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SIZE OF THE PUBLIC SECTOR, ECONOMIC GROWTH AND THE INFORMAL ECONOMY: DEVELOPMENT TRENDS IN THE FEDERAL REPUBLIC OF GERMANY*

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The growth of the public sector in the post-war period and the consequences of this development for economic growth is a strongly disputed subject of economic theory and policy. In this paper the development trends of state activities in the case of the Federal Republic of Germany are presented. The structure of public expenditures as well as the tax structure are taken into consideration and possible impacts on real economic growth are analysed. The negative correlations between some kinds of public expenditures (or taxes) and the growth rate of real GNP should not be taken in proof of the growth-retarding effects which might ensue from increasing state activities. It seems to be more likely that state activities have induced shifts of resources from the formal into the informal economy. Politicians should be aware that some measures of economic policy conventionally proposed will strengthen the movement into the informal economy, thus intensifying the current problems within the public budgets as well as in the social security system.

I. INTRODUCTION

1. Since the strong decline of the growth rates in many countries in the mid-seventies discussions of the influence of the public sector on economic activities have been intensified. To remove this growth retardation supporters of supply-side economics put faith in a substantial cut-back in tax rates as well as in public expenditures, whereas demand-side oriented economists advocate additional deficit-financed public expenditures especially to overcome the current world-wide recession. Opponents of supply-side oriented economic policy often argue that such measures would intensify the current malaise, whilst opponents of demand-side oriented economic policy fear that a crowding out of the private sector would be the only effect if deficit spending continues. The controversy about these two paradigms has an old tradition. But after a long lasting process of public sector growth especially during the last decade, perhaps there are some new prospects which could lead to further insights and a new judgement of economic policy measures conventionally proposed.

2. After World War II economic policy in the Federal Republic of Germany was mainly influenced by Keynesian thoughts, although fiscal policy measures were often implemented rather halfheartedly compared to pure theory. Today's time-series are long enough for the analysis of the long term development trends and to allow some speculations about causes and consequences. Because of its complexity economic growth is one of the most disputed themes in economic theory and policy. An isolated analysis of the effects of public sector growth on

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economic growth is only of limited capacity for interpretation. It stands to reason that economic growth is influenced by many factors of both economic and non-economic character. Therefore we are fully aware of the limits of such simplifying analysis. But perhaps time-series analyses shed some additional light on the relation between the size of the public sector and economic growth.

3. But there might be another reason why our time-series originating from traditional national accounts statistics do not draw an accurate picture of the real state of today's economies: a growing discrepancy in the development of the official economy and the hidden economy, or—in Shankland's (1980) terminology—the formal and the informal sector of our dual economy. In pre-capitalistic times the informal economy was the dominating one. With continuing industrialization and labour division as the result of rapid technical progress, the informal economy has been shrinking and formal economy growing. Therefore the formal economy became the main subject of analysis in economic theory, whereas the informal economy has nearly been forgotten by economists as well as by statisticians. Consequently in our present national accounts statistics the informal economy is overwhelmingly neglected. But currently many people recognize an increasing number of symptoms which point to a turning-point in this development; the growth of the "underground economy" or—in a formulation which sounds more positive—the "unobserved sector" (Feige, 1982) is high on the agenda.

4. In part II we use national accounts data for the measurement of the share of state to official economic activities, expressed traditionally as ratio of total government expenditures to GNP; in addition to demonstrate the changes in composition of public expenditures, some structural ratios are analysed. Corresponding estimates have been made for the revenue side of the budget. Then some time-series analyses are represented to make plain the long term development trends between the growth rate of real GNP and the different ratios. In part III we make a very first attempt to examine critically the importance of the hidden economy in Germany and in part IV we speculate about its causes and consequences. The results are summarized in part V and some short remarks are made about the future tasks for public statistics as well as about the implications for future economic policy, the latter especially for the purpose of giving material for discussion and hints for future research.

II. DEVELOPMENT TRENDS OF STATE ACTIVITIES

5. The ratios analysed in this chapter do not naturally represent the total field of state activities, but only that part which is expressed in public budgets. State activities also take the form of statutes, decrees, orders, prohibitions, etc., which are only partly or not at all expressed in public budgets. Because of this quantitatively invisible part of state activities there is a certain risk of misjudgement of the total extent of state activity in intertemporal but especially in international comparisons.¹ In default of a suitable measure for these state

¹See Wissenschaftlicher Beirat (1976). One German example is the wage payment to employees during the first six weeks of illness paid formerly by health insurance and today by employers, thus shifting burdens from public institutions to the business sector.

activities, a simplifying proxy has often been proposed which might express very roughly the development trends of regulations: the quantity of legislation is measured as the annual number of pages of legislation published. This anecdotal measure shows a strongly increasing trend if federal legislation is taken into consideration: the average annual page number of the "Bundesgesetzblatt I" (in which overwhelmingly the legislation important for the German citizen is published) has been increased from 1,054 pages in the decade 1950 to 1960 over 1,442 pages in the decade 1960 to 1970 and 2,946 pages in the decade 1970 to 1980; the flood of legislation has nearly been trebled.

