

The MacDougall Report — Volume II (Brussels, April 1977)

Caption: In April 1977, a group of experts appointed by the Commission of the European Communities and chaired by Donald MacDougall presents the second volume of its report on the role of public finance in European integration.

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COMMISSION OF THE EUROPEAN COMMUNITIES

Final (but subject to editing changes)

REPORT
OF THE STUDY GROUP ON
THE ROLE OF PUBLIC FINANCE
IN EUROPEAN INTEGRATION

Volume II :

Individual contributions and working papers

Brussels

April 1977

This report has been prepared by a group of independent experts set up by the Commission.

The opinions expressed in this report remain the sole responsibility of the group and not that of the Commission and its services.

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PREFACE

At the end of 1974 the Commission asked a group of independent economists (Professors Biehl, Brown, Forte, Fréville, O'Donoghue and Peeters, and Sir Donald MacDougall as Chairman) to examine the future role of public finance at the Community level in the general context of European economic integration.

The Study Group held fourteen meetings from April 1975 to March 1977. Officials of several Directorates-General of the Commission also took part in these meetings (Economic and Financial Affairs, Regional Policy, Budget, Financial Institutions and Taxation). The Group also had the benefit of discussions with two expert consultants from the United States (Professor Oates) and Australia (Professor Mathews).

The results of the work are presented in two volumes. The first volume contains the General Report, including an Introduction and Summary, all of which have been unanimously agreed by the members of the Study Group.

The General Report draws heavily on the much larger body of evidence and analysis contained in this second volume. It consists of individual contributions by the members of the Study Group, and the two expert consultants from the United States and Australia. It also contains working papers contributed at the request of the Group by its secretariat of officials from the Directorate-General for Economic and Financial Affairs of the Commission. While the authors of the individual chapters in the second volume take final responsibility for them, they have all benefitted from detailed discussion by the Group as a whole.

COMPOSITION OF THE GROUPMembers :

Sir Donald MacDougall	Chief Economic Adviser of the Confederation of British Industry, London (Chairman)
Dieter Biehl	Professor at the Technische Universität, Berlin
Arthur Brown	Professor at the University of Leeds, Leeds
Francesco Forte	Professor at the University of Turin, Turin
Yves Fréville	Professor at the University of Rennes, Rennes
Martin O'Donoghue	Professor at Trinity College, Dublin
Theo Peeters	Professor at the University of Louvain

The following also participated :

Russell Mathews	Professor at the Australian National University, Canberra
Wallace Oates	Professor at Princeton University, Princeton

Secretariat from the Directorate-General for Economic and Financial Affairs :

Paul Van den Bempt	Director
Michael Emerson	Head of Division
Klaus Schneider	
Horst Reichenbach	
Jim McKenna	
Tom Scott (until mid 1976)	

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- (1) Working papers were contributed at the request of the Group by its secretariat of officials from the Directorate-General for Economic and Financial Affairs of the Commission.
 - (2) Original language French (other chapters were drafted originally in English).

A. STUDIES ON THE INTER-REGIONAL ASPECTS OF
PUBLIC FINANCE
IN EXISTING FEDERAL AND UNITARY STATES

Chapter 1

UNITED KINGDOM

by

A. J. Brown

THE INTERREGIONAL ROLE OF PUBLIC FINANCE IN THE UNITED KINGDOM

Interregional movements of public funds may be regarded as being important for two reasons. First, the ways in which they are related to changes in income and expenditure of the regions give them a part in stabilising or destabilising relative changes in regional levels of economic activity. Second, the average rates of flow over periods of time affect the relative levels of living in the various regions. These two aspects may be examined in turn.

1. The Stabilising function of Public Finance

This has to be seen in the light of the fact that the economies of the United Kingdom regions are very "open" - the ratio of their external to their internal transactions is very high. This works in two directions. On the one hand it means that the regions are liable to encounter large disturbances from outside ; on the other it means that any change in flows of funds within a region is likely to be dissipated through the other regions of the country, and abroad ; in other words the multipliers are likely to be small.

So far as the 'openness' of regional economies is concerned, precise information is lacking in most cases. Only for Northern Ireland are there records of imports and exports of merchandise on a basis similar to that of international trade statistics. But for other regions some very rough indications of orders of magnitude can be derived from surveys of movements of goods by road and rail and such data as there are about coastwise shipping. The results can be expressed as the ratio of the average of a region's imports and exports of merchandise to its gross domestic product. For Northern Ireland and Scotland this ratio is about 0.8, for the South-East (with a GDP some three times as big as that for the 'average' region) perhaps slightly smaller, for the other English regions and for Wales decidedly larger, rising to 1.5 or more for those which are most centrally located. This means that the least open United Kingdom regions are comparable in this respect with Luxembourg, (which is smaller in both area and GDP) while the rest are up to twice as open, and are thus from three to five times as open as such countries (broadly comparable with them in size of GDP) as Norway, Denmark, or the Republic of Ireland.

Payments to and from the central government are a further source of 'openness' in regional economies additional to those which operate in independent countries. In the U.K., payments to, and disbursements by the central government are each some 35 per cent of GDP in the country as a whole, and something like this must be true of individual regions - the extent to which regions pay, or receive, more or less than the share corresponding to their population or GDP obviously affects their level of disposable income, while the sensitiveness of these payments to changes in their GDP can have a powerful feedback effect on those changes, to which we shall have to return.

Factor movements between regions are also freer, in general, than those between separate countries. From the U.K. as a whole, one resident in about 170 may be expected to emigrate overseas each year, and the same is true, by definition of a 'representative' region, though the propensity to emigrate overseas is in fact much greater from some regions than from others. But, in addition, one resident in about 130 may be expected to emigrate from the 'representative' region to other U.K. regions. The total propensity to leave a region is thus some 2 - 2 1/4 times as great as that to emigrate from the country as a whole. On interregional movements of capital there are no comprehensive data. It is, however, possible to compare the interregional 'moves' of manufacturing industry with those moves that originate from parent organisations outside the U.K. (a 'move' being either a simple geographical transfer of an establishment or, more commonly, the setting-up of a branch establishment distant from a 'parent' establishment which continues in being). In the period 1945-65, of the 'moves' to destinations in the United Kingdom which survived to the end of that period, about six times as many came from other regions in the U.K. as came from abroad. If one looks, not at the number of moves, but at the total employment they provided, the interregional group emerges as about four times as important as the international.

To see how the greater openness of the regional economy, as opposed to the national, affects its vulnerability to changes in external demand for its products, it is perhaps best to consider an example which, while hypothetical, is constructed as far as possible from empirical U.K. data. Suppose that a United Kingdom region loses £10 million of orders for finished motor vehicles. The loss of value added in the motor industry in the region will be about £ 2.7 million. The loss of value added in other industries in the region which supply inputs directly or indirectly for its vehicle industry may well, in a typical region other than those in which the component industries are most concentrated, be something like £ 1.3 million, giving a loss of value added attributable directly to the reduced vehicle output of some £ 4 million.

For the country as a whole, the loss of value added in the vehicle industry itself will still, of course, be £ 2.7 million, but the loss in other industries supplying inputs to it directly or indirectly will (according to the 1963 Input Output Tables) be about £ 5.8 million, making a loss of £ 8.5 million in all. (The differences between this and the £10 million fall in orders is accounted for by imported inputs and, to a small extent, by indirect taxation)

These falls in value added will generate falls in that of other industries through the Keynesian multiplier mechanism. To assess the size of the relevant multipliers, one has, in the case of the country as a whole, to take into account the 'leakages' of purchasing-power into taxation, profits paid abroad, imports, and savings; also the offsetting effect of additional payments on account of unemployment

benefit and supplementary benefit brought into existence by the fall in demand for labour and the increase of poverty. On the available information about these leakages and offsets, it seems that the appropriate short-term multiplier for the country as a whole is about 1.4; that is to say the primary fall of £8.5 million in national value added generates a secondary fall of about £3.4 million, making £11.9 million in all.

The corresponding Keynesian multiplier for the region is smaller, because, in addition to the leakages into taxation, savings, profits paid abroad, and overseas imports, and the offsets from unemployment benefit etc., which can be taken as being the same (in relation to the primary fall in income) as for the country as a whole, there is a leakage of profits into other regions, and a further leakage into imports purchased from them. The best estimate the writer has been able to make is that, typically, this reduces the appropriate multiplier to about 1.2. The primary income-fall of £4 million is therefore supplemented only by a secondary fall of £0.8 million, making £4.8 million in all. The national fall in value added is therefore about 2 1/2 times the regional one; the ratio of the corresponding reductions in employment may well be similar. Or, to put the same thing in another way, although we have supposed the reduction in orders for motor vehicles to fall entirely upon establishments situated in one region in the first instance, the resulting fall in value added and probably in employment occurs as to only 40 per cent in that region and as to 60 per cent in the rest of the country (ignoring the further fall which takes place abroad on account of the reduction of United Kingdom imports).

To counterbalance the greater extent to which a region is padded against the impact of falling external sales, however, there is the greater extent to which, by virtue of its openness, it is at the mercy of external demand. The British regions are probably from four to eight times as open in this respect as the national economy is. They achieve this very great degree of openness, with exports greater in value than their total domestic products, by specialising on export goods with a very high import content; their contribution of value added is small in relation to the gross selling value of their exports. Precise data are lacking, but a better idea of the greatest extent to which a region can be at risk may be obtained by considering, not the gross value of its exports, but its value added. Perhaps as much as half of this might, in an extreme case be embodied in goods and services exported from the region; the rest is almost certain to be put into goods and services for the local market, which either in principle cannot be, or in practice are not, seriously in competition with external goods and services. In the U.K., the proportion of national value added that in fact goes into exports of goods and services is about one sixth. A region might, therefore, be three times as liable to primary reductions in its income and employment, in proportion to its size, as the United Kingdom is. Even allowing for the smaller secondary

change of income, in relation to the primary change, and for the fact that a much larger share of the change in profits generated in the region is likely to be remitted elsewhere, it seems that regional income is likely to be considerably more liable to externally initiated short-term fluctuations than is national income.

The basis of this argument, relating to the short run, has, however, been the treatment of changes in the public sector's account in exactly the same way as changes in the external account. Primary changes in a region's income are cushioned (apart from the effects of changes in its internal savings) by improvements in its balance of payments both with the national government and with the rest of the outside world - falling taxes and imports, rising receipts of welfare payments. An economy without a public sector adjusts to a fall in external demand for its products by reducing its income to such an extent as to bring its imports down into line with its exports. The necessary fall in income is reduced in so far as the economy's products can be substituted for those in the outside world, - a process which requires either flexible prices (including factor prices), flexible exchange rates, or an ability to erect trade barriers. If the economy has a public sector which cushions the fall in income through reduced taxation and maintained or increased expenditure, thus keeping demand for imports higher than it would otherwise be, then either there must be borrowing from outside, or the need arises for some means of substituting the economy's products for those of other economies.

The regions of the United Kingdom have, of course, no means of adjusting their exchange-rates or erecting trade-barriers in case of depression ; nor do their relative levels of wages (and presumably costs) appear to have any considerable short-term flexibility - over the decade and a half for which they are available, indices of hourly earnings run nearly parallel to each other in the various regions. To the extent that central government maintains a region's effective demand, it does so by transfers to it, financed (if its total budget is in balance) by the surplus of tax payments over central expenditure in those other regions which are relatively prosperous.

The country as a whole, on the other hand, has means, at least in principle of diverting demand by manipulating its exchange-rate, or letting it respond to market forces, and of adjusting trade barriers, but these are instruments which would lose in an economic and monetary union. In those circumstances, and in the absence of any substantial built-in stabiliser operating through Community revenue and expenditure, the U.K. could itself maintain its internal demand in the face of a fall in demand for its exports only by borrowing from outside. If such borrowing was not possible, there could be no cushioning of the full effects of the fall.

To suppose that, within an economic and monetary union, a country could not borrow externally at all when its economy was relatively depressed (presumably repaying when it was relatively prosperous) is certainly extreme. It is worth noting, however, that in this admittedly extreme case, the United Kingdom would presumably have to reduce its GDP by about four times the amount of any fall in its export earnings (or say, five times the associated primary fall in value added) in order to bring its imports down correspondingly.

We can therefore make the following comparison :

On the assumption that interregional trade is subject to much the same percentage variations as international trade, a typical U.K. region is perhaps as likely to suffer a 3 per cent primary fall in demand for its factors through external competition as the country as a whole is to suffer a similar fall of 1 per cent. The multiplier, however, is likely to increase this only to, perhaps, 3.6 per cent. Reduction in the amount of profit paid outside the region, and in taxation, together with increased welfare receipts from the central government may well bring its loss of disposable personal income down to about 1 per cent of GDP.

