

Regional Income Estimates for Ireland: 1995

by

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Abstract

In Ireland since the mid-1980's a sizeable gap has emerged between GDP and GNP, which by 1995 stood at 15%. This gap is unique among EU countries. It is attributable to net factor outflows, mainly due to profit outflows by foreign multinationals. Recently released official regional output data are being used by the Irish government to decide which regions qualify for the next round of EU Structural Funds. This paper uses two methods for adjusting regional output for net factor outflows to derive regional income or 'GNP' estimates. It suggests that in addition to the West, Midlands and Border regions, the South-East and South-West regions might also be considered for qualification.

Keywords: Ireland; regional output and income; net factor outflows.

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1. Introduction

Diverging output and income levels has become a noted feature of the Irish economy in the late 1980s and during the 1990s. Starting in the early 1980s a gap opened between GDP and GNP. By 1995 Irish GDP was 15% greater than GNP due to the presence of net factor outflows (Eurostat, 1998). This is unique among EU countries where the difference in aggregate terms is less than 1% (Eurostat, 1998). The consensus is that Irish GDP is overstated primarily due to profit outflows from foreign multi-nationals and that adjustments must be made in measuring Irish living standards and productivity levels (O'Leary, 1984, Stewart, 1989, O'Leary, 1997, Hitchens and Birnie, 1994 and Birnie and Hitchens, 1998).

In using GNP rather than GDP, O'Leary showed that, between 1960 and 1990, Ireland's living standards convergence performance in the EU becomes distinctly less favourable. Although GDP per capita exhibited convergence on the EU average, the superior living standards measure of GNP per capita diverged, decreasing by 9% points to reach 64% of the EU average in 1990 (1997: 51). However, since 1990, there has been a significant turnaround in the performance of the Irish economy, so that Irish GNP per capita is now converging, reaching 85% of the EU average in 1995. The presence of transfer pricing also necessitates adjustment of Irish productivity levels. However, differences exist on the method to be used to make the adjustment (O'Leary, 1997, Hitchens and Birnie, 1994 and Birnie and Hitchens, 1998).

This paper extends the analysis of Irish living standards to Irish regions by suggesting methods of adjusting regional Gross Value Added (GVA)¹ per capita for net factor outflows. The Central Statistics Office in Ireland (CSO) has recently published estimates of GVA per capita for 1995. These data show the Dublin/Mid-East and South-West regions having the highest level with the West, the Midlands and the Border having the lowest (CSO, 1998)². These output based estimates are likely to overstate regional income levels, since no adjustment is made for net factor outflows. This paper suggests appropriate adjustments and presents regional income, or more precisely regional 'GNP' estimates for Irish regions in 1994 and 1995.

By far the biggest component of net factor outflows are profit outflows, which accounted for 102.4% of the outflow in 1995. Two methods for adjusting these outflows are used here. First, official regional output estimates for 1995 are adjusted for the level of profit outflows by scaling down profit outflows for the state by the share of manufacturing profit attributable to foreign owned firms in each region. This 'top-down' method provides an approximation of the extent of adjustment warranted.

Second, for the South-West region, which hosts clusters of foreign owned electronics and chemical industries alongside significant indigenous agriculture, food processing and tourist sectors, a more detailed analysis is possible using the survey based regional input-output model of the region for 1994. This is the only regional model that currently exists in Ireland. It is based on an extensive survey of businesses located in the region as well as official CSO data. A detailed description of the construction methods used in the model are provided in Garhart, Moloney, O'Leary

and Donnellan (1997). Using the model the extent of profit outflows is estimated by allocating sectoral 'other value added' based on the extent of foreign ownership. This 'input-output' method provides an upper estimate of foreign owned profit outflows from the region. The resulting adjustment for profit outflows from the South-West is then reconciled with the 'top-down' estimate for 1994 and 1995.

The other components of net factor outflows are first, interest paid on foreign held national debt, second, other payments which cover profit inflows from Irish multi-nationals and finally, employees remittances. Mainly due to the size of foreign debt repayments, together these components accounted for a significant proportion of the outflow up to 1990. However, chiefly because of successful debt management policies and the thriving foreign multi-national sector, together in 1995 they represented a small inflow, accounting for the remaining -2.4% of net factor outflows. Notwithstanding their small size, adjustments must also be made for these outflows in determining regional income.

Estimates of Irish regional incomes have an important role to play in informing the current policy debate in Ireland about eligibility for the next round of EU Structural Funds. Given the strong growth performance of the Irish economy in the 1990s, Ireland as a whole, with 92% of EU GDP per capita in 1995, will not qualify for Objective 1 status. The qualification rule specified by the EU is that a region must have less than 75% of EU average GDP per capita³.

