figure 5 shows the institutional arrangements in the U.K.

New Zealand presents a clear example of light-handed regulation resulting from the country adopting a liberal policy in an effectively free market. The New Zealand Commerce Commission of the Ministry of Commerce is the economic regulator and competition regulator. Air navigation services are provided by Airways Corporation, a public corporation owned jointly by the Ministry of Finance and the Ministry of State-Owned Industries and is considered the nation's best-managed public enterprise (Betancor & Rendeiro, 2000). The CAA is the safety regulator and accident investigation is carried out by the independent Transport

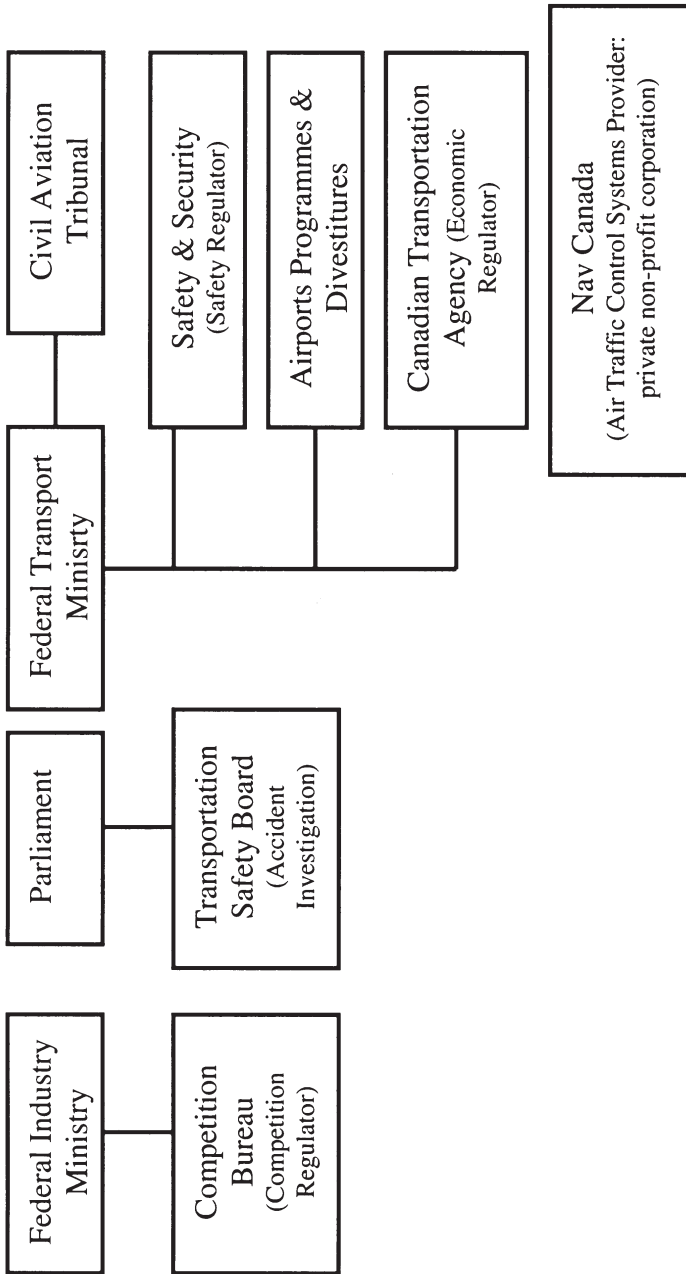


Figure 4. Institutional Arrangements in the Civil Aviation Sectors in Canada

Note: From *Civil Aviation Strategy*, Technical Report submitted by Booz-Allen & Hamilton. (2001). Beirut: Ministry of Public Works and Transport. Copyrighted 2001 by Ministry of Public Works and Transport. Adapted with permission.