A country the size of the U.K, suffering a 1 per cent fall of demand for its factors of production through competition or depression in its export markets, might, with its existing system of taxation and benefits in operation, find its factor incomes reduced by about 1.4 per cent and personal disposable incomes by perhaps as little as 0.5 per cent. This, however, would be at the expense of a deterioration in its balance of payments amounting to something between 0.5 and 1 per cent of GDP. If, to take the most extreme case, it were unable to finance any of this by borrowing, and could not use the price mechanism or trade barriers to promote substitution of its goods and services for external ones, then it could bring its imports down to match its exports only by a fall in GDP of perhaps 5 per cent, with a similar fall in personal disposable income.

It seems then that a typical region of the United Kingdom is subject, by virtue of the great openness of its economy, to probably more instability of employment and disposable income than the country as a whole, provided that the latter is able to ignore fluctuations in its balance of payments, meeting them by borrowing and repayment. But in a situation in which variations in total demand had to be used to adjust imports to fluctuations in exports to any large extent, the U.K. would, despite its smaller degree of openness, suffer greater (possibly very much greater) instability of employment and disposable income than its regions do now.

The low value of the multipliers is very largely due to taxation and poverty-related benefits. In the case of a typical region, the multiplier without these influences might be perhaps 1.6 ; with them it is about 1.2. For the U.K. as a whole the multiplier without any public sector might be about 2.6 ; in fact it is about 1.4.

It should perhaps be emphasised that what has been under discussion so far is short-term stability, the short term for this purpose being perhaps best defined as that in which the populations and fixed capital equipments of the areas under consideration can be taken as given. In the longer run (from decade to decade rather than year to year) substantial movements of both people and jobs can take place. Mobility of population between regions has the effect of making multipliers larger than in the short term. Where the working population of a region is increased, rather than more of the existing population being employed, or those in work doing more overtime, average rather than marginal rates of tax become relevant to the increase in income, and there is less offset (possibly a negative offset) from welfare payments made into the region by the central government. Changes in expenditure on social capital are also induced by population-changes ; while one might expect these to be related to the rate of change rather than the level of population (a capital stock adjustment effect), in practice, in the U.K., what happens is not easily distinguishable from a lagged response directly to numbers. The effect of these differences is to raise the Keynesian multiplier for a region from its short-term value of about 1.2 to something more like 1.8 or 1.9.

Permanent loss of part of a region's 'export' markets, therefore, produces a loss of both employment and disposable income which builds up over a number of years to levels considerably higher than have been suggested above as the immediate results of a sudden loss of markets. One might suppose that movement of jobs, in search of plentiful supplies of labour, would provide an additional moderating influence in the slightly longer run, but analysis of such movements in the U.K. in a period when regional policy was not very active suggests very little, if any, systematic tendency of this kind. Certainly the movement of jobs in response to interregional differences in labour-market conditions is, in the absence of fairly vigorous government policy to promote it, very much less than the systematic movement of labour. Moreover, where differences in regional prosperity are very persistent, some de-stabilising factors come into operation. Regions of slow growth show a higher average age of social capital and a greater incidence of derelict industrial plant and mining sites than do regions of rapid growth, and, in so far as it is the young and enterprising members of the population who are most mobile, slowly-growing regions are likely also to have older and less adaptable workforces. These characteristics make them less attractive for mobile industrial or commercial enterprise. It is considerations such as these, rather than any lack of stability of regional incomes in the face of short-run fluctuations in demand, that creates a need for regional policy.

2. The Equalising function of Public Finance

The regions of the United Kingdom do not, in comparison with those of most other countries, show very wide differences in the real product per head, those in average level of living are still smaller. The differences that have been most important in their effect on public opinion are probably those in unemployment (or, more generally in employment opportunities), followed in order of significance by differences in rate of growth of employment and in the incidence of outward migration.

In real product per head of the total population, Northern Ireland is in a class of its own with a level some 36 per cent below the national average, but all the British regions lie within a range of between 8 - 11 per cent above that average (The West Midlands and the South-East respectively) and 10 - 14 per cent below (the North, Wales, the South-West, Scotland) with the East Midlands, Yorkshire and Humberside and the North-West near to the average. (see Table 1).

These differences owe something to age-structure ; Northern Ireland, in particular, has a lower proportion of its population in the active age-groups than the country as a whole. A larger amount of the difference is attributable to differences in labour-force participation rates, almost entirely of women. These are highest in the most prosperous regions (the South-East and West Midlands) and lowest in some of the poorest (Northern Ireland, Wales, the North), though they are also high in the North West, which is less prosperous. Unemployment is also broadly associated with low income per head across regions. The regional averages of output per head of the labour force in work are therefore confined to a narrower range than those of output per head of total regional population. Northern Ireland falls only some 23 per cent below the national average, Scotland less than 10 per cent below, and the South-East only 5 or 6 per cent above. These productivity differences, in turn, owe something directly to differences of industrial composition (i.e. to heavy concentration on industries of generally high or low net output per head), but not very much. The influence of industrial structure is probably exercised to a considerable extent indirectly, concentration on an unprosperous industry, for instance, tending to depress productivity in other industries in the region below its level elsewhere.

The last three paragraphs relate to income produced in the different regions in the strict sense that it is produced in workplaces located in them. The interregional distribution of income according to its ownership is different, not so much because of interregional commuting (negligible factor), but much more through interregional transfers of rent, dividends, interest, and occupational pensions. How much of each of these kinds of income is received in each region is, broadly, known, but the sources are not. It has to be assumed that, for instance, dividends and interest paid by industry and commerce originate in the various regions in proportion to the gross surpluses

that are generated in them.

On this assumption (and using 1961 data) it has been estimated that the gross domestic products of South-East England and the South-West were both supplemented by net inward transfers of property income and occupational pensions from the rest of the country and the outside world to the extent of 4 or 6 per cent ; Scotland and Northern Ireland virtually broke even ; the remaining regions - the two midland regions, the North, the North-West, Yorkshire and Humberside, and Wales - provided net outward transfers, ranging from about 3 to 5 per cent of their gross domestic products. The total net transfer into the two southern regions from the rest of the country probably amounts to about 2 per cent of the national gross domestic product.

The per capita incomes from work and property received by residents in the various regions (approximately, their per capita gross regional products) therefore differ somewhat from their per capita gross domestic products. There is a greater degree of interregional inequality in as much as the regions of lowest GDP receive little net property income, or, in the case of Wales and the North, make net outward payments, while South-East England, with the highest GDP, received a considerable amount, and so has a GRP approximately 75 per cent higher than that of Northern Ireland, and some 35 per cent above those of Scotland, Wales, or the North. These are the basic differences upon which transfers through the channels of public finance operate.

Part of the redistribution of income through these channels arises from differences in the incidence of taxation. In 1964, total public sector receipts per head of the population in South-East England were some 85 per cent higher than in Northern Ireland and about 45 per cent higher than in Wales or the North. Taxation (or rather, total public sector revenue) is mildly progressive as between regions ; a rise of 10 per cent in per capita GRP is associated with a rise of perhaps 11 per cent in per capita public revenue. There are considerable irregularities clouding this relation, since different regions have different income distributions (some, for instance, have more very wealthy residents than others in relation to their average income), and they have different consumption habits - some drink more spirits than others. Scotland seems to pay rather heavy taxes in relation to its average income, the East Midlands rather little ; but taxation does slightly reduce the coefficient of variation of mean regional incomes.

When one comes to the return flow of public expenditure to the regions, there are three concepts to distinguish. The first is the simple one of cash transfer payments to residents in the regions , in the form of welfare payments, state pensions, debt interest and subsidies and grants to industrial establishments (with a rough adjustment for Regional Employment Premium and other regional grants and subsidies introduced since the study on which this note is mainly based).

The effect of these is quite powerful in the direction of equalisation. Scotland and Northern Ireland receive, in round figures, about a third as much again per head as South-East England, and half as much again as the West Midlands : Wales, the North, and the South-West also get substantially more than average. An element in the total which exerts a regressive effect is interest on the public debt, paid to persons ; South-East England apparently possessing a high concentration of recipients. This, together with agricultural subsidies, is the main reason why the South-West also does well ; but agricultural subsidies exert by far their largest proportionate effect in Northern Ireland.

The second concept of the return flow to regions includes public expenditure on goods and services which has an effect on regional rather than the general national welfare. This expenditure may be taken as including all that on the social services and on the formation of social capital ; but not where the services of the latter are sold at an economic price, apart from subsidies which are counted elsewhere. Expenditure on building hospitals and schools, for instance, is to be included but not that on publicly-owned dwellings. Expenditure on central administration and defence is included at a notional rate equal to the average per capita cost for the whole country, on the ground that the per capita benefits of these expenditures are the same in all regions, though the expenditures themselves are not. Current per capita expenditure of the kinds included does not seem to vary much from one region to another. The variations appear to be somewhat greater with capital expenditure, and to favour the less affluent regions, but with considerable year to year variation in their distribution.

Putting together the cash transfers and the 'regionally beneficial' expenditure on goods and services, so as to get a total of 'regionally beneficial' expenditure, one finds a very substantial total redistributive effect. Wales, Northern Ireland and Scotland receive at least 15 per cent more per head, absolutely than South-East England and the West Midlands.

The total redistributive effect is, of course, due to the effects of taxation and regionally beneficial expenditure together, still taking the benefits of expenditure on central government administration and defence as being evenly spread over the whole population. It seems on this basis of reckoning that only two regions - the West Midlands and South-East England - make a net positive contribution ; the others are net recipients. Each of the two contributes a net sum equal to 7 - 8 per cent of its gross regional product ; their total contribution amounts to some 3 - 3 1/2 per cent of the gross national product. The extent to which this supplements the gross regional product of the receiving regions varies widely. Yorkshire and Humberside, the East Midlands and the North-West receive small contributions, varying up to 2 per cent of their GRP. The South-West receives a supplement of some 6 per cent, the North and Scotland

7 - 10 per cent, Wales perhaps a little more, and Northern Ireland a net contribution approaching 30 per cent. The extent of redistribution to a region through taxation and regionally beneficial expenditure together is highly correlated, negatively, with per capita gross regional product. South-East England's per capita average disposable income plus public benefits is probably less than 40 per cent above that of Northern Ireland, and less than 20 per cent above those of Scotland, Wales or the North.

There is incidentally, a further factor which narrows the gap between the per capita real incomes available for consumption and capital formation in the regions - namely, the rather higher level of consumers' prices in the South-East in comparison with the rest of the country. Firm regional data of prices of comparable goods and services are available only for food, fuel and power, and (subject to wider margins of error) for housing which is far the biggest source of difference. It may be proper to supplement these by adding an allowance for the greater cost (including cost in time) of travel to work in some regions, more especially the South-East. If this is done, assuming that the prices of all other goods and services are uniform across regions, it seems that the relevant income-deflator for South-East England (U.K. = 100) may be 105 or 106, those for the poorest British regions a little under 100, so that the real interregional range of disposable income plus public benefits within Great Britain is probably less than 15 per cent, from the least to the most prosperous. Northern Ireland, of course, remains well outside this range.

The third concept of the return flow from the public sector, referred to above, is more elusive in practice. It concerns the distribution of effective demand for factors of production. The difficulty about it is that, while the extent to which effective demand is abstracted from regions by taxation is reasonably clear, as is the interregional distribution of public authorities' direct demand for services, demands for goods are not so easily related to ultimate demands for factor-inputs. Capital formation by public authorities in a particular region, for instance, may involve importing goods into that region far more than it involves employment of the region's own factors. To solve the implied problem one would require interregional input-output data which are not available.

Making, however, the (clearly inaccurate) assumption that expenditure on goods in, or for use in, a region is expenditure on inputs from that region - a procedure likely to exaggerate the interregional differences in pressure of demand arising from a given inequality in regional per capita distribution of public spending - one receives the impression that, again, the public sector makes a net withdrawal of purchasing power from South-East England, the West Midlands, and in this case also the North-West in favour of, particularly, the South-West, Northern Ireland, Wales and Scotland.

