# THE REDISTRIBUTION OF PUBLIC FUNDS IN FRANCE IN 1965 AND 1970*

BY A. FOULON AND G. HATCHUEL†

*Centre de Recherche pour l'Etude et l'Observation des Conditions de Vie, Paris*

The analysis of the redistribution processes via taxation, transfers and collective services raises several methodological problems among which tax incidence is not the least important. Through two hypotheses of incidence of employers' social contribution the results of the redistribution of public funds lead to four types of conclusions. Despite the fact that about one third of the French national income is involved in the processes there is no clearcut evidence of any redistribution, except for the nonactive population in so far pensions are considered as redistributed. The positive effects which certain mechanisms may have (e.g. income tax . . .) are to a certain extent offset, or neutralized, by the anti-redistributive effects of indirect taxation and social contributions. It appears that the results of the redistribution not only depend on the institution network, on the evolution of demographic structures and the rate of growth for the various types of income but also on lack of adaptation between the evolution of the three groups of factors. In last analysis, the reason why redistribution does not appear to have more far-reaching consequences is that social policy amalgamates mechanisms often set up in isolation, whereas any reduction in inequalities must be based on a conscious awareness of the inter-dependence of the situations which create and foster these same inequalities.

The resources of individual households are determined by the workings of the twin processes of levies and transfers which redistribute the increase which these households derive from their economic activity. The public funds redistributed in this manner amount to one third of the French national income: this figure is in itself sufficient evidence of the vast area of study involved, not only in terms of the economic analysis of the mechanisms at work and their effects, but also in terms of social policy.

Although the figures set out herein for 1965 and 1970 are not complete, since they do not embrace every kind of tax or, even less, all the divisible and indivisible public services, they come close to being an evaluation of social redistribution as a whole. By broadening and refining both sides of the redistribution balance sheet, the scope of the analysis can be extended into the area of non-market public services whose immediate, as well as delayed, redistributive effects are obvious. One can then analyse the overall results in greater detail and trace the origin of the positive, negative or perverse effects of certain mechanisms on the disparities in resources.

Lastly, by comparing 1965 and 1970 one can discern the direction of the trends in the pattern of redistribution at the end of the sixties. Not only does this comparison serve to support some of the earlier conclusions concerning the one year 1965, but it also enables us to make a more informed assessment of the

*This article is an abridged version of a paper presented to the 15th Conference of the International Association for Research in Income and Wealth which was held at the University of York, August 19–25, 1975.

†The authors would like to thank P. Kende, Maître de Recherche at the CNRS, for his important contribution to the early work of the Redistribution Team at the CREDOC, on which this study is to a large extent based.

operation and effectiveness of the redistributive processes which are both extremely complex and deeply entrenched at various levels in the economic system's dynamic.

Following a brief summary of some of the main points regarding the method of analysis (Part 1), the pattern of distribution in 1965 and 1970 will be described, taking as the starting point the distribution of primary incomes (Part 2); this will be followed by an analysis of levies (Part 3), transfers (Part 4) and the effects of each of these on the distribution of resources (Part 5).

## 1. Method

The method can be summarised as follows:[1]

The study covers a wide range of different mechanisms:

(a) taxes ($P$) (income tax, taxes on consumption, social contributions etc.) representing about 75 percent of all taxes levied by public authorities,[2]

(b) public transfers in cash (pensions, family allowances, social security benefits, scholarships etc.) of which about 90 percent is distributed to households and the free education service, again for about 90 percent of the current expenditure on education:[3] cash transfers + education service = public transfers ($T$).

The results are broken down by occupation of head of household. This classification is certainly not the only or even the most significant one for a study of income redistribution. But it was not possible to provide other types of breakdown, e.g. income level, size of family etc. since the various statistical sources and surveys used do not employ the same definitions except in the case of occuptation.[4]

*No stage within the economic cycle of creation and utilization of household income can be considered as undoubtedly the primary stage or starting point of the redistribution process.* A logical sequence for analysing these flows is illustrated and summarized in Fig. 1:

(a) Gross primary income ($Y1$) is the total amount deriving from participation in production of goods and services, i.e. from labour, capital or a business undertaking and before any tax or social contribution has been levied on these different types of income;

(b) the creation of primary income and other taxable resources and the levying of direct taxes on them precedes the stage at which non-taxable cash transfers, e.g. family allowances, part of pensions etc. and education are allocated;

(c) disposable income remaining for consumption (which serves as the basis for taxes on expenditure) and saving is made up of primary income net of

[1]The method has already been described in detail in [2].

[2]The portion which has not been analysed mainly comprises taxes or transfers by local authorities for which statistical data are very few and too global. In addition, subsidies, e.g. for food products and transport, have been excluded because no one has been able to determine who are the real beneficiaries (the farmers or the consumers)—See Appendix 1.

[3]See footnote (2).

[4]A general survey dealing in particular with redistribution is being undertaken in 1978/79 and this will permit the use of other analytic criteria.

## OUTLINE DIAGRAM OF INCOME CREATION AND MAJOR REDISTRIBUTIVE FLOWS OF PUBLIC FUNDS.

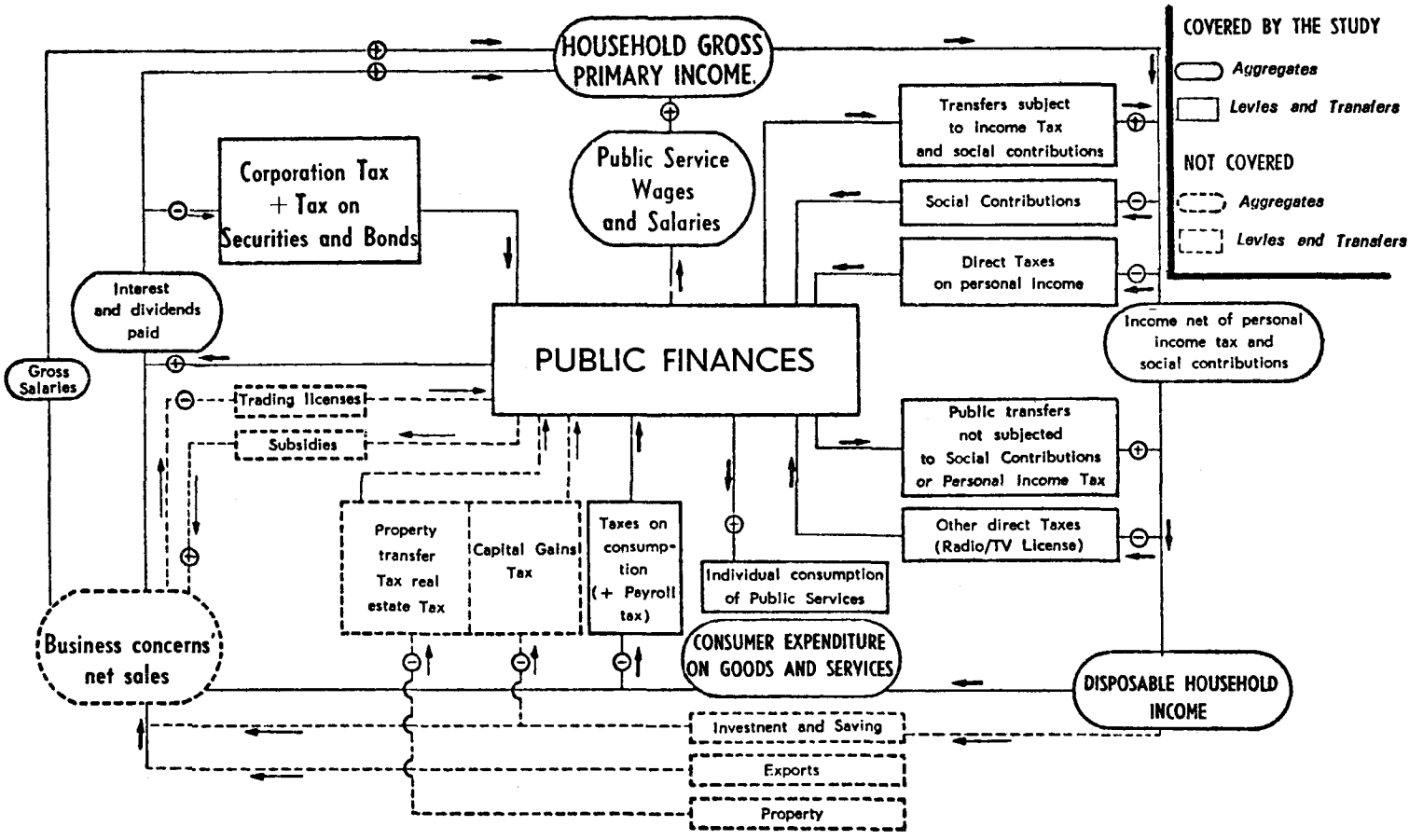


Figure 1. Outline Diagram of Income Creation and Major Redistributive Flows of Public Funds

direct taxes and social contributions plus non-taxable cash transfers;

(d) secondary net income or net resources ($Y2$) consists of primary income ($Y1$) less all taxes and social contributions plus all cash transfers and the free service of education. If subsidies were to be taken into account, "net resources" would be a good approximation of real resources *at factor cost* which households derive from the economy (external effects being excluded).

The problem of *tax incidence*, i.e. the determination of the final and real payer of taxes and contributions, is too complex to be dealt with here (see for example [1], [3], [4], [6]). Suffice it to say that if we use only one alternative hypothesis for the tax payer (either the wage-earner or the consumer) for six categories of direct taxes or social contributions we obtain sixty-four sets of empirical results. Due to the magnitude of *employers' social contributions*, which constitute one-third of the levies considered here, only two hypotheses have been adopted with regard to their incidence:

*Hypothesis A*: The employers' and employees' social contributions are considered as being borne by the employee whose salary or wages form the basis for such contributions. The self-employed categories pay their own social contributions in toto. Direct taxes are allocated to the categories earning the different types of income and indirect taxes are allocated to consumers in proportion to their expenditure by type of goods or services.

