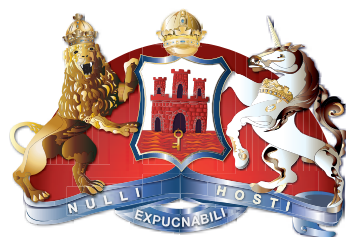


An Economic impact study and analysis of the economies of **Gibraltar and the Campo de Gibraltar** Update 2015



A report commissioned by The Gibraltar Chamber of Commerce

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The Gibraltar
Chamber of
Commerce

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Foreword

This research study, which is an update of a study undertaken in 2009, has importance beyond the results shown in the tables of the report. It demonstrates the importance of the interaction of the economies of Gibraltar and Spain in general and to the Campo de Gibraltar in particular. Since the previous study was undertaken the world has experienced an economic crisis of momentous proportions and is still feeling the repercussions of that crisis today.

The effects of that crisis have manifested themselves in different countries in different ways and the resilience of the Gibraltar economy is shown in stark contrast to the issues that have been faced on the other side of the frontier where unemployment has risen sharply and property prices fallen dramatically.

Nevertheless, the report still demonstrates the benefits that are derived from the interaction of the two economies.



The Economic impact of the economy of Gibraltar on the Campo de Gibraltar

Introduction

The Gibraltar Chamber of Commerce commissioned Professor John Fletcher of Bournemouth University, to undertake an economic analysis of the relationships that exist between Gibraltar and the economic area of the Campo de Gibraltar in 2009 and subsequently commissioned this study to bring the findings up to date in 2015. Professor Fletcher has undertaken economic impact studies for governments and international agencies around the world for more than three decades. He has constructed economic impact models for countries in the Caribbean, the Indian Ocean, the Mediterranean, the South Pacific and the Far East as well as mainland Europe and the UK. In particular he has undertaken a variety of economic impact studies for the UK and Gibraltar Governments since 1978 and is well acquainted with all aspects of Gibraltar's economy. Professor Fletcher undertook the analyses in this report with the same core team that undertook the first study, namely Dr Yeganeh Morakabati, and Ken Male both of whom are experienced researchers. Yeganeh is a specialist research methodologist who undertook the asset evaluation and Spanish economy research for this study and has written on international trade flows and undertaken a variety of research projects concerned with trade and risk. Ken is a practitioner and experienced data handler and has been involved in many of the previous studies that we have undertaken for Gibraltar.

There are a variety of ways in which the economies of Gibraltar and Spain interact with each other and this study provides an analysis of each type of interaction and thereby estimates the net total effect that the Gibraltar economy has on the economy of the Campo. The study makes use of the Gibraltar Input-Output Model, the Spanish regional Input-Output Model, the import data provided by the Customs Office of Gibraltar, the statistics provided by the Government of Gibraltar's Statistics Office including the Employment Survey data together with data gleaned from the previous Input-Output studies and a survey undertaken of Chamber of Commerce Members.



Executive summary

- The Gibraltar economy has a significant and positive economic impact on the Campo de Gibraltar region when considered from the point of view of net recurrent expenditure.
- In 2013 Gibraltar businesses imported almost £381M of goods and services from Spain (including net petroleum imports).
- The number of jobs supported by the Gibraltar economy (within Gibraltar) is equivalent to 24% of the total (25,907/109,189) permanent jobs recorded in the Campo region in 2013.
- Spanish Frontier workers earned more than £102M in 2013 and over £65M of this money was spent in the Andalucía region, thereby generating further rounds of economic activity.
- Other Frontier workers (excluding Spanish and Gibraltarian) earned £105M from within the economy of Gibraltar, of which they repatriated 20% and spent the remaining £84M in Spain, almost £54M of this in the Andalucía region.
- Residents of Gibraltar spent almost £73M on shopping, food and other goods and services in Andalucía during 2013 of which £46M was within the Campo de Gibraltar.
- Gibraltarians with second homes in the Campo de Gibraltar spent more than £62M in the Spanish economy during 2013 of which more than £40M was within the Campo de Gibraltar.
- Gibraltar's economy increased the level of output in the Campo de Gibraltar in 2013 by £554M.
- Total visitor spending in Gibraltar in 2013 was £207M of which £161M was by visitors across the land frontier and of this £146M was attributable to Campo de Gibraltar residents.
- Employment in the Campo fell from 102,468 in 2007 to 83,282 in 2013. With frontier workers estimated to be 9,424 the direct effect of Gibraltar on employment in the Campo de Gibraltar is estimated to be just over 11%.

Types of economic interaction between Gibraltar and Spain

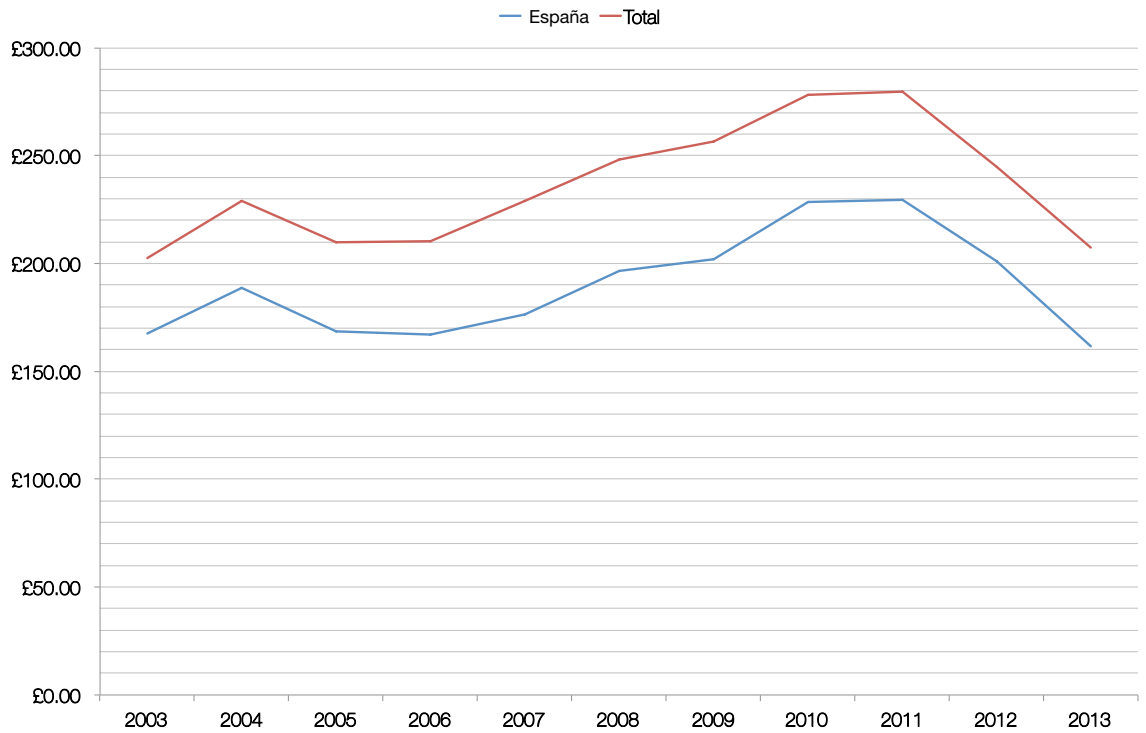
The economies of Gibraltar and Spain are connected not only physically but also through the varied transactions which take place between companies and individuals based in the two economies. Economic flows go both ways. For example, visitors to Gibraltar from Spain spend money in Gibraltar's retail and service sectors and similarly, Gibraltar residents spend money in Spain's retail and service sectors. Furthermore, Spanish frontier workers cross the border each day and earn income from their employment in the Gibraltar economy; some Gibraltar citizens have second homes in Spain and hence spend a proportion of their income, which is earned in Gibraltar, in Spain. From a commercial perspective, Gibraltar companies purchase goods and services from their Spanish counterparts and vice versa. The purpose of this study update is to analyse the magnitude and nature of these flows to determine the net recurrent effect in the current economic climate.

Visitors from Spain

Visitor expenditure is a strong and significant element of the Gibraltar economy. Visitor spending has been somewhat cyclical throughout this century to date with record spending occurring in 2004 (£229.14M), and after a fall back to a peak in 2011 (£279.90M) after which the economic challenges in Europe, and particularly Spain, took their toll with visitor spending falling back to (£207.24M) in 2013.

