International Civil Aviation Organization

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**Topic A: Travel Security and Safety**

**Introduction**

The International Civil Aviation Organization (ICAO) was established in 1944 as wartime technological developments advanced capabilities and public perceptions of the mechanical airplane. Systems of international travel and public cargo transportation were being organized for the first time and expectedly faced numerous political and technical obstacles. Thus, on December 7, 1944, 52 nations signed the *Convention on International Civil Aviation*, known as the ‘Chicago Convention,’ establishing the Provisional International Civil Aviation Organization (PICAO).¹ In 1946, under the recently established United Nations, PICAO became a permanent specialized agency under the Economic and Social Council (ECOSOC) known simply as ICAO.²

Today, the ICAO’s 191 member states convene in Montreal to “achieve the sustainable growth of the global civil aviation system.”³ More specifically, ICAO has the jurisdiction to draft global aviation policies and standards, administer compliance audits, publish relevant data reports, and assist nations in developing their aviation capacity. In terms of legislation, ICAO produces resolutions to evolve the Standards and Recommended Practices (SARPs) and Procedures for Air Navigation (PANS) to match the needs of the dynamic aviation climate.⁴ Most recently, ICAO council members released the five strategic objectives for the 2014-2016 term: (a) safety, (b) air navigation capacity and efficiency, (c) security and facilitation, (d) economic development of air transport, and (e) environmental protection.⁵ Understanding the international efforts in each of these five objectives will be crucial in understanding the modern standing of our debate and will improve our simulation as we try to address these currently-pressing issues.

Undoubtedly, air travel safety and security encompass the two greatest core focuses of the ICAO today. With an estimated 3.6 billion passengers over the

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² Ibid.


⁴ "About ICAO." *ICAO*. [http://www.icao.int/about-icao/Pages/default.aspx](http://www.icao.int/about-icao/Pages/default.aspx).

year of 2016, a threat to civilian flight safety places the entire international community at risk. Unfortunate events, especially in the past two decades, have resulted in a comprehensive reaction by the ICAO to bolster the assurance of safe air travel. Regardless of the variances each nation’s aviation infrastructure, safety and security are top priorities of every member nation. Thus, it is important to approach this issue with a firm understanding of your national security policies as well an open-minded appreciation of every other nation’s approach to ensuring safety.

As we will see in the history of the topic, certain nations have been more directly affected by attacks to air safety than others. However, the issue is truly international and includes the efforts of every nation. Because of the deeply-rooted network of modern day air travel, a violation of one nation’s air security places every other nation in a potentially vulnerable position. Thus, a main motive of our committee will be to include each of our member states in the international discussion. Every member nation of ICAO has published or publicly adopted air safety policies and we would like to see every member of our committee translate this ubiquitous involvement into equally passionate participation.

Because of the earnestly significantly nature of this topic, the ICAO has developed a broad list of issues to address. However, due to our committee’s time limitations, I would like to see us focus on the following subtopics to ensure progress:

1. **Aviation Security Policy:**
   Aviation Security Policy (ASP) is an officially designated section of the SARPs in which nations update recommended provisions to international air travel security. Perhaps the most well-known facet of ASP is airport security. Nations debate the efficacy of airport security practices and the adaptation of these measures to international policy. It is essential to remember that there is often a thin line between increased security and civilian convenience or even rights, so national policies to airport security often differs significantly. Although the ICAO, just like other UN standing committees, does not reserve the right to enforce international recommendations, adopted resolutions pave the way to the internationally accepted standing towards security measures in the world. It is crucial to understand your national policy seriously.

2. **Counter-Terrorism:**
   In light of recent events, international terrorism has become one of the most central focuses throughout the UN. The ICAO is no exception. Airplanes have been historically used as a medium to induce terror in several ways and the ICAO is unilaterally focused on preventing international tragedies. Counter-terrorism is often one of the trickiest topics to address in international policy. Nations often disagree on the definition of terrorism and those considered perpetrators of terror. Thus, preventative measures to counter terrorism must closely resemble national policy towards terrorism.

3. **Crisis and Rapid Response:**
   Perhaps the ICAO’s most challenging task is addressing plans of action during air travel crisis situations.

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These include loss of control in-flight, environmental or natural stresses, and accident survivability. Because these topics are time-sensitive, ICAO recommendations must be preventative and applicable to emergency situations. Often, the strength of crisis and rapid response is gauged by technological or innovative solutions that prepare for the promotion of emergency measures.

**Historical Background**

**The Origins of Aviation Safety Measures**

The first laws regulating civil aviation were passed by the United States in the early 20th century. After the First World War, most airplanes were constructed out of light wood and fabric materials, evolving the Wright brothers’ biplane model. With increased flight accessibility inevitably came an increase in the rate of accidents. In 1924, the fatality rate for commercial fliers was one per 13,500 miles flown. The American response was the Air Commerce Act of 1926, requiring the “licensing and insurance of the airworthiness of all aircraft engaged in interstate commerce, certification of airmen similarly engaged, and development and enforcement of air traffic rules.” Initial efforts did not significantly prevent a rise in fatality rates resulting from the spread of air travel, but they paved the way for the international community to begin addressing aviation safety as a serious topic.

A concerted, international effort to aviation safety first became apparent in the ‘Chicago Convention.’ Article 5 of the Convention encourages conscripting nations to “have due regard for the safety of navigation of civil aircraft.” To this effect, the convention encourages standardized practices of “communications systems, air navigation aids, air traffic control practices, aircraft registration, and log books including aircraft distress or investigation reports.” The communal effort to standardize civil aircraft safety measures indicates the international origin of one of ICAO’s central operatives.