*Hypothesis B*: The employers' social contributions are considered as being quasi-indirect taxes which, via price mechanisms, are borne by consumers. All other levies, including employees' social contributions, are allocated to the various categories in the same manner as in hypothesis A.

This method has two important consequences which need to be stressed:

(a) The employers' social contributions are included in gross primary income in hypothesis A, whereas they are excluded from gross primary income in hypothesis B. This gross primary income as well as the breakdown of about one-third of levies and contributions are notably different in the two hypotheses and will produce different patterns of redistribution.

(b) The analytic procedure is purely linear for each of the two years, i.e. one starts with primary income to arrive at secondary net income (or resources) disregarding any feedback effect which the redistributive mechanisms might have on the various gross primary income levels. Although it is well known that such "ex ante" phenomena exist (e.g. the effect of the marginal income tax rate on the marginal propensity to work or the shifting of corporation taxes or contributions to prices or wages, etc.) and that they probably vary from one type of mechanism to another and from one occupational category to another, there is no means of evaluating them.

The resulting synthesis can be considered in two complementary ways:

(a) The *redistribution coefficient* shows the gain or loss due to the net effect of redistribution ($T-P$) as a percentage of gross primary income:

$$\beta = \frac{T-P}{Y1}$$

· $\beta > 0$ designates the "winners" of the redistributive processes;
· $\beta < 0$ designates the "losers"; those for whom $\beta$ is less negative can be considered as "relative winners" compared to those for whom $\beta$ is more negative.

(b) The *differential effect of redistribution* which compares for the various social classes ($i$, $j$, etc.) the relative position of their average net resources ($Y_{i2}$, $Y_{j2}$ etc.) with the relative position of their average gross primary income ($Y_{1i}$, $Y_{1j}$ etc.). This provides an evaluation of the extent to which redistribution alters the gaps between the gross primary income of the different social categories.

## 2. Gross Primary Incomes

In hypothesis A the gross primary household income increased from F22,300 in 1965 to about F35,000 in 1970 and, in hypothesis B, from F19,600 to F30,300, i.e. an average annual increase slightly in excess of 9 percent in both cases (Cf. Appendix 2).

TABLE 1

Average Gross Primary Income per Household in 1965 and 1970

| | Hypothesis A | Hypothesis B |
|---|---|---|
| 1965 | F22,329 | F19,594 |
| 1970 | F34,994 | F30,326 |
| Average annual rate of increase | +9.4% | +9.1% |

The distribution of the various types of primary income between the different social categories constitutes the basic pattern for the primary stage of the analysis. There are two essential points to note:

(a) The relationship between the head of houshold's occupational category and the houehold's main source of income is very apparent. In 1970, 85–90 percent of the gross primary income of the salary and wage-earning categories was made up of gross salaries and wages. Similarly, the major portion of the gross primary income of the self-employed categories comprises income arising from their activities as self-employed persons, e.g. 74 percent of farmers' income was derived from "gross income from farming", 81 percent of the income of craftsmen and small shopowners was derived from "gross income from industrial or commercial undertakings" and 64 percent of the income of the liberal professions was made up of "gross professional income". There was, however one exception: industrialists and owners of large stores, who are classed as a non-salary or wage-earning category, derive 37.2 percent of their gross primary income from salaries, i.e. as much as they derive from their activities as self-employed entrepreneurs (37 percent). This is explained by the fact that the heads of such concerns often draw large

salaries. The category of industrialists and owners of large stores therefore is more of a "mixed" category than a strictly non-salary-or-wage-earning category.

In addition, in the case of the farming categories (farmers and farmworkers), income in kind accounts for a far from negligible proportion of their total primary income (respectively 10.4 and 8.8 percent in 1970); this is primarily their self-consumption.

Since specific institutional systems exist to deal with the various types of income (e.g. salaries and wages, income from farming etc.) for the calculation of both income tax and social contributions, the partial equivalence between main source of income and social category already suggests that these public levies act as a factor of differentiation between social categories, independently of other social or economic factors.

(b) In 1970, the liberal professions and industrialists/owners of large stores, which together only represent 2 percent of households and 2.5 percent of the total population, accounted for 9.4 percent of total primary money income (hypothesis A), i.e. more than the share of the non-active population (8.2 percent) who however represent 30.3 percent of households and 20.0 percent of the population, and three times as much as the combined share for "unskilled and domestic workers" and "farmworkers" (2.7 percent) who are twice as numerous (4.9 percent of households and 5.3 percent of the population).

Similar disparities exist between the salary and wage-earning categories (1970): senior executive grades represent 4.1 percent of households (4.9 percent of the population) but account for about 10 percent of total primary money income; for the other categories these percentages are, respectively, middle executive grades: 11.4, 12.7 and 16 percent; employees: 11.4, 11.3 and 11 percent; skilled workers: 22.1, 27.6 and about 20 percent; unskilled and domestic workers: 3.5, 3.6 and 1.9 percent; farmworkers: 1.4, 1.7 and 0.8 percent.

Table 2 below shows the span between the gross primary incomes of the different social categories.

(a) The span between gross primary money incomes is always greater than the span between aggregate primary incomes (income in money and in kind). This is due to the fact that, in the case of the least privileged categories (and farmers), income in kind[5] constitutes a far from negligible portion of their total resources.

(b) The gaps between average household incomes are always larger in hypothesis B than in hypothesis A. This demonstrates *that, when the employers' social contributions are considered not as a charge on employees but as a tax on consumption, this has the effect of increasing disparities in income. In this case in fact, in terms of primary income, this means switching from hypothesis A to hypothesis B with a resultant widening of the disparities between households' average income.*

(c) Between 1965 and 1970, the span of average primary income increased not only between the two extreme social categories i.e. non-active and

[5]Self-consumption and imputed rents for owner-occupiers.

TABLE 2

THE SPAN BETWEEN GROSS PRIMARY INCOMES IN 1965 AND 1970

| | | Total Gross Primary Money Income | | Total Gross Primary Income in Money and Kind | |
|---|---|---|---|---|---|
| | | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| Span: all categories[a] | 1965 | 1 to 13.7 | 1 to 15.3 | 1 to 12.7 | 1 to 14.0 |
| | 1970 | 1 to 17.2 | 1 to 19.1 | 1 to 15.1 | 1 to 16.6 |
| Span between categories of the working population[b] | 1965 | 1 to 7.3 | 1 to 9.5 | 1 to 6.9 | 1 to 8.7 |
| | 1970 | 1 to 7.5 | 1 to 9.8 | 1 to 7.1 | 1 to 9.3 |
| Span between salaried and wage-earning categories[c] | 1965 | 1 to 4.6 | 1 to 5.5 | 1 to 4.3 | 1 to 5.0 |
| | 1970 | 1 to 3.9 | 1 to 4.5 | 1 to 3.8 | 1 to 4.3 |

[a] In 1965 and 1970 the two extreme categories were the non-active (minimum) and the liberal professions (maximum).

[b] In 1965 and 1970 the two extreme categories were farmworkers and unskilled and domestic workers (minimum) and the liberal professions (maximum).

[c] In 1965 and 1970 the two extreme categories were farmworkers and unskilled and domestic workers (minimum) and senior executives (maximum).

liberal professions, but also between categories in the working population, i.e. farmworkers-unskilled workers and the liberal professions. By contrast, the span between salaried and wage-earning categories diminished.

These changes in the pattern are a reflection of the different trends affecting the incomes of the various social categories, e.g. the primary income of all households increased at an average annual rate of about 9 percent over the period, that of the liberal professions at an annual rate of 11.5 percent, that of farmers by 13.0 percent, that of farmworkers by 11.0 percent, that of unskilled and domestic workers by 8.2 percent whereas that of senior executive grades and the non-active increased only by about 6.5 percent to 7.0 percent per year depending on whether one takes hypothesis A or B.

As a general rule, incomes from a business undertaking allocated to households, i.e. mainly to the self-employed categories, increased between 1965 and 1970 at a substantially faster rate than salaries and wages, which constitute the major source of income for the salaried and wage-earning categories. However, in the case of these latter categories, which represented 54 percent of households in 1970, wage rates at the lower end of the scale increased at a more rapid rate than the salaries of senior executive grades[6] which reduced the gap between the two extremes in the salary and wage-earning categories.

## 3. PUBLIC LEVIES

It was not possible to take every type of tax into account and allocate this to the various categories of household, either because there was no statistical basis

[6] Average increase in earnings in the private sector over the period 1965–1970: executives 8.09 percent per year, employees 8.6 percent per year, workers 9.54 percent per year. Average annual rate of increase in the minimum wage 1965–1970: 11.6 percent. (*Source*: Ministry of Labour).

for making this allocation or because not all taxes are paid by resident households.

Thus the study covers all the direct taxes on personal income and all the social contributions, but only 80 percent of indirect taxation. On the other hand, some taxes are under-represented and even excluded, in particular local authority taxes and those levied on a personal estate or the income it provides (inheritance tax, land tax, etc.). In the end, it proved impossible to include *more than three-quarters of the aggregate public levies* and, of these, it will be noted that taxes and contributions concerning salaries and wages are over-represented. Since salaries and wages accounted for a preponderant and increasing share of money income between 1965 and 1970, the fact that levies on salaries and wages are over-represented means that their share in the overall redistributive effect of taxes and social contributions is overstated.

What is more, it will be noted that in hypothesis A, where all the contributions geared to salaries and wages are borne by the employees, 44 percent of levies in 1965 and 47 percent in 1970 were deducted at source.

And lastly, what is an important feature of the French fiscal system: in 1965 and 1970 *practically* 83 *percent of the public levies were made in an "invisible" way* for the taxpayer since they are either deducted at source (e.g. social contributions geared to salaries and wages, corporation tax) or included in the consumer price (e.g. VAT, specific taxes on consumption, payroll taxes).