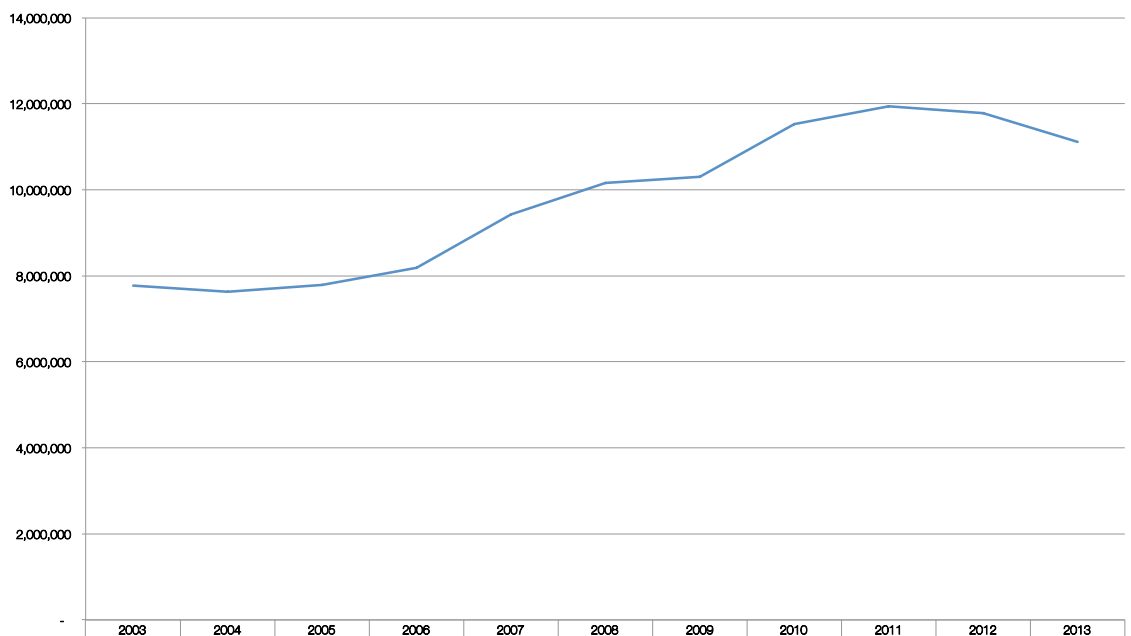
Figure 1 shows how total visitor expenditure and visitor expenditure from visitors from Spain has varied over the period from 2003 to 2013. The dominance of Spain's visitor spending is clearly reflected in the two lines as is the significant decline resulting from the economic challenges faced by Spanish residents.

Figure 1: Visitor Expenditure, Total and Spanish 2003 to 2013 (£Ms)



The economic challenges facing people during the global financial crisis is evident by the fact that the volatility of expenditure (a fall of 25% between 2010 and 2013) is not mirrored by the fall in visitor arrivals (a fall of 4% between 2010 and 2013) see figure 2.

Figure 2: Visitor Arrivals*, 2003 to 2013



Note: * Includes frontier workers

The breakdown of total visitor expenditure by type of visitor in 2013 is shown in Table 1 alongside the corresponding figures in the original report (2007).

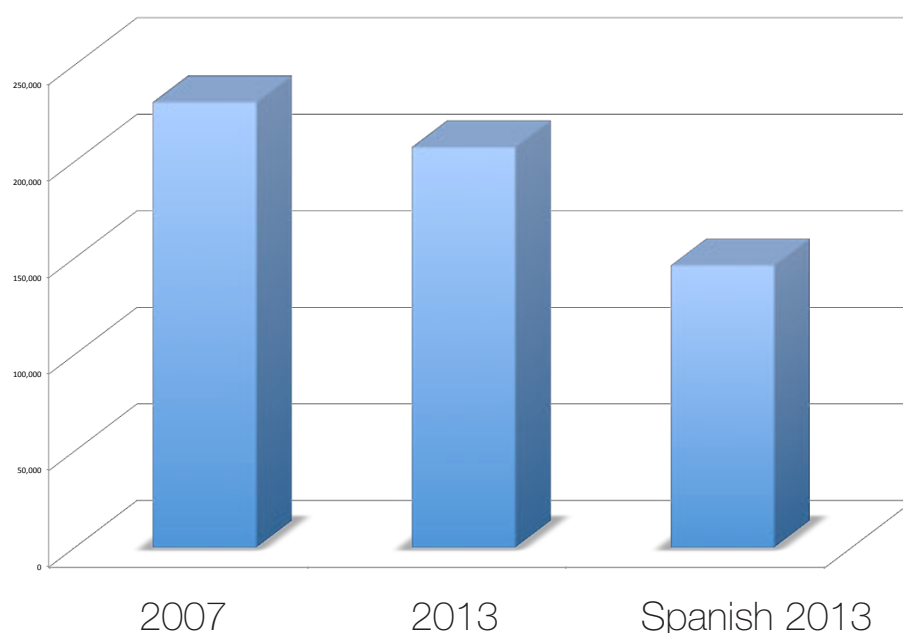
Table 1: Visitor Expenditure by Type of Visitor, Gibraltar, 2007 and 2013

Visitor Type	Expenditure £000's		
	2007	2013	Spanish 2013
Staying Visitors (hotels)	26,876	22,870	*6,308
Excursionists (cruise ships)	10,744	9,974	
Visitors (yachts)	680	449	
Visitors in Supplementary Accommodation	14,854	10,684	*2,528
In-Transit Visitors	1,017	1,767	*407
Excursionists from Spain	176,405	161,491	145,898
Total	230,576	207,235	155,141

Source: Derived from Gibraltar Tourist Surveys, 2007 and 2013.

Note: *Not all of the staying visitors, supplementary accommodation and transit visitors will be of Spanish nationality.

Visitor Expenditure by Type of Visitor, Gibraltar, 2007 and 2013



In order to understand the significance of Spanish land visitors Table 2 shows the number and expenditures of land excursionists by nationality for 2013.

Table 2: Land excursionists, numbers and expenditure, Gibraltar, 2013

Nationality	Land Excursionists	
	Visitors	Expenditure
Spanish	7,950,577	£145,897,000
Other Nationalities	808,451	£15,593,430
Total	8,759,028	£161,491,430

The continued importance of excursionist visitors from Spain is clearly evident from Table 1 where almost 78% of total visitor expenditure was made by excursionist visitors who came across the Spanish frontier (as a proportion this is up by 2% on 2007 in spite of the 10% fall in absolute spending). It is estimated that just over 90% of excursionists by land were Spanish nationals and the primary purpose of their visit was shopping and they accounted for just over 90% of the total land excursionist expenditure (Table 2). Therefore the total visitor expenditure in Gibraltar by those Spanish nationals crossing the land frontier in 2013 was £145.898M. In addition to the land visitors from Spain, there were also 13% of visitor departures by air that were of Spanish nationality, which in 2013, would add another £0.407M to the total Spanish visitor expenditure. Thus, Spanish visitors by land and air are associated with a total expenditure of £146.305M. There was no recorded visitor expenditure by Spanish visitors to Gibraltar arriving on cruise ships in 2013.

In addition to the excursionists and transit visitors to Gibraltar there were Spanish visitors staying in Gibraltar hotels and supplementary accommodation and they added a combined additional expenditure of £8.836M in 2013, resulting in a grand total of Spanish visitor expenditure of £155.141M which is a 38% increase over the corresponding level of expenditure recorded in 2007 (see Table 3).

Table 3: Spanish visitor expenditure within Gibraltar, 2013

Visitor Type	Expenditure £Ms
Land Excursionists	145.898
In Transit	0.407
Staying Visitors	8.836
Total	155.141

Furthermore, there is the issue of the remaining £15.593M visitor expenditure that was attributable to visitors crossing the land frontier (£161.491M-£145.898M). It was argued in the previous report that this expenditure would not take place if Gibraltar did not have a common border with Spain. Therefore in the absence of Gibraltar, this expenditure would have taken place in Spain and should be included as part of the benefits to Gibraltar. However, given the nature of the expenditure of these non-Spanish visitors, it could be argued that in the absence of Gibraltar this money would have not been spent in Spain but may have been spent elsewhere in Europe at another tourism destination, therefore it should not be included in the calculations. In order to maintain comparison with the 2009 study and to take into account this expenditure, the researchers maintained the assumption that, in the absence of Gibraltar, one third of the £15.593M would have been spent within the Spanish economy and that the remainder would either not have been spent or have been spent outside the Spanish economy. Thus, the amount of expenditure within Gibraltar attributed to Spain can be increased by £5.198M making £160.339M in total.

Business imports directly from Spain

Businesses in Gibraltar clearly rely upon significant levels of imports in order to produce their output. Some of these imports come through the wholesale/import sector and others are purchased directly by businesses from Spanish suppliers. Using data from the Gibraltar Input-Output Business Expenditure Survey, statistics taken from the Gibraltar Statistics Office database and the information provided by Chamber of Commerce members in response to an online and paper expenditure survey the following picture of Spanish imports emerges.