TABLE 1

Interregional Transfers

<u>Region</u>	G.D.P. per head U.K.=100	Net Factor Income Transfer % of G.D.P.	G.R.P. per head U.K.=100	Public Sector Receipts Public Transfers & 'beneficial' expenditure		Net Transfer	Disposable Regional Product + Transfers & Beneficial exp. U.K.=100
				As % of Gross Regional Product			
North	90	- 5	86	39	46	+ 7	93
Yorks & Humber	100	- 4	96	38	40	+ 2	97
North-West	99	- 5	94	40	41	+ 1	94
East Mid.	102	- 4	98	37	38	+ 1	100
West Mid.	108	- 5	103	42	35	- 7	97
S.E. England	111	+ 4	115	42	34	- 8	108
South-West	88	+ 6	94	38	44	+ 6	99
Wales	88	- 3	85	39	50	+ 11	94
Scotland	86	-	87	42	52	+ 10	94
N. Ireland	64	+ 1	65	40	68	+ 28	83
U.K.	100		100				100

The total transfer from the net providers would appear to be some 2 per cent of gross national product (say 3 1/2 per cent of the combined GRP of the net providing regions), but this, as already suggested, is likely to be an overestimate. At all events, it is clear that the public sector plays an important part in financing regional current account balances, notably those of the peripheral regions.

3. Regional External Balances and their Financing

Such direct data as exist on the flows of goods and services into and out of the United Kingdom regions are quite inadequate to provide any basis for estimates of the net balances of interregional trade or payments. The best that can be done is to start from the identity between the current external balance of each region and the excess of its domestic product over its total expenditure on (or absorption of) goods and services.

The difference between GDP and expenditure, however, obviously depends on the conventions adopted in measuring the latter. The chief source of ambiguity about regional expenditure arises from the localisation in particular regions of central government administration, military establishments, and the production of military equipment, which are best thought of as providing services, not for the region in question, but for the whole country. It seems best to regard the products of these establishments as being 'absorbed' in all regions in proportion to their populations. Regions where there are heavy concentrations of them can thus be regarded as net exporters of such services to the rest of the country; other regions as net importers. The net export of services under this head from South-East England is probably about 3 per cent of its GDP, and the corresponding figure for the South-West Region may be as high as 8 per cent. All the other regions (except Northern Ireland) are net importers, mostly to the extent of 2 - 3 1/2 per cent of their GDP.

If regional expenditure is defined in this way, as including only the regional population's pro rata share of the national output of central government administration and defence services, regional per capita imports of all goods and services may be estimated to be roughly as in the first column of Table 2. The figures are from GDP and expenditure estimates averaged for the two years 1961 and 1964 but at the prices of the latter year. They have, of course, a low degree of reliability, since they combine the errors and omissions of both the GDP and the expenditure estimates. It is, however, fairly clear that there were, in the early 'sixties, net imports into the South-West, Scotland, Wales and Northern Ireland, probably ranging from somewhat under 10 per cent of GDP in the first of these regions to as much as 25 per cent in Northern Ireland. Except, perhaps, for the North, the other regions showed net exports probably ranging between 2 and 5 per cent of their respective GDP's.

The most easily estimated sources of finance for these net transfers are first, public transfers (transfer payments proper and 'beneficial' current and capital expenditure in the region, minus revenue raised from it) and, second, net receipts of property income and occupational pensions. These are shown for the period in question in the second and third columns of Table 2, the sum of them in Column 4, and the residual part of net imports, not offset by this sum, in Column 5.

This last column must consist largely of errors and omissions. To the extent that it does not, however, it should reflect net movements of private capital, together with private remittances - the latter probably finance considerable flows of imports into Northern Ireland and Scotland. All that can usefully be said from inspection of these residual figures is that their algebraic signs are consistent with the evidence from industrial 'moves' (partly migration of industrial establishments, but mostly formation or extension of branches in regions different from those of the 'parent' establishments), that manufacturing industry was flowing from the South-East, and also from abroad, into Wales, Scotland, Northern Ireland, the North-West, and the North. The industrial and commercial growth within the West Midlands may well have been financed by net inflows of capital from other regions (mainly the South-East), though there is known to have been a net outflow of manufacturing 'moves' from the West Midlands. The residual figures show only a small positive correlation with the ratio of private capital formation to gross regional product, which one might expect to be associated with reliance upon net private capital imports. The general conclusion must be that only the very broad outlines of the pattern of regional balances and their financing can be ascertained from the data at present available, but the general nature of the pattern - the substantial net imports of the more peripheral regions, financed largely by transfers through the channels of public finance - emerges clearly enough.

TABLE 2Regional Balances and their Financing (£ per capita ; 1964 prices)

<u>Region</u>	1. Net imports (goods & Services)	2. Net Public Sector Expend- ure	3. Net property inc. & occup. pensions	4. Sum of 2 & 3	5. Residue (1 - 4)
North	+ 10	+ 23	- 23	0	+ 10
Yorks & Humber	- 26	+ 10	- 20	- 10	- 16
North- West	- 10	+ 2	- 24	- 22	+ 12
East Mid.	- 19	+ 16	- 20	- 4	- 15
West Mid.	- 21	- 19	- 23	- 42	+ 21
S.E. England	- 16	- 32	+ 23	- 9	- 7
South- West	+ 41	+ 20	+ 29	+ 49	- 8
Wales	+ 65	+ 42	- 19	+ 23	+ 42
Scotland	+ 41	+ 32	+ 1	+ 33	+ 8
N. Ire- land	+ 85	+ 63	+ 7	+ 70	+ 15

Note on Sources of Tables 1 and 2

The estimates of GDP per head on which Table 1 is based relate to the years 1961 and 1964 (see V.H. Woodward, Regional Social Accounts in National Institute of Economic and Social Research, Regional Papers No. 1 ; Cambridge 1970). The estimates of public sector receipts and expenditure derive from the same source, but have been adjusted roughly to take account of the higher level of taxation in 1968 in comparison with earlier years, and also the higher payments to Development Areas through investment grants (from 1966) and Regional Employment Premium (since 1967). The figures given, therefore, are intended to relate to the later 1960's.

The data on net export balances and their financing in Table 2 are adapted from A.J. Brown, The Framework of Regional Economics in the United Kingdom (Cambridge, 1972), Table 3.11 and from Woodward op. cit. and are intended to relate to the early 1960's. They differ from the figures in the sources quoted in that the latter adopted a definition of regional expenditure treating the services of central government administration, military establishments, and producers of military equipment as being 'absorbed' in the regions where they are located ; and, correspondingly, calculated public expenditure in each region as including not only those items 'beneficial' to the population of the region, but also payments to central administrators, members of the forces, and producers of military material located there.

Chapter 2

FRANCE

by

Yves Fréville

REGIONAL REDISTRIBUTION OF PUBLIC FUNDS IN FRANCE

(The case of Brittany)

In France, total tax receipts and social welfare contributions account for 38.4 % of gross domestic product. The central authorities (central government + social security funds) have direct control over the use of nine tenths of these receipts and contributions, while the local authorities control only one-tenth. The central government has thus a substantial influence on the regional distribution of income in France.

The main feature of this distribution is the dichotomy between the Paris region and the rest of France. If average per capita income is assigned an index of 100 , all the regions other than the Paris region fall within a 15-point range (85-100), while the Paris region has an index of 140. The statistics on gross domestic product per capita give a more detailed picture of the situation in the regions other than the Paris region and bring out more clearly the difference between the regions in the West and South-West, which have little industry, and the regions in North-East France and along the Rhône. Of the latter, the regions of Nord and Lorraine which are mining areas are experiencing the traditional problems of industrial reconversion. For a century, out-migration from the West and the South-West of France has led to the growth of the Paris region, while the relative strength of the North-East and South-East of France has remained stationary.

These few observations make it reasonable to ask whether the growth of the Paris region, which has undoubtedly acted as a magnet for the rest of the French economy, was not made possible in part by a regional redistribution of public funds in its favour (in particular, to offset the high congestion costs facing the region) or whether, on the contrary, the other regions, particularly the most depressed regions in the West of France, do not receive offsetting transfers from the Paris region.

In large measure, interregional redistribution through the flow of public funds is not deliberate and takes place through the tax system and through current expenditure, with little or nothing known about the relevant mechanisms. It is useful to compare it with the impact of a transfer policy for which the formulation of objectives inevitably has regional implications, i.e. with policy on central government grants to the local authorities. Finally, we propose to show, with the help of an example, how the flow of public funds affects the conditions of equilibrium for a regional balance of payments.

I. REGIONAL REDISTRIBUTION OF PUBLIC FUNDS

We will attempt first to measure the overall regional impact of public spending and revenue from taxes and social welfare contributions and will then examine the policy on grants to local authorities.

1.1. Regionalization of central government and social security budgets

While better information is now becoming available on the income

redistribution between individuals achieved through central government or social security spending virtually nothing is known about the regional redistribution of public funds : generally speaking, there is no way of knowing whether a given region comes out better or worse off in the redistribution process. What is more, the only estimate available, published by INSEE for 1962 (1), has the major drawback of recording tax receipts and social welfare contributions at their place of collection in the case of taxes paid by enterprises, the registered office ; this does not make much sense economically given the concentration of registered offices in Paris.

- 1.1.1. There is no doubt that this lack of information owes something to the way in which Treasury accounts are kept and to the centralized structure of France, but it is also attributable to the difficulty of defining correctly the concepts of "regionalized" revenue and expenditure.

The concept of "regionalized expenditure", i.e. the allocation to a given region of an item of central government expenditure may be defined in several ways.

The concept of "regionalized expenditure", i.e. the allocation to a given region of central government may be defined in several ways.

- From a balance of payments angle, regionalized expenditure comprises the expenditure actually effected by the central government in a region : salaries paid to civil servants working in the region, transfers to residents of the region, purchases of goods and services from firms located in the region. The advantage of adopting this strictly financial viewpoint is that it shows central government demand for regional goods and services as a component of the region's aggregate demand.

Part of the expenditure effected in the region may, of course, leave the region in the form of purchases made elsewhere. The concept of "regionalized expenditure" could, therefore, cover expenditure directly or indirectly effected through the region's budget, account being taken of the secondary effects of apparent expenditure, so that it corresponds to central government demand for factors of production in the region. However, a table describing inter-industrial trade between regions would have to be drawn up to determine this demand.

- In contrast, from what may be termed the "benefit" angle, central government expenditure may be broken down by region in proportion to the advantages which are supposed to accrue to the region's residents (firms and households). In the case of indivisible public goods available to the nation as a whole (such as defence), expenditure will be broken down by region in proportion to the number enjoying protection, although apparent defence expenditure may well be very unevenly spread over the national territory. Clearly, if the advantages accruing to the population of each region from a given item of central government expenditure are to be

(1) INSEE and Direction du Plan "Essai de régionalisation des Comptes de la Nation 1962. Etudes de Comptabilité Nationale No 9. Paris. Imprimerie Nationale 1966.

estimated, the expenditure in question will, in practice, have to be broken down by region with the help of broadly arbitrary "apportionment formulae" (for example, in proportion to total population, the size of the labour force, or the number of civil servants working in the region...).

In the case of France, the choice between these various approaches is somewhat hypothetical in that accounts only rarely give a breakdown of direct expenditure in a given region. For almost all budget items, with the exception of certain transfers and capital expenditure, it is, therefore, necessary to use apportionment formulae (e.g. expenditure by the Ministry of Education can be broken down according to the school population or the number of teachers).

Similar difficulties arise with regard to the regionalization of central government revenue from taxes and social welfare contributions, despite the fact that the yield of the different taxes is known in the departments at their place of collection.

An initial difficulty stems from the existence of taxpayers operating in more than one region : a very large number of firms possess establishments in several regions but pay corporation tax in Paris, where their registered offices are located. Even using the concept of formal incidence, regionalization of the tax paid by a firm requires profits to be first broken down between its various establishments. Now, there is no general method for doing this and hence the revenue accruing from the tax has to be allocated with the help of approximate apportionment formulae (regional breakdown of the work force of firms operating in several regions).

A second difficulty stems from the fact that account must be taken of the economic incidence - and not the formal incidence - of the various taxes. As an initial approximation, it may be assumed that personal income tax (IRPP) is not shifted to other taxpayers by those legally liable. This simplification cannot, however, be applied to corporation tax, which is by no means borne entirely by the owners of the capital but is passed on in part to consumers and employees. Similar difficulties arise with the payroll tax.

- 1.12. These few remarks will have illustrated the degree of arbitrariness involved in any attempt to regionalize central government expenditure since, most of the time, approximations have to be applied. In order to reduce the resulting risks of error, PRUD'HOMME and ROCHEFORT (1) devised a novel method. It involved

(1) PRUD'HOMME, ROCHEFORT and NICOL : "La répartition spatiale des fonds budgétaires". Trappes BETURE December 1973

first breaking down the French 1970 budget into relatively homogeneous categories of revenue (24) and expenditure (85), and then breaking down each of these categories between the regions in various ways, with the help of numerous apportionment formulae (in all, 81 formulae were used, such as population, consumption by households school population). An apportionment formula can be dispensed with only if the item of expenditure or revenue in question can be regionalized in a straightforward manner (grants to the local authorities ...). In theory, a very large number of separate breakdowns can be obtained if several apportionment formulae are applied to one and the same category of revenue or expenditure. In practice, 15 types of breakdown, known as "options" were devised. The results obtained do, of course, vary from one option to another but, since they paint roughly the same picture, some provisional conclusions can be drawn.