The average levy per household for hypothesis A was F8,060 in 1965 and F13,100 in 1970. For hypothesis B the figures were respectively F7,900 and F12,800, i.e. in both cases an average annual increase of 10 percent (Cf. Appendix 2).

Fig. 2 shows the breakdown of levies by occupational category. Three distinct patterns emerge:

In the case of salary and wage-earners, with the exception of senior executives, direct taxation only accounts for one-tenth of their total contribution and, in

TABLE 3

AVERAGE LEVY PER HOUSEHOLD IN 1965 AND 1970

| | Hypothesis A | Hypothesis B |
|---|---|---|
| 1965 | F 8,065 | F 7,928 |
| 1970 | F13,099 | F12,760 |
| Average annual rate of increase | +10.2% | +10.0% |

the case of the manual worker categories, only 3–5 percent. This proportion is lower than the social contributions geared to salaries and wages (10–20 percent). Consequently, over 90 percent of their total contribution in 1965 and 1970 (hypothesis A and B) is made up of indirect taxation and social contributions. In other words, for these categories and households, levies are made almost entirely in an invisible form. Senior executives, who contribute heavily in terms of income tax, are an exception to this rule.

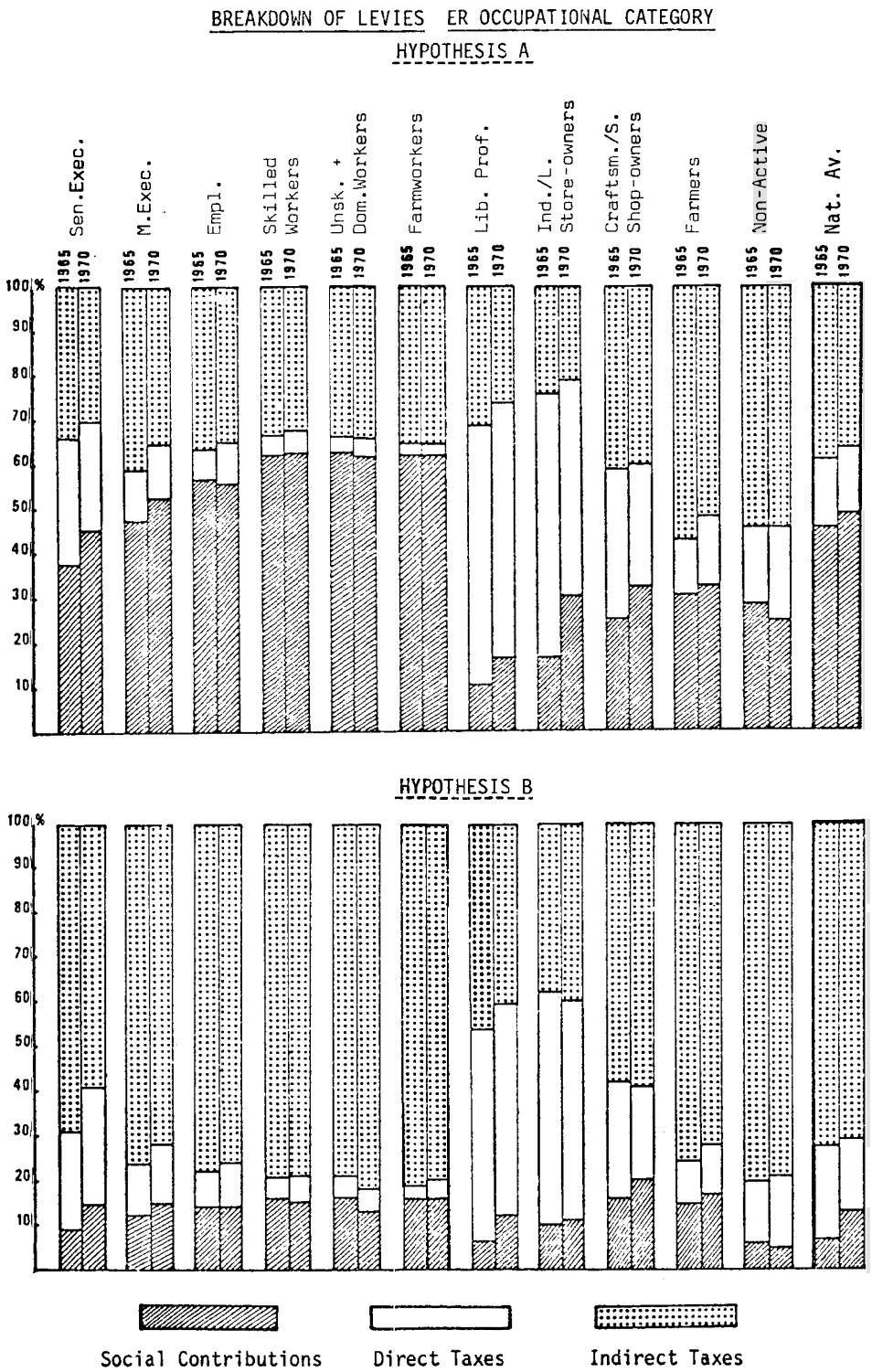


Figure 2. Breakdown of Levies per Occupational Category
Hypothesis A and Hypothesis B

If one considers the self-employed categories as a whole, their contributions in hypothesis A divide into three roughly equal parts, i.e. social contributions, direct taxation and taxes on consumption. But there are wide differences between individual categories, e.g. farmers in 1970 only paid 15 percent of their contribution (in 1965: 12 percent) in the form of direct taxation, whereas in the case of the liberal professions and industrialists/owners of large stores, direct taxation accounts for close on or more than half their total contribution. On the other hand, taxes on consumption account for the lion's share in the case of farmers (52 percent in 1970 in hypothesis A and 72 percent in hypothesis B) and craftsmen/small shop-owners (39 and 58 percent respectively) whereas, in the case of the liberal professions and industrialists/owners of large stores, this form of taxation accounts for about 25 percent in hypothesis A and 40 percent in hypothesis B. What is more, in contrast to salary and wage-earners, the self-employed categories pay close on 50 percent of their levies in a visible form, i.e. direct taxation and social contributions on income other than salary or wages; in the case of the liberal professions this proportion exceeds 60 percent.

Once again, the non-active category occupies a position mid-way between the two other sections of the population. Their levy pattern is characterized by a preponderance of indirect taxes (53 percent in 1965 and 1970) with however direct taxation accounting for a share (ca. 20 percent) which is not as small as in the case of the salaried and wage-earning categories; in hypothesis B, the pattern is closer to that of the salaried and wage-earning categories in that 80 percent of the total contribution is made up of indirect taxes. Like the salaried and wage-earning categories, the non-active pay between 80–86 percent of their levies in an invisible form.

The spans between the average levies paid by the different social categories are summarized in Table 4 below.

These figures call for the following comments:

(a) The liberal professions in every instance bear the heaviest burden of levies in absolute terms, due primarily to the importance of direct taxes in

TABLE 4

THE SPAN OF PUBLIC LEVIES IN 1965 AND 1970

| | | Hypothesis A | Hypothesis B |
|---|---|---|---|
| Span: all categories[a] | 1965 | 1 to 8.0 | 1 to 7.7 |
| | 1970 | 1 to 7.8 | 1 to 6.9 |
| Span between categories of the working population[b] | 1965 | 1 to 6.2 | 1 to 7.1 |
| | 1970 | 1 to 5.2 | 1 to 5.7 |
| Span between salaried and wage-earning categories[c] | 1965 | 1 to 3.2 | 1 to 4.0 |
| | 1970 | 1 to 3.1 | 1 to 3.5 |

[a] 1965 and 1970, hypotheses A and B: minimum: Non-active; maximum: Liberal professions.

[b] 1965 and 1970, hypothesis A: minimum: Farmers; maximum: Liberal professions. 1965 and 1970, hypothesis B: minimum: Farmworkers or unskilled and domestic workers; maximum: Liberal professions.

[c] 1965 and 1970, hypotheses A and B: minimum: Farmworkers or unskilled and domestic workers; maximum: Senior executives.

their case. Industrialists and owners of large stores as well as senior executives run them a fairly close second, the first on account of their fairly high level of direct taxes,[7] and the second mainly as a result of their social contributions[8] and, to a lesser extent, their direct taxes.

The non-active are systematically the less heavily taxed category since their social contributions are relatively small.[9] The salary and wage-earning categories paying the least amount of levies, in absolute terms, are those at the lower end of the income scale: unskilled and domestic workers and farmworkers are in fact little affected by direct taxation.

(b) Going from hypothesis A to hypothesis B reduces the gaps between all of the social categories since treating the employers' social contributions as a form of indirect tax increases the non-active categories' burden to a proportionately the greater extent than that of the liberal professions or the industrialists/owners of large stores and senior executives.

On the other hand, the gaps become wider between categories of the working population and between salaried and wage-earning categories. The reason for this is that the employers' social contributions, in hypothesus A, represent a heavy burden on low incomes, whilst, in hypothesis B, they are spread over all the categories in relation to their consumption, thereby lessening the relative burden on lower incomes and increasing the burden on the self-employed.

(c) Between 1965 and 1970 all the gaps narrowed, particularly between categories of the active population. This is the result of two trends working in opposite directions:

—On the one hand, the partial removal of the ceiling on health insurance contributions, introduced in 1967 and affecting higher incomes, together with the introduction in 1970 of compulsory health insurance for the self-employed categories, have helped to widen the span of social contributions between the various categories of the population.

—On the other hand, changes in the incidence of income tax (in particular, the raising of the lower tax limit at a slower rate than the rise in incomes) have progressively brought a larger number of those with low incomes into the tax-paying category.[10] In addition, during this period, the average level of consumption of the liberal professions and senior executives increased at a slower rate than that of the non-active

[7]The sharply progressive character of the tax on personal income (63 percent for the highest band) naturally imposes a heavier burden on those categories in our study which have the highest average income, e.g. the liberal professions, industrialists/owners of large stores and senior executives.