Table 4: Business imports of goods and services from Spain, 2013

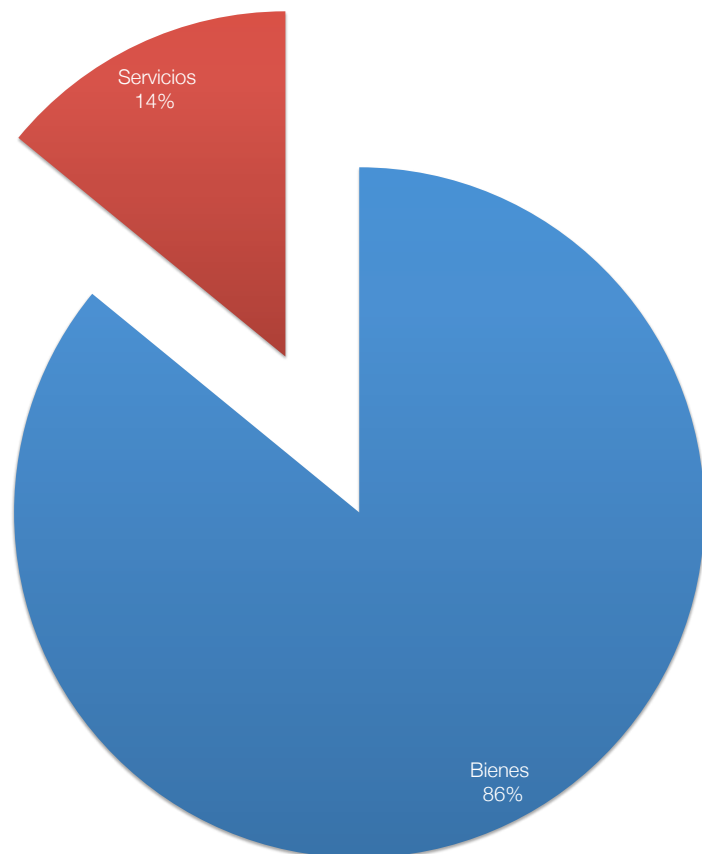
Business Imports	£M's
Goods	327.262
Services	53.628
Total	380.890

Source: Derived from survey of Gibraltar businesses 2014 and secondary data from Gibraltar Statistics Office Note: Includes net fuel imports

Table 4 shows that during the 2013 period imports of goods and services including net fuel imports from Spain amounted to £380M. Therefore the direct output effect of Gibraltar business imports from Spain is £380.890M and this is associated with a direct GDP effect of £151.639M to the Spanish economy.

It is difficult to establish exactly where in Spain the imported goods and services that arrive in Gibraltar originate. For the purpose of this study the purchases for goods and services by Gibraltar-based companies from Spanish suppliers were run through the Andalucía input-output model so that not only the direct and secondary effects


Business imports of goods and services from Spain, 2013



of the imports on the Campo de Gibraltar were taken into account, but also the leakages that arise because it is likely that a large proportion of the goods and services that were imported into Gibraltar would have been produced outside the region of Andalucía (from elsewhere in Spain). This leakage out of the Campo de Gibraltar has been taken into account when making these calculations.

Frontier workers

According to the official statistics there were 6,425 in 2012 which is 18% higher than the figure estimated in 2007. The available data from the survey conducted by the researchers suggests that the actual figure is significantly higher and that in 2013 the estimated number of frontier workers was 9,424. The 9,424 frontier workers in 2013 is made up from 8,130 full-time workers and 1,294 full time equivalent part time workers assuming that a part-time worker is equivalent to 0.5 full-time. These workers were associated with total earnings in 2013 of £207.25M.



The sectors responsible for significant proportions of frontier workers include: Construction (13.3%); Distributive Trade (21%); Hotels and Restaurants (9.5%); and Services such as on-line gaming, business services, financial intermediation and other services make up most of the rest of the frontier workers (41%)

The official statistics suggest that 50% of the total frontier workers are of Spanish nationality. However, as this report suggests that the actual number of frontier workers is over 9,000 the proportion of those that are likely to be of Spanish origin is probably significantly higher. However, with no evidence of the nationality distribution of frontier workers, this study makes the assumption that the proportion of frontier workers is the same as that in the Employment Survey (October 2013). Therefore, it is assumed that the number of Spanish frontier workers is 4,664 and that the earnings associated with these frontier workers of Spanish nationality is £102.569M. Regardless of nationality it can be assumed that the 9,424 frontier workers will all spend some proportion of their earnings in the Campo region, adding further to Gibraltar's economic impact on the Campo de Gibraltar region.

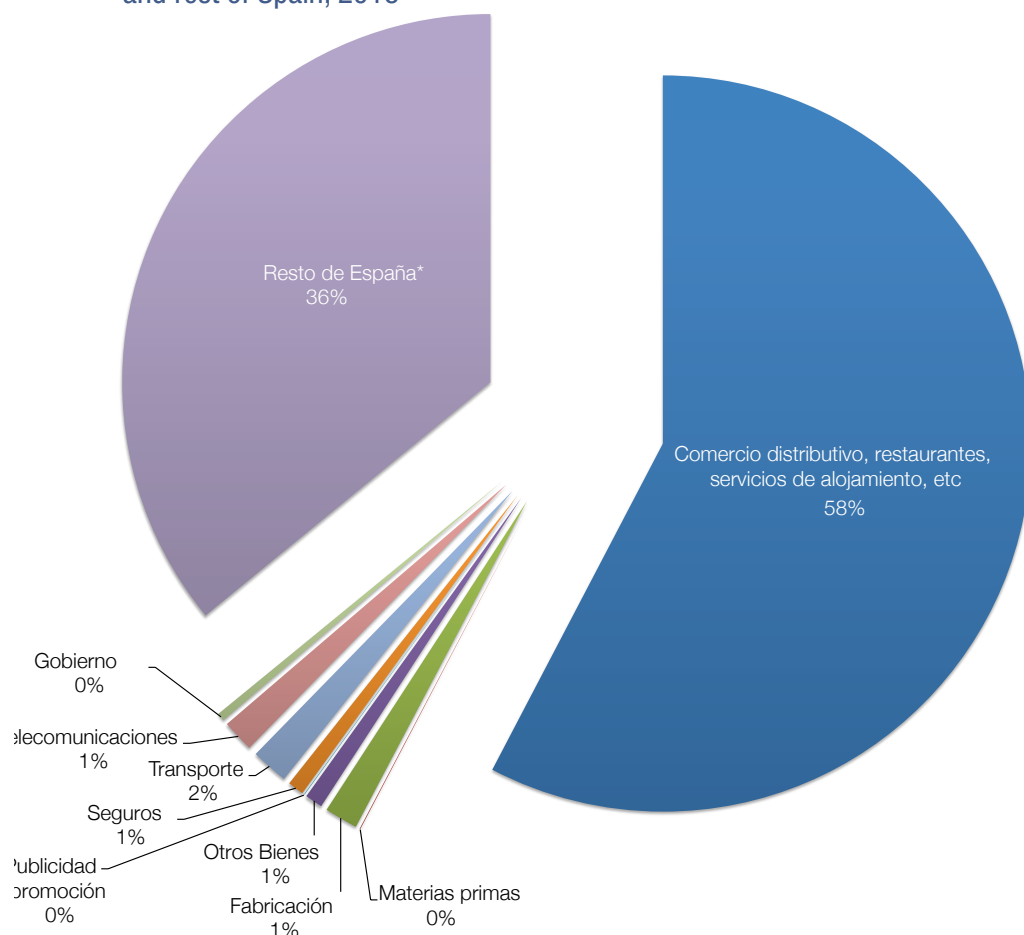
In the absence of any further information regarding how this £207.25M was spent within the Spanish economy, the calculations used in this report, as it did in the previous report, have assumed that there is no significant difference between the spending patterns of frontier workers and those ordinarily based in and working in the Andalucía economy. Assuming that Spanish workers who cross the frontier each day to work in Gibraltar exhibit the same pattern of household spending as the average household spending for the Spanish region the pattern of Spanish frontier worker's spending within the economy of Andalucía is shown in Table 5.

Table 5: Pattern of spending by Spanish frontier workers in the economy of Andalucía and rest of Spain, 2013

	£Ms
Distributive Trade, Restaurants, Housing Services, etc.	59.151
Raw Materials	0.031
Manufacturing	1.502
Other Goods	0.796
Adv & Prom	0.026
Insurance	0.726
Transport	1.676
Telecomm	1.453
Government	0.362
Rest of Spain*	36.846
Total	102.569

Note*: The 'rest of Spain figures relate to goods and services that the economy of Andalucía has to import in order to meet the demands from businesses and individuals from Gibraltar.

Pattern of spending by Spanish frontier workers in the economy of Andalucía and rest of Spain, 2013



The proportion of spending on each of the different sectors in the region and that spent in the rest of Spain was derived from the Andalusian Input-Output data.

