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## The Implications of the Irish Air Travel Tax

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A decorative horizontal line art graphic consisting of several overlapping, jagged, and irregular lines in a light gray color, spanning the width of the page.

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## Executive Summary

Aer Lingus, Ryanair and CityJet, which account for 83% of total departing passengers from Irish airports, have called upon the Irish Government to withdraw the Irish Air Travel Tax (ATT), which has applied to flights out of Ireland since 30 March 2009. The ATT imposes a tax of € 10 per passenger on all flights from Irish airports to airports which are situated more than 300 kilometres from Dublin Airport. For flights from Irish airports to airports within this limit a reduced rate of € 2 applies.

The three airlines have commissioned a study by “Amsterdam Aviation Economics” (part of SEO Economic Research), which conducted a similar study in the Netherlands where a similar ticket tax was introduced in July 2008. This tax was subsequently abolished in July 2009, as it was demonstrated that not only were a significant proportion of Dutch travellers using Belgian and German airports as a result of the tax, but also that the tax had adverse effects on the Dutch economy and the travel industry in particular.

It is envisaged that the total revenue from the ATT would have been approximately € 130 million per annum if no demand reduction had occurred as a result of the imposition of the ATT. However, economic theory and empirical evidence clearly demonstrate that passengers will react to higher travel costs, which will inevitably reduce demand for air travel.

If airline capacity in 2009 had been maintained at 2008 levels and the ATT was to be passed on in full to passengers in the form of higher fares, it is estimated that the total resulting demand reduction would be between 0.5 and 1.2 million departing passengers over the first full year based on a price elasticity range of between  $-0.5$  and  $-1.5$ . On this basis and assuming only marginal reductions in capacity to maintain load factors at existing levels, ATT revenue would be between € 117 million and € 124 million but total revenue losses for airlines, airports and the tourist sector would range from a minimum of € 210 million up to € 465 million, dependent on the elasticities assumed. While some revenue losses may be absorbed by the relevant sectors in the form of resulting cost savings, there will still be a significant adverse effect on the Irish economy. These losses are compounded further down the supply chain as companies purchase fewer goods and services.

In particular, there will be a direct loss of jobs of at least 2,000 to 3,000 affecting airports, airlines and the tourism industry dependent upon the extent to which companies are willing to accept the inherent diseconomies of scale from a reduction in demand. The direct consequences of the reduction in passenger demand as a result of the ATT would give rise to significant reductions in government revenues in the following categories:

- Less revenues from income tax (as well as higher unemployment costs)
- Less revenues from corporate tax
- Less revenues from sales tax (value added tax (VAT))

While it is not possible to quantify the scale of these revenue losses, the level of expected job losses as a consequence of the ATT would, assuming that every lost job results in additional costs

of approximately € 20,000 per annum to the Government in the form of reduced income tax and social welfare payments, give rise to an additional cost to the Irish government of the order of €50 million or more. These costs are related to social welfare payments as jobs are unlikely to be replaced in the short to medium term. Over the longer term, as the economy recovers from the recession, the net loss of jobs may reduce as labour switches to less productive employment in a new economic equilibrium.

In reality, airlines have not been able to pass on the ATT to passengers in the form of higher fares but have reacted by a combination of absorbing the tax by lowering fares and redeploying capacity outside of Ireland to locations where no travel tax is applicable. Consequently, actual revenue losses across the various sectors as a result of the ATT have been significantly higher than might have been expected due the impact of higher prices alone, estimated at between € 428 and € 482 million, with ATT revenue estimated to be € 116 million. The resulting loss of revenue on the part of the Government will also be significantly higher as a result of the additional loss of jobs.

Our analysis clearly demonstrates that the imposition of the ATT has resulted in a decline in revenue to specific sectors of the Irish economy of a far greater magnitude than the amount of tax likely to be collected. Based on the actions of airlines to date and the revenue impact on the airlines, who have had to absorb the tax in lower fares to maintain volumes, it is likely that the level of capacity will further reduce as airlines continue to redeploy their resources to lower cost markets in the European Union where no travel tax applies. This will have a further detrimental impact on the Irish economy and the tourism industry in particular. In addition, the resulting reduced airline network will reduce air service connectivity to Ireland, making it less attractive to visit and a less attractive place to do business, which may also serve as an impediment to economic recovery more generally.

# 1 Introduction

Aer Lingus, Ryanair and CityJet (the ‘Airlines’) are currently endeavouring to persuade the Irish Government to withdraw the Irish Air Travel Tax (ATT), which has applied to flights out of Ireland since 30 March 2009. The Airlines have commissioned “Amsterdam Aviation Economics” (part of SEO Economic Research) (AAE) to conduct a study on the financial and economic implications of the ATT in Ireland.

The ATT imposes a tax of € 10 per passenger on all flights from Irish airports to airports which are situated more than 300 kilometers from Dublin Airport. For flights from Irish airports to airports within this limit (all Irish airports and the UK airports of Cardiff, Glasgow, Prestwick, Liverpool, Manchester, Blackpool, and Isle of Man) a reduced rate of € 2 applies. The Airlines and a number of tourist bodies have to date been arguing (unsuccessfully) that the tax is counter-productive from an economic standpoint as any tax revenues which it generates will be more than offset by the adverse impacts on tourism. While it is clear that Irish passenger numbers are falling - figures from the Central Statistics Office (CSO) show that the number of overseas trips to Ireland have dropped by 13% in August 2009 compared to August 2008 - the Government’s position to date is that this is due to macro economic factors and rejects any suggestions that this is a result of the ATT.

A similar issue arose in the Netherlands following the introduction by the Dutch Government of an air ticket tax. The tax was introduced on 1 July 2008 but abolished one year later. The main reason for the subsequent abolition of this air ticket tax was that it became clear from a study conducted by Amsterdam Aviation Economics that this tax alone had strong negative effects on passenger numbers at Dutch airports, together with negative effects in economic sectors linked to aviation, such as the airlines operating from these airports and the tourism industry. In the months after the tax was abolished (July, August and September 2009), the decline in passenger numbers (year on year) was significantly lower than in the months before its abolition.

In the second chapter, our research method is described. In the third chapter, we will summarise the Irish air travel market. Chapter 4 sets out the economic effects of the ATT based on the assumption that capacity remains stable and the ATT is passed on in full to customers in the form of higher fares. Chapter 5 then considers the likely economic effects based on the actual response of the Airlines to the ATT. Finally, Chapter 6 sets out our overall conclusions.