[8]This is due both to the substantial contributions made to supplementary pension schemes and, in 1970, to the partial removal of the ceiling on compulsory health insurance contributions.

[9]In fact, part of their resources are not subject to tax. In addition, retired persons, who comprise most of the non-active population, are not required to pay retirement insurance contributions and pay health insurance contributions at a reduced rate.

[10]Percentage of households subject to personal income tax: all households: 1965: 52.1 percent, 1970: 57.3 percent. Farmworkers: 1965: 14.6 percent, 1970: 24.7 percent. Workers: 1965: 42.6 percent, 1970: 53.4 percent.

population, workers and farmworkers; the average amount of indirect taxation per household therefore increased at a less rapid rate for these first categories than for the second. These two trends affecting the system of direct taxation as such have resulted in a narrowing of the gaps.

In fact, the tendency of direct and indirect taxation to shrink these gaps more than offset the tendency of social contributions to widen them.

TABLE 5

THE TOTAL BURDEN OF TAXES AND LEVIES ON PRIMARY INCOME

| Occupation of Head of Household | 1965 | | 1970 | |
|---|---|---|---|---|
| | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| *Salary and Wage-earners* | % | % | % | % |
| Senior-executive grades | 32.9 | 36.0 | 37.8 | 40.2 |
| Middle-executive grades | 38.1 | 42.5 | 41.2 | 44.7 |
| Employees | 44.4 | 47.3 | 43.3 | 47.2 |
| Skilled and semi-skilled workers | 46.7 | 47.2 | 47.8 | 48.9 |
| Unskilled and domestic workers | 48.7 | 51.5 | 46.2 | 49.7 |
| Farmworkers | 45.0 | 45.5 | 44.7 | 47.8 |
| Total Salary and Wage-earners | 41.9 | 44.0 | 43.5 | 45.9 |
| *Self-employed* | | | | |
| Liberal professions | 30.1 | 36.7 | 25.4 | 30.6 |
| Industrialists, owners of large stores | 22.0 | 25.4 | 24.8 | 25.8 |
| Craftsmen, small shop-owners | 22.2 | 28.9 | 21.1 | 27.3 |
| Farmers | 18.5 | 25.3 | 18.4 | 25.8 |
| Total Self-employed | 22.2 | 28.4 | 21.8 | 27.2 |
| *Non-active* | 47.6 | 67.0 | 49.2 | 72.9 |
| Total all categories | 36.1 | 40.5 | 37.4 | 42.2 |

As will be seen from Table 5, an analysis of the tax burden[11] for each social category reveals three distinct main groups:

—*The non-active category*: they bear—apparently—the heaviest tax burden. In fact, their gross primary income does not include transfers, e.g. retirement and other forms of pension, which make up more than half of their total resources. Some of these pensions are subject to income tax and indirect taxes are levied on their consumption which is partially financed by these same transfers.

—*Salary and wage-earners* are subject to a heavy tax burden (30–45 percent) but this burden is *regressive* in relation to average income, except in the case of farmworkers who pay very few direct taxes. Between 1965 and

[11]The ratio between total levies and gross primary income expresses only the level of tax burden and it cannot be considered as an indicator of redistribution between population categories since it does not take into account all of the transfers which add to a household's resources but which are also subject to all or part of taxation (direct or indirect).

1970 this tax burden became less regressive as a result of the partial removal of the ceiling on social contributions and the relatively less rapid rise in the average income of the more wealthy categories (senior executives) compared with other social groups.

—In the case of the *self-employed categories* the tax burden would appear to be slightly *progressive*, in particular in hypothesis A; this is mainly the result of the graduated scale of income tax. Between 1965 and 1970 the growth rates for gross primary incomes were very close to those for average levies, with the result that levels of tax burden for the two years have remained relatively unchanged. The liberal professions are however an exception to this, i.e. an increase in the scale of levies in the form of social contributions has been more than offset by a drop in the level of direct and indirect taxation, thus causing a drop in their average total rate of levy between 1965 and 1970.

It will be noted that, for both hypotheses and in both years, all the salaried and wage-earning categories were subject to a substantially higher tax burden than the self-employed categories: the gap is wider in hypothesis A than in hypothesis B due to the transfer of the employers' social contributions to the entire household population.

Lastly, the average gap between these two sub-groups of categories tended to widen between the two years and for both hypotheses. In fact, whereas for a large number of salary and wage-earners the tax burden increased over the period, for most of the self-employed categories, which in any case have a relatively privileged position in terms of tax burden, the average amount of levy increased at a slower rate than average primary income.

## 4. Public Transfers

Table A2 in Appendix 1 shows the aggregate transfer amounts taken into account in this study. Based on the estimates contained in the national accounts for 1965 and 1970, roughly 94 percent of total cash transfers have been identified and allocated between the social categories. In the case of pensions, family allowances, sickness-maternity-industrial accident benefits and unemployment benefit, 100 percent of the amounts estimated by the national accounts have been allocated to households. On the other hand, only 67 percent of public assistance transfers (excluding scholarships) have been incorporated, the remainder being paid to the inmates of hospitals and other institutions. In the case of education, cash transfers (scholarships and the like) as well as services in kind (social aid and free education) were taken from the Ministry of Education's budgets which cover about 87 percent of the total current expenditure on public and private education, i.e. roughly 13 percent of the expenditure in this area was not allocated between social categories—of this, close on 9 percent represents expenditure by local authorities and 4 percent expenditure by other Ministries, e.g. Agriculture, Youth and Sports, Armed Forces etc.

The average transfer for all households combined was F5,666 in 1965 and F9,190 in 1970, i.e. an average growth rate of 10.2 percent per year over these 5 years (Cf. Appendix 2).

TABLE 6

AVERAGE TRANSFER PER HOUSEHOLD IN 1965 AND 1970

| | Cash transfers (Excl. Scholarships) | Education (Incl. Scholarships) | Total |
|---|---|---|---|
| 1965 | F4,954 | F 712 | F5,666 |
| 1970 | F7,983 | F1,207 | F9,190 |
| Average annual growth rate | +10.0% | +11.1% | +10.2% |

As Fig. 3 shows, the pattern of public transfers has changed somewhat between 1965 and 1970, both in terms of the aggregate total as well as per category of household.

(a) With regard to the aggregate total, several types of transfer have gained ground:

—Retirement and other forms of pension have increased from 33 to 35 percent of total transfers as a result both of an aging of the population and the progressive increase in pension levels.[12]

—The most rapid increase has been for health insurance benefits whose share increased from 26 percent in 1965 to 29 percent in 1970. Amongst the factors responsible for this was the introduction in 1970 of a scheme for the self-employed non-agricultural categories and, to a lesser extent, the aging of the population. The rapid increase in health care consumption also played a part in this,[13] despite the reduction in 1967 of the level of reimbursement for certain types of health care.

—The increase in the share for unemployment benefits between 1965 and 1970 is partly due to the gradual rise in unemployment as well as to various government measures, i.e. the introduction in 1969 of special allocations from the National Employment Fund for workers aged 60–65 and the extension in 1968 of the ASSEDIC scheme (Social Security system for unemployment) to all industrial and commercial enterprises in the private sector.[14]

—Expenditures connected with education increased from 12.6 percent to 13.1 percent of total transfers as the result of the development, on the one hand, of secondary education (the raising of the school-leaving age to 16, the extension of secondary modern and technical schools, etc.) and, on the other hand, of higher education (the creation of Instituts

[12]Non-active households as a percentage of total households: 1965: 26.7 percent, 1970: 30.3 percent; persons drawing a retirement pension: 1/7/63: 5,626,279; 1/7/71: 7,768,807, i.e. +4.1 percent per year; Average pension amount: 31/12/64: F2,157; 31/12/69: F3,738, i.e. +11.6 percent per year. By way of comparison, national income *per capita* rose over the same period from F7,092 to F11,133, i.e. +9.4 percent per year.

[13]Personal health care consumption: 1965: $F24,169 \times 10^6$, 1970: $F44,462 \times 10^6$, i.e. +13 percent per year. Increase in total household consumption 1965–1970: +10 percent per year.

[14]Number of unemployed: 1965: 142,100, 1970: 262,100, i.e. +13 percent per year. ASSEDIC beneficiaries: 1965: 44,700, 1970: 111,900.