**Development of Aircraft Safety**

Updating the ICAO SARPs requires a sound understanding of the progression of aircraft safety measures. The single greatest factor in advancing aircraft safety is the development of aviation technologies. According to the ICAO, the introduction of the turbine-powered engine was instrumental in transforming aircraft safety. By allowing flights to travel at high altitudes, turbine engines enabled commercial aircrafts to avoid lower atmospheric weather and stronger turbulence. The mass adoption of turbine engines in the 1970’s is visible in the decline of fatal accidents shown in Figure 1.

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11 Ibid.
An important technological factor in safety is the aircraft’s communication capability. As air traffic expanded in the Jet Age, the lack of reliable inter-flight communications resulted in collisions and other preventable accidents. In 1948, a mid-air collision between a Scandinavian Airlines flight and a Royal Air Force transport aircraft over Northwood, London first raised international attention towards the need for inter-flight communication. The British and French ministries of Civil Aviation adopted new flight separation policies and the Civil Aeronautics Administration (CAA) in the United States began updating American civil flight systems with long-range radars. These systems had the capability to detect other aircraft within in 200 nautical miles and in 1964, 26 nations mandated civilian aircrafts to have transponders which assist air control radar.  

In 1956, the collision between United Airlines Flight 718 and Trans World Airlines Flight 2 over the Grand Canyon demonstrated a clear mismanagement of in-air communication and air traffic control at the cost of 128 civilian lives.  

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The collision resulted in the first major upgrade of air traffic control (ATC) systems in the United States and the 1958 creation of the Federal Aviation Administration to oversee flight safety. The American ATC model was designated “the international standard” by ICAO in 1960 and has since inspired the development of ATC systems across the world. Now, international aviation standards require international airports to construct an air traffic control tower equipped with radar control. Under modern standards, a Terminal Radar Approach Control (TRACON), also known as primary radar, is in the vicinity of the airport and controls aircraft within a 30 to 50 nautical mile radius of the airport. Then, a Digital Airport Surveillance Radar (DASR), also known as the secondary radar, communicates with the transponder on the aircraft and receives operational data. Both radar systems require the construction of antennae towers and a reliable electrical connection to the ATC facility. This system is depicted in Figure 2.

Communication with air traffic control provides pilots with crucial information, including instructions on optimal flying altitude, speeds, headings, and routes. At the same time, the pilot’s involvement in communications provides necessary information for ATC to operate, especially in times of crisis management.16

In 1951, the ICAO passed “Annex 10” to the ‘Chicago Convention,’ which recommended English to be the universal language for international aviation.17 Ever since, all international pilots are expected to speak English proficiently in communications with ATC. However, there have been serious, even fatal issues with this assumption. First, of all, English is still not the mandatory language in the ATC. France, Italy, and most former Soviet nations do not use English for domestic flight communications. Many pilots who learn the language solely for the use of international flight do not reach a level of on-spot proficiency necessary in high-pressure situations or learn a different style of English than that of the ATC. According to a Boeing study about the prevention of aircraft accidents, miscommunication between pilot and controller contributed to at least 11 percent of fatal crashes worldwide in the period of 1982-1991.18 Furthermore, “over 70% of aviation accidents result from crew coordination and communication as opposed to lack of individual technical skills.”19 The problem with the English standard is not only the lack of ubiquitous English proficiency but also the colloquialisms and nuances in local ‘Englishes’ that cause miscommunication.

For example, the worst accident in aviation history was a result of an English communication breakdown. On March 27, 1977, an on-runway collision between KLM Flight 4805 and Pan American Flight 1736 in the Los Rodeos Airport of the Canary Islands killed 583 civilians and injured 61 more. This event, known as the Tenerife Tragedy, began when both aircrafts were waiting at opposite ends of the runway. The Pan Am plane was cleared to use the runway to turn into a taxiway while the KLM flight was waiting for takeoff. Neither plane could see the other because of the dense fog. Then, the Spanish controller at the ATC began


17 “Convention on International Civil Aviation - Doc 7300.”


giving the Dutch pilot of the KLM flight post-takeoff instructions. The misinterpretation of the different styles of English caused the Dutch pilot to believe he was cleared for takeoff. Thus, the KLM aircraft began speeding down the runway for takeoff while the Pan Am flight was still taxiing from the opposite direction. Figure 3 demonstrates the collision.

Figure 3: Schematic Representation of Tenerife Tragedy

Progression of Airport Security

The advent of airport security is a recent phenomenon. In the early history of civil aviation, airport security had never been a serious concern. However, in the late 1960’s, the rate of hijacking airplanes increased to unprecedented levels. In fact, in 1969 alone, 86 civilian flights around the world were hijacked. Up to this point, no nation had standardized airport security laws. Then, in 1974, after threats from hijackers to crash into nuclear facilities, the United States authorized the Air Transportation Security Act enforcing the metal-detection of all passengers and X-ray screenings of their carry-on bags. Similar models were adopted elsewhere. Belfast International Airport in Northern Ireland implemented a mandatory entrance baggage check policy.

In the 1980’s, a rise in fatal airplane bombings necessitated an international response. In 1985, Air India Flight 182 from Toronto to London was destroyed by sabotage as dynamite placed in checked-in baggage exploded. With 329 fatalities, the Air India 182 destruction became the deadliest plane bombing in history. Then, the killing of 270 people in the 1988 Pan Am 103/Lockerbie bombing resulted in the global establishment of statutes mandating X-ray screenings for checked bags.