## 2 Research Method

In order to estimate the financial implications of the ATT over the first full year, we have designed a model which estimates the income of the ATT, as well as the income losses for airlines, airports, and the tourism industry. In the first instance, we have analysed the effects for **three airlines** serving Ireland and which have substantial bases in Ireland: Aer Lingus, Ryanair and Cityjet (the “Airlines”). The Airlines serve about 83% of all international traffic from and to Ireland<sup>1</sup>. In order to assess the overall impact on airports and the tourism sector, an upward correction of 20.5% has to be made to account for the impact on total air travel demand<sup>2</sup>.

The Airlines have provided detailed data for the purpose of this report, which has enabled us to make an assessment of the effects of the ATT on each of the Airlines. Due to the confidential and commercially sensitive nature of the data provided, this report does not set out individual airline data, which is instead set out in aggregate form. While the first two of the Airlines principally serve the leisure segment, CityJet serves mainly the business segment. We have undertaken our analysis on this basis.

We have, in this analysis, distinguished ten different origin and destination **regions**, which are:

1. Ireland
2. United Kingdom
3. France
4. Spain and Portugal
5. Italy
6. Germany
7. Poland
8. Western Europe<sup>3</sup>
9. Other Europe<sup>4</sup>
10. Intercontinental

Again, to maintain confidentiality, this report does not present the results of our analysis based on the above breakdown but the results are instead broken down by two regions, namely (i) Ireland & United Kingdom and (ii) the rest of the world.

Furthermore, a distinction has been made between different **market segments**. An important distinction is that between outgoing and incoming passenger traffic. Outgoing traffic refers to Irish residents travelling abroad. Incoming traffic refers to foreign visitors travelling to Ireland. Demand reduction affects both segments and both influence airline and airport revenues. In contrast, only the decrease in incoming visitors causes revenue loss for the tourism industry.

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<sup>1</sup> OAG, 2<sup>nd</sup> half of 2008.

<sup>2</sup> Note that direct impacts on non-Irish airlines are not included in our analysis.

<sup>3</sup> The Netherlands, Belgium, Switzerland, Austria, Denmark, Norway, Sweden, and Finland.

<sup>4</sup> All European countries not belonging to regions 1 to 8

In addition, we distinguish between leisure and business passengers as leisure passengers are more price sensitive than business passengers. Therefore, we assume different **price elasticities** for leisure and business passengers.

If passengers are confronted with higher travel costs, at least a portion of them will decide not to travel or will travel less frequently. The leisure segment is particularly sensitive to higher travel costs. Moreover, short haul traffic is particularly sensitive to the cost increase as the ATT is a flat rate tax and not proportional to the airfare. Hence, for short haul traffic the cost increase due to the ATT is a higher proportion of the airfare.

To estimate demand reduction caused by higher fares, we have taken a price elasticity of -1 for leisure traffic and -0.3 for business traffic<sup>5</sup>. Furthermore, we assume that Ryanair and Aer Lingus both have a 100% share of leisure traffic and CityJet's flights only consist of business travelers. This latter assumption is conservative.

The elasticities assume implicitly a particular proportion of air travel costs in the overall trip costs, which include, among others, accommodation costs and daily expenditure at the destination. In cases where the proportion of air travel costs as part of the overall spend is lower, which is likely to be the case for Ryanair (due to its lower fares), it could be argued that the use of an elasticity of -1 may give rise to an overestimation of demand reduction. However, one could also argue that Ryanair passengers are more sensitive to price due to the airline's strategy of stimulating demand through low fares among customers who would otherwise not avail of air travel. Work on the price elasticity of demand for IATA<sup>6</sup> suggests that, at a national level, Intra-European short haul demand is subject to a price elasticity multiplier of -1.23, with individual routes showing elasticities to price as high as -1.4. Hence, our core elasticity assumptions are inherently conservative. To reflect the potentially different price elasticity of Ryanair's customers, we have undertaken a sensitivity analysis where the price elasticity of demand for Ryanair passengers has varied between -1.5 and -0.5.

We first of all set out how we have developed our demand scenarios, we then go on to explain how we have estimated revenue losses.

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<sup>5</sup> These elasticities are generally accepted in the air transport sector and are derived from a study conducted by MVA Consultancy in London, who developed a forecasting model for Schiphol Airport (the "Schiphol Competition Model", December 1999). This model assumed a leisure price elasticity of -1 and a business price elasticity of -0.1. During later discussions as well as consultations with airlines it was concluded that business passengers have become increasingly price sensitive (although still significantly less than leisure passengers), which has resulted in higher values for the business price elasticity in later model applications in the Netherlands. These higher values were not based on additional analysis, but rather in consensus. These elasticities, as well as analogies derived, have been used in forecasting models on aviation since 1999. Apart from specific applications, such the analysis on the effects of the ticket tax in the Netherlands, they have been used in a series of studies between 2004 and 2008 on the development of a new forecasting model in the Netherlands: the Airport Catchment Area Competition Model (ACCM).

<sup>6</sup> Intervistas, Estimating air travel demand elasticities, December 2007, page v.

## 2.1 Demand Scenarios

### 2.1.1 Base Scenario: No Demand Reduction

Firstly, in order to establish the level of revenues that could have been expected from the ATT in 2009, a base scenario was designed in which we have assumed that there is no reduction in demand over 2008 levels to be expected as a result of the implementation of the Irish Air Travel Tax (ATT). This base scenario is constructed in order to give an initial estimate of the anticipated revenue from the tax.

Assuming no demand reduction, the total projected revenue of the ATT would have been € 108 million on a yearly basis for the Irish Airlines alone, assuming demand remained at 2008 levels. Total tax revenues from all airlines were reported at € 67 million<sup>7</sup> for the first six months. However, our estimate appears reasonable taking into account that:

- summer season demand levels are higher than in the winter;
- our initial estimate is based on traffic figures of Aer Lingus, Ryanair, and CityJet only;
- the Irish Airlines have a relatively high share in flights subject to the lower rate of € 2 compared to the non-Irish airlines.

This base scenario must then be adjusted to take account of reduced demand under the two scenarios described below, resulting in lower tax revenues. In other words, Government revenues will be lower than expected from the introduction of the tax as a consequence of the tax itself.

### 2.1.2 Scenario 1: Theoretical Effects - Demand Reduction Assuming Increase in Fares and No Capacity Reduction

This scenario is described more fully in Chapter 4 and is based on the assumption that airlines the ATT is passed on to customers in full through higher fares and only marginal reductions are made in capacity to maintain load factors at existing levels. In such event, economic theory and empirical evidence clearly demonstrates that passengers will react to higher travel costs which will inevitably reduce demand for air travel in line with the elasticities set out above. In order to calculate the reduction in passenger demand, we have applied the outbound ATT cost (taking into account the two applicable rates) as a proportionate increase in the return air fare for each market segment multiplied by the price elasticities described above to estimate the percentage reduction in demand.