Below, we have selected two of the proposed options : the first corresponds, if anything, to the balance of payments viewpoint (breakdown of non-regionalized current operational expenditure in proportion to the number of civil servants and military personnel), while the second reflects the benefit viewpoint (breakdown in proportion to population). The last column gives the average for 15 options.

TABLE I

REGIONAL PATTERN OF THE BUDGET IN FRANCE (1970)

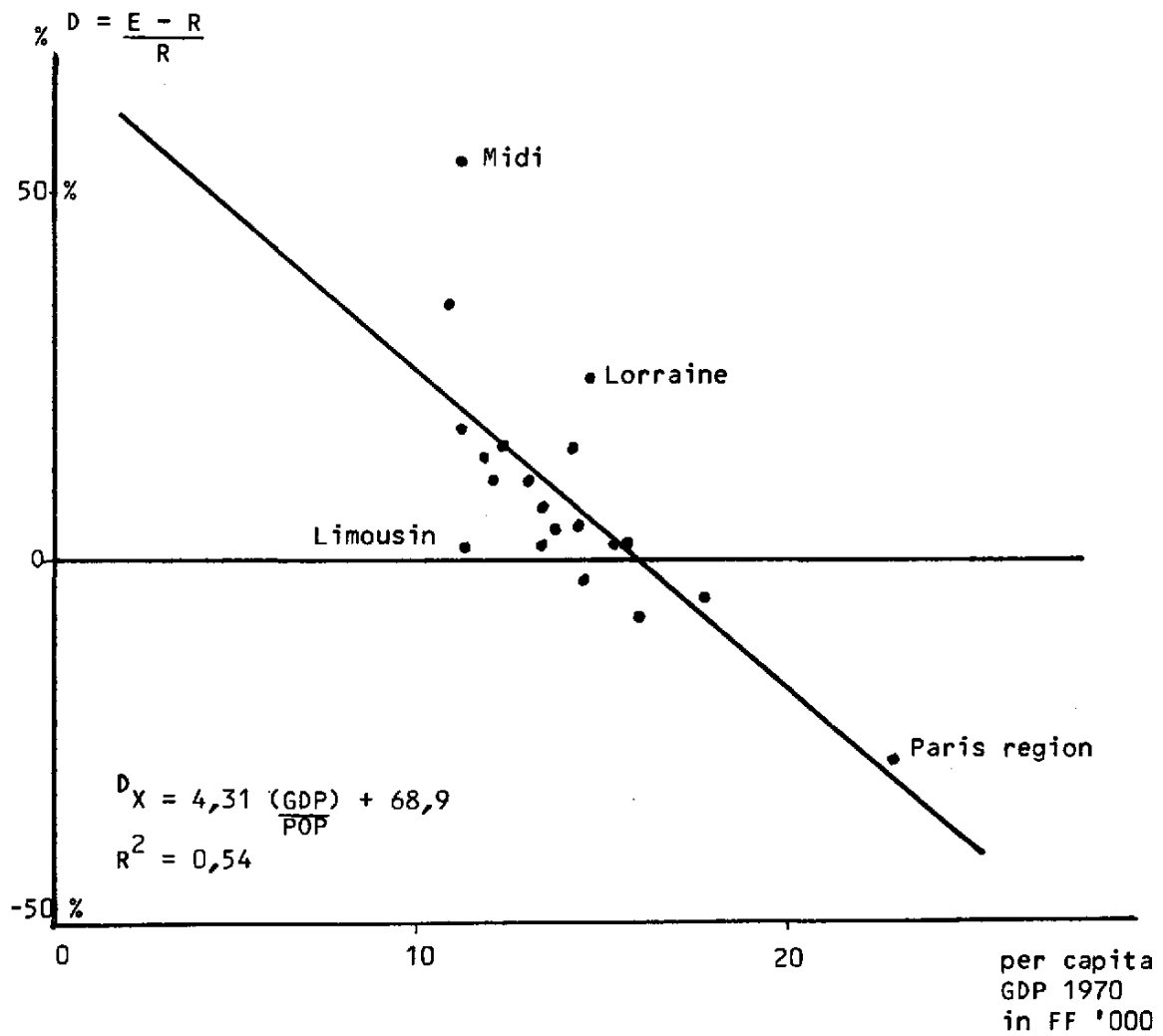
Relative discrepancy (expenditure - revenue from taxes and social welfare contributions) as % of revenue from taxes and social welfare contributions

	Option I	Option IV	Average for the 15 options
Paris region	-20 %	- 26 %	- 27 %
Champagne	- 5	4	2
Picardy	-15	5	- 3
Haute-Normandie	-11	0	- 5
Centre	10	- 1	9
Basse-Normandie	9	3	16
Burgundy	4	7	2
Nord	- 5	14	5
Lorraine	22	34	25
Alsace	- 3	1	2
Franche-Comté	- 9	1	4
Pays de Loire	0	15	11
Britany	42	22	35
Poitou	17	10	14
Aquitaine	9	3	7
Midi-Pyrénées	46	58	55
Limousin	- 5	- 9	2
Rhône-Alpes	- 6	- 2	- 8
Auvergne	16	17	11
Languedoc	6	16	18
Provence	20	0	15
Corse	20	19	32

The above table reveals a number of similarities :

- the Paris region is extremely privileged in all cases
- four regions are much worse off than the others : Lorraine, Britanny,

GRAPH N° 1



Midi and Corsica.

- The division between privileged and underprivileged regions is not a matter of chance : Graph No 1 above shows that the average relative discrepancy is inversely proportional to the regional domestic product per capita. There would appear, therefore, to be a mechanism ensuring redistribution of financial flows away from privileged regions to the poorer regions

1.13. - A more detailed statistical analysis of the redistributive power of public finance can be attempted using the methodological framework put forward in Chapter 5 . A system of taxation (or of expenditure) is neutral, that is to say has zero redistributive power, if revenue from taxes and social welfare contributions (or expenditure) is proportional to regional incomes ; it has a redistributive power of 100 % if the income differentials, after transfers, are entirely eliminated. The redistributive power of a tax (or of an item of expenditure) can be measured on the basis of the difference between its elasticity with respect to regional income and unity (corresponding to a neutral transfer), this difference being weighted by the relative share of the tax in question in national income, after transfers.

- (a) The French tax system taken as a whole would seem to be slightly progressive, when compared with the regional distribution of income. Relating the per capita tax index (base = 100 for France as a whole) to the per capita regional income index yields an elasticity of 1.258, slightly higher than the neutral elasticity of 1 ; the redistributive power of taxes would then be of the order of 6 %

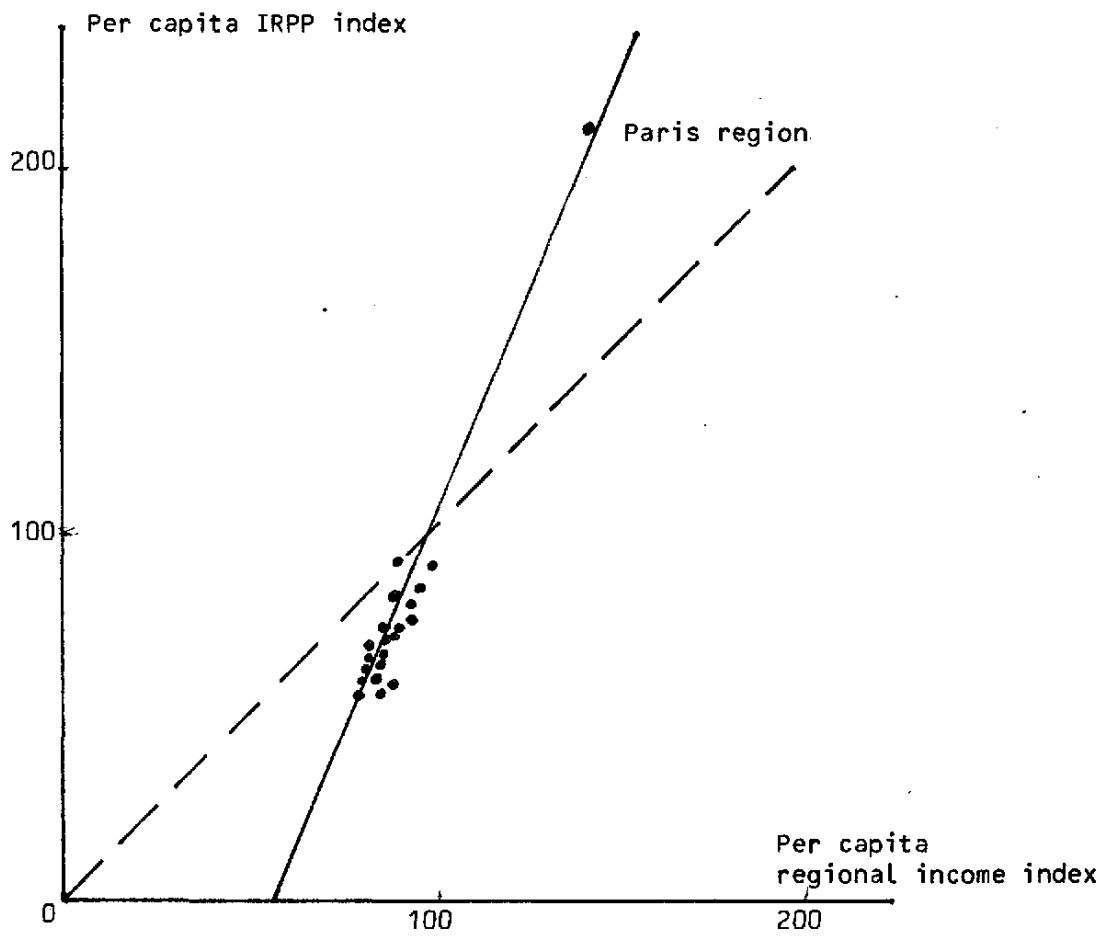
$$\text{INDEX (TAXES PER CAPITA)} = 1.258 \text{ INDEX (INCOME PER CAPITA)} - 25.2 \quad R^2 = 0.769.$$

Moreover, the progressiveness of the French tax system is mainly due to the IRPP (personal income tax), which has a very high income elasticity (2.653) and a large redistributive impact (8.6 %).

$$\text{INDEX (IRPP PER CAPITA)} = 2.653 \text{ INDEX (INCOME PER CAPITA)} - 166.3 \quad R^2 = 0.962$$

-
- (1) Relative discrepancy =
$$\frac{\text{Expenditure} - \text{revenue from taxes and social welfare contributions}}{\text{revenue from taxes and social welfare contributions}}$$
 - (2) The regional income applied in this equation is the gross total income less social welfare benefits and social assistance expenditure, plus pensions. Source : V. BRIQUEL and M. VAILLARD : "Les comptes régionaux des ménages". Les collections de l'INSEE No R, 18 October 1975, p. 59

GRAPH N° 2



The progressiveness of personal income tax at regional level is rather unexpected since progressiveness with respect to individual incomes is generally considered to be low. It is due primarily (cf. Graph No 2) to the huge disparity in per capita income between Paris and the provinces. Moreover, the progressiveness of the tax is much greater than suggested by the tax scale since the incomes of small sole proprietorships subject to the flat-rate scheme (small traders and, above all, farmers are not taxed or taxed at low rates. The poorest regions (Ouest and Sud-Ouest) are also those where the incomes of sole proprietorships account for the highest proportion of regional income (36.6 % in Brittany compared with 12.1 % in the Paris region).

- (b) The data concerning the regional distribution of expenditure are even less reliable than those concerning revenue. They suggest that the redistributive power of expenditure is large (about 15 %) since there is only a very weak correlation between the gross domestic products of the regions and expenditure, the distribution of which is roughly proportional to population.

$$\text{INDEX (EXPENDITURE PER CAPITA)} = 0.182 \text{ INDEX (GDP PER CAPITA)} + 71.9$$

$$R^2 = 0.025.$$

The most privileged regions are the Paris region and the regions in the South of France (Midi-Pyrénées, Languedoc, Provence).