In addition to the Spanish nationals that cross the frontier each day to work within the Gibraltar economy there are 4,760 frontier workers of other nationalities. This includes workers from the UK, Morocco and other nationalities. The total earnings associated with these frontier workers (i.e. Other than Spanish nationals) come to £104.681M. In the absence of any household expenditure survey for these frontier workers we have assumed that a proportion (20%) of their earnings is repatriated back to their country of origin and that the remaining spending (£83.745M) reflects a similar pattern to that of the Spanish workers. Thus, of the £83.745M income some £53.662M is spent within the economy of Andalucía and the remainder (£30.083M) is spent in Spain but outside the region. Table 6 shows the total spending distribution within the region.

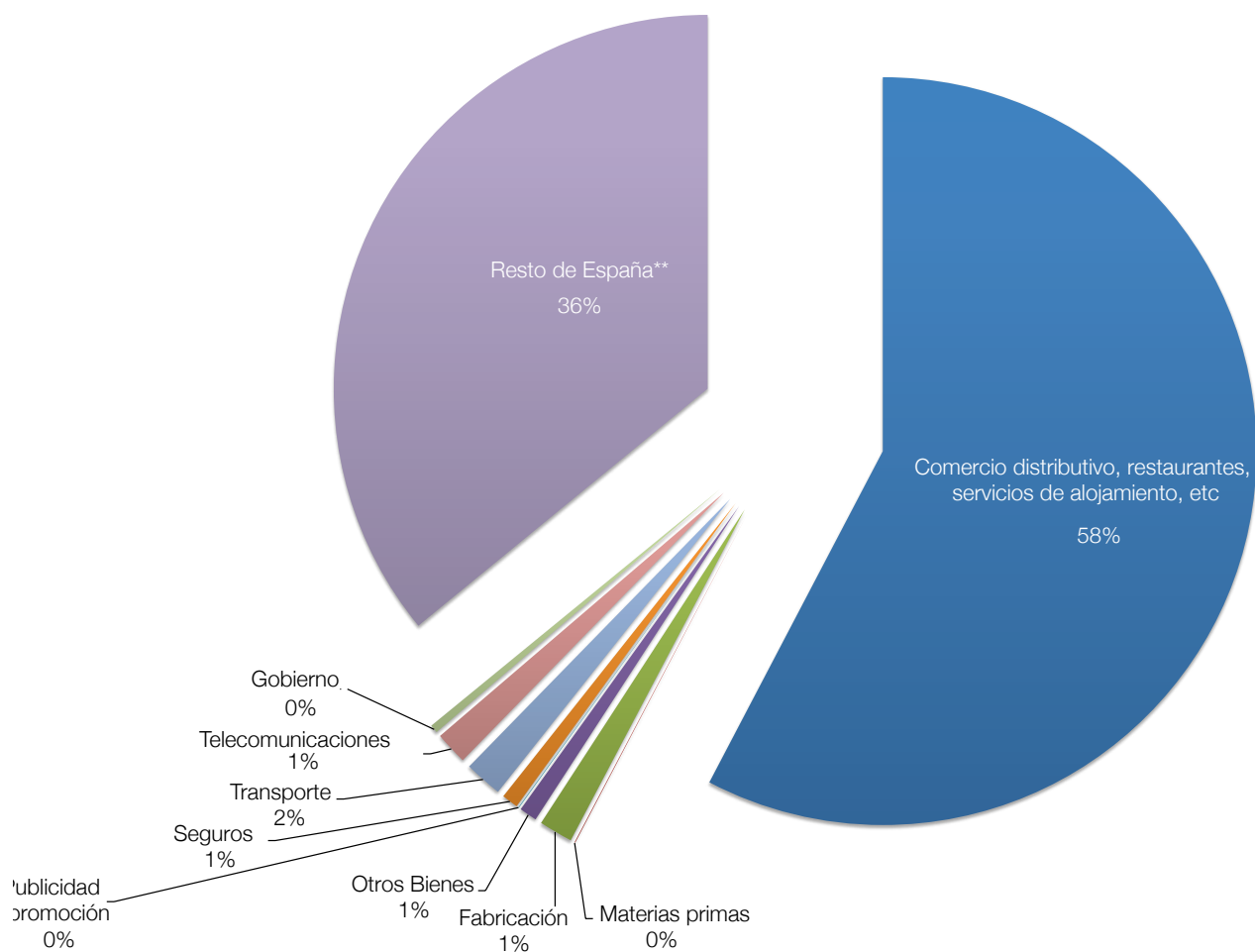
Table 6: Pattern of spending by other frontier workers* in the economy of Andalucía and the rest of Spain, 2013

	£M's
Distributive Trade, Restaurants, Housing Services etc	48.304
Raw Materials	0.025
Manufacturing	1.225
Other Goods	0.642
Adv & Prom	0.022
Insurance	0.593
Transport	1.369
Telecomm	1.186
Government	0.296
Rest of Spain**	30.083
Total	83.745

Note: * Other Frontier workers refer to those classified as such by the Government of Gibraltar Statistics Office

**The 'rest of Spain figures relate to goods and services that the economy of Andalucía has to import in order to meet the demands from businesses and individuals from Gibraltar.

Pattern of spending by other frontier workers* in the economy of Andalucía and the rest of Spain, 2013



Gibraltar residents' expenditure in Spain

There is clearly significant and regular spending in the Campo de Gibraltar by people that earn their income from within the economy of Gibraltar, not only by Spanish frontier workers as shown above but also by Gibraltarians. This spending occurs in two distinct ways: First, where those normally resident in Gibraltar cross the frontier to purchase goods and services from within the Spanish economy; secondly, where Gibraltarians have moved to Spain and cross the frontier each day to carry out their employment. The expenditure patterns exhibited by both categories are likely to be significantly different. The former is likely to have a narrow range of goods and services that they purchase from within Spain (such as food, beverages and household items) whereas the latter are more likely to take on the expenditure patterns exhibited by their Spanish counterparts because the property, insurance, finance and vehicular expenses, including the purchase of white goods and media are more likely to be part of their normal expenditure within the Spanish economy.

Table 7 shows the estimated value and pattern of expenditure within the Spanish economy of those normally resident within the economy of Gibraltar. Therefore, these figures relate to income that is earned within the Gibraltar economy but is being spent within the economy of the Campo de Gibraltar. There will also be leakages out of the Campo de Gibraltar region from this spending but these are taken into account when the secondary effects are estimated using the regional input-output model.

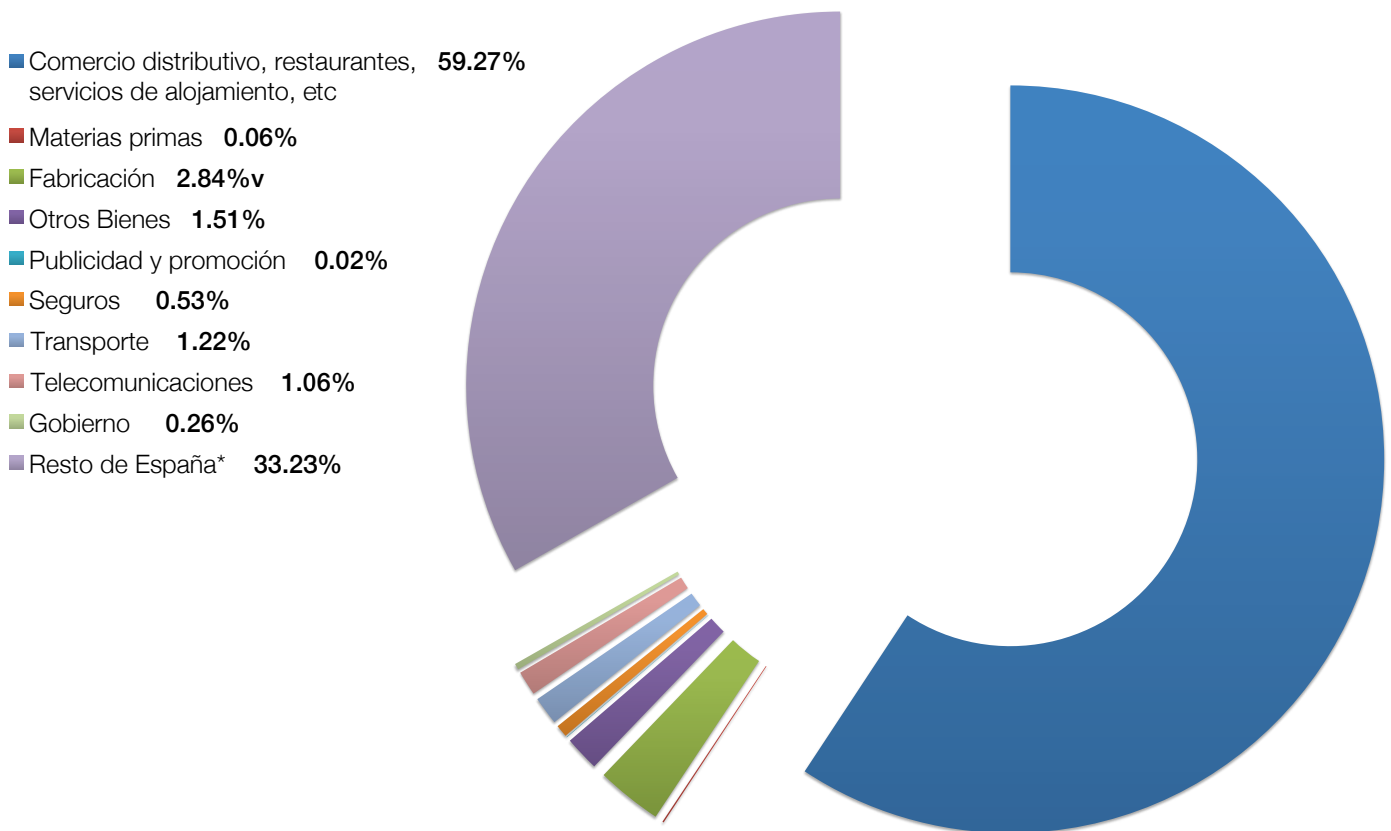
Table 7: Household expenditure in Andalucía and the rest of Spain by residents of Gibraltar, 2013