6. The classification of public expenditures and revenues follows the characteristics of the German national accounts statistics. Total expenditures (federal government, states, and local authorities including social insurance) are divided into expenditures for goods and services, transfer payments, and interest payments on public debt;² expenditures for goods and services are further divided into public purchases and personnel outlays. On the revenue side taxes including social security contributions are analysed as well as the single components: indirect taxes, direct taxes, and social security contributions. Time-series analyses are not done for the purpose of testing a certain hypothesis which afterwards will be rejected or—as most usual—verified. Our data used as well as our simplifying models—neglecting influences of important variables which are not taken into consideration—do not allow the test of causal relationships but make plain the long-term development trends. At the current state of the art there are not many alternatives which would yield better results.³ Therefore we can only speculate about causes and consequences.

1. *Public Expenditure Trends and Economic Growth*

7. The development of the different expenditure ratios is represented in Chart 1. The total expenditure ratio increased from about 30 percent in the early fifties to about 46 percent in the early eighties.⁴ Especially since 1960 a relatively steady increase can be observed which has accelerated since 1970 because of the "Reformpolitik" of the new social-liberal government which, in principle, should remove—following the Galbraith hypothesis—"public poverty." A further acceleration took place as a consequence of the great recession in 1974/75. Here developments a bit similar to Peacock/Wiseman's displacement effect can be observed: a sudden increase of the expenditure ratio which persists in a higher level after the crisis, altogether yielding an increase in the expenditure ratio of roughly 9 percentage points.⁵

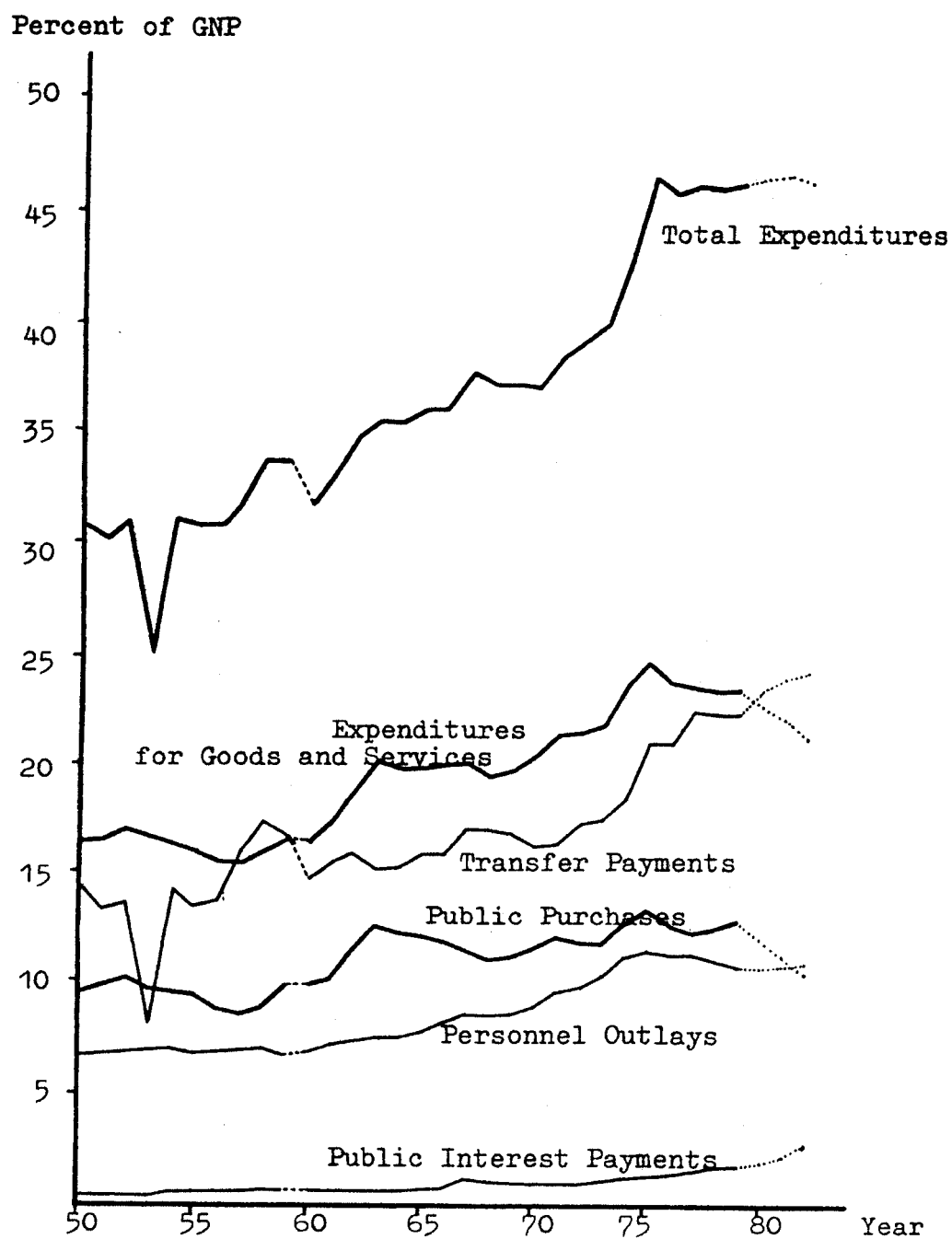
²The total expenditure ratio is not a "true" ratio but more a relation because transfers are not included in the GNP; see Littmann and Krüger (1975).