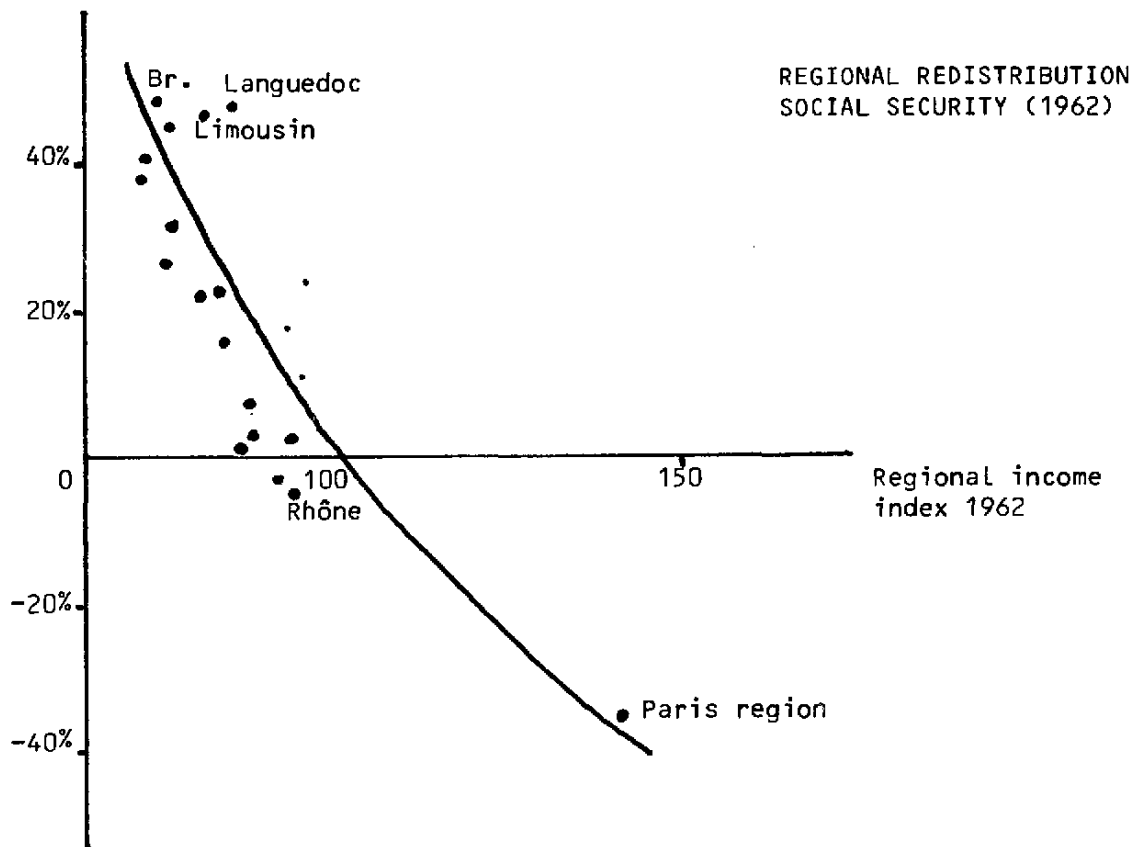
1.14.- The redistributive power of the French social security system

The social security system also operates in a way which promotes further this financial equalization between the rich and the poor regions, if, that is, reference is made solely to the data published by INSEE concerning both social welfare contributions and benefits in 1962. Whereas, at national level, contributions match benefits, the relative discrepancy between benefits and contributions narrows as regional per capita income increases (Graph No 3). Only in the Paris region and the region of Rhône-Alpes do contributions exceed benefits. This is all the more interesting since social welfare benefits are higher in the rich regions than in the poor (a maximum index of 1.18 in Paris and a minimum index of 0.78 in Brittany and Basse Normandie.

In any case, comparison of the respective redistributive power of contributions and benefits in 1962 shows that the former is greater than the latter. The linear regressions of per capita contributions and benefits with respect to regional per capita income (before social transfers) are as follows : (the data being expressed as indices : base 100 for France)

GRAPH N° 3

RELATIVE DISCREPANCY
 (Benefits - contributions)
 Contributions



CONTRIBUTIONS	= 1.672 (INCOME) ⁽¹⁾ - 67.5	R ² = 0.887
BENEFITS	= 0.548 (INCOME) ⁽¹⁾ 45.5	R ² = 0.525
NET BALANCE	= 1.122 (INCOME) ⁽¹⁾ +112.7	R ² = 0.872

Given that social welfare benefits accounted for 13.5 % of households' gross total income (2) in 1962, we obtain following figures :

	Deviation of income elasticity from UNITY	Redistributive power
Contributions	+ 0.672	9.12 %
Benefits	- 0.452	6.12 %

The redistributive power of social welfare contributions is larger because of the structural deficit in the social security scheme for agriculture which results in an automatic transfer away from regions where wage and salary earners form a high proportion of the labour force to the farming regions in the West and South-West of France. This flow merely serves to offset at regional level the repercussions of the flight from the land on the age structure and on the size of the labour force in the farming regions in the West and South-West of France.

The figures available for 1970 enable these results to be updated only for social welfare benefits ; their redistributive power has been calculated disregarding pensions (Graph No 4).

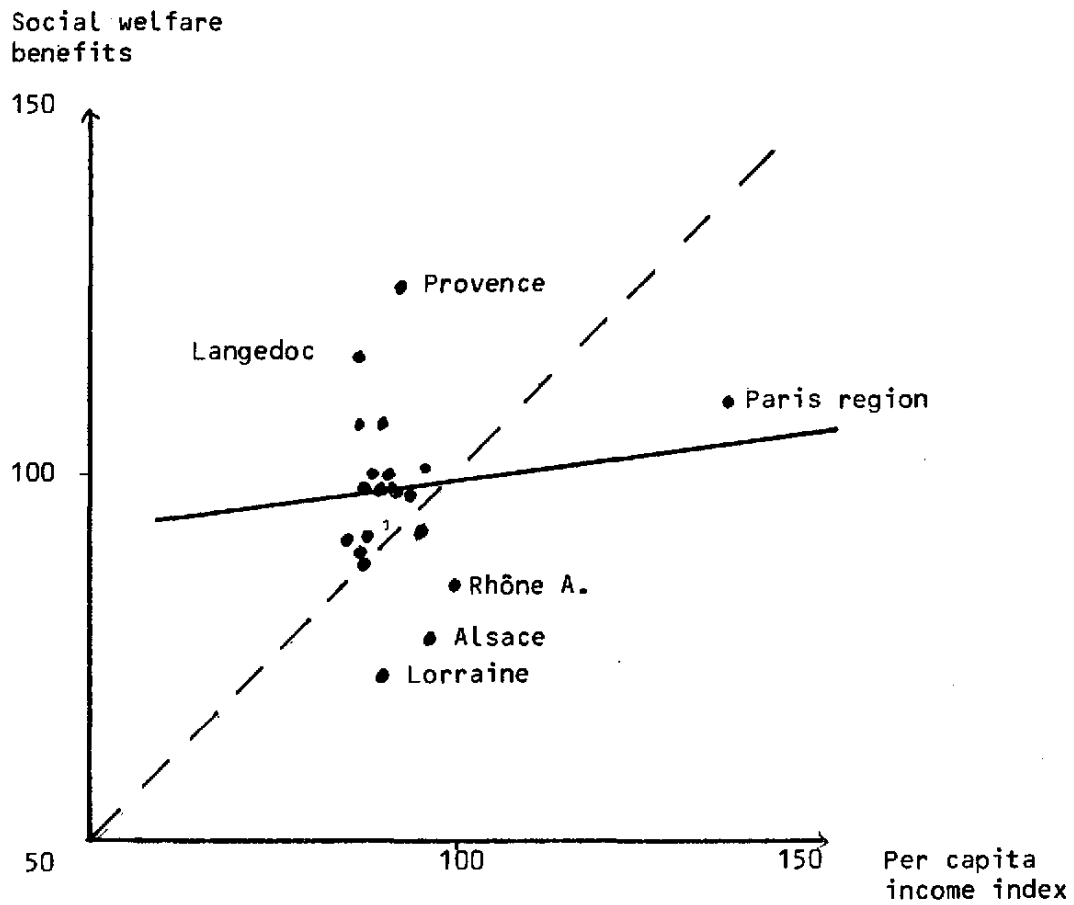
$$(\text{BENEFITS} - \text{PENSIONS}) = 0.621 (\text{INCOME}) (3) + 36.9 \quad R^2 = 0.406^{(3)}$$

Redistributive impact : 4.4 %

The redistributive power of social welfare benefits does not appear very significant at regional level since there is a positive correlation between sickness benefits and industrial injury benefits, on the one hand, and regional income on the other.

-
- (1) Regional income is taken to be equal to total gross income adjusted for social transfers :
Total gross income = social welfare benefits + social welfare contributions
 - (2) Total gross income is the sum of the resources appearing in the "appropriation account" of households in the French national accounts.
 - (3) The income taken into account is total gross income less social welfare benefits and assistance expenditure. It has not been possible to adjust this figure for contributions.

GRAPH N° 4



Allocation of the VRTS

The grant is allocated among the local authorities "département" and "communes") according to two distribution formulae.

The first is the product, collected by each authority in 1976 of a localised tax : local turnover tax (imposed on retail sales and the extension of VAT to the retail field.

The record is a broad indicator of local tax burden borne by households : (the product of "local taxes paid by households), and owners and occupiers of residential property (indicator based on the rental value of the property).

The relative weights of these two apportionment formulae (1) change each year over a twenty-year period. The "guarantee" grants, which are indexed to the yield of the local tax in 1967 and which accounted for 100 % of the total funds available for a allocation in 1968, decrease by 5 % each year while the distribution grants, allocated in proportion to the yield of "household taxes", rise by 5 % each year. (Thus, the guarantee grant made up 70 % of the VRTS (2) in 1974 and 65 % in 1975, and will have been entirely phased out by 1988).

-
- (1) We have left out of this simplified account a third component for allocation : the local action fund, accounting for less than 5 % of the total amount of the VRTS.
 - (2) The guarantee grants in 1975 were equal to 167.4 % of the revenue which accrued to the "communes" from the local tax in 1967 and 55.3 % of the revenue which accrued to them from household taxes the previous year.

1.2. The redistributive power of central government grants to the local authorities

The system of central government grants to the local authorities is relatively extensive since it accounts for almost 11 % of central government expenditure (1) and for 45% for the local authorities' actual revenue (excluding borrowing). It is, however, extremely heterogeneous since it comprises around 200 types of grant and affects almost 50 000 local authorities and local authority associations. As a result, the aggregated regional statistics mask the very uneven impact of the system at the level of the "communes" and "départements," which are the direct beneficiaries of central government grants.

Three types of grant, each managed in an entirely independent manner and along different lines, will be analysed :

- The VRTS (sum representing the local portion of the payroll tax (2)) is an unconditional grant automatically redistributing to the local authorities a proportion of central government revenue (redistributive tax-sharing).

- Infrastructure grants are specific grants allocated to individual projects. They enable the central government to control local authority investment in line with short-term economic or planning requirements.

- Central government participation in social assistance expenditure constitutes the main operating grant. It is a conditional and open-ended grant by means of which the central government automatically finances a given percentage of the social assistance expenditure incurred by the départements (matching grants).

(1) Unlike the way it is treated in the national accounts and budget in France, we regard the VRTS as a grant financed out of central government revenue and redistributed to the local authorities.

(2) A specifically local payroll tax was levied for a brief period in 1968.

Table II

CENTRAL GOVERNMENT GRANTS TO THE LOCAL AUTHORITIES

	1969	1970	1971	1972	1973	1974
Total grants as % of central government expenditure	15 072 (9,68)	17 030 (9,92)	18 912 (10,07)	21 412 (10,29)	24 380 (10,30)	29 566 (10,77)
Operating grants (1)	4 664	5 187	5 660	6 191	7 106	8 413
Infrastructure grants	2 558	2 433	2 437	2 756	2 971	3 702
VRTS	7 850	9 410	10 915	12 465	14 303	17 450
OPERATING TOTAL	30,9 %	30,4 %	29,3 %	28,9 %	29,1 %	28,5 %
INFRASTRUCTURE/TOTAL	17,0 %	14,3 %	12,9 %	12,9 %	12,1 %	12,5 %
VRTS/TOTAL	52,1 %	55,3 %	57,7 %	58,2 %	58,7 %	59,2 %

(1) Including contribution to social assistance expenditure incurred by the "départements".

The basic feature of all these grants is that they have a small redistributive impact and ease the burden of congestion costs generated by urban growth on the local authorities in the most urbanized areas.