Based on GVA per capita the Irish government has recently proposed that the country be divided into two regions (it has been treated as one region up to now), so that a case can be made for one of the regions⁴ with a level of GVA per capita less than 75% of the EU average to be eligible for the next round. If it is accepted that, owing to the large gap between GNP and GDP, Ireland should be treated as a special case so that income rather than output measures may be used, then the possibility arises that an even larger region may be eligible.

The paper proceeds in Section 2 by presenting the ‘top-down’ and ‘input-output’ methods for adjusting profit outflows in the context of the recent literature. The proposed method for adjusting for the other components of the net factor outflows are also outlined. Section 3 presents the regional income estimates using the ‘top-down’ method for all regions in 1995. Section 4 presents the more detailed analysis of the South-West for 1994 and 1995. Section 5 considers the policy implications of the findings.

2. Estimating Irish Regional Income

This section begins by briefly reviewing the literature on the recent performance of the Irish economy. It then presents the official regional GVA per capita estimates that have recently been published. This is followed by an outline of the proposed methods for adjusting these estimates.

A 'Dual Diverging' Economy

Kennedy first noted the “dual divergence” between output and income levels in Ireland in the late 1980s (1992: 230). During the preceding sixty years, Ireland underperformed (Kennedy, Giblin and Mc Hugh, 1988 and Lee, 1990) and failed to converge on other EU countries (O’Grada and O’Rourke, 1995, O’Leary, 1997 and Birnie and Hitchens, 1998). There has been a marked turnaround in the Irish convergence performance since 1988, which prompted the ‘Economist’ to refer to the country as “The Shining Light of Europe” (1997)⁵. The cause of this turnaround has been attributed to the country availing of its well educated English speaking workforce and an incomes policy that kept wages low to capitalize on the changing nature of world trade. These factors have enabled the country to attract and maintain a substantial volume of inward foreign direct investment (Krugman, 1997: 51).

Using aggregate expenditure comparisons to adjust for purchasing power parities, O’Leary (1997) showed that between 1960 to 1990, Irish income or GNP per capita diverged from the EU average, decreasing from 73% to 64%. This compares to a converging trend for GDP per capita, which increased from 66% to 71% over the period, with most of the increase occurring in the last four years (1997: 51). This convergence pattern is more marked in terms of aggregate labour productivity, or GDP per worker, which increased from 74% to 90% of the EU average over the period. Moreover, all of this convergence performance is attributed to manufacturing, where the growth in relative productivity was most marked, especially during the 1980s in the Machinery and Equipment, Chemicals and Food industries (1997: 53).

This improvement is attributed to the practice of transfer pricing by foreign multi-nationals. Following the NESCC (1992), O'Leary then adjusts manufacturing GDP by 50% of the profit outflow component of net factor outflows. The rationale proposed by the NESCC is that over half of the net output of overseas industry occurred in industries that do not engage in transfer pricing. In addition some of the outflows must represent profit earned for activities genuinely conducted in Ireland. The result is that Ireland's productivity convergence performance is more muted after the adjustment is made, with GDP being adjusted downwards by 4% with the result that aggregate labour productivity declines to 85% of the EU average in 1990 (1997: 54-5).

Birnie and Hitchens (1998) have also shown that between 1986 and 1995 the proximate cause of the rapid convergence of Irish GDP per capita on the UK level was the dramatic improvement in manufacturing comparative productivity. The measurement of industry productivity levels in both countries is achieved using industry of origin comparisons, which are superior to aggregate expenditure comparisons, although only available for a limited number of countries. The improvement is attributed by Birnie and Hitchens to exaggerated manufacturing GDP due to transfer pricing by foreign multi-nationals. Manufacturing GDP is then adjusted for profit outflows, which are assumed to be generated completely by transfer pricing, resulting in a downward adjustment in GDP in 1994 by roughly 11% (1998: 229-230)⁶.

It is clear from the foregoing that Irish output or GDP estimates should be adjusted in measuring both income and productivity. For income the full amount of the net factor outflow, which is the difference between GDP and GNP, should be removed. For productivity, only that part of the net profit outflow which is attributable to transfer pricing should be removed. The difficulties involved in quantifying the extent of transfer pricing is evidenced by the different approaches and estimates achieved by the different studies.