### 2.1.3 Scenario 2: “Real” Effects - Demand Reduction Caused by Capacity Reduction and Tax Absorption

In reality, however, airlines are unlikely to be able to maintain capacity at previous levels while passing on the ATT in full to customers in the form of higher fares as the reduced load factors would be uneconomic. This is particularly the case in the current economic environment. In the alternative, to the extent that airlines have had to absorb cost of the ATT in order to attempt to maintain demand levels, routes become unprofitable. Either way, airlines are forced to reduce frequencies of service and/or cancel routes altogether and deploy their capacity elsewhere in

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<sup>7</sup> Published in the Irish Times of the 6<sup>th</sup> of November

Europe where the burden of taxes is lower. This results in an even greater reduction in demand as capacity is withdrawn and underlying fare levels rise to achieve a demand/capacity balance. We set out this scenario in further detail in Chapter 5.

## 2.2 Revenue losses

Based on the assumptions set out above, the effects of the ATT are expressed in revenue losses of enterprises in different economic sectors. In this context, we focus on four different sectors which will face declining revenues as a result of the implementation of the ATT: the airlines, the airports, the tourist industry, and the government.

### 2.2.1 Airline Losses

The total revenue loss for the Airlines is determined by multiplying the decline in demand by the average airfares paid. The airfare is determined specifically by airline as well as by origin/destination region.

### 2.2.2 Airport Losses

Airports face a loss of revenues caused by the decline in passengers as well as the decline in aircraft movements. The decline of passengers results in less revenue from passenger charges, while the decline of aircraft movements causes less revenue from landing and take-off (LTO) charges and parking charges. The calculations are based on the tariffs taken from the official Airport Charges 2009 documents of the airports of Dublin, Cork and Shannon. Demand reduction multiplied by the average passenger charge (= € 7.37) gives the passenger charge revenue loss. Furthermore, we have assumed a reduction of aircraft movements, equivalent to the demand reduction, which results in LTO and parking charges revenue losses if multiplied by the average applicable charges. This reduction of aircraft movements as a result of this demand reduction should not be confused with the additional capacity reduction assumed in Scenario 2. The decline in aircraft movements is estimated by dividing the decline in passengers per region by the average aircraft size<sup>8</sup> per region. Finally, a drop in number of passengers causes the commercial revenues of the airport to decrease as well. We have used figures derived from the recent Draft Determination of Airport Charges at Dublin Airport<sup>9</sup> to estimate commercial revenues at Dublin Airport and the total non-aeronautical revenues for the airports.

### 2.2.3 Tourism Industry Losses

Declining numbers of visitors adversely impact the tourist industry. To estimate the loss of revenues in this sector, the demand reduction of incoming tourists from each region has been multiplied by the average length of stay per region and the average expenditure a day per region<sup>10</sup>.

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<sup>8</sup> OAG, 2008.

<sup>9</sup> Commission for Aviation Regulation CP3/2009 and associated documents

<sup>10</sup> Figures taken from the Irish Tourist Industry Confederation (ITIC) based on data from the Central Statistics Office.

### 2.2.4 Government Revenue Effects

The final sector which faces revenue losses due to falling passenger numbers is the Government, although it is less easy to quantify these effects. A decline in number of passenger causes less employment in the relevant sectors, which causes a decrease in revenues from income tax and increasing unemployment benefits. It is also likely that companies in the aviation sector will be less profitable which will in turn cause a decline in corporate tax income. Finally, value added tax income also falls as a result of less expenditure by tourists.

In Chapter 5, we also describe the wider economic impacts arising from loss of air service connectivity to Ireland.



## 3 Irish Air Travel Market in 2008

### 3.1 Seat Capacity

As noted at the outset, our analysis has first considered traffic figures for Aer Lingus, Ryanair, and CityJet. Based on 2008 data<sup>11</sup>, together the Airlines accounted for over 80% (= 15.6 million seats) of the total departing seat capacity from Irish airports, as shown in Table 3.1. Ryanair is the largest airline in terms of seats with 43% overall and has a share of 60% of seats from Shannon Airport. At Cork, Aer Lingus is the largest airline with 43% of the departing seats.

**Table 3.1** Number of departing seats per airline from Irish airports in 2008 (source: OAG)

Airline	Total		Dublin		Shannon		Cork		Other airports	
	seats	share	seats	Share	seats	share	seats	share	seats	share
Aer Lingus	6,925,325	36%	5,518,441	38%	563,855	28%	843,029	43%	0	0%
Ryanair	8,359,599	43%	6,049,071	42%	1,199,196	60%	644,710	33%	466,622	42%
CityJet	358,775	2%	339,055	2%	19,720	1%	0	0%	0	0%
Other airlines	3,854,066	20%	2,540,112	18%	204,024	10%	471,444	24%	638,486	58%
Total	19,497,765		14,446,679		1,986,795		1,959,183		1,105,108	

### 3.2 Passengers

The Airlines transported around 11.8 million passengers from Irish airports in 2008, which accounts for 83% of the total. This implies an average load factor of 75%. In Table 3.2, the numbers of passengers per destination region are presented. More detailed figures show that the regional market (domestic and Ireland – United Kingdom) is clearly the largest market segment with almost 5.8 million departing passengers in 2008, more or less evenly distributed between Irish originating traffic and overseas originating traffic. In the markets to France, Italy/Malta, Spain/Portugal and Eastern Europe the share of Irish originating traffic is substantially larger than the share of incoming traffic. In the other markets, the numbers are more evenly distributed.

**Table 3.2** Number of departing passengers per destination group in 2008 (source: airline statistics)

Destination	Aer Lingus, Ryanair and CityJet	
	Irish	Foreign
United Kingdom and Ireland	2,984,748	2,790,810
Other countries	3,868,771	2,128,886
Total	11,773,216	

<sup>11</sup> OAG, 2008.

We have used this passenger data as a basis for considering the impact of the introduction of the ATT but, as indicated in Chapter 2, the impact on Irish airports and the tourism sector needs to be factored up by 20.5% to assess the total impact on Ireland.

In the next chapter, we will look at the consequences, *ceteris paribus*, of the implementation of the ATT for traffic volumes. In other words, our analysis does not take into account macro-economic effects, such as inflation and oil prices. Hence, the effects presented in this report must be considered as the effects of the ATT only.