	£M's
Distributive Trade, Restaurants, Housing Services, etc.	46.624
Raw Materials	0.046
Manufacturing	2.234
Other Goods	1.187
Adv & Prom	0.015
Insurance	0.416
Transport	0.960
Telecomm	0.832
Government	0.207
Rest of Spain*	26.137
Total	72.761

It can be seen from Table 7 that the total value of Gibraltar household expenditure directly within the Spanish economy is estimated to be around £72.761M.

Note*: The 'rest of Spain figures relate to goods and services that the economy of Andalucía has to import in order to meet the demands from businesses and individuals from Gibraltar.

Household expenditure in Andalucía and the rest of Spain by residents of Gibraltar, 2013



Expenditure by Gibraltarians with second homes in Spain

The Gibraltarians who have second homes in Spain have a different expenditure pattern to those that make day visits across the frontier. They spent an estimated £62.43M in Spain in 2013. This is just over double the amount that was spent in 2007 (£33.52M) and the way in which this is broken down is shown Table 8. This expenditure breakdown is taken from the regional household expenditure function that is used in the input-output model for Andalucía. There may be differences between Gibraltarians with second homes and indigenous residents in terms of the pattern of expenditure. This is maybe due to bias introduced because of a skewed income distribution. However it is felt that this is the only breakdown that can be used in the absence of undertaking primary data collection from those households. Also the estimate of numbers is sufficiently broad that the error introduced from adopting the local consumption function will not be excessive compared with other possible errors.



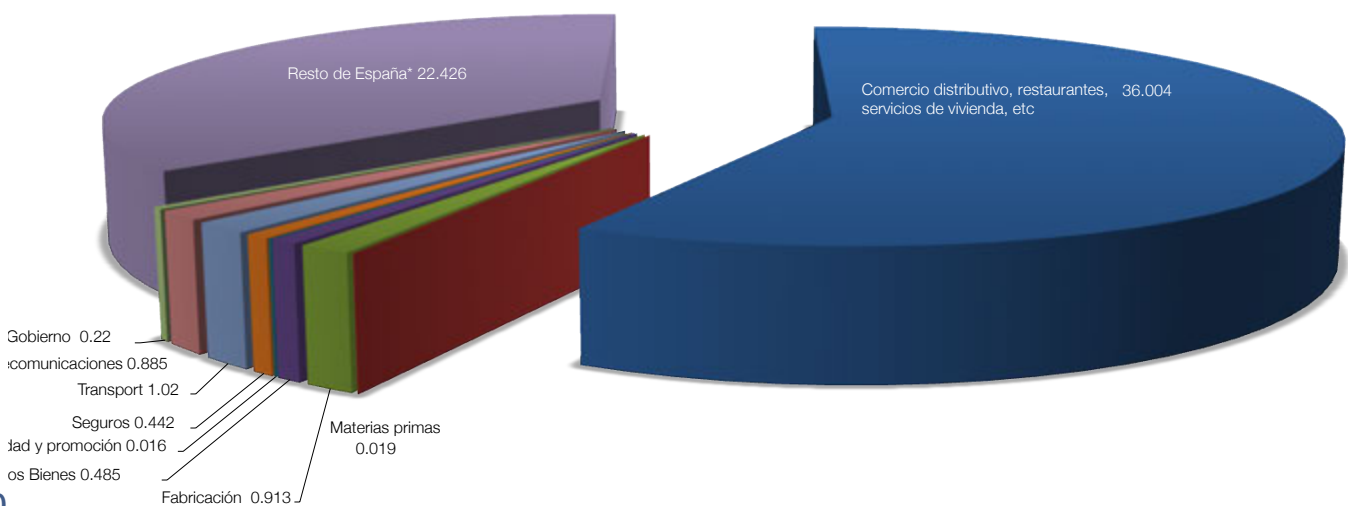
Table 8: Household expenditure by Gibraltarians with second homes in Spain, 2013

	£M's
Distributive Trade, Restaurants, Housing Services..etc	36.004
Raw Materials	0.019
Manufacturing	0.913
Other Goods	0.485
Adv & Prom	0.016
Insurance	0.442
Transport	1.020
Telecomm	0.885
Government	0.220
Rest of Spain*	22.426
Total	62.430

Note*: The 'rest of Spain figures relate to goods and services that the economy of Andalucía has to import in order to meet the demands from businesses and individuals from Gibraltar.

The expenditure figures shown in Tables 7 and 8 represent the direct output effect of Gibraltar household spending on the Spanish economy and total £135.191M.

Household expenditure by Gibraltarians with second homes in Spain, 2013



The financial services sector

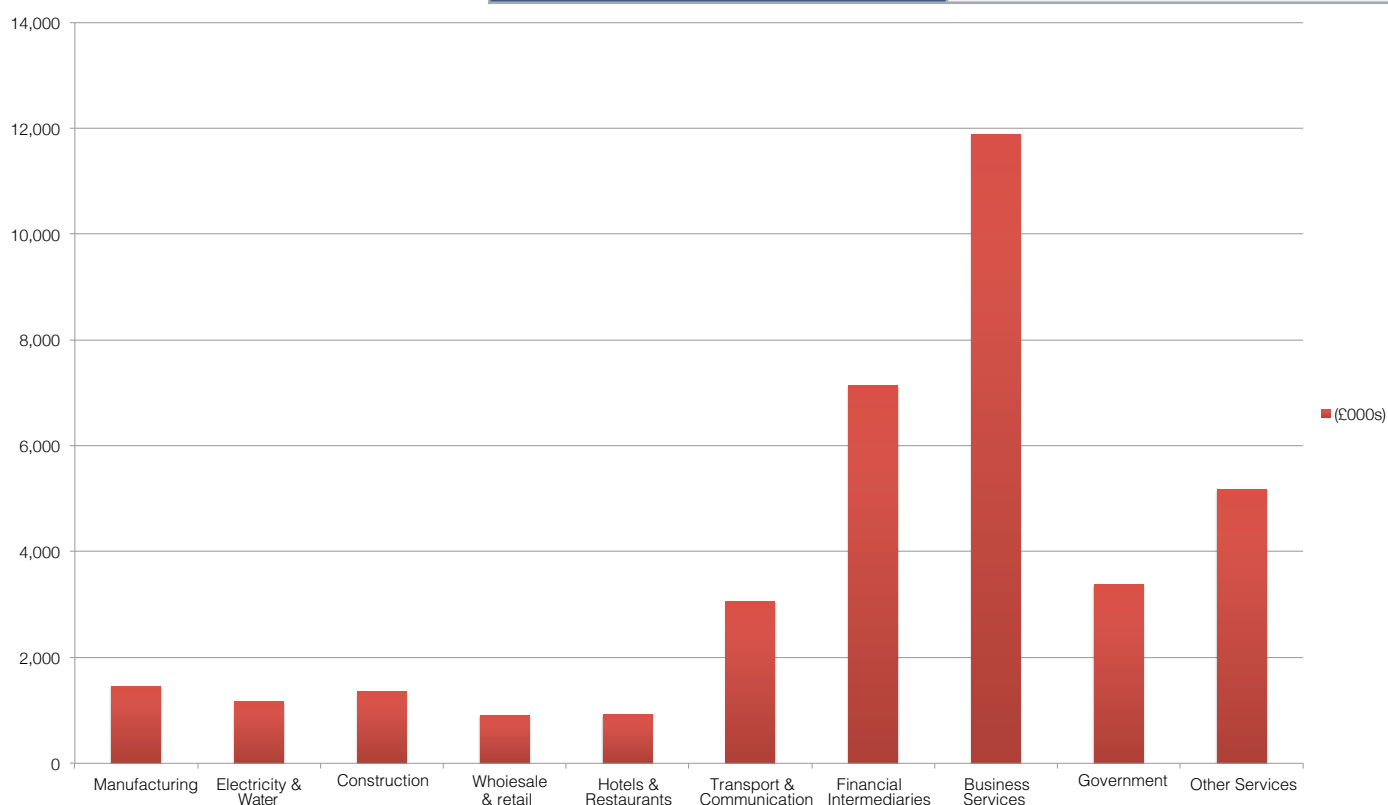
In 2013 the Gibraltar economy is conservatively estimated to have a Gross Domestic Product of approximately £1,243M. The Financial Services sector, as was evidenced in the 2009 study, continues to be a strong externally facing and internally supporting sector employing some 3,225 full-time equivalent employees (FTEs) of whom 2,555 FTEs are normally resident in Gibraltar. This is double the employment recorded in this sector in the 2009 study. The sector also employs 670 full-time equivalent frontier workers. The overall figures on employment and GDP are stated with a strong degree of confidence. The calculations included throughout this report are based on the updated Gibraltar Input-Output model and the overall findings can be treated with a great deal of confidence. However, the distribution of impacts attributable to individual sectors may need to be treated with a degree of caution because of the changes in sector composition that have occurred since the Gibraltar Input-Output model was first constructed. The total expenditure of the Financial Services sector in 2013 was more than £367 million which is just over 11% of the total expenditure made by businesses located within the Gibraltar economy. Therefore, although the relative significance of the Financial Services sector may have diminished somewhat since the 2009 study, this is a result of greater growth in other sectors, such as gaming, and the Financial Services sector has continued to grow in absolute terms.