Regional Measures

The CSO has recently begun to produce estimates of regional GVA for each of the 8 planning regions of Ireland⁷. These estimates were first produced for 1991 and have subsequently been published annually to 1995 (CSO, 1996a, 1997a and 1998). Regional GVA estimates are compiled by the CSO, using the income method, by cumulating estimates for compensation of employees, profits of companies and the self-employed and depreciation allowances for each region. They are compiled in accordance with the ESA 79 basis which treats royalty payments by foreign owned enterprises for patents and technology as factor income outflows and therefore not part of GVA⁸. GVA is valued at basic prices which is used in deciding eligibility for structural funds (CSO, 1998: 8). Valuation at basic prices gives the value producers receive excluding product taxes and including product subsidies⁹.

These data have been widely interpreted as measures of Irish regional income. The CSO point out that GVA differs from personal income in three respects. First,

company profits arising in the state and accruing to non-residents are included. Second, the workforce that produces the GVA in a region may not live there and may bring incomes home to a neighboring region¹⁰. Third, personal income includes items such as social welfare benefits and factor incomes from abroad, which are not included in GVA (1998: 8). The estimates produced in this paper are equivalent to regional 'GNP', since GVA is adjusted for the net factor outflows at the regional level. Thus, in principle, adjustments are made for factor income flows between regions, while no adjustments are made for state transfers between regions¹¹.

Despite much media discussion of the CSO measures, very few alternatives have been proposed. For example, O'Leary (1998) presents direct income and disposable income of households in the regions, taken from the Household Budget Survey for 1994/5 (CSO, 1997b). However, these income measures are more narrowly defined than the concept of regional income (GNP) used here, since profit retained by companies is excluded. In addition, the reliability of these data is open to question due to a low sample size at a regional level and to the possibility that household income, which is self reported by respondents, is understated.

Table 1 presents the GVA per capita estimates for 1995. It shows that both the Dublin/Mid-East and South-West regions, which include the two biggest cities of Dublin and Cork and which accounts for 54% of the population, have levels of GVA per capita in excess of the national average. On the other hand, the West, the Midlands and the Border, with 26% of the population, have levels of GVA per capita less than 75% of the EU average. Based on these estimates, the Irish government first

argued that the three poorest regions would be the only regions to qualify for EU Structural Funds. Following political pressure, the Counties of Kerry (in the South-West) and Clare (in the Mid-West) were included in the government application to the EU Commission. However, this application was eventually turned down by the Commission, with the original three poorest regions being accepted as qualifying.

In order to arrive at Irish regional incomes estimates, regional GVA is adjusted for net factor outflows. Two methods for adjusting profit outflows are suggested, the 'top-down' and 'input-output' method. The methods used to adjust for the interest on foreign held national debt, other payments and employees remittances are also outlined. In addition the necessity of making further adjustments for inter-regional flows and differences in price levels among regions is also discussed.

The 'Top Down' Method for All Regions

The top-down method involves distributing the national estimate of profit outflows to individual regions. The distributor used is the regional share of foreign owned manufacturing profit. It is assumed that a region's share of foreign owned manufacturing profit is proportional to its share of the remainder of net output in manufacturing accounted for by foreign owned firms. The remainder of net output is an approximate measure of profit. It is defined as gross output minus intermediate purchases and wages and salaries. These data have kindly been made available by the CSO for 1995 from the local unit results of the Census of Industrial Production (CIP) (CSO, 1996b)¹².

The 'top-down' method gives an approximate estimate of the extent of adjustment warranted. It assumes that profit outflows are in proportion to the share of foreign owned manufacturing profit in each region. This assumption is justifiable since it is likely that regions with a large share of foreign owned manufacturing and thus a large share of profit, will be those regions from which outflows will be the greatest. However, there may be good reason to suggest that a regions share of outflows may be either higher or lower than its share of profit. The tendency to outflow profit may depend on the type of industry involved. Thus, some industries, for reasons specific to the particular firms involved, or due to the tax policies of the countries in which their head offices are based and the particular markets in which they compete, may tend to outflow more or less than the average share of profits. Owing to the absence of profit outflow data by sector, the extent to which this occurs is difficult to estimate.

A further assumption is that the remainder of net output is a good approximation of the level of profit to use. Remainder of net output is likely to over-estimate profit, since other deductions, like for example employers contributions to pay related social insurance and pensions and purchases of some services are not made. Consequently, if a regions share of remainder of net output is greater (less) than its share of profit, then the share assumed to outflow from that region may be more (less) than appropriate. Unfortunately, once again owing to data limitations, there are difficulties in measuring the extent to which this occurs. Finally it should be noted that it is being assumed that all profit outflows are by manufacturing firms. This is a reasonable assumption since for most regions a large majority of agricultural and

service firms are domestically owned. However, there are exceptions. The financial services sector based in Dublin has a significant number of foreign owned firms, which may repatriate profits. Due to the absence of data on this sector, it is not possible to quantify these outflows.