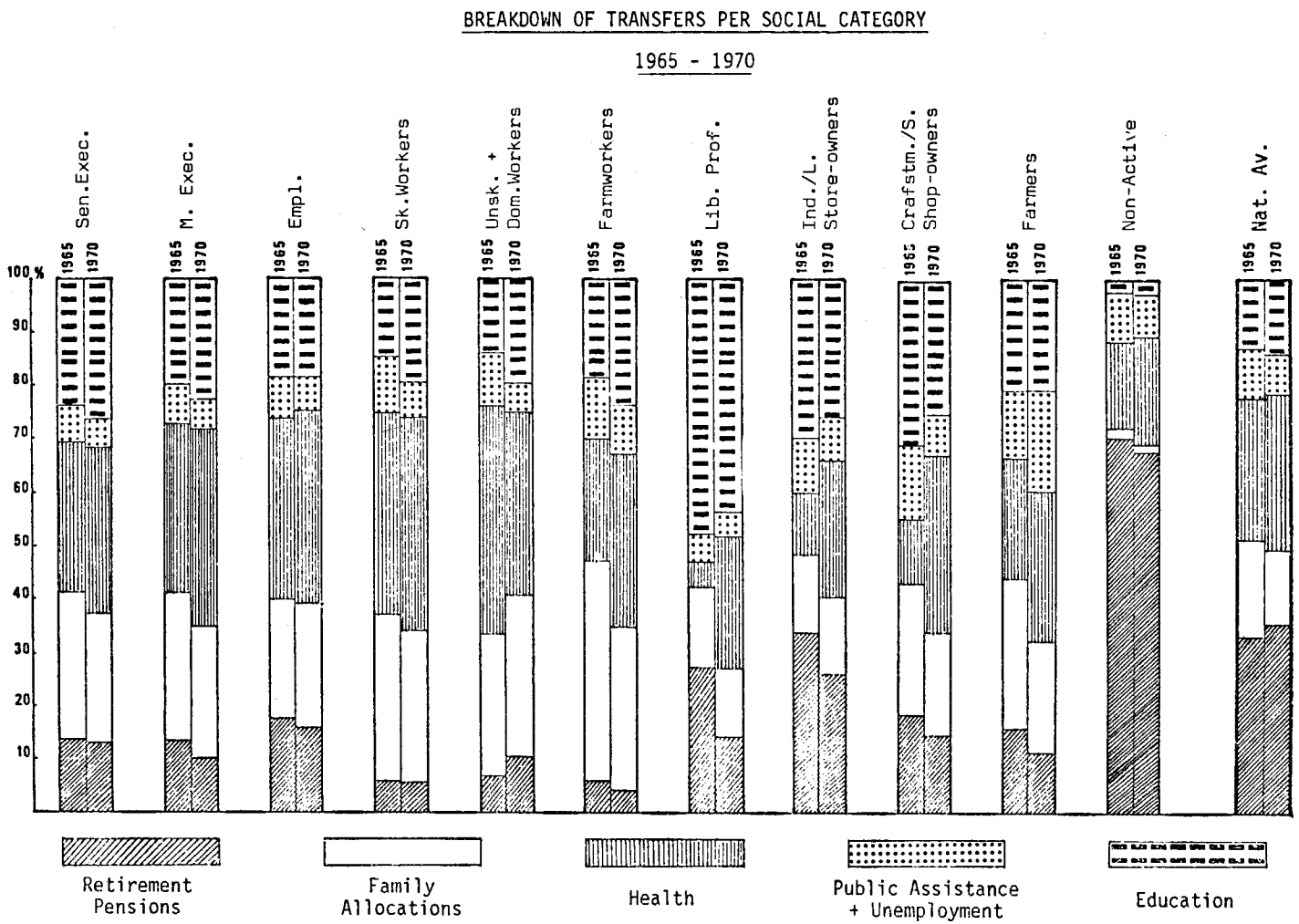
BREAKDOWN OF TRANSFERS PER SOCIAL CATEGORY
1965 - 1970
100 %
90
80
70
60
50
40
30
20
10
1965
1970
Sen.Exec.
M. Exec.
Empl.
Sk.Workers
Unsk. + Dom.Workers
Farmworkers
Lib. Prof.
Ind./L. Store-owners
Craftsm./S. Shop-owners
Farmers
Non-Active
Nat. Av.
Retirement Pensions
Family Allocations
Health
Public Assistance + Unemployment
Education

Figure 3.

Universitaires de Technologie (Colleges of Technology), higher enrolment levels[15] etc.).

In contrast to this, two categories of allocations have seen a drop in their share of total transfers:

—Family allowances (19 percent in 1965, 15 percent in 1970) have felt the effect of population trends, i.e. a declining birthrate, the drop in the number of large families[16] etc. Moreover, despite the fact that the scope of certain benefits was extended (e.g. the continuance of family allowances beyond the age limit in the case of students over 20 and children handicapped or chronically ill, etc.), the relatively modest increase in benefit rates, sometimes less than the increase in salary and wage rates, was a further factor in reducing the share of family allocations in aggregate social transfers.

—Lastly, public assistance payments dropped from 9 percent to 7 percent of the total, mainly as the result of the extension of Social Security Health Insurance which is gradually replacing medical aid.[17]

The breakdown by social category (Cf. Fig. 3) again reveals three kinds of pattern which were affected differently by the changes which occurred between 1965 and 1970.

In the case of the salaried and wage-earning categories, the shares for the different types of transfer vary little from one category to the next, except in two instances. Firstly, in the case of farmworkers, the shares for pensions, health insurance and unemployment benefits are lower than those for other salary and wage-earning categories, whereas family allowances and education account for larger shares: this is partly due to the comparatively large number of children per farmworker household. Secondly, the high proportion of senior executives' children enrolled in universities and colleges—more than in the case of any other salaried or wage-earning category—tends to bolster education's share of the transfers received by this category.

The drop in the share for family allocations and public assistance benefits between 1965 and 1970 caused the proportion for cash transfers to drop from about 83 percent to 80 percent.

By contrast, except in the case of employees, education's share of total transfers rose considerably for all categories and in particular for salary and wage-earners at the lower end of the scale, i.e. farmworkers, unskilled and domestic workers and skilled workers.

In the case of the self-employed categories, the patterns are more contrasting. On the whole, the share for cash transfers is lower than that for salaried and wage-earning categories, except in the case of farmers where family allowances and public assistance represent a large proportion of their transfers. The liberal professions derive a considerable advantage in terms of non-cash transfers from

[15]Enrolment in higher education: Percent of the population aged 15–24 in universities and colleges: 1/1/65: 6.7 percent, 1/1/70: 9.2 percent.

[16]Number of families receiving family allocations from the general regime and the regimes covering Agriculture, Mining, SNCF (railroads), EDF (electricity): 1965: 4,615,300, 1970: 4,717,900, i.e. +0.4 percent per year.

[17]Number of social aid beneficiaries: 1965: 2,202,435 of which medical aid: 1,154,361; 1970: 2,323,726, of which medical aid: 1,114,255.

the fact that not only do their households comprise a comparatively large number of children but that a high proportion of these enrol in higher education.

Between 1965 and 1970, the differences in the patterns for the self-employed categories diminished, bringing them slightly closer to those for the salaried and wage-earning categories. This is mainly the result of the introduction of the health insurance scheme for self-employed non-agricultural workers and the narrowing of the comparative advantage which these categories (other than farmers) had in terms of education.

Lastly, the non-active category, which is a very mixed one, receives most of its transfers in the form of pensions. However, health insurance accounts for an increasing proportion of their public transfers, e.g. 16 percent in 1965, 20 percent in 1970. Other types of transfer are not of any great significance in their case.

The ranges between average transfer amounts per social category are shown in Table 7. Globally these contracted over the five-year period from a ratio of 1:2.8 in 1965 to 1:2.4 in 1970.

Table 7 calls for the following comments:

(a) the ranges are always greater for education than for cash transfers—this is the result of the very substantial allocations received by the liberal professions and senior executives under the heading of higher education.

(b) the range narrows in 1965 and in 1970 when one goes from all social categories to categories of the working population and then to the salaried and wage-earning categories.

(c) between 1965 and 1970, the range of cash transfers diminished in every case, primarily as the result of health insurance benefits which increased 5.4 times in the case of craftsmen and small shop-owners.

(d) in the area of education, the range narrowed only for the non-active category and the liberal professions, and it widened between categories of the working population and between salaried and wage-earning categories because, despite an increase in this allocation between 1965 and 1970 which was close to the average of ca. 11 percent per year in the case of the more privileged categories, i.e. the liberal professions and senior executives, it was only 6.1 percent per year in the case of employees.

In fact, taking into account the different trends for each type of mechanism, the non-active category is the one which receives the largest amount of transfers, followed by senior executives and the liberal professions when education is included and, but in this case fairly far behind, by workers and senior executives when only cash transfers are considered.

Public transfers constitute resources which supplement primary income. The ratio of transfers to primary income represents a gross allocation coefficient.[18] This is shown in Table 8 for each social category.

It will be noted that:

(a) Since gross primary income in hypothesis A includes employers' social

[18] As in the case of the tax burden coefficient, this gross allocation coefficient cannot be regarded as an indicator of redistribution since transfers and primary incomes have been assessed prior to any public levy.

TABLE 7

RANGE BETWEEN PUBLIC TRANSFER AMOUNTS

| | | Cash Transfers (Excl. Scholarships) | Education (Incl. Scholarships) | Total Transfers |
|---|---|---|---|---|
| Range between all social categories | 1965 | 1 (crafts./s. shop-owner) to 4.1 (non-active) | 1 (non-active) to 14.5 (lib. prof.) | 1 (crafts./s. shop-owner) to 2.8 (non-active) |
| | 1970 | 1 (crafts./s. shop-owner) to 3.2 (non-active) | 1 (non-active) to 13.8 (lib. prof.) | 1 (crafts./s. shop-owner) to 2.4 (non-active) |
| Range between categories of the working population | 1965 | 1 (crafts./s. shop-owner) to 2.6 (sk. workers) | 1 (unsk. + dom. workers) to 3.7 (lib. prof.) | 1 (crafts./s. shop-owner) to 2.2 (sen. exec.) |
| | 1970 | 1 (crafts./s. shop-owner) to 1.6 (sk. workers) | 1 (employees) to 4.0 (lib. prof.) | 1 (crafts./s. shop-owner) to 2.0 (lib. prof.) |
| Range between salaried and wage-earning categories | 1965 | 1 (farmworkers) to 1.3 (sk. workers) | 1 (unsk. + dom. workers) to 1.8 (sen. exec.) | 1 (farmworkers) to 1.3 (sen. exec.) |
| | 1970 | 1 (farmworkers) to 1.1 (sk. workers) | 1 (employees) to 1.9 (sen. exec.) | 1 (employees) to 1.3 (sen. exec.) |

TABLE 8

TOTAL TRANSFERS AS A PERCENTAGE OF GROSS PRIMARY INCOME, 1965–1970

| Occupation of Head of Household | 1965 | | 1970 | |
|---|---|---|---|---|
| | Hypothesis A | Hypothesis B | HypothesisHypothesisS; A | B |
| *Salary and Wage-earners* | % | % | % | % |
| Senior-executive grades | 10.4 | 11.5 | 10.3 | 11.7 |
| Middle-executive grades | 16.6 | 19.3 | 16.0 | 19.1 |
| Employees | 23.7 | 29.7 | 19.7 | 24.2 |
| Skilled workers | 27.2 | 35.5 | 24.6 | 32.8 |
| Unskilled and domestic workers | 37.7 | 49.9 | 33.7 | 44.2 |
| Farmers | 36.0 | 46.3 | 34.2 | 43.6 |
| Total Salary and Wage-earners | 21.8 | 26.7 | 19.6 | 24.4 |
| *Self-employed* | | | | |
| Liberal professions | 6.5 | 6.6 | 6.9 | 7.0 |
| Industrialists, owners of large stores | 5.1 | 5.2 | 4.4 | 4.7 |
| Craftsmen, small shop-owners | 7.3 | 7.4 | 8.3 | 8.4 |
| Farmers | 16.2 | 16.6 | 16.3 | 16.6 |
| Total Self-employed | 9.6 | 9.8 | 9.6 | 9.8 |
| *Non-active* | 108.6 | 121.2 | 126.8 | 139.9 |
| Total all Categories | 25.4 | 28.9 | 26.3 | 30.3 |

contributions, the gross allocation coefficient is consistently lower in hypothesis A than in hypothesis B.