Based on the mix of demand outlined above, we have estimated the average ATT tariff for the different geographic markets. The ATT tariff is € 2 for every passenger travelling on domestic routes and to some destinations in the United Kingdom (Cardiff, Glasgow, Prestwick, Liverpool, Manchester, Blackpool, and Isle of Man) and € 10 for every passenger travelling to other foreign destinations. Based on traffic figures from the Airlines, we have determined that the average ATT tariff for passengers to the United Kingdom is around € 8.70.



## 4 Scenario 1: The Theoretical Effects of the ATT – Reduction in Passenger Demand

Airlines can react to the implementation of the ATT in different ways. First of all, airlines can decide to pass on the full ATT to the passenger, which of course causes demand reduction as a simple effect of the higher fares. Volume driven airlines<sup>12</sup> can, however, also choose to absorb (part of) the ATT in an effort to maintain volumes at existing levels. However, these airlines can also choose to reduce capacity and redeploy part of their Irish fleet to airports outside of Ireland. In this chapter, we will outline the results based on the assumption that the Airlines pass on the full tax to passengers and make only marginal reductions in capacity to maintain load factors at existing levels. In reality, the Airlines have applied a combination of absorbing the tax by lowering fares and redeploying capacity outside of Ireland. Results for this latter scenario are presented in chapter 5.

In the first instance, our results are based on ‘only’ 83% of the total traffic from Irish airports carried by the Airlines. We set out at the end of the report in Chapter 6, the figures adjusted to reflect the full impact across all airlines using the Irish airports.

### 4.1 Financial Effect if ATT is Passed on to Passengers

Based on the assumptions set out above, Table 4.1 presents the overall results, showing that the total loss of revenues to the Airlines, airports and the tourist sector in Ireland would be substantially larger than the projected income of the ATT. The derivation of the figures in Table 4.1 is set out in detail in the remainder of this chapter. In paragraph 4.3, the results for the sensitivity analysis are presented using an adjusted elasticity for Ryanair passengers.

**Table 4.1 Results of the implementation of the Irish ATT if the tax is fully passed on to the passenger (x € 1,000,000)**

ATT income	€ 100
Quantified Revenue losses	€ 295-
- Airlines	- € 87-
- Airports	- € 22-
- Tourism industry	- € 186-

Table 4.1 shows that, taking into account the effect of the ATT on demand, tax revenues from the ATT will be reduced to € 100 million (from an expected € 108 million). To set alongside this

<sup>12</sup> Ancillary revenues (airline revenue from non-ticket sources) make up an important part of volume driven airlines’ total revenues. For this reason, it is important for those airlines to maintain high load factors. Ryanair and Aer Lingus are both airlines which have considerable amounts of ancillary revenues.

income, there are significant lost revenues incurred by the Airlines, the airports and the tourist industry. In total, these lost revenues amount to € 295 million on a yearly basis (considering the traffic of Aer Lingus, Ryanair and CityJet alone). Significant additional revenue losses for the Government would also arise as a consequence of the resulting demand reductions (see further 4.6 below) but these are difficult to quantify although we give order of magnitude estimates.

## 4.2 Demand Reduction by Higher Fares

Based on the assumptions set out above, implementation of the Irish ATT will inevitably cause an increase of ticket prices. In general, higher prices cause demand reduction. To estimate demand reduction, we have used elasticities of -1 for leisure traffic and -0.3 for business traffic. In this scenario, it is assumed that the ATT is totally and directly translated in an increase of airfares. On this basis, the total demand reduction caused by the increase of the air fares by the ATT would be 870,000 passengers a year for the Airlines alone, as shown in table 4.2. The total loss of demand across all airlines is expected to exceed 1 million passengers a year, the implications of which are considered in Chapter 6

**Table 4.2 Demand reduction in departing passengers (x 1,000)**

Destination	Irish	Foreign
United Kingdom and Ireland	-264	-273
Other countries	-209	-124
Total	-870	

As mentioned in Chapter 2, we have assumed that both Ryanair and Aer Lingus exclusively serve the leisure market while CityJet's traffic is exclusively comprised of business passengers.

## 4.3 Sensitivity Analysis: Adjusted Elasticity for Ryanair

As we have explained in Chapter 2, the price elasticities used are inherently conservative and it could be argued that certain segments of the market are more or less price sensitive. Therefore we have made a sensitivity analysis, where we varied the price elasticity assumed for Ryanair passengers between -1.5 and -0.5. The results for this sensitivity test are presented in Table 4.3.

**Table 4.3 Results of the implementation of the Irish ATT (x € 1.000.000), based on adjusted elasticities for Ryanair of -0.5 and -1.5.**

	Elasticity = -0.5	Elasticity = -1.5
ATT income	€ 103	€ 97
Quantified Revenue losses	€ 184-	€ 405-
- Airlines	- € 61-	- € 113-
- Airports	- € 14-	- € 30-
- Tourism industry	- € 110-	- € 261-

These results show that using a lower elasticity leads to a slightly higher income from the ATT and substantially lower revenue losses in the different sectors. In contrast, using a price elasticity

of -1.5, shows a lower tax income and higher revenue losses in all sectors. Under both scenarios the estimated revenue losses are significantly higher than the estimated tax income. There is strong evidence from studies conducted by Ryanair and ELFAA that the price elasticity of Ryanair customers is even greater than traditional leisure consumers and therefore the likely impact will be at the higher end of this sensitivity analysis. Again, these results relate to traffic carried by the Airlines only.

## 4.4 Income from the ATT

Assuming no demand reduction whatsoever, the total projected revenue of the ATT is estimated to have been € 108 million on yearly basis from the Airlines only. As set out in Chapter 2, this is consistent with reported tax revenues actually earned in the first six months, taking into account the structure of demand carried by the airlines and seasonal factors.

Applying the price elasticity model set above, it is realistic to assume that a reduction in demand would result in lower ATT revenues. The total tax revenue, from Aer Lingus, Ryanair and Cityjet, after demand reduction as described above, is estimated at € 100 million on yearly basis.

## 4.5 Revenue Loss in the Affected Sectors

A decline in passenger numbers causes corresponding revenue losses for the Airlines, airports, the tourist industry, and the Government. In this paragraph, we present the estimated revenue losses for the Airlines, airports, and the tourism industry (see Table 4.4). Thereafter, we discuss the possible losses for the Irish Government and we present orders of magnitude for their loss of revenues. We present here the losses arising from reduction in traffic carried by the Airlines only which we adjust upwards in Chapter 6 to give the total effects.