The South-West Region

Using the regional input-output model of the South-West a more detailed estimate of the extent of profit outflows can be constructed sector by sector. This is based on an allocation of 'other value added' for each of the 17 manufacturing sectors distinguished in the model. 'Other value added' is a measure of the profit of manufacturing local units in the South-West. It is defined as gross output minus intermediate purchases, compensation of employees, corporation taxes and depreciation allowances. It should be noted that intermediate purchases here includes purchases of royalties and other services. Similarly, compensation of employees includes wages and salaries plus employers pay related social insurance and pension contributions. This measure of profit has been derived using data kindly provided by the CSO from the local unit and enterprise results of the CIP for 1994 (CSO, 1995) from the regional GVA estimates for 1994 for the South-West (CSO, 1998) and official data on corporation tax payments from the revenue commissioners (CSO, 1996c: 294).

The allocation of other value added is based on the extent of foreign ownership in each manufacturing sector. The input-output model does not provide a complete breakdown of the activities within any sector by type of ownership. The sample size

achieved does not permit a complete breakdown of this sort. Instead the proportion of sectoral 'other value added' attributable to foreign owned subsidiaries in the South-West is taken mainly from the 1994 CIP data on the sectoral and ownership distribution of the remainder of net output of manufacturing local units in the region¹³. To the extent permitted, information from sample returns to the input-output survey relating to questions on the location of the head office of firms and the percentage of shares owned in the region are also used.

The input-output method involves estimating the level of profit earned by foreign owned manufacturing in the South-West. Obviously, the accuracy of this method depends on the accuracy of both the measure of profit and the way it is allocated to foreign ownership. This method provides an upper estimate of the degree of profit outflow from the region, since a proportion of profit made by foreign owned firms may not flow out of the region. Profit may, for example, be used to finance capital expansion plans in Irish subsidiaries. However, the likelihood is that a significant proportion of profit earned by multi-nationals in the region, is re-patriated

Both the 'top-down' and 'input-output' methods were applied to the South-West for 1994. The 'top-down' method provides an approximation of the level of profit outflow from the region. The input-output method provides an estimate of foreign owned profit in the South-West. As such one would expect that the estimate produced by the 'input-output' method would exceed that of the 'top-down' method. If this is the case then the amount by which the 'input-output' estimate exceeds the 'top-down' estimate becomes important. For example if the 'input-output' estimate is

twice the 'top-down' estimate then it is likely that the 'top-down' estimate may be too low, since if it was taken as realistic, then it would be asserting that 50% of foreign owned profits stay in the region. If, as a result, the profit outflow estimate is increased resulting in a lower level of estimated income in the South-West, this correspondingly implies that the estimated profit outflows from all other regions would be lowered, resulting in income levels in these regions being underestimated.

Other Components of Net Factor Outflows

These components consist of foreign debt repayments and other payments, which are presented together in the Irish national accounts, and employee remittances. Foreign debt repayments and other payments accounted for 1% of the net factor outflow in 1995. The objective here is to calculate the share of these payments on foreign held national debt that has been paid by residents of each region. Given that the national debt is held by 'Ireland Incorporated', the share of debt repayments attributable to regions can be taken as each regions share of GDP. A similar method to this can be applied to other payments, since the share of these received in each region is likely to be in proportion to each region GDP share.

Employees remittances were a small inflow in 1995, accounting for -3.3% of the net factor outflow. Since there is no readily available data on the regional destination of these remittances, the share going to each region could be approximated by each regions share of household disposable income for the country which is available from the Household Budget Survey for 1994/5 (CSO, 1997b)¹⁴. Use of

disposable income to allocate remittances has the advantage of taking into account state transfers and excluding tax payments.

An Approximate Method

The methods described in this section permit an approximation of regional income. This is mainly due to the methods being indirect in nature. A number of different sources are being used to estimate flows, some of which are widely regarded as being particularly elusive magnitudes. In addition only flows between regions and the rest of the world are being quantified. While these flows are undoubtedly the most significant source of outflow from regions, due to the data limitations described above, flows between regions within Ireland, although likely to be small, are not quantified.