Figure 4: Number of Airliner Hijackings per Year (1950 - 2014)

The most monumental event in the evolution of airport security is the string of attacks on September 11, 2001. In the year following the event, nearly every nation in

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20 Tajima, Ibid.


23 “Airliner Hijackings” Ibid.
the world revised or adopted a new airport security framework.24 States began requiring thorough screening procedures along with identification checks. The United States established the Transportation Security Administration (TSA) to handle the spike in security measures. Other high-risk nations like the United Kingdom bolstered security measures, adopting thorough bag checks, administering limits on liquids and gels, and investigating high risk suspects. Even nations directly unrelated to the attacks adopted laws mimicking rigorous TSA policies. In 2007, full-body scanners started being used on a widespread basis. European Union Regulation No. 300/2008 requires the standardization of “full-body scanning, extensive X-ray screening, … and random individual inspections” across EU international flights.25

Perhaps the largest impact of the September 11th attacks was the globalization of airport security measures. Prior to the 21st century, only a few nations adopted standardized airport security practices. However, the disaster caused a near immediate reaction throughout the international community. The national governments of Sweden, Norway, and Finland had, before September 11th, opposed the introduction of full body checks in order to preserve “personal freedoms and sensitivities of civilian passengers.”26 However, in the weeks following the September 11th attacks, all three of the nations adopted full security check measures, allotting over 20% of national defense funds toward the construction of proper infrastructure for airport security.27

Contemporary Conditions

Considering the relatively recent nature of air safety and security measures, many issues remain unresolved. First of all, approaches to airport security remain controversial. For the example, the efficacy of the United States’ TSA Airport Security framework is often debated. In 2013, the United States Department of Homeland Security ran undercover tests at the nation’s highest traffic airports. Over 95% of the time, operatives were able to smuggle banned weapons and mock explosives through American security checkpoints.28 Since 2007, the United States government has allocated over $900 million in public funds toward the standardization of full body screening devices in American airports.29 Furthermore, the American system of full-body scanners raises concerns


27 Ibid.


29 Ibid.
over personal liberties. According to 912 officially filed complaints to the TSA since 2007, the full-body scanners were characterized as “overly intrusive, humiliating, and an invasion of privacy.”

Thus, the question of contention is whether an expensive and arguably ineffective or intrusive program should still be upheld. The United States has continued to support the TSA program, suggesting modifications to methods over the years. Other nations, however, do not agree with TSA measures. The People’s Republic of China has undermined American methods by labeling them as security theater, indicating the inefficacy. On the other hand, the European Union has avoided the mandated implementation of full imaging scanners and has lighter limitations on liquids.

Finding international agreement on the fine line between effective security and passenger privacy or convenience is the main concern of ICAO in contemporary applications.

Another issue that concerns mainly developing nations remains. The explosion detonation on Daallo Airlines Flight 159 on February 2, 2016, as well as the explosion of Metrojet Flight 9268 on October, 2015 point toward the inability of two major African airports to prevent major disasters. A closer investigation revealed that there is a strong likelihood that airport employees were perpetrators of the intended attacks. The concern of corruption in African nations, especially those that are direct terror targets, is another central topic delegates of ICAO should address. Investigative accounts affirm the malleability of security officials in major airports, pointing towards a systematic problem. Along with airport security measures, delegates should also consider accountability measures to ensure the proper enforcements of state policies.

Finally, recent lapses in crisis situations reveal current issues with aircraft safety measures. The loss of Malaysia Airlines Flight 370 reveals a fundamental problem with airplane tracking and communication. Additionally, the difference in airplane manufacturing dates means that not all international civil aircraft are equipped with the latest safety technologies. Thus, another operative of ICAO should be to standardize safety mechanisms and ensure rapid response defense systems against high crisis situations. The problem is that the implementation of technologically advanced standards in many nations not only violates practical feasibility but also national policy. Thus, it is important to understand national aircraft safety measure policies and understand ICAO’s role in increasing the safety of international travel.

**Past UN and International Action**

Since its conception, the ICAO has been dedicated to promoting safety and security measures in civil aviation. Of the thirty resolutions adopted by the ICAO, sixteen of them deal specifically with air

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travel safety measures. Resolution A38-2 endorsed the “first edition of the Global Aviation Safety Plan (GASP)” which began the standardization of international aircraft security measures. In Appendix A of Resolution A38-27, ICAO established the current framework to standardize Machine-Readable Travel Documents (MRTDs) to facilitate the international logging of terrorist activity. This ICAO initiative also shares international travel documents with relevant nations in the MRTD system to increase global accountability and reduce chances of human error.

In the past 5 years, counter-terrorism has become a core focus of ICAO activity. In 2015, after the downing of Metrojet Flight 9268, ICAO established an investigatory committee to report deficiencies in Egyptian airport security measures and errors in human personnel. After the bombings of the Brussels Airport on March 2016, ICAO launched an appeal for cooperation between ICAO and the Counter-Terrorism Committee (CTC). The CTC was established under Security Council Resolution 1373, condemning the September 11th attacks and framing a “broad anti-terrorism mandate for the international community.” By bridging information from MRTDs with enforceable CTC measures, the ICAO hopes to accomplish a greater impact in its counter-terrorism efforts and involvement in the international community.

Questions a Resolution Should Answer

1. How can the ICAO effectively promote international airport security standards while respecting each nation’s sovereignty to establish its own security laws?

   Airport security is often a function of national police or domestic security agencies of a nation, both of which can only be modified with permission of the state. Thus, your resolution must remember that prospective attempts to standardize airport security can be considered a violation to national sovereignty. To respect the international jurisdiction of ICAO, you must devise solutions that respect a nation’s right to security but also pursue the same goal.