**Table 4.4 Revenue losses for the Airlines, airports, and tourist industry (x € 1.000.000)**

Destination	Airlines	Airports	Tourism industry	Total
United Kingdom and Ireland	39	14	112	164
Other countries	49	8	73	131
Total	87	22	186	295

### 4.5.1 Airlines

Demand reduction means revenue loss for airlines. For each of the Airlines we have estimated the total revenue loss by multiplying the average yield per ticket per region by the demand reduction per region. Based on this model, the total projected revenue loss for the Airlines is € 87 million on a yearly basis. This is a loss accruing to Irish based airlines.

### 4.5.2 Airports

Airports will also earn less revenue as a result of declining passenger numbers. The total revenue loss attributed to activity by the Airlines alone is estimated at € 22 million on a yearly basis, which

is partly caused by the decrease in revenues from passenger charges. In addition, the revenues from landing and take-off charges (LTO charges) and parking charges also decrease, due to a reduction in number of aircraft movements. The passenger charge revenue loss is calculated by multiplying the demand reduction by the average passenger charge (= € 7.37). Furthermore, we have assumed an equivalent reduction of aircraft movements, which results in LTO and parking charges revenue losses if multiplied by the average applicable charges. This reduction of aircraft movements as a result of this demand reduction should not be confused with the additional capacity reduction assumed in Scenario 2.

The estimated revenue loss also includes a reduction in the so-called non-aeronautical revenues because of fewer passengers are spending money at the airports.

The impact on airports needs to be factored up to take account of the total loss of passengers across all airlines, which we do in Chapter 6.

### 4.5.3 Tourism Industry

To assess the effects for the tourism industry, only incoming traffic (foreign visitors to Ireland) has been considered. In addition to leisure traffic, we have explicitly taken into account any effect on incoming business visitors in this section. The total reduction in foreign visitor demand is estimated at almost 400,000 per year from the Airlines alone. As incoming tourism decreases, revenues in the tourism industry will also drop significantly. We have used figures from the Irish Tourist Industry Confederation (ITIC) based on data published by the Central Statistics Office to estimate the total revenue loss. These figures give indications on the average length of stay as well as average expenditure per day for leisure and business passengers for each of the different origin regions. Based on this information, we have estimated the total revenue loss for the tourism industry at € 186 million on a yearly basis.

Moreover, it is likely that the impact of the ATT will be even greater on inbound passengers than on ex-Ireland passengers due to the availability of substitute options for inbound passengers. For example, a leisure passenger in Germany who can choose between a trip to either Ireland or an alternative destination is more likely to choose a trip to the alternative destination, which may be cheaper due to the absence of an air travel tax. As a result, the estimated total revenue loss of €186 million from inbound passengers is likely to be an underestimation. Moreover, there will be a multiplier effect of the loss in tourism revenues to other economic sectors. Since visitors spent about 64% on *Bed & Board* and *Food & Drink* in 2008<sup>13</sup>, the suppliers, as well as related producers, of hotels, restaurants and bars will also face resulting revenue losses.

It should be noted that the assessment of lost revenues in the tourism industry includes only the lost revenues of incoming tourism. If it is likely that Ireland can expect fewer foreign visitors as a result of the ATT, it is also likely that Irish residents will travel abroad less. The demand reduction due to the ATT in this segment may lead to potential additional (tourist) spend in Ireland by Irish residents and the resulting additional revenues in other domestic economic sectors. Two issues are relevant here in assessing the net effect of the ATT on the Irish economy. While the lost revenues in foreign tourism are concentrated in a limited number of economic

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<sup>13</sup> Figure from Fáilte Ireland's *tourism facts 2008*.

sectors only (such as hotels, restaurants etc.), the additional revenue of Irish residents staying in Ireland is spread over many more sectors and, moreover, may not be as much as would have been spent by Irish residents while abroad on holiday.

It is – from a macro-economic perspective – legitimate to consider the extent to which lost revenue from inbound tourism is counterbalanced by additional revenues coming from Irish residents staying at home. However, it cannot be safely assumed that such additional domestic spending will not of itself simply result in increased imports of consumer goods. Hence, it is not robust to simply net off any reduction in spending from Irish residents abroad from loss of revenue from incoming tourists to estimate the net effect on the Irish economy as some revenues will be spent on foreign goods in any event. Furthermore, looking at the micro-economic perspective, the burden of the ticket tax is concentrated on a limited number of sectors in the aviation and tourist industry only which may have disproportionate effects compared to more general increases in domestic spending.

#### 4.5.4 Net Effects

The above paragraphs have concluded that an overall revenues loss of € 295 million can be expected based on traffic carried by the Airlines alone, concentrated in aviation and specific sectors related to the tourist industry.

It is legitimate to also consider the extent to which the fall in revenues could be mitigated by cost savings in the affected sectors. Hence, it would be overly simplistic to state that there is net negative revenue of € 195 (being the difference between the ATT-revenue of € 100 million and the € 295 million of lost revenues). In order to assess the level of costs savings which might arise, there are two particular issues which would require further consideration:

- The proportion of these potential cost savings of the lost revenues? When the proportion of fixed costs is high, the scope for cost savings is limited with any revenue decrease leading to an almost equivalent reduction in profits. To the extent that cost savings are possible, the impact on profits will be less but this varies dependent on the production structure of the relevant companies, particularly whether they are labour or capital intensive. In case of a capital intensive structure (such as with airports), it is likely that the potential for cost saving is very limited and that the lost revenues lead to a large extent to lost profits, particularly in the short term as the production structure cannot easily be changed. In the longer term, even capital intensive enterprises (such as airports) are able to adapt;<sup>14</sup>
- Are these cost savings realised from Irish companies or from foreign companies? It is relevant to consider if the potential cost savings relate to costs incurred in Ireland or elsewhere. Most labour costs are incurred in Ireland, but other cost components are incurred in other countries, such as fuel costs or other costs related to imported goods and services. To the extent that cost savings can be achieved by the companies concerned, the loss of profits to them may be limited, but the potential loss of profit will be transferred into other economic sectors in Ireland and ultimately will lead to wider reductions in profit or increased unemployment.

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<sup>14</sup> Schiphol Airport has announced to reduce their investments in the years to come by € 1 billion, due to the recent volume declines (see Volkskrant, daily newspaper in the Netherlands, 10 November 2009)

Notwithstanding the possibility for cost savings to mitigate some of the impact, the harm to the Irish economy may still be significant, particularly if these cost savings are at the expense of other economic sectors in Ireland. Even if all of the impact is not felt by way of loss of profits in the three key sectors identified (and for which we have quantified the impact), losses would still arise elsewhere in the economy through cuts in the supply chain. We have not attempted to quantify these wider impacts in this report as this would require a complex macro-economic model to be built. The impacts on the wider Irish economy would still be material

## 4.6 Effect on Government Revenues

We have addressed above the effect of the reduction in demand on revenues in relevant economic sectors (airlines, airports, and the tourist industry). These revenue losses will also impact on Government revenues as follows:

- Less revenues from the ATT as the results of demand reduction;
- Less revenues from income tax (as well as higher unemployment costs);
- Less revenues from corporate tax.
- Less revenues from sales tax (value added tax (VAT)).