The total wages and salaries earned within the Financial Services sector were £117.5M and over 70% of these earnings were paid to Gibraltar residents. The Financial Services sector spent over £36M buying goods and services from other sectors within the Gibraltar economy. The sector also imported over £107M goods and services from outside the Gibraltar economy, paid earnings of just over £32M to frontier workers and exported almost £297M to Spanish residents and businesses.

Table 9: Expenditure by the financial services sector on goods and services from other sectors, 2013.

Sector	(£M's)
Manufacturing	1.453
Electricity & Water	1.163
Construction	1.349
Wholesale & Retail	0.909
Hotels & Restaurants	0.924
Transport & Communication	3.055
Financial Int.	7.146
Business Services	11.887
Government	3.378
Other Services	5.176
Total Expenditure	£36440

Expenditure by the financial services sector on goods and services from other sectors, 2013.



The economic impact of the financial services sector on the economy of Gibraltar is such that, for an additional £1M of transactions in that sector, and after taking direct, indirect and induced effects into account, the level of income in Gibraltar increases by £1.295M, the level of employment increases by 27 FTEs, government revenue increases by £0.443M and there is a need to import an additional £0.595M of goods and services. The Financial Service sector continues to be associated with higher than average earnings, reflecting the nature of the qualified work force employed by the sector with the average earnings (wages and salaries) equivalent to approximately £36,500 per FTE.

The expenditure made by the Financial Services sector within the Gibraltar economy generates an additional £40M in indirect and induced income and supports an additional 742 FTEs. The earnings of Frontier Workers in the Financial Services sector, after the indirect and induced income effects have been taken into account amount to some £66.7M.

The net output effect of the Gibraltar economy on the Campo de Gibraltar

Using the information provided from the above analysis it can be seen that there are positive flows from the Gibraltar economy to the economy of the Campo de Gibraltar. This is through business imports, the payment of frontier workers travelling from Spain to earn their income within Gibraltar, through Gibraltar residents going across the frontier to spend income earned in Gibraltar within the Campo region economy and finally, from those Gibraltarians and non-Gibraltarians who are non-Spanish yet residing within the geographical area outside of Gibraltar but within the Campo region. The positive flows from the Spanish economy to that of Gibraltar occur because of Spanish nationals plus a proportion of the non-Spanish nationals, that spend income earned in Spain within the Gibraltar economy and hence are importing goods and services from Gibraltar. The difference between these two flows provides the net

output effect as a result of their economic interaction. The maths for this are shown in Table 10 and demonstrate that there is a direct net positive output effect of £426.564M on the Campo de Gibraltar economy as a result of the activities of Gibraltar, the Campo de Gibraltar and their economic interaction.

Table 10: Direct net output effect of the Gibraltar economy on that of the Campo de Gibraltar

	£M	Net effect £M
Gibraltar Business Imports	380.890	
Spanish Frontier Workers	65.723	
Other Frontier Workers Resident in Spain	53.662	
Gibraltar Resident Spending	46.624	
Gibraltarians with Second Homes in Spain	40.004	
Sub-Total	586.903	
Less		
Spanish Visitor Expenditure in Gibraltar	-160.339	
Direct Net Output effect in the Campo		426.564
Spanish Frontier Workers	36.846	
Other Frontier Workers Resident in Spain	30.083	
Gibraltar Resident Spending	26.137	
Gibraltarians with Second Homes in Spain	22.426	
Sub-Total	115.492	
Direct Net Output Effect on Spain		542.056

Note: The business imports include net fuel imports and exports between Gibraltar and Spain.

The contribution of Gibraltar's economy to that of the Campo de Gibraltar can also be measured in terms of its direct contribution to income levels. The earnings from the frontier workers show

that the local income level in the Campo de Gibraltar increases by £102.569M as a result of Spanish residents earning their income from Gibraltar. If the non-Spanish Frontier workers are also included, this local direct income contribution rises to £207.250M.

The secondary economic effects of Gibraltar on the economy of the Campo de Gibraltar

The direct net output effect shown in Table 10 relates to the total value of transactions that take place (+ve and -ve) between the Gibraltar, Campo de Gibraltar and national Spanish economies. In order to understand the full extent of such effects it is necessary to explore the likely indirect and induced effects of this net output effect (£426.564M) on the local economy of the Campo de Gibraltar (see glossary and definitions for explanation of indirect and induced effects).

The Business Imports of Gibraltar Businesses leads to a direct increase in output for the Campo de Gibraltar region of £380.890M. After the leakages out of the Campo de Gibraltar are taken into account this £380.890M output results in a direct increase to Gross Domestic Product (GDP) in the region of £151.639M (see Table 11). As this level of economic activity stimulates reactions from other sectors of the local economy the direct plus indirect effect of the business imports increases to £246.854M of GDP and once the induced effects are taken into account they give rise to a direct plus indirect plus induced effect on GDP of £349.324M.

The Spanish workers who cross the frontier each day and earn their income from within the Gibraltar economy directly inject £102.569M of income into the economy of the Campo de Gibraltar. By the time that this income has been spent and circulated around the economy it will have increased the local income level by £148.366M and when the induced effect is taken into account this increase in GDP rises to £213.169M.

The earnings of other workers who live in Spain and cross the frontier to work are £83.745M and when the indirect effect of this is taken into account this increases GDP by a further £37.392M to £121.137M. When the induced effect is taken into account it adds another £52.91M bringing the total GDP generated by non-Spanish frontier workers to £174.047M.

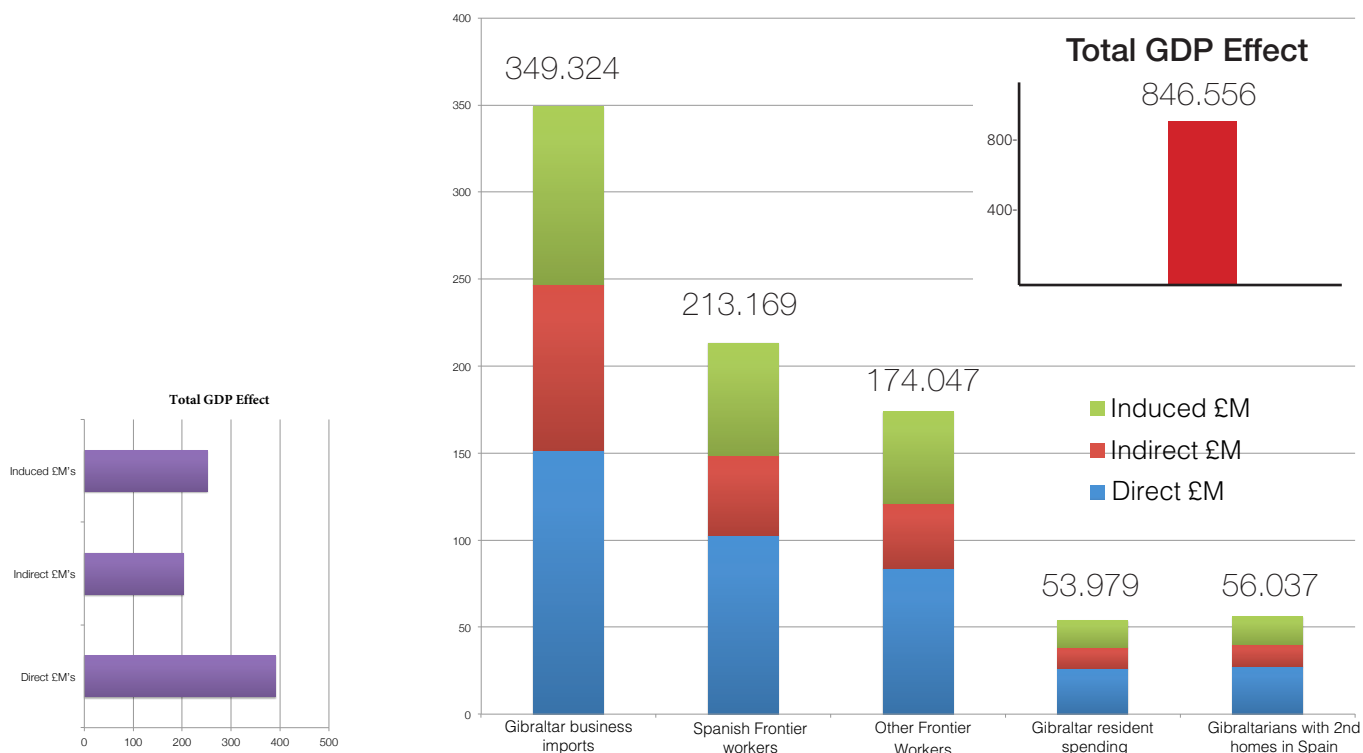
The direct spending of Gibraltar residents within the Campo de Gibraltar creates a direct addition to GDP of £26.054M which increases to £38.414M when the indirect effects are included and then to £53.979M when the induced effects are also included.