2. How does a nation’s infrastructural in air travel affect their ability to enforce international solutions?

   To respect the global nature of our debate, our resolutions must be considerate of varying levels of airport capabilities around the world. Thus, solutions must be able to serve to infrastructural limitations of airports around the world. My recommendation here is to understand the state of your nation’s airports and adjust national policy accordingly.

3. How can new developments in aircraft security be universally adapted in order to meet international standards?

   The issue of distribution and enforcement makes the standardization of safety technologies challenging. Your resolution should recommend not only

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35 Ibid.

36 Ibid.

technologies or safeguards but also proper implementation strategies.

4. **How does your resolution protect civil liberties and conveniences in air travel while also securing air travel from terrorist attacks?**

This is always the most difficult question to answer and national policies differ the most on finding the balance in this position. Your resolution should make it clear how you plan on safeguarding passengers from possible civil liberty violations while complying with international safety standards.

5. **What specific security measures ensure the proper detection and mitigation of terrorist threats to civilian aircraft?**

Research specific airport security solutions that not only deter terrorists from plotting intentional malice but also reveal actual attempts.

6. **What is the timeframe of implementation for your solutions?**

Do recall that ICAO works on a triennial term basis. Your resolution should clearly state whether your solutions can be implemented in the current term or in the long-term.

7. **What is your approach into in-air communication and crisis management?**

International standards on in-flight communication and rapid response are not complied to by every nation. Understand your national policy approach to this central security focus and how your resolution will help uphold international standards.

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**Bloc Positions**

### European Union

The European Union has adopted its own standards for air safety and security. Most notably, flights between nations within the EU are treated as domestic flights, allowing passengers to forgo international customs inspections. This policy is often debated within the European Union especially after recent terrorist threats targeting specific countries. It is imperative for European nations to understand their specific policy towards open borders and emulate national efforts.

Furthermore, the EU’s security policy specifically attempts to promote safeguarding measures and respect traveler convenience. The EU does not require nations to install full-body scanners and reserves the right of passengers to avoid such machines. Additionally, scanners must be located from a distance such that they cannot view travelers personally. A system unique to the EU is the involvement of private partnerships in airport security systems. The dais recommends that delegates research their national policy towards private cooperation in security.

### North America

The North American approach to air security is mainly structured in response to the September 11th attacks. The TSA and the Canadian Air Transport Security Authority (CATSA) were both formed in response to the attacks and have adopted similar security policies in hopes of countering prospective terrorist attacks.

Over time, the TSA has heightened security policies, enforcing the use of full-body scanners and imposing restrictive

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limits on transportable items. However, due to differences in the political climate, the CATSA has alleviated much of its policies since its conception. Passengers are not required to remove shoes, walk through full-body scanners, or show identification for domestic flights as they are in the United States.

In both Canada and the United States, passenger privacy remains an unresolved issue, with different political arguments supporting conflicting principles. Understanding the dynamic of this political debate is crucial in accurately representing the national policy of either nation and supporting solutions that are in line with North American popular interests.

Rest of the World

For the rest of the world, air security measures are variegated. People’s Republic of China, the Russian Federation, or India have well-developed airport security programs but none of them share broad similarities in policy.³⁹ For most nations, the most important research is understanding your own nation’s approach to airport security. Additionally, air travel infrastructure plays an important role in national policy. Nations with fewer developed international airports or low air traffic may not support implementation measures that allocate national resources toward international standards. Likewise, nations that face corruption in airports may wish to see a greater focus on accountability and execution measures.

Conclusion

The feasibility of international travel is measured by the safety and security we can ensure to civilian travelers and their families. The reason chances of perishing from an airplane incident is astronomically low (1 in 11 million) is because of rigorous security and safety measures enforced over the years to protect human life.⁴⁰ However, the system is far from perfect. Any preventable injury or loss of life in civilian flight poses a threat to the entire international community. Thus, safety and security of civilian flights is paramount.

Developments of air travel security are ubiquitous but not unanimous. Each nation has had a different response to threats against air travel safety and the balance between security and personal liberties is still contentious. Another concern is the availability of infrastructure. Delegates should be mindful of the large costs behind air travel security measures and their possible infeasibility in certain nations. Thus, it is also important to consider measures that help expand security methods to developing nations in accordance with national policy and practicality.

Our focus for this debate is to promote thought-invoking debate about an earnest yet often overlooked issue. The only way this will be possible is if delegates come prepared with a comprehensive knowledge of their national policy. It is important to remember that all nations want to ensure to air travel security. Simply promoting increased airport security measures and standardizing technological advancements in airplanes will not facilitate any debate. Emphasize differences in policy. Research unique policies of your nation and discussions about air travel that have already taken place in your nation. Remember, every nation, regardless of its infrastructure, has tackled the issue of international air travel in a different manner. Discover the blocs and

coalitions of nations pertinent to your nation’s policies and find developmental solutions in line with your interests. With creative solutions to current issues in air travel, we can not only keep debate interesting but also advance the debate on a truly international issue.

**Topic B: Economic Influence of Airlines**

**Introduction**

Colloquially, “airlines” are private companies that transport passengers and freight using aircraft. Though the economic power of airlines is concentrated in the hands of a few companies, such as American Airlines and Delta, there are hundreds of other regional and intercontinental airlines worldwide. The International Civil Aviation Committee was formed in 1944 to oversee the implementation of the Convention on International Civil Aviation to the global market. According to its charter:

“ICAO works with the Convention’s 191 Member States and industry groups to reach consensus on international civil aviation Standards and Recommended Practices (SARPs) and policies in support of a safe, efficient, secure, economically sustainable and environmentally responsible civil aviation sector.”