In addition adjustments should also be made to regional incomes in order to remove differences in the cost of living between regions. O'Leary has speculated that such differences do exist and that the average level of prices is somewhat higher in the richer than in the poorer regions (1998: 3). This would cause the regional income levels in richer (poorer) regions to be overstated (understated) relative to the national average. However, it is not possible to make these adjustments since regional cost of living indices are not published by the CSO or any other source. Consequently, it is wise to think of the resulting estimates of regional income as being an approximation.

3: Regional Income Estimates for 7 Regions: 1995

Table 2 presents the 'top-down' estimate of the level of income per capita in the 1995. For the State, income is 15% lower than output due entirely to profit outflows. The regional distribution of profit outflows reflects the importance of foreign owned manufacturing profit in the regions. The 39% share attributed to the Dublin/Mid-East region reflects the absolute concentration of foreign owned industry in the region, although in relative terms this share is smaller than the regions GVA share which stands at 47%. This results in the income estimate for this region being 13% lower than output.

At 24%, the South-West has the second highest share of profit outflows reflecting the concentration of Chemicals and Electronics multinationals in the region. This outflow is very significant in relative terms, since the South-West's GVA share is only 16%. The result is that the South-West's income is 23% less than its output. The Border region accounts for 13% of the outflow, mostly due to the Cola Concentrates plant located in Louth, only 60 miles north of Dublin. Given that the Border has only a 9% GVA share, this profit outflow results in an income estimate for the region that is 22% lower than output. At the other extreme, the Midlands region is hardly effected, since this region only accounts for 1% of foreign owned manufacturing profit, which is less than its GVA share of 4%, resulting in income being only 5% less than output in this region.

Table 3 presents the resulting income per capita estimates, relative to both the State and the EU average in 1995. Income per capita in Ireland was 85% of EU GVA

per capita¹⁵. This compares to a figure of 92% for Irish GVA per capita. At a regional level the result is that, relative to the EU average, in addition to the West, the Midlands and the Border regions, the South-East also has an income level less than the 75% cut-off and may also qualify for Objective 1 status. Given that this estimate can only be arrived at using an approximate method, it cannot be argued that 74.4% is significantly different from 75%. However, given the uniqueness of the Irish case, and in the absence of alternative estimates, this result certainly suggests that the South-East be considered for qualification.

It is noticeable that the ranking of the bottom three regions has changed significantly with the Border's position dropping from 5th to last when income is used. For the more prosperous regions, the position of Dublin/Mid-East has declined by 5% points relative to the EU average while the South-West has declined by as much as 16% points to reach 82%.

These estimates show that regional incomes differ from regional output in both absolute and relative terms. They are based on the 'top-down' method, which provides an approximation of the degree of adjustment warranted. The South-West region emerges as a region where the gap between output and income is relatively large. The paper now turns to a more detailed discussion of this region based on the input-output model (Garhart, Moloney, O'Leary and Donnellan, 1997).

4: The South-West Region: 1994

Table 4 presents the input-output estimate of South-West GVA and its components from the expenditure, income and value added approaches. The estimate of GVA considers royalty payments by multinationals as a purchase, thus lowering GVA. This treatment differs from the official estimate, which, being based on the ESA 79 standard, considers royalties as part of the net factor outflow. Adjusting for this difference results in the 'input-output' estimate being 3.3% greater than the official estimate¹⁶. The composition of South-West GVA reveals some striking differences compared to the national economy. On the expenditure side the most noticeable feature of this local economy is the importance of exports and imports which account for 126% and 95% respectively of GVA. 'Other value added' or profit represents 40% of GVA, which is high by national standards¹⁷. Furthermore, Manufacturing and Building accounts for 50% of GVA compared to only 36% nationally. These features point to the importance of manufacturing exports for the region, a substantial portion of which create profit for foreign owned firms.

Table 5 presents the sectoral allocation of 'other value added' or profit. This shows how profit is concentrated in foreign owned manufacturing in general and in the Chemical and Electronic sectors in particular. Foreign owned firms in these sectors employing 9,600 persons, or 6% of total employment in the region, contribute 42% of total profit generated in the region. This result is prima facie evidence for the existence of transfer pricing by these firms. The appropriate response in the present context, is to adjust the income of the region by the total amount of profit remitted,

whether a result of transfer pricing or not. The total estimate of foreign owned manufacturing profit in the region is £1,129 million. This represents an upper estimate of the amount of adjustment warranted, since not all of this profit may be remitted.