The direct GDP generated by the spending of Gibraltarian residents with second homes in the Campo de Gibraltar is £27.644M, which rises to £39.987M when the indirect effects are added and ultimately to £56.037M when the induced effects are incorporated.

Thus the total effects of the interaction between the economies of Gibraltar and Spain in terms of GDP can be summarised as:

Table 11: Direct, indirect and induced GDP Created by Gibraltar spending, Campo de Gibraltar, 2013

Source	Gross Domestic Product			
	Direct £M's	Indirect £M's	Induced £M's	Total £M's
Gibraltar Business Imports	151.639	95.215	102.470	349.324
Spanish Frontier Workers	102.569	45.797	64.803	213.169
Other Frontier Workers	83.745	37.392	52.910	174.047
Gibraltar Resident Spending	26.054	12.360	15.565	53.979
Gibraltarians with 2nd homes in Spain	27.644	12.343	16.050	56.037
Total GDP effect	391.651	203.107	251.798	846.556



Therefore, as Table 11 demonstrates, the economic impact arising from the spending within the Campo de Gibraltar of money arising from within the Gibraltar economy accounts for £846.556M of GDP. This is clearly a significant injection into Andalucía which is now one of the least developed regions of the Spanish economy where the GDP per capita (£13,166 in 2013) is just 75% of the Spanish national average and less than 70% of the EU average per capita income¹. During the period from 1996 to 2007 Andalucía was the third fastest growing region in Spain but it has now fallen to the third poorest region. If the impact of the Gibraltar-generated spending is considered at the Campo de Gibraltar level then the significance is even greater.

The GDP of Andalucía in 2013 was estimated to be £111,253M and using the gross effect of the Gibraltar economy as shown in Table 11 (£846.556M) it can be seen that Gibraltar is responsible for 0.761% of the region's total GDP. The level of GDP for the Campo de Gibraltar can be estimated by using the population of the Campo as a proportion of that for the region. Although this probably exaggerates the level of GDP in the Campo de Gibraltar by some margin, it is a defensible methodology to use. In which case it can be estimated that GDP in the Campo de Gibraltar in 2013 was £3,472M and some 24.4% of this was attributable to the economy of Gibraltar. The 2009 study showed that Gibraltar was responsible for 12.2% of the Campo's GDP in 2007. However, the 2009 study did not include petroleum products so care needs to be taken in comparing the results of this study to the previous one. If we remove the effect of petroleum products from this study, then the GDP effect of Gibraltar on the Campo is reduced to 18.5%. This is still

¹Gross Domestic Product by Region, Year 2013, Instituto Nacional Estadística, March 2014.



substantial and a significant increase from the position reported in 2009. It is not a surprising result, given that the Campo economy experienced contraction since 2007 following the financial crisis, while the Gibraltar economy has continued to grow.

Asset effects of Gibraltar on the Campo de Gibraltar

The above analyses relate entirely to the recurrent spending that occurs between Gibraltar and Spain within the local area. However, there is another effect, a wealth effect, which should be considered when looking at the contribution that Gibraltar makes towards the economic prosperity of the Campo de Gibraltar region.

It is difficult within the scope of this research to offer any precision with respect to the economic impact that Gibraltar's proximity has on the rest of the Campo de Gibraltar's region. First, the relationship between geographical proximity to Gibraltar and property prices is a complex issue and although the study in 2009 clearly showed that there was a significant positive effect on the prices of property close to the Gibraltar frontier, it is difficult to determine what that relationship is in monetary terms. The problem in 2013 is compounded further by the financial crises that have occurred since the previous study and subsequent fall in property prices in the Andalucía region (a fall of between 30-40% between the two studies).

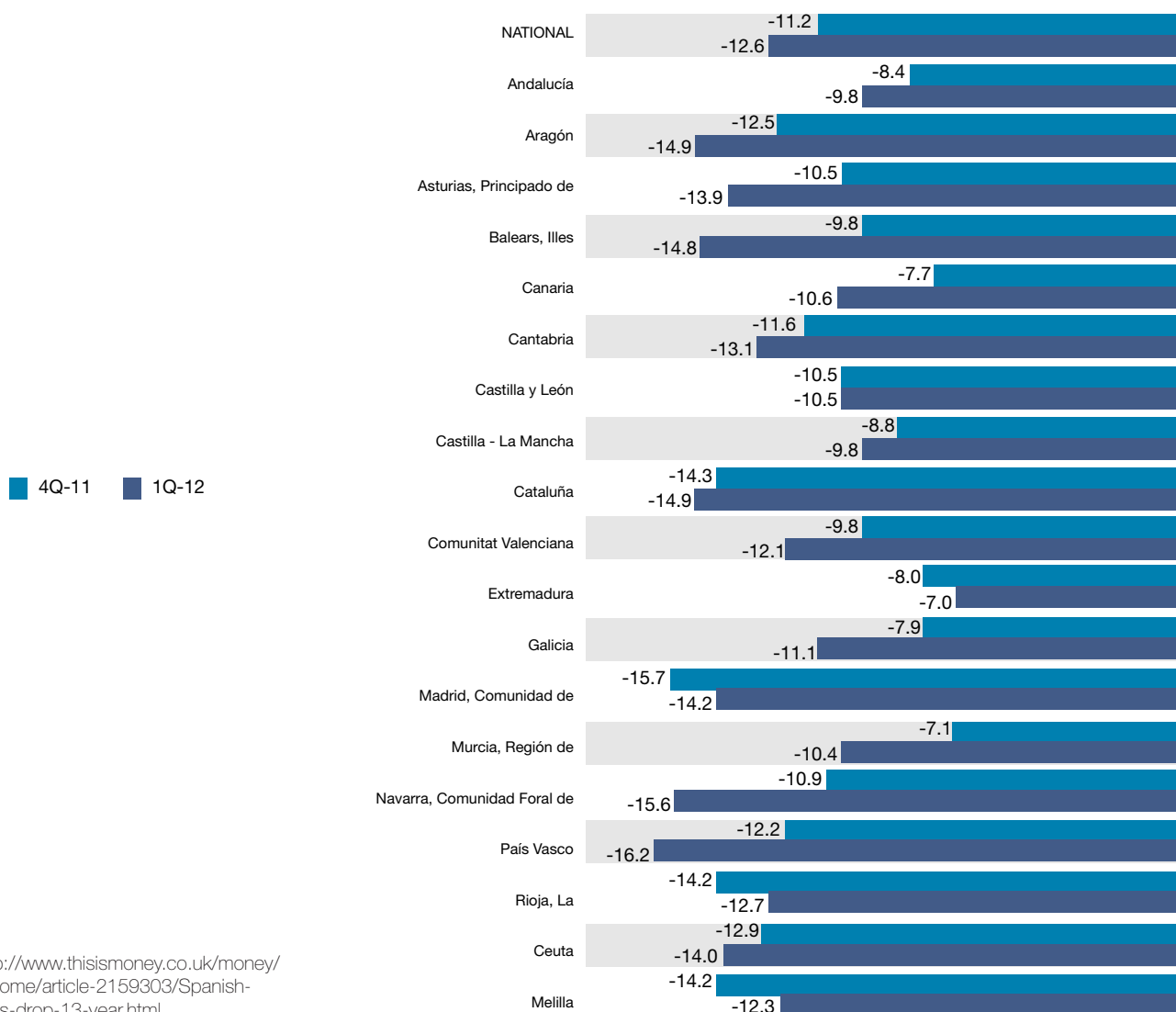
Again, as in the previous study the fall in prices has not been uniform across the whole Campo de Gibraltar and there are a number of "gravitational pulls" that have resulted in the fall in property prices being slower in some areas than in others.