A recent success of the ICAO has been the adoption of the Declaration on Aviation Security at the 37th Assembly of the International Civil Aviation Organization in 2012. It recognizes the interconnected nature of air travel and each nation’s part in securing the skies for global social and economic well-being. This was a paramount declaration because it officially recognizes the potential of airlines in areas beyond private economic gain.

All nations, big and small, have a role in legislating the future of aviation. It is critical that all delegates have a deep understanding of their country’s history in regards to aviation to facilitate a positive learning environment for all.

**Historical Background**

![Figure 1: Impact of Brexit on British Air Travel. Source: IATA Brexit Report](https://www.iata.org/whatwedo/Documents/economics/impact_of_brexit.pdf)

Humanity has been fascinated with the idea of flight ever since specialization of

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41 "Airport Economics Manual - International Civil Aviation"

42 “100 Years of Commercial Aviation - SITA.”

43 “The Impact of ‘BREXIT’ on UK Air Transport June 2016.”
labor promoted and materialized into technological progress. The rudimentary Chinese bamboo-copter has entertained audiences since 400 B.C., and Leonardo Da Vinci tried to design flight machines during the Renaissance.\(^{44}\) However, flight was not an accredited technology until the Wright Brothers demonstrated tight turns in their controllable airplane in France in 1908, and Louis Bleriot’s flight across the English Channel in 1909.\(^{45}\) The advent of World War I in 1914 spurred worldwide interest in developing planes for military use, and subsequent innovations in design and performance opened a world of opportunity for peacetime aviation in the future. However, it was not until the 1937 Hindenburg disaster that Zeppelins were completely erased from the aviation industry.\(^{46}\)

The economic history of the aviation industry is undoubtedly complex. The world’s first commercial airline was DELAG, or Deutsche Luftschiffahrt-Aktiengesellschaft, founded in 1909, and used Zeppelins.\(^{47}\) It catered to the German upper class. The earliest airlines were made possible with substantial government subsidies, similar to highways and railways. Over the past few decades, some member nations have moved away from government subsidies. In recent times, Australia, the European Union, India, Malaysia, United Kingdom, and United States have deregulated their airline industries. It resulted in a 40% reduction in global ticket cost: an apparent victory for the consumer.\(^{48}\) Industry deregulation incites boom-and-bust economic cycles that eliminate aviation startups and favors concentration of economic power in the hands of a few larger companies, such as Delta, British Airways, and Air India. The lack of small and medium-sized airports stifles the free flow of information, ideas, and products from cities to rural areas, and vice-versa.\(^{49}\) The airline industry has been haunted by the question of whether competition produces a public good or concentrates power in the hands of airline elites. In some ways, the freedom of competition has yielded no competition at all.

Behind labor, oil is the most expensive cost to any airline. In 2008, worldwide oil prices exploded as part of the Great Recession.\(^{50}\) Many national airlines such as Italy’s Air One went bankrupt, a sober reminder that unregulated industries are often the first to fall to economic strife. However, recent times have seen a significant drop in oil prices and subsequent decrease in costs for both airlines and the consumers, a testament to the volatility of the industry.\(^{51}\) Domestic and local airline

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\(^{45}\) Ibid.


industries are at the mercy of international trade relationships.

For example, Saudi Arabia and other nations with extensive oil reserves have practiced dumping, or the international sale of oil below market price, to drive the cost of United States oil up. Deregulated industries are typically more vulnerable to changes trade fluctuations than regulated ones.

Figure 2: Carbon use per Kilometer traveled for common transportation.

Air transport agreements are widely bilateral affairs between individual nations. Because flight technology is relatively new, richer countries have a monopoly on its development. Mutual interests in the economic future of the airline industry has encouraged cooperation among developed nations for a plethora of reasons. To name one, aviation agreements can improve both relations and economic ties between one or more nations. The first was the Bermuda Agreement of 1946 between the United Kingdom and the United States, and designated specific flight routes for international aircraft. The landmark EU-US Open Skies Agreement of 2007 recognized the vast economic, political, and social potential of freedom of navigation. However, in this case, two capitalistic powers recognized the potential of airlines in areas beyond just profit. It broadened universal international aviation cooperation and has driven consumer costs down.

Despite the global airline industry’s role in facilitating the free flow of communication, people, and goods, it has achieved a net loss in profits because overall costs have outweighed its income. Though one may feel packed in the economy seating of an Airbus, there is not an overwhelming demand for air travel. In fact, Delta has recently introduced the concept of “Basic Economy” seating, in which economy passengers forfeit the right to pick seats in advance. Whereas some champion a reduced-price seating option for low-income passengers, others claim that the dominant airlines have more questionable intentions. Supporters of regulation have accused Delta of far more nefarious intentions. Delta may be shaving away passenger entitlements to

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make the cheapest seats unbearable, and encourage customers to buy “luxury” seats for the sake of comfort. If the airlines were more regulated, such business practices could be exposed and eliminated. Problems in airline development are not limited to first-world countries; developing nations have explored the economic labyrinth of airline advancement, too.