Table 6 presents both the 'top-down' and 'input-output' estimates of income in the South-West. This shows that if all foreign owned manufacturing profit was remitted then income in the region would have been 23% lower than GVA, giving income per capita at 90% of the state average or 68% of the EU average in 1994. This is the upper estimate of the necessary adjustment. If the 'top-down' method is employed income per capita is estimated to be 99% of the state and 75% of the EU average. This estimate is based on the retention within the region of £364 million or 32% of foreign owned profit. In the absence of further information, it is not possible to establish whether such a retention rate is realistic. However, it may be safe to regard it as a lower estimate of the necessary adjustment, so that the two estimates presented in Table 6 are best considered as a range within which the true figure lies. Thus in 1994, income in the South-West is estimated to be between 75% and 68% of the EU average. If these data were adjusted to 1995, by assuming that the growth in total foreign owned manufacturing profit in the region is the same as the growth in the 'top-down' estimate of profit outflows¹⁸, then income per capita in the region may have been in the range 82%¹⁹ to 74% of the EU average.

This opens up the possibility that the South-West may be eligible for Objective 1 status. If all foreign owned profits were remitted from the South-West, then such a case could be made²⁰. Once again such a case would be based on the qualification that

the method employed is approximate, although no other estimates have been made. However, it should be noted once again that the likelihood is that a small proportion of foreign owned profits are not re-patriated so that the 'true' estimate of income per capita in the South-West would lie between these two estimates²¹.

5: Policy Implications

This paper has employed two methods to estimate 1995 Irish regional income or 'GNP' levels for the first time. The 'top-down' method involved allocating profit outflows, based on each region's share of foreign owned manufacturing profit, to adjust the official regional GVA estimate. This method produced estimates of income per capita that would result in the South-East being added to the West, the Midlands and the Border regions which, as regions with less than 75% of the EU average and therefore qualifying for Objective 1 status in the next round of Structural Funds. Although, according to the 'top-down' method, the South-West is estimated to have 82% of the EU average income per capita, this region has a relatively large gap between output and income.

The South-West is further investigated using a second method based on an input-output model for the region for 1994. This reveals that if all foreign owned manufacturing profit earned in the region was remitted abroad, then income per capita would have been 68% of the EU average in 1994, which approximates to 74% in 1995. Moreover, the 'top-down' estimate of 82% assumes that foreign owned firms

retain 32% of their profit in the region, which may be implausibly high. Unfortunately, more precise estimates are not possible due to the absence of necessary data.

These results clearly show that using income rather than output based estimates of Irish living standards implies that Ireland has experienced some difficulty in translating the gains achieved by the 'Celtic Tiger' into improved living standards. The income per capita estimates produced here suggest that more regions than initially envisaged may very well qualify for Objective 1 status under the next round of Structural Funds. However, these estimates are based on an approximate method dictated by available data. In addition no allowance was made for inter-regional transfers or inter-regional price differences. However, the extent of adjustment arrived at in this paper suggests that official estimates should be produced for regional income levels in Ireland. Reliable data might strengthen the governments hand if it decided to target further regions for qualification for future Structural Funds.

It might appear surprising that the Irish government has not already used these arguments, especially since the unique gap between Irish GDP and GNP is well known. However, one of the reasons for the gap is that Ireland is a tax haven for foreign multi-nationals. Ireland's favourable corporation tax rates are contrary to EU policy on tax harmonisation. Since the country already enjoys the benefits of multi-nationals in terms of income generated directly and indirectly for Irish residents, perhaps the Irish government knows that an argument that draws attention to what might be regarded as unfair export subsidies, would fall on deaf ears in Brussels.

More generally the case of Ireland draws attention to the fact that regional output per capita cannot be automatically taken as measuring regional living standards. Gaps between regional output and income may be caused by factors which the EU Commission should take into account, like for example higher dispersion of industrial ownership due to increased globalization or changes in travel to work patterns. If so, regional income measures like regional 'GNP' or personal income should be compiled for all EU regions and used as eligibility criteria for Structural Funds qualification.

Table 1: Regional Population and GVA¹ Per Capita Estimates Relative to State and EU² Averages: 1995

	Population 000	GVA Per Capita £000	State = 100	EU Average = 100
Border	407	7,666	77.2	71.1
Dublin/Mid-East³	1,389	12,007	121.0	111.3
Midlands	205	7,125	71.8	66.1
Mid-West	315	9,386	94.6	87.0
South-East	389	8,575	86.4	79.5
South-West	545	10,537	106.2	97.7
West	348	6,943	70.0	64.4
State	3,598	9,925	100.0	92.0

Note 1: At Basic Prices in accordance with ESA 79.
 2: Adjusted for purchasing power parities based on aggregate expenditure.
 3: Dublin and Mid-East are aggregated due the presence of a large number of workers commuting from the Mid-East to work in Dublin.
 Source: CSO (1998).