Although it is not possible to precisely quantify these effects, we give order of magnitude estimates below.

For an assessment of **lost ATT revenues**, it is relevant to compare the ATT-revenues assuming no demand reduction and these ATT-revenues with the above estimated demand reduction. These revenues are € 108 and € 100 million respectively suggesting that the lost revenues can be estimated at € 8 million. This figure is the result of the demand reduction at Aer Lingus, Ryanair, and CityJet only, so if one would also include non-Irish based airlines the total income loss would be even greater.

**Less income tax** (as well as **higher unemployment costs**) is expected if the lost revenues in the relevant economic sectors lead to cost savings and particularly labor cost savings. It is observed above that the lost revenue from tourism is concentrated in a few economic sectors only (sectors related to aviation and tourism). The decrease of their revenues is therefore relatively high, which may make labor cost savings likely. However, this may consequently lead to higher unemployment, not only leading to less income tax, but also to higher costs in the form of unemployment benefits.

One cannot use typical ‘rules of thumb’ here to assess the effect on unemployment. Such rules indicate that every million passengers leads to a certain number of thousands jobs<sup>15</sup>. However, where there are marginal changes in demand, the actual impact on employment will depend on the extent to which jobs are related to actual passenger or tourist volumes (variable costs) and

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<sup>15</sup> Looking to Schiphol Airport Amsterdam, the airport handled in 2008 little over 47 million passengers. Depending on the definition one wishes to adopt, the employment at the airport as well as the airlines using the airport in the Netherlands is close to 50 thousand jobs. From this, a simple rule of thumb could be derived that every one million passengers generates another one thousand jobs (in fact ignoring cargo). While this is justified on average, one cannot apply this rule to marginal changes in passenger (and cargo) turnover.

jobs not related to these volumes (fixed costs). Such distinction leads to economies of scale in case of an increase in demand, but also to diseconomies of scale in case of demand reduction.

Total demand reduction attributable to the ATT is estimated at 870,000 departing passengers and hence at little over 1.7 million passenger movements for the Airlines alone (or around 2 million passengers a year taking all airlines into account). This could – applying these ‘rules of thumb’ – amount to a loss of 1,500 to 2,000 jobs across the airports and airlines. Taking into account the loss of revenue in the tourism industry, there could be additional job loss in this sector of another 2,000 to 3,000 jobs, assuming similar relations between revenue and job loss. However, these impacts may be mitigated to the extent that the decrease in volume has been absorbed into fixed costs and translated into diseconomies of scale.

However, there are also sectors that may benefit from an increase in domestic spending as a result of fewer Irish residents travelling abroad, which could potentially lead to more jobs. However, these advantages are spread over many more economic sectors and, hence, the relative volume increase at these sectors is marginal, and likely to be absorbed into economies of scale and not translated into extra jobs. The conclusion is that – although the lost revenues from foreign visitors and the extra revenues of Irish residents in domestic sectors may be balanced – there are significant job losses to be expected in the aviation and tourism sectors with no corresponding additional jobs in the other domestic sectors.

So, whilst a total job loss of 3,500 to 5,000 jobs is possible, in reality the job losses are more likely to be in the order of 2,000 to 3,000 jobs over all, taking into account the extent of fixed costs and the extent to which there is an increase in activity in domestic sectors of the economy due to a reduction in Irish residents travelling abroad. It is nevertheless clear that significant job losses will occur as a result of the ATT and that these job losses will be concentrated in the sectors directly affected by a reduction in air passenger demand. Whilst over the long term, such job losses may be counterbalanced by growth elsewhere in the economy, it does not seem likely that alternative employment will be found in the short term given the overall position of the Irish economy. Hence, the job loss may be translated into structural unemployment giving rise to substantial impact for Government budgets. It is estimated that every lost job results in additional costs of approximately € 20,000 per annum to the Government<sup>16</sup> in the form of reduced income tax and social welfare payments, giving rise to an additional costs to the Irish government of the order of € 50 million or more.

The Government may also face some losses in revenues of **corporate tax** on profits. In Ireland this tax rate is 12.5% of the profit level. In earlier paragraphs, the revenue loss of distinct groups of stakeholders has been estimated. It has also been argued that the profit loss is less than the revenue loss, as there are also some cost savings expected, although the extent to which the profit loss differs from revenue loss is difficult to estimate. Nevertheless, to the extent that the loss of revenue is translated into a loss of profit, there will be a loss of revenue to the Government equivalent to 12.5% of the lost profits.

In addition to this there may be a loss of **sales tax (VAT)**. International air travel is not subject to VAT, so there is no direct loss of VAT from ticket sales. However, as far as the demand

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<sup>16</sup> <http://www.labour.ie/blog/archive/2009/02/04/counting-the-cost-of-unemployment/>

reduction in foreign visitors is concerned, there is significant revenue loss expected because a high proportion of foreign visitors' expenditure on goods is subject to a relatively high VAT-rate, in most cases 13.5% or 21.5%<sup>17</sup>. While the revenue loss in the tourism industry is estimated at €186 million, the revenue loss from reduced VAT receipts could be at least several tens of millions of €'s, being a substantial part of the overall revenues of the ATT.

As argued above, there are additional revenues from demand reduction of Irish residents who are not travelling. However, the average VAT-rate on domestic spending, such as food purchased outside of restaurants, is significantly lower. Hence, the additional VAT revenue will be considerably less than the lost VAT on expenditure from foreign visitors.

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<sup>17</sup> The applicable rate for food in restaurants and hotels is 13.5% but all alcoholic and non-alcoholic drinks are subject to the higher rate of 21.5%. Accommodation in hotels is also charged at the lower rate of 13.5%. Food purchased outside of hotels/restaurants (e.g. is zero rated) but both alcoholic and non-alcoholic drinks are subject to a rate of 21.5%. In addition to VAT, there is also significant excise duty on alcoholic drinks which applies regardless of where they are purchased.