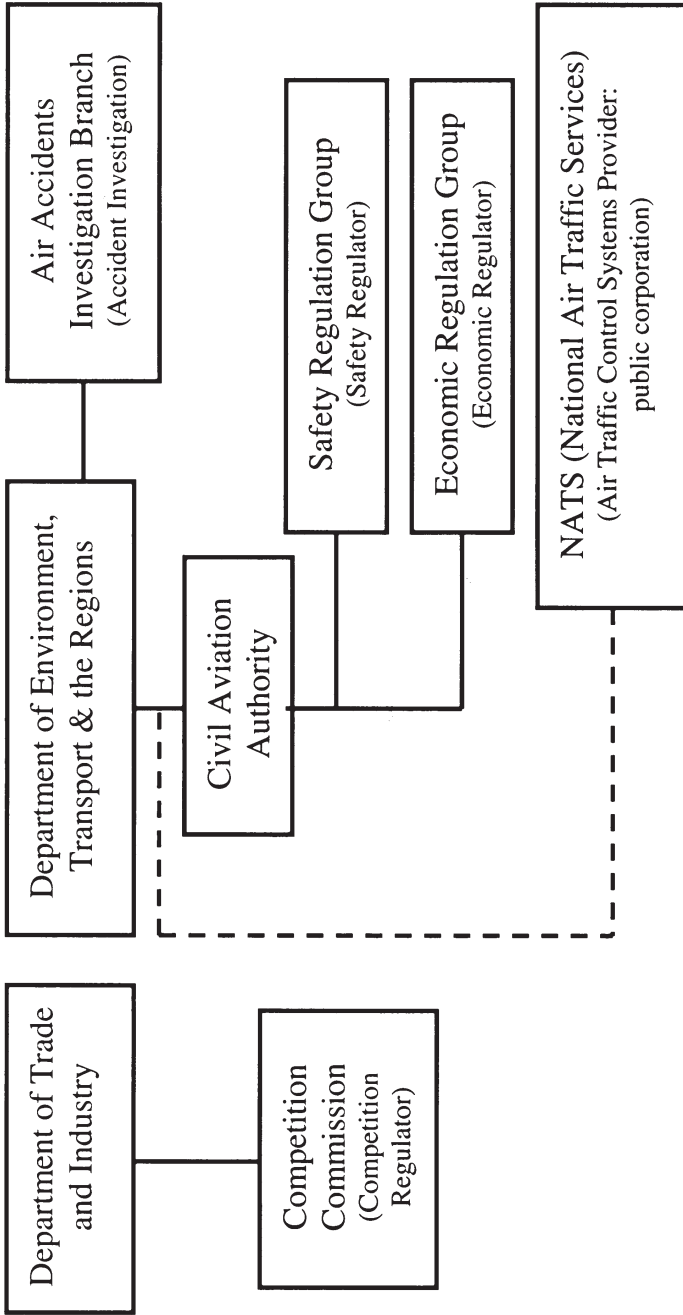


Figure 5. Institutional Arrangements in the Civil Aviation Sector in The United Kingdom

Note: From *Civil Aviation Strategy*, Technical Report submitted by Booz-Allen & Hamilton. (2001). Beirut: Ministry of Public Works and Transport. Copyrighted 2001 by Ministry of Public Works and Transport. Adapted with permission.

Accident Investigation Commission (TAIC). The Minister promulgates the civil aviation rules and meets regularly with the CAA Chair and Director. The CAA reports quarterly to the Minister (who also conducts a performance review of the CAA every three years) and annually to Parliament. CAA decisions can be appealed in court, while Airways Corporation's charges can be appealed in court or the Commerce Commission can be approached for assistance. Airways Corporation has been efficient and commercially-focused, however, the light regulation has led to airport/airline disputes that necessitated Government intervention. Figure 6 shows the institutional arrangements in New Zealand.

Table 1 summarizes the institutional arrangements in the five selected countries.

The above review indicated that the current trends in best institutional practice call for (a) the separation of policymaking, regulation, and service provision; (b) regulation to have the means to enforce decisions while establishing mechanisms that ensure consultations with all stakeholders [additionally, regulators should demonstrate independence with a reasonable amount of discretionary powers, autonomy and expertise, and accountability (Estache and de Rus 2000)]; (c) corporatization of the operation of airports and of the air navigation services (and where possible, their eventual separation); (d) an appeals process that is independent, transparent, and efficient in addressing the disputes between any of the actors within the institutional framework; (e) competition issues to be dealt with through establishing formal mechanisms; and (f) accident investigation to be independent from both the regulator and the service providers.

These trends have been endorsed by the Minister of Public Works and Transport (Baaj, 2001) and are at the foundation of all ministerial reform plans formulated for other transport sub-sectors, such as land transport (Baaj, 2000) and maritime transport (Baaj & Issa, 2001). As such, it was necessary that the proposed new institutional arrangements in Lebanon's civil aviation sector comply with the above identified trends.