Multiple airline industry practices in Southeast Asia have proved disastrous for their local economies. These nations have benefited from booming growth rates as a result of capital deepening and accumulation of knowledge capital over the past few decades; however, their low-cost airlines have overestimated consumer demand for short flights. In Singapore, Tigerair recorded a loss of almost 200 million dollars in 2015 alone because of its inability to fill seats on short flights. Local populations have been afflicted with reduced transportation options and more expensive flights over short distances. Shorter flights cost more in comparison to longer flights because high costs stem from airport personnel. Contrary to popular belief, most oil is burned in taking off and landing; at cruising altitude, the length of the flight does not matter. The overcapacity of local airline industries has led to material frugality: some airlines have reduced carpeting, changed in-flight meal options, and even removed critical safety gear simply to make ends meet.  

Air disasters have exposed industry failures to put safety above economics. Though airlines claim that safety is their number one priority, it can be argued that both history and statistics prove otherwise. The vast economic pressure on airlines to cut corners has concentrated on the managers of airlines. They overwork pilots, leading to fatigue. Pilots will sometimes take off despite adverse weather conditions to ensure a flight is profitable.

Small problems have the capacity to manifest themselves into tragedies. Turkish Airlines flight 981 crashed near Paris in 1974, killing all its 346 passengers and crew. The McDonnell Douglas DC-10 suffered a hatch malfunction that severed pilot control of the aircraft. McDonnell Douglas understood the problem, but chose not to fix it because of cost and time concerns. This is a fatal example of an airline putting economic survival over the survivability of its planes. In another related incident, a DC-10 killed flying out of Chicago killed all of its 271 passengers due to a severed engine pylon. The maintenance staff broke regulations and used a forklift to repair part of the plane to beat time constraints. Over the past twenty years, the percentage of airlines accidents caused by maintenance crews has increased because of their willingness to use outdated parts that should be replaced.

Capitalistic industries will naturally cut corners and conceal breaches in business etiquette. Defenders of deregulation contend that accidents are tragic and unavoidable, but that managers of airlines have a responsibility to their employers and employees to make a profit. On the other

57 “Too Much of a Good Thing.” Ibid.
60 Ibid.
62 Ibid.
hand, champions of regulation argue that the contribution of airlines to worldwide development and the public good should override its current status as a for-profit industry monopolized by virtual captains of industry. Critics of the industry also claim airlines operate by the “Tombstone Imperative;” that is, when the costs of a new safety device are less than the cost of human life lost as a result of their absence, the airline will choose safety. As a testament to the infamous inflexibility of airlines, it took 10 years and 27 related deaths before the United States legislated minimum following distances for aircraft. To promote quantity over quality, airlines had boosted the amount of flights taking off from individual airports and exposed smaller airplanes to deadly air vortexes left by larger, powerful engines.

The ICAO works to prevent future incidents through the Ethics Office. It justifies industry oversight with protection of human rights over fiscal efficiency. The ICAO, as an organization, represents a coordinated and regulated effort to harness the services of a quite remarkable industry. Some assert that it is the unavoidable nature of humanity to cut corners and bend rules for economic profit, but others believe careful collective action can ensure the safe and just application of relatively new technology to the world stage.

**Contemporary Conditions**

The economics of airlines have clear ramifications for the environmental sector. Though airlines may serve a public interest, their economic activity still has dangerous byproducts. Air traffic increasingly contributes to global warming. Global warming is caused in part by human production of Greenhouse Gases (GHGs) such as carbon dioxide (CO₂). International aviation accounts for 40% of released GHGs. It is also responsible for 4-9% of all climate change impact due to human activity, and since 1990, carbon dioxide (CO₂) emissions from international air travel have increased 83%. There are clear incentives for nations to invest in a clean future for aviation. Researchers at Stanford University assert that, global GDP will be 20% less than potential by the year 2100 due to the climate and environmental costs of unchecked global warming. In response, the 2016 ICAO Environmental Report investigated possible emissions reforms, and currently calls for regulatory limits on aircraft CO₂ emissions:

“The modeling exercise involved several analytical tools, including fleet evolution modeling, environmental benefits, recurring costs, non-recurring costs, costs per metric ton of CO₂ avoided, certification costs, applicability scenarios and various sensitivity studies to inform the decision-making process. This work allowed [ICAO] to conduct an analysis, with the aim of providing a reasonable assessment of the economic costs and environmental benefits for a potential CO₂ standard in comparison with a ‘no action’ baseline.”

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63 Ibid.

64 “About ICAO” ICAO. [http://www.icao.int/about-icao/Pages/default.aspx](http://www.icao.int/about-icao/Pages/default.aspx).


66 Ibid.


68 “Climate Change and Economic Production by Country.” Ibid.
There is an average of 100,000 commercial flights per day. Each flight leaves behind sulfur particulate that contributes to global dimming, or a reduction in direct irradiance hitting the Earth’s surface. It results in acid rain, smog, drought, and famine, especially in developing and underdeveloped nations in South Asia. Looking to the future, developed countries have the potential to limit the environmental influence of airlines on the economy and well-being of both developing countries and the world. Boeing and Air New Zealand announced a joint project after the Great Recession to research “oilgae,” a renewable source of energy derived from algae. Algae can be grown using wastewater in rice paddies, does not contaminate precious drinking water, and thrives in abandoned lands deemed unsuitable for agriculture. This is especially attractive for developing nations with low-quality land. Honeywell UOP believes biofuels can one day reduce global aviation greenhouse emissions by 60-80%. One must keep in mind that lack of government subsidies for revolutionary environmental products such as oilgae keep them in the developmental stages. The idea behind these movements is to increase the number of flights and decrease fares by facilitating a free market in the commercial airline industry. Although a majority of the developed world has already liberalized market access, the adoption of deregulatory policy continues to meet resistance from countries looking to maintain their prestige, security, and national interests along with as many developing countries. To address this, ICAO’s resolution A39-15 urges members to:

“pursue liberalization of market access at a pace and in a manner appropriate to needs and circumstances, giving due regard to the interests of all stakeholders, the changing business environment and infrastructure requirements, as well as to the principles pertaining to safeguard measures designed to ensure the sustained and effective participation of all States, including the principle of giving special consideration to the interests and needs of developing countries.”