## 5 Scenario 2: The “Real” Effects of the ATT

In the previous chapter, we set out the financial impact of the tax if the Airlines were able to pass on the increased costs to passengers by way of higher gross fares, with a marginal reduction in demand due to the sensitivity of some passengers to price. However, Aer Lingus and Ryanair are both volume-driven airlines, which rely on low fares to drive high load factors<sup>18</sup>. In this business model, airlines cannot easily pass on increased exogenous costs into higher fares without detriment to achieving target volumes. In reality, this means that they have decided to absorb the ATT by reducing fares to maintain load factors as far as possible, instead of passing it on to the passengers. The extent to which the ATT has been absorbed by airlines is difficult to quantify. It is the view of the Airlines that up to 95% of the ATT has been absorbed in lower fares. The data we have considered for the purpose of this report clearly demonstrates that average yields have fallen well in excess of the level of the ATT. There is, therefore, very strong evidence to indicate that a large proportion of the ATT has not been passed on to passengers but has been absorbed by the Airlines with resulting revenue losses. Table 5.1 sets out the revenue losses which the Airlines would incur based on 50-95% of the ATT being absorbed by the Airlines.

In addition, the Airlines (primarily Ryanair) have reduced capacity from Irish airports as some routes have become uneconomic at the lower net yields achievable after ATT has been allowed for. This has the effect of curtailing demand due to restrictions in supply to an extent similar to, if not greater, than would occur due to the simple pass through of the ATT into the air fare. Therefore, there has been some short term reduction in demand as a result of fares higher than they would otherwise have been as a consequence of the introduction of the tax but there has been significant demand reduction due to redeployment of capacity to non-Irish routes where taxes have not been imposed.

Table 5.1 shows the effects solely based on capacity reduction since the implementation of the ATT as at Summer 2009. Higher demand reduction, compared to the scenario set out in Chapter 4, is reflected in the slightly lower ATT income. Also the revenue losses from the airports and the tourism industry are higher than in the results presented in the previous chapter. For the Airlines, the losses are dependent on the share of the ATT that has been absorbed by them. It is known that the average yields have fallen well in excess of the level of the ATT, but still, it is hard to determine the exact proportion of the tax which has been absorbed. Therefore, we have tested a range from 50% to 95%. This leads to an estimate of Airline revenue losses between € 60 million (50% absorbed) to € 114 million (95% absorbed). It should be noted that, as with Chapter 4, these estimates are based on the impact on the Airlines alone, although the capacity reductions by other airlines have been less significant.

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<sup>18</sup> Ancillary revenues (airline revenue from non-ticket sources) make up an important part of volume driven airlines' total profit. For this reason, it is important for those airlines to maintain volumes. Ryanair and Aer Lingus are both airlines which have considerable amounts of ancillary revenues.

**Table 5.1 Results of the implementation of the Irish ATT if the tax is (partly) absorbed by the Airlines and capacity from Irish airports has been reduced (x € 1,000,000)**

ATT income	€ 96
Revenue losses	€ 385- / € 439-
- Airlines	- € 60- / € 114-
- Airports	- € 34-
- Tourism industry	- € 292-

## 5.1 Capacity Reduction

In a liberalised market, such as the intra-European aviation market, airlines have the freedom to deploy their fleet anywhere within the EU to a location where they find the most profitable business opportunities. Obviously, the ATT decreases such opportunities in Ireland and, hence, airlines may react by deploying their aircraft elsewhere. Ryanair, in particular has stated that it has relocated capacity away from Ireland as a reaction to the implementation of the ATT.

These capacity reductions cause substantial additional reduction in demand as passengers who might have been willing to pay the ATT and still travel to and from Ireland, are now confronted with fewer flights and/or no direct services to particular destinations. This, of itself, results in less demand. Based on the actual capacity reductions in 2009, it is estimated that the effect on demand of the loss of flights is even larger than the demand reduction estimated in Chapter 4 as a direct consequence if the ATT had been passed on to passengers in the form of higher fares. Table 5.2 shows that reductions in capacity since the introduction of the ATT has caused a demand reduction of over 1.3 million departing passengers a year by the Airlines alone.

**Table 5.2 Demand reduction in departing passengers as at summer 2009 (x 1,000)**

Destination	Irish	Foreign
United Kingdom and Ireland	-373	-368
Other countries	-371	-219
<b>Total</b>	<b>-1,331</b>	

While Ryanair's total number of passengers (on all their flights in its network) was up by almost 17% in September 2009 compared to September 2008<sup>19</sup>, the total departing capacity from Irish airports was 16.1% down in the same period compared to last year<sup>20</sup>. At Dublin Airport, Shannon Airport, and Cork Airport the capacity was down by 16% to 20%. Only at Knock Airport has the departing capacity has grown significantly<sup>21</sup> but this is of a much smaller overall scale. Thus, available evidence would strongly indicate that Ryanair's drop in capacity has not been caused by any macro-economic elements, but rather as a rational reaction to the implementation of the ATT. Ryanair has announced further capacity reductions at Shannon

<sup>19</sup> Ryanair passenger figures at <http://www.ryanair.com/site/EN/about.php?page=Invest&sec=traffic>, accessed at 22th of October 2009.

<sup>20</sup> OAG, 3<sup>rd</sup> week of September. For the coming winter season Ryanair's departing capacity from Irish airports is about 20% lower.

<sup>21</sup> OAG, 3<sup>rd</sup> week of September.

Airport, where it will reduce its presence by 75%, and will further curtail capacity at Dublin this winter which will give rise to significant additional reduction in demand over and above the figures set out in table 5.2.

Due to its larger number of bases outside of Ireland, Ryanair has more flexibility to deploy capacity at airports outside of Ireland than Aer Lingus. Nevertheless, Aer Lingus' departing capacity from Irish airports in the period from January 2009 till August 2009 has fallen by 5.1% compared to the same period in 2008, with growth in operations at London Gatwick and CityJet has expanded at London City.

## 5.2 Effects in the Longer Term

In this and the previous chapter, a number of scenarios have been illustrated with regard to the effects of the Irish ATT. In Chapter 4, we have estimated the demand reduction which would have occurred if Airlines had passed on the full ATT-costs to their passengers and made only marginal, demand related, adjustments to their capacity on routes to and from Ireland as a result of the implementation of the ATT.

It is, however, clear from the fare and capacity data analysed that the actual reaction of the Airlines to the ATT-implementation has been different. Firstly, they have to a large extent absorbed the ATT-costs<sup>22</sup>. Secondly, Ryanair in particular has deployed capacity elsewhere to locations where no ATT is applicable. As a result, as set out above, the actual negative revenue impacts of the tax have been greater than might have been expected in economic theory.