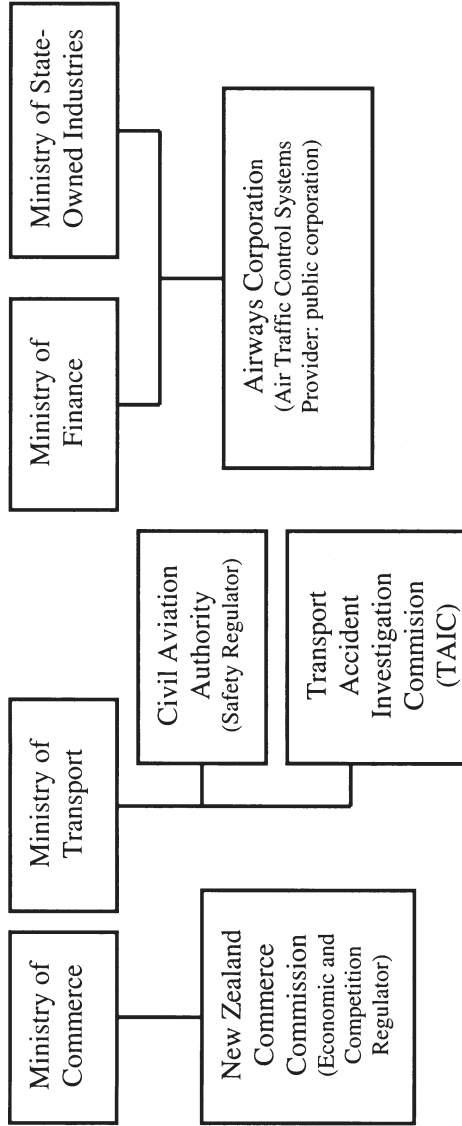


Figure 6. Institutional Arrangements in the Civil Aviation Sector in New Zealand

Note: From *Civil Aviation Strategy*, by Booz-Allen, ? and Hamilton, ?. 2001 Beirut: Ministry of Public Works and Transport. Copyrighted 2001 by Ministry of Public Works and Transport. Adapted with permission.

Table 1. Institutional Arrangements in the Civil Aviation Sectors in Select Countries

Institutional Arrangement	USA	France	Canada	UK	New Zealand
Economic Regulator	Unregulated charges (set by User Agreements)	Directorate General of Civil Aviation (Air Transport Directorate)	Canadian Transportation Agency	Civil Aviation Authority (Economic Regulatory Group)	New Zealand Commerce Commission
Safety Regulator	Federal Aviation Administration	Directorate General of Civil Aviation (Safety Directorate)	Ministry of Transport (Safety & Security)	Civil Aviation Authority (Safety Regulation Group)	Civil Aviation Authority
Operation of Airports	Regional airports, publicly owned (non-profit)	Regional airports, publicly owned companies	26 essential airports are leased to Canadian Airport Authorities	British Airports Authority, private company.	Airport companies
Provision of ATC	Federal Aviation Administration	Directorate General of Civil Aviation (Air Navigation Directorate)	Nav Canada (private not-for-profit corporation)	National Air Traffic Services, public corporation	Airways Corporation, publicly-owned corporation
Accident Investigation	Federal Aviation Administration & National Transportation Safety Board	Accident Investigation Bureau	Transportation Safety Board	Department of Environment, Transport & the Regions (Air Accidents Investigation)	Transport Accident Investigation Commission
Competition	Department of Justice, Antitrust Division	Directorate General of Civil Aviation	Federal Industry Ministry, Competition Bureau	Dept. of Trade and Industry, Competition Commission	New Zealand Commerce Commission
Appeal Process	Users' Agreements, disputes resolved in courts	Directorate General of Civil Aviation	Civil Aviation Tribunal (for Minister decisions) and Canadian Transportation Agency (for Nav Canada charges)	Courts	Courts or Commerce Commission

PROPOSED INSTITUTIONAL ARRANGEMENTS IN LEBANON

In compliance with the above identified trends in best institutional practice, the Draft Civil Aviation Reform Law (Ministry, 2001) calls for the replacement of the existing DGCA with: (a) an independent sectoral regulator (the GACA) and (b) a separate joint stock company (the Beirut International Airport Company, BIAC) for airport operations, meteorological services, and air traffic service provision, both at the airport and area control. It was noted that the provision of air traffic services was likely to remain a relatively small activity, and as such, it would not be cost effective to separate it from the airport operations. However, in order to ensure transparency and the absence of cross-subsidization, both airport operations and air traffic control operations must have clearly separated accounting systems and a reliable method of allocating shared costs. Additionally, the Draft Law called for accident investigation to become the responsibility of an independent office reporting directly to the Minister of Public Works and Transport.