(b) The coefficient for all households combined increased slightly between 1965 and 1970 and for both hypotheses: in hypothesis A it rose from 25 percent in 1965 to 26 percent in 1970 and in hypothesis B from 29 percent to 30 percent.

(c) The coefficient is obviously very high in the case of the non-active category; their aggregate public transfers amount to slightly more than half of their total gross resources (i.e. primary income + transfers in cash and kind).

(d) By contrast, for the self-employed categories the gross allocation coefficient is marginal: transfers represent less than 10 percent of gross primary income except in the case of farmers where the figure is about 16 percent. Between 1965 and 1970 the coefficient did not change much for any of these categories, with the exception of craftsmen and small shop-owners in whose case health insurance, from 1970 onwards, contributed additional resources amounting to about 3 percent of their primary income.

(e) For the salaried and wage-earning categories as a whole, the gross allocation coefficient ranges between 20 and 25 percent on average depending on the hypothesis. It varies from one category to another and follows a distinctly progressive pattern from the senior executive category to the wage-earning categories at the lower end of the income scale, rising from 10–11 percent in the case of senior executives to 45–50

percent for unskilled and domestic workers and farmworkers. If total cash transfers and expenditures in connection with education are considered separately, each of the two subsets is progressive in relation to gross primary income.[19] However, between 1965 and 1970 this progressive pattern contracted somewhat. The gross allocation coefficient for senior and middle executive grades remained constant, since the relatively slow growth rate for their average household income was very close to the growth rate for the total average transfers they received. On the other hand, in the case of the remaining salaried and wage-earning categories, the gross allocation coefficient dropped due to the fact that primary incomes increased at a substantially faster rate than transfers; in particular, average health care and family benefits per household for these categories increased only at rates of between 1 and 8 percent per year; only in the case of education was the growth rate for average transfers more rapid than that for incomes.

## 5. The Results of the Redistribution

An overall assessment of the results of this redistribution cannot avoid being schematic and partial:

—schematic because it lumps together the complex effects of a multiplicity of interlocking mechanisms,

—partial because certain redistributive processes are not included in the evaluations and because a classification based on the head of household's occupation is probably not the most meaningful for an analysis of redistribution.

However, the results can be evaluated in a synthetic manner, firstly by means of the "redistribution coefficient" and, secondly, in terms of the "differential effect of redistribution" (Cf. above para. 1.5.).

### *The Redistribution Coefficient*

(a) As Table 9 shows, the redistribution coefficient ($\beta$) for the total population is negative for the simple reason that, whereas 75 percent of public levies are taken into account, transfers do not include "indivisible public services" (e.g. parliament, justice, foreign affairs, the armed forces, etc.) or investments.

*The non-active category* is the only one to show in 1965 and 1970 an outright gain from redistribution: their net gain is +61 and +78 percent in hypothesis A and +54 and +67 percent in hypothesis B. This is not surprising since this category has a relatively low level of primary income from participation in production and, conversely, benefits from pensions and public assistance payments which make up about 80 percent of their

[19]Respective gross allocation coefficients for cash transfers (excluding scholarships) and education: 1970 (Hyp. A)—senior executives: 7.5–2.8 percent; middle executives: 12.3–3.7 percent; employees: 16.1–3.6 percent; skilled workers: 19.9–4.7 percent; unskilled and domestic workers: 27.1–6.6 percent; farmworkers: 26.0–8.2 percent.

TABLE 9

TRANSFERS NET OF TAXES AND CONTRIBUTIONS AS A PERCENTAGE OF GROSS PRIMARY INCOME

| Occupation of Head of Household | 1965 | | 1970 | |
|---|---|---|---|---|
| | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| *Salary and Wage-earners* | % | % | % | % |
| Senior-executive grades | −22.5 | −24.5 | −27.5 | −28.5 |
| Middle-executive grades | −21.5 | −23.2 | −25.2 | −25.6 |
| Employees | −20.7 | −17.6 | −23.6 | −23.0 |
| Skilled workers | −19.5 | −11.7 | −23.2 | −16.1 |
| Unskilled and domestic workers | −11.0 | −1.6 | −12.5 | −5.5 |
| Farmworkers | −9.0 | +0.8 | −10.5 | −4.2 |
| Total Salary and Wage-earners | −20.1 | −17.3 | −23.9 | −21.5 |
| *Self-employed* | | | | |
| Liberal professions | −23.6 | −30.1 | −18.5 | −23.6 |
| Industrialists, owners of large stores | −16.9 | −20.2 | −20.4 | −21.1 |
| Craftsmen, small shop-owners | −14.9 | −21.5 | −12.8 | −18.9 |
| Farmers | −2.3 | −8.7 | −2.1 | −9.2 |
| Total Self-employed | −12.6 | −18.6 | −12.2 | −17.4 |
| Non-active | +61.0 | +54.2 | +77.6 | +67.0 |
| Total all categories (Average) | −10.7 | −11.6 | −11.1 | −11.9 |

transfers; by virtue of the system, they are almost inevitably the ones who stand to gain most from redistribution if pensions are considered as redistribution. Furthermore, in their case health insurance benefits are of particular importance since the non-active population includes a large proportion of old people whose average consumption of health care is high and this is reflected in the reimbursements by the health care system.

*All the salaried and wage-earning categories* show a net loss ($\beta < 0$) in 1965 and 1970. However, the net fiscal burden is progressive in relation to average gross primary income—in other words, redistributive from senior and middle-executive grades to the salaried and wage-earning categories at the lower end of the scale. This redistribution is more apparent in hypothesis B than in hypothesis A because, in hypothesis B the employers' social contributions are not included in the primary income of the salaried and wage-earning categories but allocated to all social categories more or less in proportion to their market consumption; the employers' social contributions represent a larger proportion of gross primary income in the case of the lower salary and wage-earning categories than they do for the higher.

On the other hand, between 1965 and 1970 the gaps between the extremes have widened, especially in hypothesis A. In other words, the relative distribution has improved, i.e. the lower salary and wage-earning groups lose less than the higher.

In the case of the *self-employed categories* the average net fiscal burden is also progressive in relation to gross primary income, but it was generally lower than the salaried and wage-earning categories in 1965 and 1970. In the case of farmers it has remained both very low and stable, i.e. 2 percent in hypothesis A and 9 percent in hypothesis B; in the case of the liberal professions and craftsmen/small shop-owners it has decreased between the two years but, in the case of industrialists/owners of large stores, it has increased.

(b) If one considers the trend between 1965 and 1970 for the active population as a whole (i.e. salary and wage-earners plus self-employed), the conclusions would appear to differ for hypothesis A and hypothesis B:

*In hypothesis A* it would appear that in 1965 redistribution occurred from groups with the highest average income (the liberal professions, senior executives etc.) towards the lower income groups (skilled and unskilled workers, farmworkers, craftsmen etc.), with the exception of industrialists and large store-owners whose fiscal burden was less than employees and workers. However, the redistribution in 1965 was of a modest nature since the net fiscal burden varied from −11 percent to −24 percent, i.e. a ratio of 1:2.2. In 1970, the relative redistribution seems to have been from senior and middle-executives, employees, skilled workers and industrialists/large store-owners to unskilled and domestic workers, farmworkers and the other self-employed categories (including the liberal professions and farmers).

*In hypothesis B* the relative redistribution form categories with the highest average primary income to categories with the lowest average primary income is obvious in 1965 and 1970, although in 1970 the gap is narrower than in 1965.

(c) In conclusion it can be said that, with the exception of the non-active (who show an outright gain) and farmer and farmworker households (with only a slight loss), the relative redistribution from high income categories to low income categories is far more marked in 1965 when employers' social contributions are considered as being borne not just by the salaried and wage-earning categories alone but by the entire household population in the form of a tax on consumption. By 1970, however, the situation had somewhat changed; a degree of redistribution is only apparent either (in the case of hypothesis A) from salaried and wage-earning categories with the highest income to some of the self-employed categories and salaried and wage-earning categories with lower incomes or (in the case of hypothesis B) from high-income categories to low-income categories, although in this latter case the degree of redistribution revealed is far less pronounced than in 1965.

*The Differential Effect*

A comparison between the range of average gross primary incomes and the range of average net resources is given in Table 10 and from this it can be seen

TABLE 10

RANGES FOR GROSS PRIMARY INCOME AND NET RESOURCES

| | | Gross Primary Income | | Net Resources | |
|---|---|---|---|---|---|
| | | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| Range between all social categories[a] | 1965 | 1 to 12.7 | 1 to 14.0 | 1 to 6.0 | 1 to 6.4 |
| | 1970 | 1 to 15.1 | 1 to 16.6 | 1 to 6.9 | 1 to 7.6 |
| Range between categories of the working population[b] | 1965 | 1 to 6.9 | 1 to 8.7 | 1 to 5.8 | 1 to 6.0 |
| | 1970 | 1 to 7.1 | 1 to 9.3 | 1 to 6.6 | 1 to 7.5 |
| Range between salaried and wage-earning categories[c] | 1965 | 1 to 4.3 | 1 to 5.0 | 1 to 3.7 | 1 to 3.8 |
| | 1970 | 1 to 3.8 | 1 to 4.3 | 1 to 3.1 | 1 to 3.3 |

[a]1965 and 1970: minimum: non-active; maximum: liberal professions.