1.21 - VRTS

The VRTS is an annual global grant, indexed to increases in the wage and salary bill. Being indexed, the VRTS rises more rapidly than the other items of central government expenditure (5 % in 1969 ; 6.7 % in 1976) and the GNP (1.08 % of the latter in 1969 ; 1.32 % in 1974).

For instance, a "commune" to which T francs accrued from the local tax in 1967 and which collected M francs from household taxes in 1974 received a grant of G in 1975 :

$$G = 1.674 T + 0.553 M^2$$

The impact of the VRTS on regional income disparities

The allocation system adopted is bound to result in a very slight narrowing of regional income disparities.

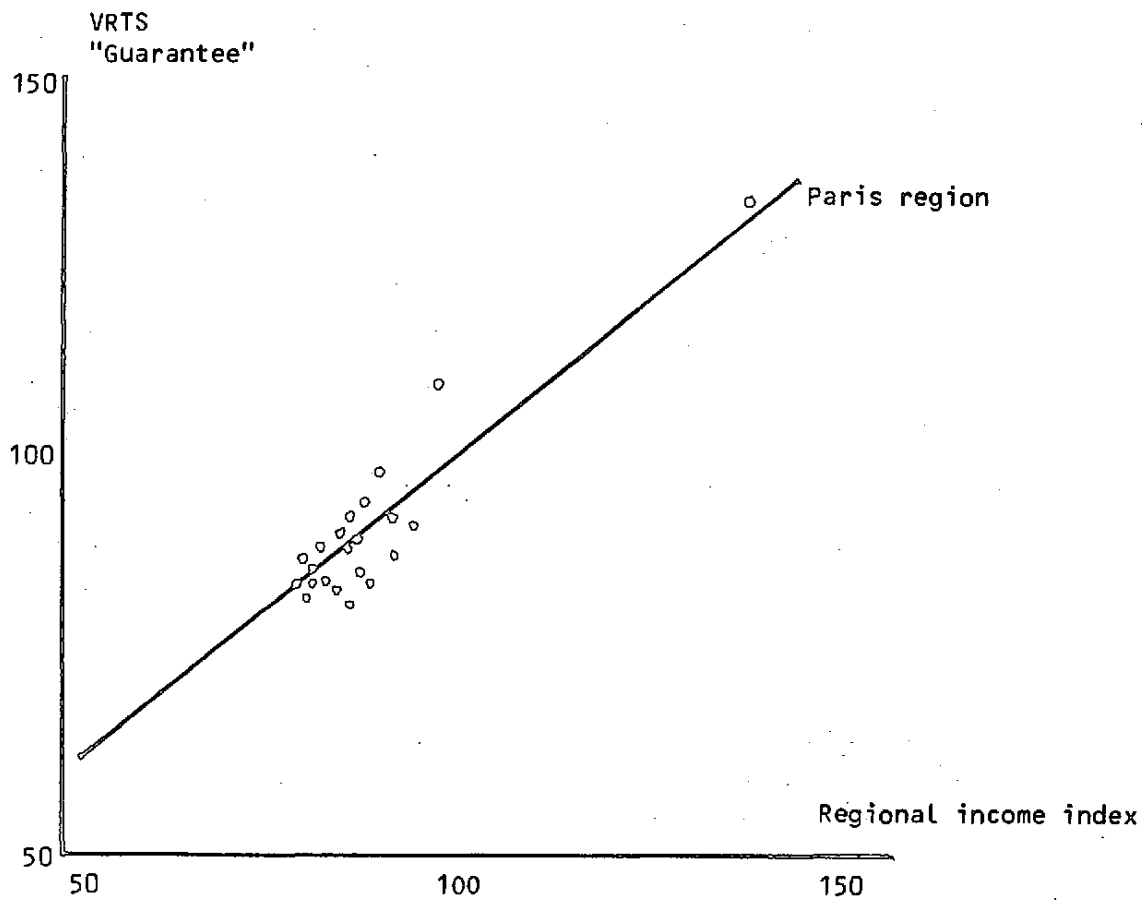
- This is obvious in the case of the first apportionment formula (local tax in 1967) : changes in the tax were roughly proportional to regional consumption (including consumption by tourists) and slightly less than proportional to disposable regional income. Moreover, this system favours the major urban areas and in particular Paris because of the commercial attraction they hold for the areas they dominate. The regression equation relating the guarantee grants from the VRTS in 1975 to households' total gross income (expressed as per capita index with a base of 100 for France as a whole) gives an income elasticity for these grants that is very close to unity :

$$(\text{GUARANTEED VRTS } 75) = 0.94 \text{ INCOME} + 5.75 \quad R^2 = 0.85 \text{ (cf Graph No 5)}$$

- The second apportionment formula (which assumes increasing importance) has a less significant impact. Around one-half of local taxation in France is accounted for by a tax levied on the productive capacity of firms, the new-style business tax (1) ("taxe professionnelle"), assessed on the wage and salary bill and the value of the capital equipment of each undertaking, while the other half is accounted for by taxes assessed on the rental value of residential buildings, which, as a general rule, are payable by households. The way the local tax burden is split between these two taxes varies greatly from one "comune" to another, with those located in industrial areas and enjoying substantial revenue from the business tax levying relatively modest taxes on households, and vice-versa. The VRTS grants indexed to household taxes thus have an intercommunal equalization function that works to the benefit of non-industrial

(1) This replaced the old business tax ("contribution des patentes") in 1976.

GRAPH N° 5



"communes" ; however, this equalization effect is virtually nullified at regional level. Firstly, no account is taken of the tax ratio in the apportionment formula ; the yield of household taxes is the only factor considered, with the result that, given identical tax ratios, a rich "commune" - which has a large tax basis - will receive a higher VRTS grant than a poor "commune". Secondly, the least industrialized regions - where a higher proportion of the tax burden is borne by households - are also the least urbanized, and this reduces the weight of expenditure and local taxes and, consequently, leads to lower VRTS grants.

Local taxes on households and hence the VRTS grants proportional to these taxes have been found to increase at about the same rate as total gross regional income :

$$(\text{VRTS HOUSEHOLDS } 75) = 0.96 (\text{INCOME}) + 3.00 \quad R^2 = 0.43$$

The correlation between these two variables (expressed as a per capita index, with a base of 100 for France as a whole) is weakened by the existence of regional taxation patterns (heavy tax burden in Languedoc and Provence, light tax burden in the North-East of France).

In all, the redistributive impact of the VRTS in 1970 was practically zero :

$$(\text{VRTS } 70) = 0.93 (\text{INCOME}) + 6.04 \quad R^2 = 0.82$$

Redistributive impact : 0.1 %

1.22. Specific infrastructure grants of the local authorities

The system of infrastructure grants has three main features.

- It is a system of specific grants which are made to help finance given infrastructure projects and are negotiated one by one. The average rate of the grant varies according to the type of infrastructure project involved and, with the exception of school infrastructure, which is eligible for grants of between 40 % and 50 % on average, is small (10-20 %). The rates are fixed by reference either to a specific scale (primary and secondary education) or to rate brackets determined at national level. Finally, since these grants are "closed-end" grants and since grant applications exceed available finance, projects are selected for grant allocation on the basis of waiting lists (as part of the planning process).

- This system enables the central government to control local authority investment in line with short-term economic and planning requirements through the link between grants and borrowing as a "commune" may only receive a low interest loan from a public body managing savings bank funds if it has obtained a grant before-hand. In this way, the infrastructure grant has a multiplier effect on the level of local authority spending (an increase of 20 in the

volume of grants can generate an increase of 100 in local public investment, the difference being met by a change in "communal" indebtedness.)

- Lastly, all grant finance - like, direct central government investment - is "regionalized", that is to say allocated between the regions in the light of the central government's regional policy objectives before being subdivided between the local authorities by the central government's regional representatives (the "préfets") and, in the case of certain infrastructure projects, by the regional political authorities responsible for selecting projects from the waiting lists.

The implicit objectives of the regional allocation of central government infrastructure finance were analysed by R. PRUD'HOMME for the period 1966-70. He showed that regionalized infrastructure expenditure was determined mainly by the size of a region's population and, as a secondary consideration, by the population's rate of growth. More explicit allocation criteria (which were not, however, always observed) were drawn up during preparation of the Sixth Plan : 80 % of the finance available was to be allocated between the regions in an "egalitarian" manner in the light of their public infrastructure requirements, which were determined on the basis of the population in each region, its rate of growth and its rate of urbanization. The remaining funds, i.e. 20 %, were to be allocated according to policy goals and on the basis of the following criteria : existence of a "métropole" (corresponding to a very large town), the fact of being one of the least developed regions in the West of France, number of workers for redeployment and number of new jobs planned.

If the infrastructure grants were actually allocated in proportion to population, their income elasticity would have to be zero. The fact that the equation :

$$\text{INDEX (INFRASTRUCTURE GRANT PER CAPITA)} = 0.68 \text{ INDEX (INCOME PER CAPITA)} + 31.7 \quad R^2 = 0.06$$

yields no significant value does not invalidate this hypothesis. Nonetheless, analysis of the regionalized infrastructure budgets for both infrastructure grants and direct central government capital expenditure gives an income elasticity well above zero :

$$\text{INDEX (INVESTMENT PER CAPITA)} = 0.429 \text{ INDEX (PRODUCT PER CAPITA)} + 47.5 \quad R^2 = 0.307 \text{ (year 1973)}$$

In addition, regionalization of the capital expenditure budget does not take into account "major projects" (1) which, in many cases, are carried out in the Paris region. It is, therefore, highly likely that the concentration of investment in the Paris region (in particular

(1) Cf. the data given in the Annex.

in the field of road construction and public transport) results in a regional allocation of central government infrastructure expenditure and grants that has zero redistributive impact.

1.23. Central government contribution to social assistance expenditure

The social security system is supplemented by a social assistance system partly financed by the local authorities (child welfare, welfare services for the aged ; medical assistance ; assistance for the blind and the disabled). The central government makes an automatic contribution to this expenditure in the form of an open-ended grant that is proportional to the volume of expenditure. The rate of the grant is determined by a scale which varies according to the type of expenditure (on average, 81 % for child welfare expenditure, 69 % for assistance given to the mentally handicapped, and 43 % for expenditure on medical assistance and welfare services for the aged and the disabled). The rate is also differentiated according to the region, ranging between two very wide extremes (26 % for Paris, 89 % for Corsica) according to a formula drawn up in 1955 and not updated since. This formula took account mainly of the taxable capacity of each "département" and, as a secondary factor, its population structure (percentage of old people, of young people), but, not having been revised, it has become unfair and out-dated.

This grant is, nevertheless, the only one to have a fairly appreciable redistributive power since there is a negative correlation between it and regional income (before social transfers) :

$$\text{INDEX (SOCIAL ASSISTANCE PER CAPITA)} = -0.45 \text{ INDEX (INCOME PER CAPITA)} + 142.8 \quad R^2 = 0.09$$

1.24. The overall redistributive power of grants to the local authorities

The redistributive power of these grants is necessarily small since they make up only 2.7 % of household income (after transfers). In addition, their regional income elasticity is high since the VRTS accounts for a fairly large proportion of the total volume of grants:

$$\text{INDEX (GRANTS PER CAPITA)} = 0.66 \text{ INDEX (INCOME PER CAPITA)} + 33.7 \\ R^2 = 0.39$$

Income elasticity : 0.66

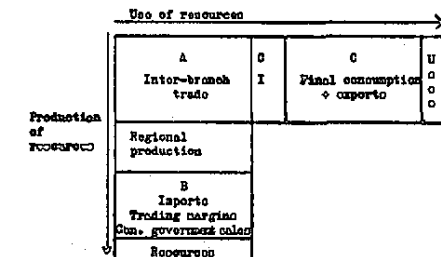
Redistributive power : 0.9 %

This figure is proof that, although the financial system in France is on the whole progressive in a regional context, this can in no way be traced to a policy of deliberate transfers to the most depressed regions. But at any rate the surplus of expenditure over revenue from taxes and social welfare contributions payable in these regions automatically restores their trade balances to equilibrium.