With the ICAO’s embrace of deregulatory policy, it is impossible to ignore the

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environmental implications, as airlines have historically prioritized the maximization of profits over reducing emissions. To account for the burden civil aviation puts on the Earth, ICAO has gone to great lengths to establish environmentally focused subcommittees. In 1983, the Council combined the Committee on Aircraft Noise (CAN) and the Committee on International Aviation Engine Emissions (CAEE), establishing the Committee on International Aviation Environmental Protection (CAEP); a circle of experts to devise suggestions on issues involving economic, social, technical, and policy aspects of aviation and the environment. ICAO approves its meetings, terms of reference, agenda, and work program. CAEP’s work program runs on a three-year cycle, during which working groups meet frequently. At the end of each cycle, the Committee convenes at ICAO’s headquarters in Montreal to formulate a final report with suggestions to be considered for approval by the Council.  

CAEP has been the cornerstone of ICAO’s work on environmental issues. Since the 1992 United Nations Conference on Environment and Development, CAEP has been entrusted by the Council to work closely with organizations such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) on all climate change issues associated with aviation. When drafting resolutions to present to the Council, CAEP adopts recommendations that fit four conditions: technical feasibility, environmental effectiveness, economic reasonableness, and the interdependencies of measures. This four-pronged test has been heavily criticized, as it often favors the views of industry instead of the views of ICAO. Another criticism that CAEP has received over the years is its imbalance of power. CAEP’s first roster included thirteen ICAO member States, seven of which were European states. When membership was bumped up to fifteen, it was two new European additions. Eventually in 2001, the need for regional diversity was finally considered, as three spots were opened for Egypt, Singapore, and South Africa. Further additions in 2007 and 2009 admitted experts from China, Ukraine, and Nigeria. Despite these recent additions, European states represent 41 percent of CAEP’s total membership, while developing states only account of 34.4 percent. This imbalance of power is largely due to the fact that upon CAEP’s creation, aircraft noise was almost exclusively a concern of European countries. For this reason, developing countries felt little need to take part in debate regarding the environmental implications of aviation. This historical imbalance of power has helped perpetuate the notion that the environmental issues of aviation are a phenomenon of the developed world.

Less than a year after the Kyoto Protocol was signed in 1997, ICAO’s 32nd assembly made a note to consider “policy options to limit or reduce greenhouse gas emissions from civil aviation, taking into account the IPCC special report and the requirements of the Kyoto Protocol.” Immediately afterward, CAEP assembled a


75 Ibid.

76 Ibid.
group to research policy options geared toward reducing emissions such as charges, fuel taxes, offsetting schemes and emissions trading. At ICAO’s 33rd assembly in 2001, the Council considered CAEP’s recommendations; however, a lack of political will led to the Assembly’s failure to adopt such a system. Alternatively, the Assembly encouraged the Council to provide member States with guidelines on the application of market-based measures. The next few years including the 34th and 35th Assemblies showed that ICAO was in a period of observation and research, as few concrete measures were implemented.

Following years of limited action, the issue of emissions took center stage at the 36th Assembly in 2007, as the European Union had recently declared its intention to involve foreign airlines in its emissions trading scheme. Thus, the Assembly made it clear that the international community will not condone the inclusion of foreign airlines in any unilateral regime. The issue of mutual consent was indubitably at the forefront debate regarding climate change. In response to such disagreements and the failure to recognize a regulatory system of greenhouse gas emissions, the Assembly encouraged the Council to form a sub-committee focused on climate change. Promptly, the Group on International Aviation and Climate Change (GIACC) was established with hopes that the body would provide policy recommendations.

After a period of substantial research, GIACC released three main recommendations:

1. The development of a CO2 emission standard;
2. A framework for market-based measures;
3. State action plans.

To build off of GIACC’s recommendations, ICAO gathered for a High-Level meeting on International Aviation and Climate Change (HLM-ENV/09). As part of ICAO’s plan on climate change, the group declared that member States should strive “to achieve a global annual average fuel efficiency improvement of 2 percent over the medium term until 2020.” HLM-ENV/09 went on to further reiterate GIACC’s three recommendations. It wasn’t until the 38th Assembly in 2013 that it was finally agreed upon to develop a global market-based measure scheme for international aviation.

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Questions a Resolution Should Answer

1. What methods of reducing CO$_2$ emissions from civil aviation while respecting domestic economic activity in your country have been effective? Why have these measures been successful? How could other countries successfully adopt such a system? An effective resolution will have universal solutions with historical precedent. The most prepared delegates will be ready to use the past to power the future.

2. What methods have been ineffective? Could these faulty systems be corrected? As a committee, delegates must be ready to criticize past actions on relevant topics and rectify them to ensure the survivability of a resolution.

3. Are the issues of your country considered in the Eurocentric subcommittees such as CAEP? Delegates hailing from European countries may wish to investigate CAEP. Delegates from countries outside of the Europe have other organizations relevant to their countries.

4. Has your country adopted a State action plan? If so, what are its terms and conditions? Reminder: State action plans are often individual and will not work if applied to other countries. For example, a plan to develop aviation in Zimbabwe may not interest the Russian Federation.