GACA would become both the safety and economic regulator. As the safety regulator, it would oversee flight operations, airworthiness, personnel licensing, airports' standards, and air traffic services standards. As the economic regulator, it would oversee air transport licensing, fares and tariffs, and international agreements. GACA would also set the general principles of air transport policy (including the management and utilization of Lebanese airspace), subject to the general directions and guidelines set by the Minister of Public Works and Transport.

BIAC would be established as a joint stock company, initially fully owned by the Lebanese Government. This would be a corporatization that may lead in the future to privatization, should the Government decide that it would sell its shares, in accordance with the recently approved national Privatization Law. The corporatization (as required by the EIB contract) allows operation outside of government civil service constraints and enables commercial freedoms in the provision of services, as long as BIAC has management and financial control devolved from government. BIAC's management must provide GACA with the necessary information (on a regular basis) which would enable effective performance monitoring. It should also take all the necessary measurements that are need to protect and preserve the environment. The Draft Law also allowed for the establishment of other corporations to operate Lebanon's other airports (such as the Quleiaat Airport in North Lebanon). Such corporations would also be regulated by GACA. Figure 7 shows the proposed institutional arrangements for the sector.

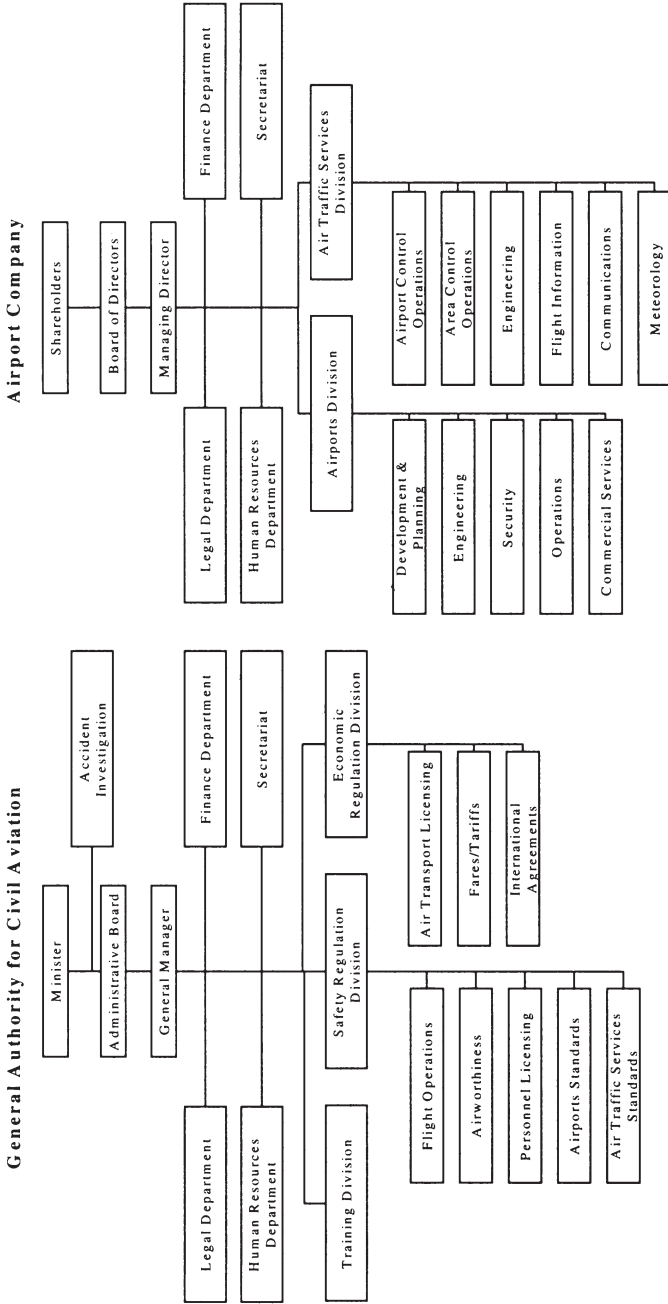


Figure 7. Proposed Institutional Arrangements in Lebanon

REGULATORY CHARACTERISTICS OF THE PROPOSED GACA

The main desirable characteristics usually recognized for a regulator are (a) independence with a reasonable amount of discretionary powers, (b) autonomy and expertise, and (c) accountability (Estache & de Rus, 2000). According to the Draft Plan the proposed GACA meets these requirements. The proposed GACA should (a) be at arm's length from both the political pressures (usually coming from the ministries) and the regulated enterprises; (b) have its regulators chosen on the basis of professional rather than political criteria and ensure that they would be protected from arbitrary removal during their appointment term; and (c) have regulators with enough discretionary power to make and enforce the right decisions without any risks of interference (Ministry, 2001). Such risks are minimized if clear rules are spelled out in the contracts and in the chart creating the GACA (Estache & de Rus, 2000). These requirements were satisfied by the proposed Draft Civil Aviation Reform Law which (in article 8) required that all its five regulators be university graduates with degrees in any of the following majors: airport management, business administration, economics, law, engineering, and aeronautical sciences. The chair of the board of regulators would be a full-time manager with at least five years of experience in the civil aviation sector. All regulators would be appointed for an initial period of five years which may be renewable (Ministry).