COMPREHENSIVE TABLE OF RESOURCES AND USES - BRITANNY 1972

FF million

Branches	AGR 01	PPPI 02	ESE 03	IED 04	EPW 05	TSP 06	BOU 07	SER 08	DISTR. TR. 09	TOTAL intermediate consumption	Consumption				Investment			Exports		Total uses
											Households	General govern.	Fin. inst.	Non-fin. inst.	Households	General govern.	Fin. inst.	Other regions	Abroad	
01 - Agriculture	800	5 100	0	150	0	0	0	260	0	6 310	8 272	139	0	0	0	0	0	3 550	1 262	22 872
02 - Farm processing and food industries	1 400	1 217	0	70	0	0	0	652	0	3 339										
03 - Energy	212	1	2 088	292	174	263	0	170	226	3 506	1 586	150	14	0	0	0	0	0	0	5 256
04 - Industry	498	246	50	2 462	2 535	130	0	958	179	7 058	8 190	875 (zz)	42	2 113	0	81	18	6 084	1 359	25 820
05 - Building, public works	167	42	40	160	0	260	0	72	81	822	487	252	9	2 153	2 902	1 311	53	0	0	7 989
06 - Transport	64	288	48	406	463	28	0	187	656	2 140	700	200	51	0	0	0	0	0	0	3 091
07 - Housing	0	0	0	0	0	0	0	0	0	0	2 126	0	0	0	0	0	0	0	0	2 126
08 - Services	863	300	42	560	630	186	128	0	467	3 176	4 896	180	157	0	0	0	0	0	0	8 409
Total intermediate consumption	4 004	7 274	2 268	4 100	3 802	867	128	2 299	1 609	26 351	26 257 (z)	1 796	273	4 266	2 902	1 392	71	9 634	2 621	79 563
Value added	4 601	2 876	800	4 185	4 187	2 224	1 998	5 217	4 771	30 859	(a) Including consumption by tourists									
Turnover	8 605	10 150	3 068	8 285	7 989	3 091	2 126	7 516	6 380	57 210	(m) Including consumption by naval dockyards									
Inter-regional imports		2 065	2 057	10 595	0	0	0	200	0	14 917										
Imports from abroad		727	31	935	0	0	0	0	0	1 693										
Total imports		2 792	2 088	11 530	0	0	0	200	0	16 610										
Sales by general government		0	50	300	0	0	0	693	0	1 043										
Price adjustments		-1 000	0	+1 700	0	0	0	0	0	+ 700										
Trading		2 325	50	4 005	0	0	0	0	-6 380	0										
TOTAL RESOURCES		22 872	5 256	25 820	7 989	3 091	2 126	8 409	0	75 563										



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II. FLOW OF PUBLIC FUNDS AND REGIONAL BALANCE OF PAYMENTS EQUILIBRIUM

It is impossible to evaluate directly the role of public finance in achieving equilibrium in the regional balances of payments, since there are not even rough statistical data on the movements of goods and the financial flows between French regions. In the circumstances, only a case study for Brittany, can be referred to.

This regions accounts for nearly 5 % of the population of France and has :

- (i) the lowest regional per capita disposable income (17 % below the national average)
- (ii) the lowest per capita gross domestic product (GDP) (30 % below the national average)
- (iii) the lowest GDP per job (30.5 % below average). The proportion of Brittany's GDP produced by the agricultural sector is the highest in France (16.3 % as against an average of 6.3 %) ; that produced by the industrial sector (excluding building and construction) is the lowest (20.6 % as against 36 %).

Regional economic accounts for 1972 have been drawn up for Brittany(1) consisting in a table of transactions in goods and services (accompanied by a simplified input-output table for nine sectors) on which the balance of payments hinges. These data make it possible not only to measure the degree of economic integration of the region but also to define the ways in which the deficit on its balance of goods and services is covered.

2.1. Degree of economic integration of Brittany

The region is relatively dependent on the outside world since imports represent 54 % of regional GDP (calculated as regional value added) and its exports only 39 %. Brittany as a region is therefore three times more open to the outside world than France as a whole ; but its rate of economic integration (exports + imports as a percentage of GDP) (93 %) - comparable to Belgium's rate (92%) or that of the Netherlands (105 %) - seems fairly low at regional level.

Brittany's economy is vulnerable to a reduction in exports both because of the direct and indirect effects of changes in final demand and because of the effects induced by such changes.

(1) "Le tableau économique de la Bretagne". Bulletin de Conjoncture Régionale. CREFE Rennes Nos 1 and 2 - 1976.

(a) The direct and indirect effects of changes in final demand

We have classified imports into two categories, depending on whether they are used directly to meet final demand or whether they are intermediate products used as inputs in regional production. This throws light on the sensitivity of regional domestic production to changes in external demand (exports, public infrastructure expenditure etc.).

More than half of imports (52 %) are directly induced by changes in final demand: of an increase of 100 in internal final demand for industrial products (excluding trading margins), 78 % is met from an increase in imports and 22 % from a change in regional production. The relevant figure is lower for the other sectors : 24 % only of food and agricultural products consumed by households is directly imported.

The rest of imports (48 %) are intermediate goods used as inputs in regional production. By inverting the matrix of technical coefficients deduced from the regional input-output table (1), we have been able to calculate the following results (which should be interpreted with caution, since the breakdown into sectors is not very fine).

THE FINAL COLUMN SHOWS THE IMPORTS CONTAINED IN 100 UNITS OF FINAL DEMAND

Change in final demand	Final demand	Gross production	Value added : productive branches and distributive trades	Imports		Total imports
				Direct	Inter-mediate	
Consumption of households (2)	100	91	62	26	12	38
Infrastructure investment-general government (3)	100	126	64	0	36	36
Exports: industrial products	100	133	60	0	40	40
Exports: processed agricultural products	100	202	78	0	23	22

(1) Assuming stable consumption structure

(2) Building and public works

Footnote (1) - see next page.

(1) The following model was used :

Let X be the 9-component vector of regional production

Z	"	"	"	"	of regional intermediate consumption
E	"	"	"	"	of exports
M_1	"	"	"	"	of imports for intermediate consumption
M_2	"	"	"	"	of imports meeting final demand
D	"	"	"	"	of final demand (excluding exports)

Assume $Z = AX$, where A is the matrix of intermediate consumption coefficients

$M_1 = HX$, where H is the matrix of the coefficients of "intermediate" imports

$M_2 = JD$, where J is the diagonal matrix of the coefficients of "direct" imports

Since $X + M_1 + M_2 = Z + E + D$

$$X = (I - A + H)^{-1} (I - J) D + (I - A + H)^{-1} E$$

$$M_1 + H (I - A + H)^{-1} (I - J) D + (I - A + H)^{-1} E$$

$$M_2 = JD$$

In practice the model is more complicated since commercial services are not counted as a product in French input-output tables, even though there exists a sector "distributive trades" which consumes inputs. The input-output table is therefore not a square matrix.

The leakage due to imports is much lower than the one which has been estimated for British regions ; this is partly explained by the importance of agriculture and of the food industry in Brittany's economy. Both sectors have a low propensity to import intermediate goods (5 % of gross production) while 76 % of the food products bought by households in Brittany are produced in the region.

(b) The induced effects of a change in final demand

The effect induced by the operation of the classical Keynesian multiplier depends mainly on the size of the leakages due largely to tax payments and social welfare contributions. No precise assessment of these leakages has yet been made for the various sectors.

In the non-agricultural sectors, the order of magnitude of the

leakages is, on average, as follows at the margin :

VAT	15 % of value added
Corporation tax plus personal income tax (IRPP)	8 % of value added
Social welfare contributions (37 % of wages)	14 % of value added
<hr/>	
A - Total leakage through public sector	37 %
B - Exported income from property (interest)	15 %
Depreciation	—
<hr/>	
Total leakages A + B	52 %

Thus, a reduction of 100 in regional value added (excluding agriculture) would lead to a reduction of 48 in regional disposable income and of 43.5 in regional consumption, for a marginal propensity to consume of 0.905.

(c) Combined effects

Let us take as an example a reduction of public investments by the central government in the region, which would mainly affect the building and public works industry. The combination of direct and indirect effects would lead to the following sequence :

Initial change in investment	- 100
Reduction in direct and indirect imports of the public works branch	+ 36
Change in regional value added	- 64
Reduction in leakages due to taxes and social welfare contributions and to exported income	+ 33.3
Change in disposable income	- 30.7
Change in consumption	- 27.8
Induced change in regional value added	- 17.2

The Keynesian multiplier applicable to the "disposable income" variable is about 1.37 given a marginal propensity to import goods consumed by households of 0.38 and a marginal propensity to save disposable income of 0.095.

All in all, a reduction in public investment of 100 would reduce regional disposable income by 42 and regional value added by 87. These figures show how sensitive Brittany's economy is to fluctuations in external demand- much more sensitive than Professor Brown suggested in Chapter 1 . Brittany's high degree of specialization in

agricultural production, and the relative weakness of its propensity to import food products, go along way to explain this conclusion'

Moreover, the leakages are smaller in the agricultural sector than in the other sectors because tax payments and social welfare contributions are lower. A rise in Community intervention prices, which in the short-term is equivalent, for a given level of production, to an increase in regional exports, is likely to generate a sharper increase in Brittany's income, than any other public intervention. However, since Brittany's agriculture specializes mainly in livestock products, the region is obliged to import large quantities of grain to supply its feedingstuffs industry.

Output of final products by Brittany's agriculture in 1972

	Value in FF million (excluding VAT)	As a % of total	Brittany's agricultural output as a % of French agricultural output
1. <u>Crop products</u>	<u>963.9</u>	<u>11.9 %</u>	<u>2.4 %</u>
of which Cereals	171.9	2.1	1.2
Potatoes	230.2	2.9	16.5
other vegetables	395.0	4.8	6.8
2. <u>Livestock products</u>	<u>7 110.2</u>	<u>88.1 %</u>	<u>15.5 %</u>
of which Beef	972.4	12	9.4
Veal	568.2	7	12.4
Pigs	1 961.3	24.3	30.1
Milk	2 317.8	28.7	15.4
Poultry	674.1	8.4	20.1
Eggs	488.0	5.7	19.5
TOTAL	8 074.1	100 %	9.6 %

The region's cereal deficit for feedingstuffs, on the other hand, was about FF 570 million (1). Any change in relative European prices (for example, a rise in the price of cereals in relation to the price of milk) may, because of the lower level of leakages from the agricultural sector, result in large fluctuations in regional income.

2.2. Regional balance of payments equilibrium

2.2.1 - The problems involved in achieving regional balance of payments equilibrium differ in two main respects from those arising at national level. First, the overall position is automatically balanced owing to the existence of a single national currency and of a unified banking network over the whole national territory. Secondly, public sector transfers between regions may considerably modify the conditions for achieving external equilibrium of a regional economy, since they are much greater, in relative terms, than transfers at European or international level.

(1) 40 000 tonnes of wheat, 60 000 tonnes of maize and 15 000 tonnes of various other cereals.

The mechanisms of capital movements between regions ensure that each region automatically has the necessary resources to balance its accounts.

A region with a transitory deficit on its balance of goods and services has no need to concern itself directly with the level of its reserves of external means of payment, since all payments are made in the national currency. Moreover, the existence of a unified banking network means that the regional banks are simply branches of national banks ; liquidity requirements in a region with a deficit are therefore necessarily matched by surplus liquidity in the other regions. No visible monetary phenomena, therefore, accompany disequilibrium of the regional balance of payments. But exchange rate fluctuations and/or variations in currency reserves can provide useful "warning signals" for nations, and regions have no such indicators ; the risk of suffering, a cumulative process of disequilibrium is therefore much greater for regions with a balance of payment deficit than for nations.

A persistent trade deficit which is not balanced by a corresponding public transfer surplus cannot be covered indefinitely by increasing regional debts towards the rest of the nation. For example, when the deficit is due to a wage level which is too high in relation to the regional productivity of labour, there is no exchange mechanism to help reduce the region's real wages in relation to those of the rest of the country, restoring the competitiveness of the regional economy. The low level of regional activity will thus be an obstacle to the emigration of local labour.

This development may be curbed by compensatory capital movements, if they represent investments apt to increase regional productivity ; however, experience in Brittany shows that they may also lead to part of the real property of the region's inhabitants being put to other use than that intended. (1)

(1) Many coastal farmers continue in business only by selling some of their land for the construction of holiday villas.

BRITTANY'S BALANCE OF PAYMENTS (1972)

<u>I. GOODS AND SERVICES</u>	Credit (+)	Debit (-)	Balance
1 - 1 <u>Goods</u> : exports and imports (1)	12.25	16.4	- 4.15
1 - 2 <u>Services</u> :			
insurance and sundry items	0.65	1.75	- 1.1
tourism	2.1	0.3	+ 1.8
interest and dividends net	0.4		+ 0.4
public services (postal service, broadcasting, railways)	0.6	1.0	- 0.4
Operating surplus of inter- regional firms		0.5	- 0.5
TOTAL GOODS AND SERVICES			- 3.95
<u>II. PUBLIC SECTOR</u>			
2 - 1 <u>Central government</u> :			
taxes		4.76	- 4.76
(of which personal income tax)		(0.98)	
(of which VAT)		(1.95)	
current operational expenditure	5.7		+ 5.7
<u>capital expenditure</u>	0.4		+ 0.4
balance - central government			+ 1.34
2 - 2 <u>Social Security</u>			
General scheme	2.56	2.77	+ 0.21
Agricultural scheme	1.43	0.33	+ 1.10
<u>Other schemes</u>	1.66	1.55	+ 0.11
Balance - Social Security			+ 1.42
TOTAL PUBLIC SECTOR			+ 2.76

(1) Including French naval dockyards : exports (1.0).