[b]1965 and 1970: minimum: farmworkers and unskilled and domestic workers; maximum: liberal professions.

[c]1965 and 1970: minimum: farmworkers and unskilled and domestic workers; maximum: senior executive grades.

that:

(a) The range (going from $Y1$ to $Y2$) is, in both years, reduced by about one-half in the case of the total population. This is mainly due to the non-active category's high percentage of transfers and the relatively high tax burden borne by the liberal professions and senior executives.

In the case of the categories comprising the working population, and even in the case of the salaried and wage-earning categories alone, the range is also narrowed going from $Y1$ to $Y2$ but to a lesser extent (about 20 percent). This is mainly the result of the lower net fiscal burden borne by skilled and unskilled workers, farmworkers and craftsmen/small shop-owners compared with the liberal professions and senior executives who pay the highest amounts of income tax and social contributions.

(b) Between 1965 and 1970, the net resources range ($Y2$) together with the primary income range ($Y1$) narrowed only in the case of the salary and wage-earning groups. For categories of the working population and for the population as a whole the gaps have widened mainly because, during the period:

The average gross primary income of the liberal professions increased faster (+11.5 percent per year) than other categories, with the result that the liberal professions' gross and net fiscal burdens have decreased.

On the other hand, in the case of unskilled and domestic workers and farmworkers, despite a lower fiscal burden in 1970 compared with 1965, the ratio of gross gain from public transfers also decreased so that the net fiscal burden on these categories has increased.

(c) For hypothesis A, when one goes from gross primary income ($Y1$) to net resources ($Y2$), the ranking of occupational categories does not change, either in 1965 or in 1970. The same is true for hypothesis B.

(d) In terms of these ranges therefore one can argue that the redistributive mechanisms are, to a certain extent, effective because the "post-redistribution" span is narrower than the "pre-redistribution" span. However, when one considers, on the other hand, that the results vary depending on the assumption adopted concerning the incidence of social contributions and, on the other hand, that between 1965 and 1970 the increase in the primary income of the social categories with the highest earnings (the liberal professions, etc.) was sufficiently rapid to hinder and even to prevent a narrowing of the span, the only possible conclusion is that this redistribution is very relative, at least within the limits adopted in this present study.

## 6. Conclusions

There are these fundamental considerations with regard to the concepts and methods used in an analysis of redistribution:

(a) *The definition of the scope of redistributive mechanisms.* Depending on whether one confines the analysis to taxes and transfers whose prime objective is specifically to reduce disparities in income, or whether one includes either transfers or public services whose redistributive effects are only of secondary importance compared with their primary objective, the analysis shifts imperceptibly from redistribution in the strict sense towards a global social redistribution which strives to assess the net allocation of all such resources between the different social categories compared with an initial distribution of income resulting simply from participation in the economy. This qualitative change is an important one because the analysis then becomes conerned with the whole range of economic mechanisms as distributors of the available resources.

(b) *The definition of primary income.* The concept adopted here, although it is the one most commonly used both in economic theory as well as in empirical studies, is nonetheless conventional in character because it is not possible to identify any precise stage in the economic cycle as the starting point of the process of income creation.

(c) *The determination of the true incidence of redistributive mechanisms.* Although, as a first approach, one can assume on the basis of general self-interest that social transfers do indeed reach the persons who qualify for them,[20] by the same token it is safe to assume that the person who actually pays the tax is not necessarily the one for whom it was primarily intended. But in this case, a close scrutiny of the true incidence of taxation compared with its intended incidence would necessarily lead to a thorough revision of economic analysis, even if this were only through an analysis of prices and incomes.

Within the context of the available information, three series of comments can be made on the results of redistribution in France in 1965 and 1970.

[20]To the exclusion of any "external economies" which these may procure for other indirect beneficiaries.

(a) By virtue of the method of analysis used, the only category to show an outright gain from redistribution were the non-active. On the other hand, in the case of the categories which comprise the working population, whatever hypothesis is adopted concerning the incidence of social contributions, the redistribution between those which on average have the higher income towards those which on average are less fortunate is nevertheless on a fairly limited scale. In 1970 it is even questionable (hypothesis A) in so far as it appears to occur from the salaried and wage-earning categories to the self-employed. What is more, the relative distribution observed in 1965 had lessened by 1970.

(b) In essence, the positive effects which certain mechanisms can be seen to have (e.g. income tax, family allocations, pensions, public assistance and education) are to a certain extent offset and sometimes neutralized by the anti-redistributive effects of indirect taxation on the one hand and social contributions based on wages and salaries on the other.

(c) Lastly, it would appear that three main factors have influenced the trend in redistribution and its results between 1965 and 1970:

—*The different rates of growth for the various types of income*, where the trend has favoured the self-employed category, and in particular those at the top of the scale, rather than salary and wage-earners, especially senior executives and workers, who constitute a very large category.

—*Changes in the system* such as the introduction of compulsory health insurance for the self-employed non-agricultural categories, the raising of the school-leaving age to 16 and the creation of technical education streams. The first of these changes has considerably altered the pattern and the amounts of cash transfers for the self-employed categories; the other two have benefited, in particular, categories at the lower end of the scale. However, as far as one can judge from the somewhat amorphous categories used here, the changes which occurred in other mechanisms (e.g. family allowances, public assistance, unemployment benefits, direct and indirect taxation) do not appear to have had any radical effect on the process and consequences of redistribution.

—Lastly, such changes as occurred were to a large extent due to changing *socio-demographic structures*; a declining birthrate will, unless there is a change in the legislation, reduce the share for family allocations whilst at the same time increasing the relative importance of higher education; the gradual aging of the population inflates the share for pensions and, to a lesser degree, that for transfers connected with health care; the decrease in the proportion of self-employed compared with salaried and wage-earning categories means that the redistributive mechanisms designed for these latter categories take on a preponderant role in the process of redistribution as a whole.

In the last analysis this leads one to query the objectives and operation of the redistributive mechanisms and the underlying social policy.

Firstly, one wonders whether, in a developed country where patterns and levels of consumption are not highly diversified, it is possible to achieve redistri-

bution when indirect taxation is relied upon to supply a major part of tax revenue? In fact, under such conditions, as demonstrated by Engle's Law, there is a good chance that this taxation on consumption will be anti-redistributive, even if it does not result in flagrant contradictions.[21]

One can deduce from the present system that the compulsory schemes' method of funding and risk cover are primarily based on the principle of minimum collective insurance, implying a very restricted vertical redistribution and leaving to the supplementary interprofessional schemes the task of providing a broader horizontal distribution, particularly where pensions are concerned. In other words, the solidarity of the population as a whole is, to a certain extent, limited by a system directly inspired by corporative principles.

Is there not a contradiction between the fact that the state levies close on 80 percent of taxes and social contributions in an invisible, i.e. "painless" manner and the growing awareness amongst the various social groups of their participation in the supply of public funds? The authorities derive several advantages from this, e.g. regular tax revenues, the restriction of social tensions to perceptible inequalities in personal income tax etc. but this tends to obscure the discussion and definition of social policy options.

How can the institutional structures (e.g. social security, education, the fiscal system, etc.) adjust sufficiently ahead of time to the profound, but often belatedly discerned changes in the population or the economic structures whilst at the same time preserving the objectives or improving the redistributive effects of social policy? A certain permanence of these institutions is essential to the operation of the social and economic process, whereas this process, which by its very nature is a changing one, removes, reduces or reinforces existing disparities and creates new ones.

Social unrest and conflicts of interest are not centred exclusively on the allocation of primary income but equally on the allocation of public resources; not every social category has the same leverage or the same ability to limit their "losses" or to increase their "gains" from the redistribution process. One should, for instance, question the ability of certain privileged social classes (with a high income, higher education, well informed etc.) to avoid the anticipated negative effects of redistribution or, failing that, subsequently to offset the consequences. The means are easy to identify, but difficult to measure, e.g. tax evasion, the transfer of the burden of a tax onto other social categories via an increase in price or an increase in wages and salaries etc. Conversely, one would need to examine to what extent the less privileged social classes are really getting all the benefits to which the redistributive mechanisms entitle them, i.e. their lack of education, an absence of information and social isolation in the face of a complex and fragmented set of official services will often prevent the less well-equipped members of society from obtaining access to certain public benefits or services.

[21]For example: reimbursement of pharmaceutical products include the VAT charged on medical supplies, so that, indirectly, social contributions become transformed into indirect taxation. By the same token, if one assumes that all the pension income received by the non-active population was spent on consumption, then in 1970 the state will have recouped in the form of indirect taxation (in hypothesis A) on average about 30 percent of the pensions paid out etc.

Lastly, even a brief analysis of redistribution in France provides sufficient evidence of the multiplicity of processes in this area. Although almost one-third of the national income is involved in this redistribution, it is not apparent that this brings about any substantial changes in the distribution of resources. There is no doubt that, individually, each one of these mechanisms may well be effective in terms of the objective it sets out to achieve, e.g. graduated taxation through personal income tax, assistance to large families, reduced indirect taxation on essential items etc. But, taken together, these constitute a motley collection of uncoordinated devices aimed at a wide variety of objectives, e.g. the reduction of disparities in income, an increase in the birthrate, the reduction in inequalities of access to medical care and education, the integration of marginal social groups etc. In the last analysis, the reason why redistribution does not appear to have more far-reaching consequences is that social policy amalgamates mechanisms often set up in isolation, whereas any reduction in inequalities must be based on a conscious awareness of the inter-dependence of the situations which create and foster these same inequalities.

## BIBLIOGRAPHY


[1] Cragg, J., Harberger, A. and Mieszkowski, P., "Empirical evidence on corporation income tax," *Journal of Political Economy*, December 1967.