The impacts we have set out above are based on actual observed behaviour in Summer 2009. However, it is likely that the Airlines will not be able to absorb the ATT-costs and that, in the longer term, there will be further adjustments to capacity until an equilibrium is reached in which the market can sustain higher fares which enable airlines to pass on the effect of the ATT to passengers. Airlines will, therefore, continue to avail of the liberalised air travel market in the EU by redeploying capacity to markets which can generate a higher return by redeploying further capacity out of Ireland.

As a consequence, the impacts which we have assessed in this report are likely to prove conservative. The price sensitivity of certain demand segments may be greater than recognised in conventional economic theory, with the effect that airlines have had to absorb a high proportion of the cost of the tax. The loss of revenue and profit is feeding directly into supply side decisions such that the direct impact of the tax as set out in Chapter 4 is likely to be at the lower end of probable outcomes, with the even the higher impacts which we have set out in this chapter likely to understate longer term effects.

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<sup>22</sup> The Irish airlines have indicated that average yields have decreased significantly after the implementation of the ATT.

### 5.3 Wider Economic Impacts

The wider effects on the supply chain, on employment and on Government revenues under this scenario will be pro-rata greater than set out in Chapter 4.

Significantly, however, the loss of routes and services as a result of airlines reducing capacity, as well as the potentially higher costs of travel, will result in loss of productive efficiency in the wider Irish economy as travel becomes more expensive and less convenient. This will add to the cost of doing business in Ireland and make the country less attractive as a place to do business. In view of Ireland's dependency on air connections for international travel, loss of air service connectivity will impact particularly badly on inward investment and on Irish firms trading abroad.

The effect of this will be to hamper economic recovery and reduce Ireland's overall competitive position as a consequence of the introduction of the ATT.

## 6 Summary of Effects

At the outset, we made clear that our initial quantification of the impacts was based on the passenger demand carried by the Airlines only. Whilst revenue losses to other airlines, not based in Ireland, cannot be attributed as an impact on the Irish economy, the loss of passengers from these airlines will follow the same pattern as that for the Airlines and have impacts for the airports and the tourism industry. We set out the overall impact below.

### 6.1 Overall Impact Scenario 1

Table 6.1 below summarises the impacts for the Irish airlines, the airports and the tourist industry, under the assumption that the ATT is fully passed on to the passenger.

**Table 6.1 Results of the implementation of the Irish ATT if the tax is fully passed on to the passenger (x € 1,000,000)**

	Results for the Airlines	Overall results
ATT income	€ 100	€ 120
Quantified Revenue losses	€ 295-	€ 337-
- Airlines	- € 87-	- € 87-
- Airports	- € 22-	- € 26-
- Tourism industry	- € 186-	- € 224-

Taking into account the potentially greater price sensitivity of Ryanair passengers, the financial impact under this scenario could be estimated to be as high as € 465 million based on our sensitivity test set out in Chapter 4.

Some of the revenue losses may be absorbed by the relevant sectors in the form of resulting cost savings but there will still be a significant adverse effect on the Irish economy. These losses are compounded further down the supply chain as companies purchase fewer goods and services.

In particular, there will be a direct loss of jobs of at least 2,000 to 3,000 affecting airports, airlines and the tourism industry dependent upon the extent to which companies are willing to accept the inherent diseconomies of scale from a reduction in demand. The direct consequences of the reduction in passenger demand as a result of the ATT would give rise to significant reductions in Government revenues.

### 6.2 Overall Impact Scenario 2

In reality, airlines have not been able to pass on the ATT to passengers in the form of higher fares but have reacted by a combination of absorbing the tax by lowering fares and redeploying

capacity outside of Ireland to locations where no travel tax is applicable. Consequently, actual revenue losses across the various sectors as a result of the ATT have been significantly higher than might have been expected due the impact of higher prices alone, estimated at between € 428 - € 482 million with ATT revenue estimated to be € 116 million. The resulting loss of revenue on the part of the Government will also be significantly higher as a result of the additional loss of jobs.

**Table 6.2 Results of the implementation of the Irish ATT if the tax is (partly) absorbed by the Airlines and capacity from Irish airports has been reduced (x € 1,000,000)**

	Results for the Airlines	Overall results
ATT income	€ 96	€ 116
Revenue losses	€ 385- / € 439-	€ 428- / € 482-
- Airlines	- € 60- / € 114-	- € 60- / € 114-
- Airports	- € 34-	- € 38-
- Tourism industry	- € 292-	- € 330-

Table 6.2 shows the effects solely based on capacity reduction since the implementation of the ATT as at Summer 2009. Higher demand reduction, compared to the scenario set out in chapter 4, is reflected in the slightly lower ATT income. Also the revenue losses incurred by the airports and the tourist industry are higher than in the results presented in the previous chapter. For the Airlines, the losses are dependent on the share of the ATT that has been absorbed by them. It is known that the average yields have fallen well in excess of the level of the ATT, but still, it is hard to determine the exact absorbed share.

### 6.3 Overall Conclusion

The analysis clearly demonstrates that the imposition of the ATT has resulted in a decline in revenue to specific sectors of the Irish economy of a far greater magnitude than the amount of tax likely to be collected. Based on the actions of airlines to date and the revenue impact on the airlines who have had to absorb the tax in lower fares to maintain volumes, it is likely that the level of capacity will further reduce as airlines continue to redeploy their resources to lower cost markets in the European Union where no travel tax applies. This will have a further detrimental impact on the Irish economy and the tourism industry in particular. It will also result in significantly reduced demand levels at Dublin Airport at a time when substantial increased capacity (Terminal 2) is about to become operational, leading to even further diseconomies of scale.

The effects go far wider than simply the economic sectors directly affected. We estimate there will be a direct loss of jobs of at least 2,000 to 3,000 affecting airports, airlines and the tourism industry dependent upon the extent to which companies are willing to accept the inherent diseconomies of scale from a reduction in demand. The direct consequences of the reduction in passenger demand as a result of the ATT would give rise to significant reductions in government revenues in the following categories:

- Less revenues from income tax (as well as higher unemployment costs);
- Less revenues from corporate tax;
- Less revenues from sales tax (value added tax (VAT)).

While it is not possible to quantify the scale of these revenue losses, the level of expected job losses as a consequence of the ATT would, assuming that every lost job results in additional costs of approximately € 20,000 per annum to the Government in the form of reduced income tax and social welfare payments, give rise to an additional cost to the Irish government in the order of €50 million or more. These costs are related to social welfare payments as jobs are unlikely to be replaced in the short to medium term.

As a consequence of the Airlines reducing capacity at Irish airports, the reduced airline network is having the result of reducing air service connectivity to Ireland, making it less attractive to visit and a less attractive place to do business, which may also serve as an impediment to economic recovery more generally.