The proposed GACA needs to (a) have access to its own funding resources (through imposing levies on the regulated firms and/or the consumers of the regulated services) and not rely on budgetary transfers which are decided by politicians; (b) be able to recruit the best experts and remunerate them adequately (this typically implies exemption from civil service pay scale and recruitment procedures); (c) be able to subcontract certain activities when the required skills are unavailable locally; and (d) have specific instruments that enable the effective monitoring of compliance and enforcement (such as penalties that are imposed according to clearly defined rules) (Estache & de Rus, 2000). These requirements were satisfied by the Draft Civil Aviation Reform Law which (in article 10) allowed GACA to generate its own resources (by levying fees on the regulated enterprises) and exempted it from civil service pay scale and recruitment procedures (Ministry, 2001).

Accountability requires transparency in the decision making process and an operating environment subject to simple and clear procedural rules, including stipulated deadlines for reaching decisions, detailed justifications for decisions, nonpolitical reviews of decisions, adequate opportunities for all concerned parties to be heard through public hearings, and venues for appeals. Accountability can be enhanced by having several

(three to five) regulators rather than a single one (Estache & de Rus, 2000). These requirements were satisfied by the Draft Civil Aviation Reform Law which (in articles 8 and 13) emphasized accountability and provided the regulated enterprises with the right to appeal GACA's decisions in courts (Ministry, 2001).

PROPOSED IMPLEMENTATION PLAN

ADP/ITA had in the past provided technical assistance to the Ministry of Public Works and Transport (under contracts funded by the French-Lebanese Cooperation Protocol). Recently, ADP/ITA submitted a technical assistance proposal to the Ministry outlining an implementation plan for the proposed reforms (ADP/ITA, 2001). The proposal has been accepted and as a result ADP/ITA will carry out the multi-year implementation plan enabling the transition from the existing institutional arrangements to the proposed reform ones. The plan consisted of the following tasks.

1. Develop the overall plan for the creation of GACA and BIAC.
2. Define the detailed organizational and functional structure for GACA and BIAC. For BIAC, this requires defining its constitution (which should comply with the requirements of the Privatization Law, identifying the government shareholding rights together with the composition of the Administrative Board). It also requires defining the licences under which BIAC will operate.
3. Analyze the organizational and functional structure of the existing DGCA, in order to carry out the gap analyses (Task 7).
4. Perform financial audit and establish pro-forma Profit and Loss accounts. A thorough financial audit of existing operations would be performed to identify revenue streams, identify and allocate costs to the various functions within the organization, determine the asset base, profit and loss accounts, financial liabilities and the balance sheet (this process will be critically important in establishing the future business plans for both GACA and BIAC).
5. Perform Gap analyses through comparing the requirements identified for GACA and BIAC with the capabilities available in the existing DGCA, in order to identify gaps and surpluses (the output of this task will define training, recruitment and redundancy requirements and would result in the initiation of the necessary training and recruitment programs).