In terms of property prices in the region it creates a "high spot" from which property prices decline then increase again according to whether you move closer to Marbella or Gibraltar. These gravitational pulls work with and against each other. Secondly, there has been a major property price shock across Europe as a result of the global


economic downturn and the quaintly named but dangerous effects of the credit crunch. Spain has suffered a double blow however, because property prices have recently tumbled from the effects of an oversupply of property, combined with diminishing demand for second homes from the rest of Europe as well as within Spain.

In spite of the economic downturn and fall in property prices there is no evidence to suggest that the 'Gibraltar effect' on property prices has diminished. It is just harder to quantify when the effect is a slow down in price falls rather than the more measurable increase in prices that was reported in the earlier report. Property values are uncertain in the Campo region and there are certainly properties

Figure 1: Average property values in Spain 2011/2012



Source: <http://www.thisismoney.co.uk/money/mortgageshome/article-2159303/Spanish-house-prices-drop-13-year.html>



where the value placed on them for sale is not reflective of the market value and hence they are not selling. The shoring up of prices is important and suggests that Gibraltar continues to have an enormous input into the local region which will have helped maintain demand and economic activity. Figure 1 demonstrates the year on year property price fall in each of the regions of Spain in the last quarter of 2011 and the first quarter of 2012.

Although average property prices in Andalucía continued to fall dramatically year-on-year, it can be noted that the last quarter of 2011 and the first quarter of 2012 showed the fall in Andalucía was relatively low when compared to many other regions in Spain. This in part can probably be explained by the bolstering effect of the Gibraltar economy.

Even with the downturn in property prices in the Campo de Gibraltar the Gibraltar effect is likely to have been significantly positive. Any fall in property prices in the Campo de Gibraltar is likely to have been mitigated by the relatively high and stable property prices in Gibraltar. This effect will be more significant the closer (geographically) one gets to the frontier. Using the same assumptions as were made in the 2009 report, that there are 263,739 people residing in the region of the Campo de Gibraltar and using the average Spanish household size for the region of 2.9, it can be assumed that there are 86,200 households in the area.

The property prices in the key areas of the region (based on a minimum size of 2 bedrooms) is €181,800 and when this is weighted down to reflect the property prices in local areas that are less in demand, the average value of the same properties reduces to just over €141,000. The effect of Gibraltar on those prices, if the 40% fall is considered valid, is half that suggested in 2009 but still a significant €3.517 billion.

Overall Summary Table

Changes in economic activity between Gibraltar and the Campo de Gibraltar
2007-13

	2007 £M	2013 £M	Change %
Business Imports	174	381	119
Spanish Frontier Workers Earnings	43	102	137
Other Frontier Workers	57	84	47
Residents of Gibraltar spending in Spain	30	73	143
Gibraltarians with 2nd Homes spending in Spain	34	62	82
Increase in the level of output in the Campo de Gibraltar attributable to Gibraltar	302	542	79
Campo de Gibraltar resident spending in Gibraltar	112	148	32

Employment effect	% of Campo 2007	% of Campo 2013	Change %
Jobs supported by Gibraltar economy (within Gibraltar) as % of total in Campo	18	24	33



Employment in the Campo de Gibraltar

According to the statistics² there were 152,864 employees in the Campo de Gibraltar region in 2013. However, this figure includes 69,582 temporary employees, which, if removed from the total result in 83,282 employees excluding temporary or casual employees. This suggests that employment in the Campo region has fallen from 102,468 in 2007 to 83,282 in 2013 a decrease of 19%. With frontier workers estimated to be 9,424 the direct effect of Gibraltar on employment in the Campo region is estimated to be just over 11% and when the indirect and induced effects are taken into account this could be as high as 18-20%. The Gibraltar economy supports 22,907 employees, 2,693 self-employed plus the additional 3,000 employees that cross the frontier each day. In total this comes to 25,907 jobs (excluding the self-employed). This means that the number of employees in Gibraltar (25,907) is equivalent to 24% of the total employment of the Campo de Gibraltar. $(25,907 / (83,202 + 25,907))$.

In summary 1 out of every 4 jobs in the Campo (including Gibraltar) is supported by Gibraltar.

² Source: www.juntadeandalucia.es

Glossary and definitions

Multiplier analysis

The input-output model allows the researchers to derive multiplier coefficients for each of an economy's productive sectors. These multiplier coefficients demonstrate the ability of any given sector to generate income, employment, output and government revenue from any given change in the demand for its output. The multipliers also show how dependent each sector is upon imported inputs in order to produce any given level of output.


The multiplier values can be used to show the impact on an economy as a result of a given change in any of its final demands. These impacts can be sub-divided into three categories:

Direct effects

The direct effects are those effects brought about directly in those sectors that are subject to the change in final demand. Therefore, a change in the level of activity of distributive trade in the Campo de Gibraltar will be directly felt by those companies that are involved directly in the production of such services i.e. shops, wholesalers, etc. in that region. Similarly, a change in the level of staying visitors to Gibraltar will have a direct effect upon the hotel sector, the restaurants, taxis and shops that directly receive the tourist's money. Finally, a change in the level of demand for transport will have a direct effect upon the transport companies that carry out those services.

Indirect effects

When there is a change in final demand for a sector's output the sectors that produce that output will have a change in their input demands. For instance, the finance sector may need to purchase additional communication services, other financial services from companies within their sector and supporting services related to, say computing legal and accounting services. The hotel that was subject to an increase in demand may need to increase its purchases of food & beverages, laundry services, cleaning services etc. The transport companies may need to acquire additional vehicle spares, purchase engineering services, fuel and other, related costs.



These effects that occur as a result of the direct effect changes are known as indirect effects. They continue to occur as the suppliers to each of the companies that have increased demand, are subject to increased demands themselves as a consequence.

Induced effects

Whenever a good or service is produced some income is accrued either as wages, salaries, profit, rent or interest (or some combination of these). Therefore, during the direct and indirect effects, income is accrued as a result of the initial change in final demand. When that income is re-spent it triggers of another round of economic activity. This additional round of economic activity generates income, employment, output and government revenue. The economic effects that are the result of the re-spending of accrued income are known as the induced effects.


GDP is Gross Domestic Product and can be defined as: the total market value (at current prices) of all final goods and services produced within an economy within a given year, and is equal to the total of consumer and government expenditure, gross fixed capital formation and exports of goods and services less the value of imported goods and services.

Methodology

The research methodology used to establish the results set out in this report was as follows:

The areas of economic interaction between the economies of Gibraltar and the Campo de Gibraltar were identified and secondary data were collected. This included the data on frontier workers (GoG) the visitor numbers and expenditure (GoG) and import data for goods. These data were then supplemented by primary data from a survey of Chamber of Commerce members, the input-output data and some selected interviews with key people in Gibraltar. From these sources it was possible to determine the direct flows of goods and services between the two economies.

The expenditures made in the Campo from income earned in Gibraltar (by businesses, frontier workers and Gibraltar residents) were then subjected to multiplier analyses using the input-output model of Andalucía to determine the indirect and induced economic impacts of Gibraltar spending on the economy of the Campo de Gibraltar. To do this it was necessary to assume that (a) frontier workers resident in Spain had expenditure patterns that were based on the average expenditure patterns of residents of Andalucía, (b) similarly, those Gibraltarians that had second homes in the Campo de Gibraltar were also assumed to have a similar pattern of household expenditure as that exhibited by households across the region. The income figures for frontier workers were taken from Government Statistics on employment and can be assumed to be a conservative estimate because of the practice known as “detached workers” where payment is made to staff in their place of normal residence even though the income is earned within the Gibraltar economy.



The expenditures in the Campo de Gibraltar made by Gibraltar businesses, frontier workers and Gibraltar residents were then used to drive the Andalusian input-output model to determine the secondary effects associated with this spending. The input-output model was also used to derive the GDP arising from such spending.

The expenditures made by frontier visitors to Gibraltar were derived from the 2013 Tourist Expenditure Survey by the Government of Gibraltar's Statistics Office. The expenditure taken was that made by Spanish nationals plus those that also visited Gibraltar across the land frontier crossing. If anything, this is likely to overestimate the volume of spending originating from the Campo de Gibraltar region because it will include those Spanish nationals living elsewhere in Spain who may have visited Gibraltar, as well as those non-Spanish nationals visiting Gibraltar who are not normally resident in the Campo de Gibraltar. Again this supports the view that the results set out in the this report are conservative.

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