³Using more sophisticated methods (e.g. factor analysis) leaves us at the "black box" stage of research into public expenditure growth, too; see Peacock and Wiseman (1979).

⁴Many economic causes for the increasing expenditure ratio have been discussed in the German literature and are not represented here; see, e.g., Recktenwald (1977), Albers (1977), and Felderer (1977).

⁵Roughly 1.5 percentage points of the increase in the expenditure ratio since 1975 are due to the shift from child exemptions in income tax to child benefits, thus only resulting in an increase of both sides of the budget.

CHART 1. Post-war Developments of Expenditure Ratios



Source: Statistisches Bundesamt: Volkswirtschaftliche Gesamtrechnungen, various issues.

8. Similar developments can be observed for the structural ratios. The ratio of expenditure for goods and services also increased, but much less than the ratio of transfer payments. The public purchases ratio is nearly the same in the early fifties as in the early eighties. Taking different developments of the price indices for the public sector and the private sector into consideration, we also estimated real expenditure ratios to real GNP using appropriate deflators for the different components of public expenditures.⁶ The development of the real ratios of expenditures for goods and services and transfer payments is of particular interest: Whereas the real expenditure ratio for goods and services has been a bit higher in the early fifties (around 22.5 percent) than in the late seventies (around 21.5 percent) and remained relatively constant in the meantime, the real transfer ratio increased strongly from around 10.8 percent in 1950 to 20.6 percent in 1980, thus signifying nearly a doubling during the post-war period.

9. The correlation coefficient between the real expenditure ratio and the real transfer ratio ($R = 0.96$) shows a close connection between the development of these two ratios.⁷ The growing transfer budget has overwhelmingly caused the enlargement of the German public sector, and social transfers make up by far the biggest part of it. This development took place especially because the expenditure elasticity within the social security system has been increased by nearly all post-war reforms,⁸ and spreading pressure groups in the household as well as the business sector have been very successful in defending old privileges and adding new ones.⁹

10. Here economic growth will be measured as the annual growth of the real GNP. The annual growth rate of real GNP shows a decreasing development in the post-war period as opposed to the total expenditure ratio. And the estimated expenditure ratios are themselves dependent on the GNP. These additional arguments should give rise to a very careful interpretation of our regression estimates represented now. Chart 2 shows the scattergram of the real growth rate and the real ratio of total public expenditures, both in 5-year-moving-averages. A strongly negative correlation can easily be observed, grouped in three periods: 1955 to 1964, 1965 to 1974, and 1975 to 1982.

11. The simple and multiple regression results are represented in Tables 1 and 2 in the Appendix. Concerning the nominal expenditure ratios the adjusted R square ($\bar{R}^2$) points to a relatively close negative correlation between the real growth rate of GNP and the total expenditure ratio as well as the structural ratios of expenditures for goods and services. In the case of the real expenditure ratios there is only a limited significance for a negative correlation between real growth rate and the total expenditure ratio as well as the ratio of transfer payments. In the multiple regression estimates there are only relatively significant correlations for the total expenditure ratio (nominal) and the ratio of transfers (real).¹⁰

⁶For the method see, e.g. Felderer (1977 and 1979), Beck (1979).