III. CAPITAL MOVEMENTS (net)	Credit (+)	Debit (-)	Balance
3 - 1 <u>Long term capital</u> :			
<u>Direct investments</u>	0.2		+ 0.2
<u>Net long-term loans</u>	1.9		+ 1.9
<u>Other net loans</u> (specialized intermediaries)	0.44		+ 0.44
<u>Net loans (public financial</u> intermediaries)	0.89		+ 0.89
<u>Long-term investments</u>	0.1	0.2	- 0.1
<u>Sale of land and buildings to</u> <u>non residents</u>	0.5		+ 0.5
<u>Total : long-term capital</u>			+ 3.83
3 - 2 <u>Short and medium term capital</u>			
<u>Net medium term loans</u>	0.7		0.7
<u>Net short-term loans</u>	0.74		0.74
<u>Liquid and short-term deposits</u>		2.77	- 2.77
<u>Total short-and medium-term</u> <u>capital</u>			- 1.33
3 - 3 <u>Money supply</u> :			
<u>Notes</u>	0.3		+ 0.3
<u>Current accounts</u>		1.33	- 1.33
<u>Total money supply</u>			- 1.06
TOTAL CAPITAL MOVEMENTS			+ 1,44
ADJUSTMENT	0.25		

2.22 - Brittany's balance of payments in 1972

(a) It is not easy to draw up the balance of payments for a region ; the difficulties are both statistical and theoretical. In most cases, we have solved the statistical difficulties by using approximate estimates (based, for example, on road and rail transport statistics, or banks' over-the-counter business), except for public sector transactions, where the information is fairly precise, although difficult to obtain. The theoretical difficulties mainly lie in defining the regional economic units, since there are supra-regional units which operate over the entire national territory. These are mainly :

- national enterprises (Electricité de France, Gaz de France, Société Nationale des Chemins de Fer);
- multi-regional enterprises with establishments in several regions ;
- central government and Social Security institutions ;
- banks and financial intermediaries (as a whole)

Since products and monetary flows move freely over the whole of the national territory, the region is more or less meaningless as a frame of reference to describe the transactions of supra-regional units. The device of allocating between the various regions the profits and bank loans received or the taxes paid by a multi regional enterprise is of little use for the analysis of behaviour. While supra-territorial enterprises are still relatively rare at the international level, they are becoming more and more common at regional level : in 1970, private multi-regional enterprises accounted for 39 % of wage payments, 47 % of turnover and 61 % of investment in Brittany's industry.

To take account of the centralizing mechanisms resulting from the existence of multi-regional units it has been decided to attribute only those transactions directly connected with production to the regional establishments of multi-regional firms. Other transactions (including financial transactions) are attributed to a "fictitious region" which comprises all the multi-regional units. In accounting terms, the gross operating surplus, minus wages and social charges, is entered as a debit in the regional balance of payments and transferred to the fictitious region. Thus financial transactions and distribution of income by multi-regional firms (1) are not broken down by regions. Fixed investment by these firms in Brittany is offset only by a compensatory flow (direct investment).

(1) including corporation tax

- (b) The deficit on the balance of goods is large, since it represents 15 % of the regions gross domestic product and corresponds to an export cover of imports of 75 %. If the balance on invisibles is included, particularly tourism and the operating surplus of multi-regional enterprises (before payment of corporation tax) the deficit falls to FF 3 950 million. Brittany's deficit is therefore heavy mainly because of imports of energy, and in spite of the large surplus on agricultural products and food (export cover of imports : 170 %).
- (c) Public sector transfers alone apparently cover 70 % of the deficit. (The algebraic sign of this transfer is consistent with R. Prud'homme's research results, analysed above). However, the importance of public finance as a balancing factor is attenuated by the reduction in taxes paid (since corporation tax paid by multi-regional enterprises is not taken into account) and by inclusion in the general government sector of the French naval dockyards (which increases central government expenditure and reduces the region's exports).

With these reservations, it would seem that the role of public funds in restoring equilibrium to the balance of payments is linked to the region's agricultural specialisation. On the one hand, the surplus on central government transactions is due less to the level of expenditure (in spite of military expenditure) than to the low yield of taxation (low effective tax on agricultural incomes, and reduced rate of VAT on products of agricultural origin).

On the other, the excess of social welfare benefits over contributions (financed by equalization at national level, and, for the agricultural scheme, partially financed from taxation) is mainly due to the deficit of the agricultural scheme. For that matter this transfer should be seen as the reflection of a mechanism for equalizing receipts between generations, compensating for the effects of emigration by many farmers' sons, rather than the result of a deliberate policy of assistance to underprivileged regions (for example, social welfare benefits per head of population in Brittany are 21 % lower than the national average, while in the Paris region they are 17 % higher).

- (d) The surplus on capital account adds to the correcting effect of the flow of public funds. It has not been calculated as a residual, but directly on the basis of regionalized Banque de France statistics (1) adjusted in a number of ways. These statistics have the major disadvantage that they do not classify loans by type of borrower (households, enterprises, etc.) It would seem that a large proportion of long-term loans injected into Brittany's economy in 1972 were building loans. (From this point of view, 1972 is not a very good reference year, because of the building boom encouraged

(1) The Banque de France publishes each year a double regionalized study on banks' over-the-counter business and on residents' transactions.

both by the banks' credit policy and by various tax measures). Over a three year period, it seems that capital was being redistributed (1) from the Southern regions (Languedoc, Provence) and Aquitaine towards some industrial regions in the East (Lorraine, Champagne), in the Haute-Normandie and in the North, while capital transactions were in equilibrium along a band stretching obliquely from Brittany to the Alps. This description should be treated with caution, since the Banque de France statistics do not permit correct treatment of the Paris region. The Paris region is far and away the biggest capital exporting region, but this conclusion is meaningless, since lending is concentrated there (46.5 % of the national total of 1972) as is the collection of deposits (40 % of the total).

It would seem that income from property, on which there is relatively little statistical material, does not significantly modify Brittany's balance of payments. No doubt there is a net, though small, inflow of interest and dividends into Brittany because of the region's long-term investments. But the transfer of the operating surplus of multi-regional enterprises does not necessarily offset this inflow since it must be adjusted for the amount of corporation tax.

The relative importance of the item "sale of land and buildings to non-residents" should be noted : more than a third of capital movements result from the sale of coastal land to summer residents, and also from building investment in rapidly growing towns.

Do capital movements and the redistribution of public funds make a long-term contribution to equilibrium ? The answer would be yes only if capital flows were likely to improve the competitive position of Brittany's economy and to increase its productivity. Although some public expenditure helps attain this objective (roads, telephone networks), it would seem that a large part of private debt reflects the expansion of building, and that the surplus in the balance of public flows is due to a policy of supporting the agricultural sector than to a policy of improving the region's productive capacity. Channelling public aid into the deficit regions is, in the final analysis, more important than its actual amount.

(1) Comparative analysis of changes in assets and changes in liabilities resulting from residents' transactions.

TABLE I

CENTRAL GOVERNMENT GRANTS AND PAYMENTS TO LOCAL GOVERNMENT (1970)

	Millions of 1970 FF			Pattern of grants		
	(1) Total	(2) Vrts	(3) Grants	(4) Social assistance grants	(5) Current operational and other	(6) Infrastructure grants
Paris region	4132	2310	1822	538	665	619
Champagne	401	218	183	77	49	57
Picardy	452	236	216	114	53	50
Haute-Normandie	497	261	236	96	64	76
Centre	645	342	303	132	86	85
Basse Normandie	387	211	176	86	46	44
Burgundy	482	261	221	93	64	64
Nord	1126	620	506	276	107	123
Lorraine	634	340	294	101	100	92
Alsace	402	235	167	65	58	44
Franche-Comté	288	150	138	55	36	47
Pays de Loire	754	405	349	161	86	103
Brittany	795	391	404	167	111	125
Poitou	452	241	211	96	65	50
Aquitaine	761	412	349	191	89	69
Midi-Pyrénées	675	344	331	154	87	90
Limousin	274	114	160	58	43	58
Rhône-Alpes	1423	781	642	227	165	250
Auvergne	393	213	180	80	46	54
Languedoc	643	283	360	135	92	134
Provence-Corsica	1301	683	618	296	119	204
Total FRANCE	16917	9051	7866	3199	2230	2437

TABLE II

CENTRAL GOVERNMENT GRANTS AND PAYMENTS TO LOCAL GOVERNMENT (1970)

	FF per head of population						Index numbers, France = 100				
	(1) Total	(2) Vrts	(3) Grants	(4) Current grants <small>Soc Assist.</small>	(5) Operat. <small>Others</small>	(6) Infrastr. grants	(1) Total	(2) Vrts	(3) Grants	(4) Soc. assist. grants	(5) Infra- str. grants
Paris region	432	242	190	56	69	65	130	136	122	89	135
Champagne	307	167	140	59	37	44	92	94	90	94	92
Picardy	280	146	134	70	33	31	84	82	87	111	64
Haute Normandie	323	170	153	63	42	49	97	95	99	100	102
Centre	315	167	148	64	42	41	94	94	95	101	35
Basse-Normandie	302	165	137	67	36	34	91	92	88	106	71
Burgundy	310	171	145	61	42	42	93	96	94	97	87
Nord	292	161	131	71	32	32	88	90	84	113	67
Lorraine	274	167	127	44	43	40	82	82	82	70	83
Alsace	278	162	115	45	40	31	83	91	74	71	64
Franche-Comté	283	146	136	54	37	46	85	82	88	86	96
Pays de Loire	287	154	133	61	32	39	86	86	86	97	81
Brittany	318	156	162	67	45	50	95	87	104	106	104
Poitou	302	161	141	64	40	33	91	90	91	101	69
Aquitaine	306	166	140	77	36	28	92	93	90	122	58
Midi-Pyrénées	307	156	150	70	39	41	92	87	97	111	85
Limousin	370	153	216	79	59	79	111	86	139	125	164
Rhône-Alpes	312	171	141	50	36	55	94	96	92	79	114
Auvergne	296	161	136	61	34	40	89	90	88	97	83
Languedoc	370	162	207	77	53	77	111	91	134	122	160
Provence - Corsica	362	190	172	82	33	57	109	106	111	130	119
Total FRANCE	333	178	155	63	44	48	100	100	100	100	100

TABLE III
REGIONALIZED INFRASTRUCTURE BUDGET

	Overall total			Total grants			Total grants to local Gov.		
	Total FF million	FF/head of pop.	Index Nos. France = 100	Total FF million	FF/head of pop	Index Nos. France = 100	Total	FF/head of pop	Index Nos.
Paris region	5417	544	131	1904	191	116	1112	112	118
Champagne	583	432	104	205	152	92	113	84	88
Picardy	512	309	75	219	132	80	134	81	85
Haute-Normandie	631	397	96	201	127	77	133	84	88
Centre	695	329	79	312	148	90	177	84	88
Basse-Normandie	571	438	106	253	194	117	123	94	99
Burgundy	555	357	86	222	143	87	148	95	100
Nord	1196	304	73	485	123	74	347	88	93
Lorraine	882	373	90	301	127	77	226	96	101
Alsace	557	374	90	278	187	113	145	97	102
Franche-Comté	332	316	76	147	140	85	92	87	92
Pays de Loire	1029	383	92	545	203	123	223	83	87
Brittany	868	343	83	388	153	93	184	73	76
Poitou	452	300	72	224	149	90	132	88	92
Aquitaine	1012	401	97	452	179	108	220	87	92
Midi-Pyrénées	767	345	83	336	151	91	181	81	85
Limousin	377	509	123	206	278	168	75	101	106
Rhône-Alpes	2009	424	102	638	135	82	485	102	107
Auvergne	478	355	86	229	170	103	109	81	85
Languedoc	722	412	99	317	181	110	168	96	101
Provence-Corsica	1946	522	126	748	201	122	425	114	120
Total classified	21591	414	100	8609	165,1	100	4953	95	100
Non-classifiable	1471			433			219		
TOTAL	23062			9042			5172		