Table 2: Regional GVA¹, Estimated Profit Outflows Using ‘Top-Down’ Method² Other Outflows³ and Estimated Income⁴ for 7 Planning Regions: 1995 (£ Million)

	GVA	Profit Outflows	Other Outflows	Income
Border	3,122	+710	-13	2,425
Dublin/Mid-East	16,681	+2,154	-56	14,583
Midlands	1,459	+73	-8	1,394
Mid-West	2,954	+430	-11	2,534
South-East	3,337	+481	-12	2,869
South-West	5,740	+1339	-16	4,418
West	2,420	+331	-12	2,102
State	35,713	+5,518	-128	30,323

Note 1: At Basic Prices in accordance with ESA79.
 2: Also on ESA 79 basis which includes only profits remitted by foreign owned enterprises as a factor income outflow.
 3: Debt Repayments, Other Income and Remittances.
 4: GVA minus Profit and Other Outflows.
 Sources: CSO (1998); CSO (1997c: Table 31, pp 36); CSO (1997b); CSO (1996b).

Table 3: Estimated Regional Income¹ Per Capita Relative to the State and EU² Averages for 7 Regions: 1995

	Income Per Capita £000	State = 100	EU Average = 100
Border	5,958	70.7	60.1
Dublin/Mid-East	10,499	124.6	105.9
Midlands	6,800	80.7	68.6
Mid-West	8,044	95.5	81.8
South-East	7,375	87.5	74.4
South-West	8,106	96.2	81.8
West	6,040	71.7	60.9
State	8,428	100.0	85.0

Notes 1: At Basic Prices.

2: Adjusted for aggregate expenditure purchasing power parities.

Sources: See Tables 1 & 2.

Table 4: Composition of South-West GVA: 1994 (£ Million)

	Expenditure	Income	Value Added
Consumption	1,847		
Investment	747		
Government Expenditure	787		
Exports¹	6,195		
Imports²	-4,671		
Employee Compensation		2,174	
Depreciation		506	
Corporation Tax		246	
Other Value Added		1,977	
Agriculture			576
Manufacturing and Building³			2,468
Services⁴			1,858
GVA (Basic Prices)		4,903	
Product Taxes		729	
Product Subsidies		-134	
GVA (Market Prices)		5,498	

Notes 1: Exports refers to sales to the rest of Ireland and to the rest of the world.

2: Imports refers to purchases from the rest of Ireland and the rest of the world.

3: Comprises 18 sectors in the input-output model.

4: Comprises 9 sectors in the input-output model.

Source: Garhart, Moloney, O'Leary and Donnellan (1997).

Table 5: Decomposition of Other Value Added in South-West from Input-Output Model: 1994.

	Other Value Added £ Millions	%
Aggregate	1,977	
<i>of which:</i> Manufacturing	1,298	66
<i>of which:</i> Foreign Owned	1,129	87
<i>of which:</i> Chemicals and Electronics	838	74
Food and Beverages	237	21
Other Manufacturing	56	5

Source: Garhart, Moloney, O'Leary and Donnellan (1997).

Table 6: 'Top-Down' and 'Input-Output' Estimates of Income¹ in the South-West Relative to State and EU² Averages: 1994

	Top-Down	Input-Output
GVA³ (£ Million)	4,903	
Profit Outflows⁴ (£ Million)	+765	+1,129
Other Outflows (£ Million)	+15	
Income (£ Million)	4,123	3,759
Income Per Capita (£000)	7,593	6,923
State = 100	98.6	89.9
EU = 100	74.6	68.0

- Notes 1: At Basic Prices.
 2: Adjusted for aggregate expenditure purchasing power parities.
 3: Royalty payments are included here as a purchase.
 4: Excluding royalty payments.

Source: See Tables 1-4.

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Appendix 1:

Definition of Regions

Regions	Constituent Areas
Border	Counties Cavan, Donegal, Leitrim, Louth, Monaghan and Sligo.
Dublin	Dublin County Borough, DunLaoghaire-Rathdown, Fingal and South-Dublin.
Mid-East	Counties Kildare, Meath and Wicklow.
Midlands	Counties Laois, Longford, Offaly and Westmeath.
Mid-West	Counties Limerick (including Limerick County Borough), Clare and Tipperary North Riding.
South-East	Counties Waterford (including Waterford County Borough), Carlow, Kilkenny, Wexford and Titterary South Riding.
South-West	Counties Cork (including Cork County Borough) and Kerry.
West	Counties Galway (including Galway Borough), Mayo and Roscommon.