6. Define the migration plans from the existing DGCA to the new GACA and BIAC ensuring a smooth and effective transition.
7. Manage and implement the migration plan from the existing structure to the new structures.
8. Create the body responsible for accident investigation.
9. Monitor the initial performance of the new organizations in order to identify problems and propose potential solutions.

The proposed implementation plan is not without its risks and challenges. The Draft Civil Aviation Reform Law has yet to clear Parliament. Developing and issuing the proper detailed implementing rules and regulations (establishing GACA and BIAC with their desirable features and characteristics) require a strong political commitment from the Government and the Minister to carry through with the reforms. Gap analyses upon completion will indicate the training, recruitment, and redundancy requirements, a process that clearly needs to be adequately funded and well protected from political interference. The proper leadership and talent need to be recruited at the helm of GACA to successfully manage and implement the migration plans from DGCA to GACA and BIAC.

This paper aimed at providing an overview of a third world country's plans to develop and invigorate its civil aviation sector following years of poor performance. This may be achieved through the adoption of a sectoral strategy that enables its transition from a non-transparent highly centralized rigid structure to a more liberalized one, whose reformed institutional arrangement matched the current trends in best institutional practice. The proposed strategy has two major components: (a) institutional reform aiming at creating effective overall legal and regulatory frameworks in-line with current trends in international best practice and (b) implementation of liberalization measures and open skies policy. The current trends have been identified through the examination of the institutional arrangements of select countries and Lebanon's proposed sectoral reforms have been shown to comply with such trends. A multi-year implementation plan has been proposed and is being carried out with technical assistance from France. The risks and challenges of successful execution of such plan have been pointed out and relate principally to political commitment and political non-interference.

REFERENCES

- Aéroports de Paris – Institut du Transport Aérien (ADP/ITA) (2001). *Implementation of the New Civil Aviation Organization*. Council for the Development and Reconstruction of Lebanon, Beirut, Lebanon.
- Baaj, M. H. (2000). The land public transport sector in Lebanon: from chaos to sustainable reform and organization. *Journal of Public Transportation*, Vol. 3, No. 3, p. 87–108.
- Baaj, M. H. (2001). The civil aviation sector in Lebanon: background and reform objectives. *Proceedings, Workshop on the Civil Aviation Strategy for Lebanon: Components and Implementation Plan*, organized by the Lebanese Ministry of Public Works and Transport in association with the United Kingdom Embassy in Beirut, The American University of Beirut Alumni Club, Beirut, Lebanon, March 13–14.
- Baaj, M. H. & Chaouk, H. (2000). *The Status of the Civil Aviation Sector in Lebanon*. Transport Regulatory Unit, Ministry of Public Works and Transport, Beirut, Lebanon.
- Baaj, M. H. & Issa, J. (2001). Institutional reform in ports of developing countries: the case of Lebanon – part I: the plan. *Maritime Policy and Management*, Vol. 28, No. 4, October, p. 393–407.
- Betancor, O. & Rendeiro, R. (2000). Airports. *Privatization and Regulation of Transport Infrastructure: Guidelines for Policymakers and Regulators*, Estache A. & de Rus G. (Eds.), World Bank Institute publication, The World Bank, Washington, D.C.
- Booz-Allen & Hamilton (2001). *Civil Aviation Strategy*. Technical Report submitted to the Transport Regulatory Unit, Ministry of Public Works and Transport, Beirut, Lebanon.
- Directorate General of Civil Aviation (DGCA) (1971). Presidential Decree 1610 of 21 July 1971, entitled *Organization of the General Directorate of Civil Aviation*.
- Estache, A. & de Rus, G. (Eds.) (2000). *Privatization and Regulation of Transport Infrastructure: Guidelines for Policymakers and Regulators*. World Bank Institute publication, The World Bank, Washington, D.C.
- Findlay, C., Sien, C.L., & Singh, K. (Eds.) (1997). *Asia Pacific Air Transport: Challenges and Policy Reforms*. Singapore: Institute of Southeast Asian Studies.
- Ministry of Public Works and Transport (2001). *Draft Civil Aviation Reform Law*, Beirut, Lebanon.
- Morrell, P. (1998). Air transport liberalization in Europe: the progress so far. *Journal of Air Transportation World Wide*, Vol. 3, No. 1.
- Toh R. S. (1998). Toward an international open skies regime: advances, impediments, and impacts. *Journal of Air Transportation World Wide*, Vol. 3, No. 1.