[2] Foulon, A., Desce, J., Hatchuel, G. and Kende, P., "A preliminary assessment of the redistribution of public funds in France in 1965," in *Private and enlarged consumption*, ASEPELT, Volume V, North-Holland Publishing Co. 1976.

[3] Musgrave, R., *The theory of public finance*, McGraw-Hill, New York 1959, and *Essays in Fiscal Federalism*, Brookings Institution, 1965.

[4] Nicholson, J. L., "Redistribution of income: notes and some problems and puzzles", *The Review of Income and Wealth*, Series 16, No. 3, September, 1970.

[5] Peacock, A. and Shannon, R., "The welfare state and the redistribution of income," *Westminster Bank Review*, August 1968.

[6] Pechman, J. and Okner, B., *Who bears the tax burden*?, Brooking Institution 1974.

## APPENDIX 1

TABLE A1

LEVY AMOUNTS INCLUDED IN THE STUDY

| | 1965 | | | | 1970 | | | |
|---|---|---|---|---|---|---|---|---|
| | Total Amount Levied | | Amount Included in this Study | | Total Amount Levied | | Amount Included in this Study | |
| | F million | % | F million | % | F million | % | F million | % |
| I. *State Taxes*: | | | | | | | | |
| (A) Direct: | | | | | | | | |
| [1] Tax on personal income | 16,217 | | 16,217 | | 25,638 | | 25,638 | |
| [2] Corporation tax | 8,098 | | 588 | | 18,159 | | 2,447 | |
| [3] Special taxes on dividends | 1,245 | | 860 | | 2,142 | | 1,465 | |
| [4] TV/Radio licence | 823 | | 823 | | 1,254 | | 1,254 | |
| [5] Road tax on vehicles | 706 | | 526 | | 1,390 | | 1,033 | |
| [6] Other (Stamp duty etc.) | 4,302 | | — | | 5,326 | | 308 | |
| Total A | 31,391 | 18,4 | 19,014 | 15,3 | 53,909 | 19,3 | 32,145 | 15,1 |
| (B) Indirect: | | | | | | | | |
| [7] VAT | 33,937 | | 26,552 | | 71,820 | | 60,459 | |
| [8] Customs duties | 11,685 | | 5,052 | | 14,417 | | 6,654 | |
| [9] Specific taxes on consumption | 7,180 | | 6,605 | | 7,572 | | 6,766 | |
| [10] Other | 331 | | — | | 391 | | — | |
| Total B | 53,133 | 31,2 | 38,209 | 30,8 | 94,200 | 33,7 | 73,879 | 34,8 |
| (C) Payroll tax | 7,785 | 4,6 | 4,608 | 3,7 | 3,557 | 1,3 | 2,845 | 1,3 |
| Total I (A+B+C) | 92,309 | 54,2 | 61,831 | 49,8 | 151,666 | 54,3 | 108,870 | 51,2 |
| II. *Local Authority Taxes*: | | | | | | | | |
| Local taxes on goods and services | 5,763 | | 5,058 | | 187 | | | |
| Land tax | 2,211 | | — | | 3,564 | | — | |
| Property tax | 1,620 | | — | | 3,309 | | — | |
| Trading licences | 3,579 | | — | | 7,056 | | — | |
| Other | 5,119 | | — | | 6,073 | | — | |
| Total II | 18,292 | 10,7 | 5,058 | 4,1 | 20,189 | 7,2 | — | |
| III. *Social Contributions*: | 59,641 | 35,1 | 57,169 | 46,1 | 107,804 | 38,5 | 103,474 | 48,8 |
| Total I+II+III | 170,242 | 100,0 | 124,058 | 100,0 | 279,659 | 100,0 | 212,344 | 100,0 |

TABLE A2

TRANSFERS INCLUDED IN THE STUDY AND TREND BETWEEN 1965 AND 1970

| | Cash Transfers | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Education[a] | | | |
| | Pensions | Family Allowances | Sickness Maternity Industrial Injuries | Public Assistance (Excl. Scholarships) | Unemployment Benefits | Scholarships | Aid in Kind | Free Education | Total Transfers 1+2+3+4+5+6+7+8= |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| *Benefits and Transfers Included in the Study* | | | | | | | | | |
| 1965 1. Values F10[6] | 29,033 | 16,180 | 22,819 | 7,821 | 363 | 884 | 243 | 9,830 | 87,173 |
| 1965 2. Percent | 33.2 | 18.6 | 26.2 | 9.0 | 0.4 | 1.0 | 0.3 | 11.3 | 100.0 |
| 1970 3. Values F10[6] | 52,654 | 22,094 | 42,876 | 10,840 | 941 | 1,488 | 481 | 17,583 | 148,957 |
| 1970 4. Percent | 35.4 | 14.8 | 28.8 | 7.3 | 0.6 | 1.0 | 0.3 | 11.8 | 100.0 |
| 5. Index (1965 = 100) | 181.4 | 136.6 | 187.9 | 138.6 | 259.2 | 168.3 | 197.9 | 178.9 | 170.9 |
| 6. Annual rate of increase | +12.6% | +6.4% | +13.4% | +6.7% | +21.0% | +11.0% | +14.6% | +12.3% | +11.3% |
| Total Social Benefits and Transfers Received by Households[b] | | | | | | | | | |
| 1965 F10[6] | | | 82.117 | | | | 10,073 | | 92,190 |
| 1970 F10[6] | | | 139,298 | | | | 18,064 | | 157,362 |
| % Included in the Study | | | | | | | | | |
| 1965 | | | 93.9% | | | | 100.0% | | 94.6% |
| 1970 | | | 94.0% | | | | 100.0% | | 94.7% |

[a]For details concerning education expenditures and their social allocation cf. G. Hatchuel, *Consommation* no. 4/1976, Table III, p. 50. Only current expenditures in the Ministry of Education budget are included here.

[b]*Sources*: "Les comptes de la Nation 1974", Série C, no. 33/34, *Les Collections de l'INSEE.*

## APPENDIX 2

GROSS PRIMARY INCOME AND NET RESOURCES 1965, 1970
AVERAGE PER HOUSEHOLD

| | Gross Primary Income | | Total Levies | | Public Transfers | Net Resources | |
|---|---|---|---|---|---|---|---|
| | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B | (cash and kind) | Hypothesis A | Hypothesis B |
| | 1 | 2 | 3 | 4 | 5 | 6=1−3+5 | 7=2−4+5 |
| 1965 | | | | Francs | | | |
| Senior-executive grades | 57,298 | 51,876 | 18,847 | 18,666 | 5,979 | 44,430 | 39,189 |
| Middle-executive grades | 30,216 | 25,975 | 11,521 | 11,037 | 5,015 | 23,710 | 19,953 |
| Employees | 20,678 | 16,513 | 9,171 | 7,812 | 4,900 | 16,407 | 13,601 |
| Skilled workers | 20,956 | 16,034 | 9,791 | 7,564 | 5,690 | 16,855 | 14,160 |
| Unskilled and domestic workers | 14,667 | 11,081 | 7,142 | 5,702 | 5,529 | 13,054 | 10,908 |
| Farm workers | 13,251 | 10,300 | 5,958 | 4,682 | 4,769 | 12,062 | 10,387 |
| Total salary and wage-earners | 24,693 | 20,194 | 10,345 | 8,882 | 5,389 | 19,737 | 16,701 |
| Liberal professions | 90,938 | 89,884 | 27,395 | 33,016 | 5,915 | 69,458 | 82,783 |
| Industrialists and owners of large stores | 87,540 | 86,358 | 19,278 | 21,957 | 4,474 | 72,736 | 68,875 |
| Craftsmen and small shop-owners | 37,865 | 37,446 | 8,389 | 10,821 | 2,759 | 32,235 | 29,384 |
| Farmers | 23,794 | 23,273 | 4,392 | 5,880 | 3,854 | 23,256 | 21,247 |
| Total self-employed | 36,764 | 36,213 | 8,142 | 10,293 | 3,531 | 32,153 | 29,451 |
| Non-active | 7,155 | 6,412 | 3,406 | 4,295 | 7,770 | 11,519 | 9,887 |
| Total Households | 22,329 | 19,594 | 8,065 | 7,928 | 5,666 | 19,930 | 17,332 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1970 | | | | | | | |
| Senior-executive grades | 83,597 | 73,240 | 31,551 | 29,412 | 8,574 | 60,620 | 52,402 |
| Middle-executive grades | 48,333 | 40,392 | 19,921 | 18,055 | 7,715 | 36,127 | 30,052 |
| Employees | 33,811 | 27,463 | 14,624 | 12,957 | 6,648 | 25,835 | 21,154 |
| Skilled workers | 33,110 | 24,839 | 15,821 | 12,154 | 8,139 | 25,428 | 20,824 |
| Unskilled and domestic workers | 22,199 | 16,919 | 10,245 | 8,399 | 7,473 | 19,427 | 15,993 |
| Farm workers | 22,543 | 17,665 | 10,078 | 8,437 | 7,704 | 20,169 | 16,932 |
| Total salary and wage-earners | 39,321 | 31,652 | 17,115 | 14,539 | 7,712 | 29,918 | 24,825 |
| Liberal professions | 158,074 | 156,752 | 40,174 | 47,915 | 10,958 | 128,858 | 119,795 |
| Industrialists and owners of large stores | 151,445 | 143,945 | 37,514 | 37,115 | 6,732 | 120,663 | 113,562 |
| Craftsmen and small shop-owners | 65,431 | 64,375 | 13,774 | 17,585 | 5,432 | 57,089 | 52,222 |
| Farmers | 42,249 | 41,530 | 7,779 | 10,715 | 6,889 | 41,359 | 37,704 |
| Total self-employed | 67,353 | 65,871 | 14,647 | 17,936 | 6,451 | 59,157 | 54,386 |
| Non-active | 10,446 | 9,465 | 5,142 | 6,899 | 13,242 | 18,546 | 15,808 |
| Total Households | 34,994 | 30,326 | 13,099 | 12,760 | 9,190 | 31,085 | 26,756 |