Source: CSO, 1998: 8

Notes

¹ GVA is the same as GDP.

² See Appendix 1 for definition of regions

³ Politically, this rule has been interpreted very precisely with some applications including regions to within 0.5% points of the 75% cut-off.

⁴ Consisting of the West, the Border and Midland regions plus the Counties of Kerry in the South-West and Clare in the Mid-West.

⁵ Only a decade earlier a headline in the same magazine referred to Ireland as the 'Poorest of the Rich'.

⁶ Hitchens and Birnie (1994), Murphy (1994, 1996, 1998) and Honohan, Maitre and Conroy (1998) also refer to the difficulties associated with interpreting Irish industry statistics due to the presence of transfer pricing.

⁷ Ross has produced regional income estimates for Ireland for the 1960s and 1970s. However, this work related to personal income and not GNP (See for example Ross, 1980).

⁸ This differs from the new ESA 95 basis which has been adopted by member states. ESA 95 treats royalty payments for the use of patents and technology as a purchase which has to be deducted in arriving at GVA and all profit (as distinct from profit remitted) by foreign owned enterprises are considered as a factor income outflow. See CSO (1996a:6) and CSO (1996d: vi-vii) for full details.

⁹ The CSO also present GVA valued at factor cost and market prices.

¹⁰ This problem is greatest for the Dublin and Mid-East regions, where many persons work in Dublin and commute to the surrounding counties. For this reason, these regions are usually considered together.

¹¹ Such an adjustment would only be appropriate if the objective was to produce estimates of personal income rather than GNP.

¹² The CIP is conducted at the enterprise and local unit levels. An enterprise is a legal entity while a local unit is a factory at a particular location. Thus, some enterprises may have a number of local units producing different products in different locations. For example, an enterprise may have a number of manufacturing plants located in different regions. For the purposes of this paper, local unit data is preferable, since it is clear that these data relate to manufacturing plants located in each region. The use of enterprise data might also result in the inclusion of non-manufacturing activities

engaged in by the enterprise as well as the inclusion of the activities of local units outside a region.

¹³ These data were kindly provided by the CSO.

¹⁴ The Household Budget Survey provides estimates of average household disposable income and the average number of persons per household. These are combined to produce disposable income per capita which is multiplied by the population of each region to give regional disposable income. Although there are questions over the reliability of regional data from this sample survey, it is probably preferable to use disposable income rather than GVA to allocate employee remittances to the regions.

¹⁵ In principal EU GNP per capita should be used, but owing to the absence of any appreciable difference between GDP and GNP in all members except Ireland, this is very similar to EU GVA (GDP) per capita in 1995 (Eurostat, 1998).

¹⁶ The official estimate (basic prices) is £5,029. However, the Irish national accounts present an estimate of royalty payments of £1,218 million for the State in 1994 (CSO, 1997c), which scaled down by the South-West's share (from the 'top-down' method) represents £291 million. If this value is added back to the 'input-output' GVA estimate, the result is £5,194 million or 3.3% greater than the official estimate. This difference may be accounted for by the CSO taking regional GVA estimates for manufacturing from the CIP enterprise census, which may include income arising from

non-manufacturing activities and from local units outside the south-west. The input-output manufacturing income estimate is based on the CIP local unit census.

¹⁷ Other value added is not directly available for the state, as the latest national input-output model is for 1990. However, it may be considered high by comparing the employee compensation share of GVA in the South-West, which stands at 44% to remuneration of employees as a share of GDP from the national accounts, which was 55% in 1994 (CSO, 1997c: 3).

¹⁸ Including royalty payments the total profit outflow from the ‘top-down’ estimate increased from £1,071 million to £1,322 million or 23.4% between 1994 and 1995 (CSO, 1997c). If this increase is applied to the total foreign owned profit estimate in 1994 of £1,434 million, the result is £1,770 million, which represents an estimate of the maximum amount of profit outflow from the region in 1995.

¹⁹ See Table 3.

²⁰ Indeed, politically the argument could be made that under ESA 95 all foreign owned profit will be deducted in deriving GNP.

²¹ If so, then the ‘top-down’ estimates for the other regions would have to be adjusted. For example, this might mean that the amount of profit outflow attributed to another region in Table 2 is too high so that its income per capita estimate presented in Table 3

is too low. However, the absence of more detailed data implies that further analysis is speculative.