5. Does your country have a history of using market-based measures (e.g. levies, emissions trading, or offsetting) to meet domestic economic priorities? Be sure to evaluate the pros and cons of using market-based measures to achieve economic priorities, and how other countries may see them. It could be easier to charge US corporations than third-world startups.

6. What role will the international community play in establishing a global market-based measure scheme for international aviation? Unlike political, polarized committees, every nation has some level of interest in developing aviation. Delegates may feel the need to look beyond international disputes in foreign policy to develop peaceful, civilian aviation matters.

7. Has your country adopted deregulatory policy in its air travel sector? If so, how have airplane fares and the number of passengers changed because of new policy? Be prepared to evaluate your country’s current policy in comparison with those of the past.

8. How can the negative effects of airline liberalization be limited? Should governments have some say in the regulation of air travel? Should liberalization policies be abandoned altogether? Make sure to address all perspectives, as deregulatory policies have recently been under public scrutiny for causing issues such as overcrowded airports and flight delays and cancellations.

9. How can fares and participation in air travel be stabilized with the constant fluctuation of oil prices? Can fossil fuel alternatives such as oilgae be successfully integrated into the industry?
Bloc Positions

Europe

It was not until 1997 that the European Union adopted legislation analogous to the 1978 Airline Deregulation Act. Unlike airline deregulation in the United States, deregulation in the EU brought together numerous distinct national markets that were previously tied together in a web of bilateral air services agreements. Although deregulation successfully brought down the price of most non-business class seats, the results were not nearly as successful as in the American analogue. Experts generally attribute this limited success to market-altering subsidies to individual airlines and predatory tactics towards emerging airlines by incumbent carriers.

Europe has often been criticized in ICAO’s environmental discourse, as the merger of the Committee on Aircraft Noise (CAN) and the Committee on Aircraft Emissions (CAEE) into the Committee on International Aviation Environmental Protection (CAEP), CAEP was plagued by an imbalance of power favoring Europe. At the time in 1983, liberalization policies in Europe caused rapid expansion of air travel. This was met with a rise in aircraft noise and airport congestion, which prompted public outcry. As European countries were well represented, CAEP pushed the Council’s agenda toward noise, leaving environmental issues out of the picture.

In later Assemblies when environmental issues such as the increase of CO₂ emissions were at the forefront of debate, European states argued in support of the EU’s emissions trading scheme. In fact, this became the most widely discussed environmental issue of the 36th Assembly.83

North America

The United States was the first country to introduce deregulatory policy in civil aviation with the signing of the Airline Deregulation Act in 1978. Canada followed in the 1980s with the privatization of Air Canada and liberalization of the industry as a whole.84 These movements have been praised for their success in dropping fares in commercial aviation and increasing the number of civilians who have access to air travel. In terms of environmental issues, the United States and Canada have been represented in CAEP since its establishment in 1983. Both countries tend to agree with countries of the European Union on most environmental issues.

Rest of the World

Many countries of the global south have been slow to liberalize their aviation sectors. In most cases, this is due to the fear that widespread deregulation would lead to the domination of a few airlines in the global aviation market, while it would be unlikely that any of those airlines would come from a smaller nation of ICAO. These members would rather have inefficient, debt-ridden state-run airline than become a branch of an international mega-airline. To quote Sierra


Leone’s minister of transport A.B.K. Kamara, “we are faced with the fact that as air travel eases for the people of advanced nations, it is becoming more difficult for the people of the developing nations.”

In ICAO’s environmental discussions, CAEP has received harsh criticism from most members for its Eurocentric membership. It was not until 2001 when the body considered the need for regional diversity, adding Singapore, Egypt, and South Africa. Further additions continued to reflect the need to admit developing nations with rising markets. With this new inclusion of a more diverse set of countries, issues beyond noise gradually found a place for discussion in CAEP. At the 36\textsuperscript{th} Assembly, most non-European member States refused to tolerate Europe’s plan to include foreign aircraft operators into its emissions trading system. The Assembly’s response stated that foreign operators should not be included in an emissions trading scheme without the approval of the foreign operator’s home State.

**Conclusion**

ICAO understands that civil air travel plays a major role in the economic well being of each member state. For most of the past half-century, the international body has pushed for the liberalization of the industry with hopes that the establishment of a free market will make air travel accessible to millions of new individuals across the globe each year. However, it must be noted that this international movement towards the privatization of air travel has lead to volatility in the market. Because of this, ICAO has made it its responsibility to ensure that international air travel is economically secure and sustainable. As the international community continues to push towards the liberalization of the industry, ICAO has fought to protect the Earth and its people by taking measures to stabilize air travel.

While liberalization has now been debated for decades, environmental discourse has gained steam over the past few years. It is clear that the attempts of companies to cut corners in order to maximize profits have been detrimental to the environment. As a result, ICAO has gone to great lengths in recent years to encourage the use of market-based measures in the reduction of greenhouse gas emissions. Moving forward, ICAO will make it a priority to establish a global market-based measure scheme for international aviation. We are confident that this topic will provide for stimulating debate if delegates come prepared to speak on behalf of their national policy. While movements towards liberalization and environmental protection have garnered widespread support in the international community, it should be noted that such policies are flawed and do not fit the best interest of each and every country. We encourage you to research your country’s current stance on the aforementioned issues and evaluate the successes and failures that have occurred. Then, you can begin to think about how such policies can be used to help other members of the international community. We look forward to hearing all your ideas and solutions to contemporary economic issues in civil aviation.


\[86\] Ibid.