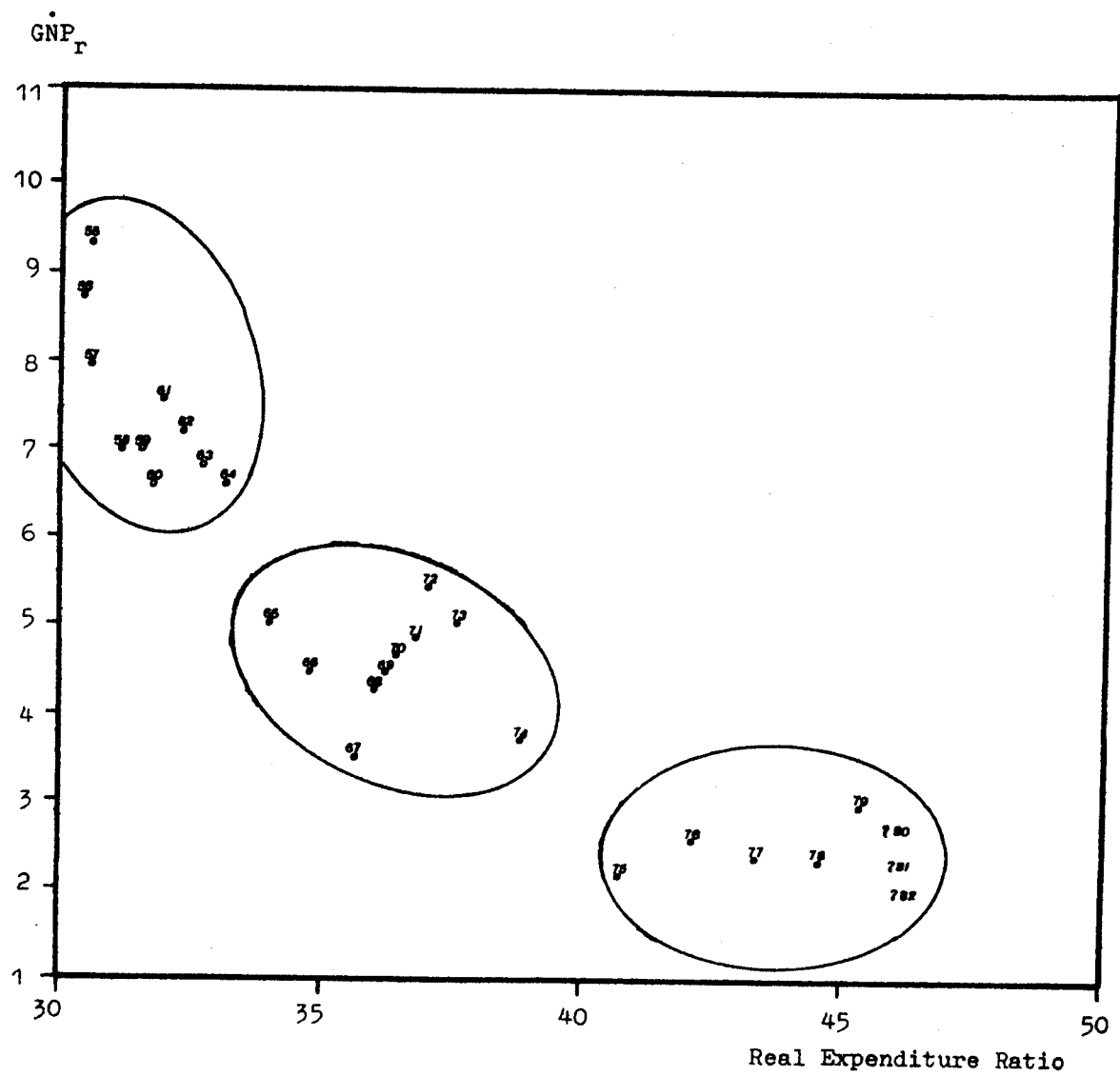
⁷The correlation coefficient for the connection between the real expenditure ratio and the real expenditure ratio for goods and services is $R = 0.29$.

⁸See, e.g. Jüttemeier and Petersen (1982).

⁹In particular the ratio of subsidies to GNP increased by around 134 percent from 1960 to 1980; that is the highest increase on the expenditure side of the budget.

¹⁰The implementation of time lags shows that with a lag of up to three years signs stay overwhelmingly negative. Using 5-year-averages leads partly to an increase in R^2 values.

CHART 2. Scattergram of Real Growth Rate of GNP and Real Expenditure Ratio



Source: see Chart 1.

2. Tax Structure and Economic Growth

12. In Chart 3 the development of the ratio of total taxes to GNP, the ratios of indirect and direct taxes and social security contributions, as well as the ratio of the wage tax (income tax for employees which has become the most important direct tax) is shown. Additionally public surpluses and deficits are represented; since the seventies the latter have become the rule. The total tax ratio has increased from around 30 percent in 1950 to around 42 percent in 1980 and strong changes in the tax structure can also be observed. The indirect tax ratio was on the average during the fifties a bit higher than it has been since 1960, whereas the direct tax ratio steadily increased, interrupted only by casual tax rate reductions. The wage tax ratio in the late seventies is about four times what it was in 1950.

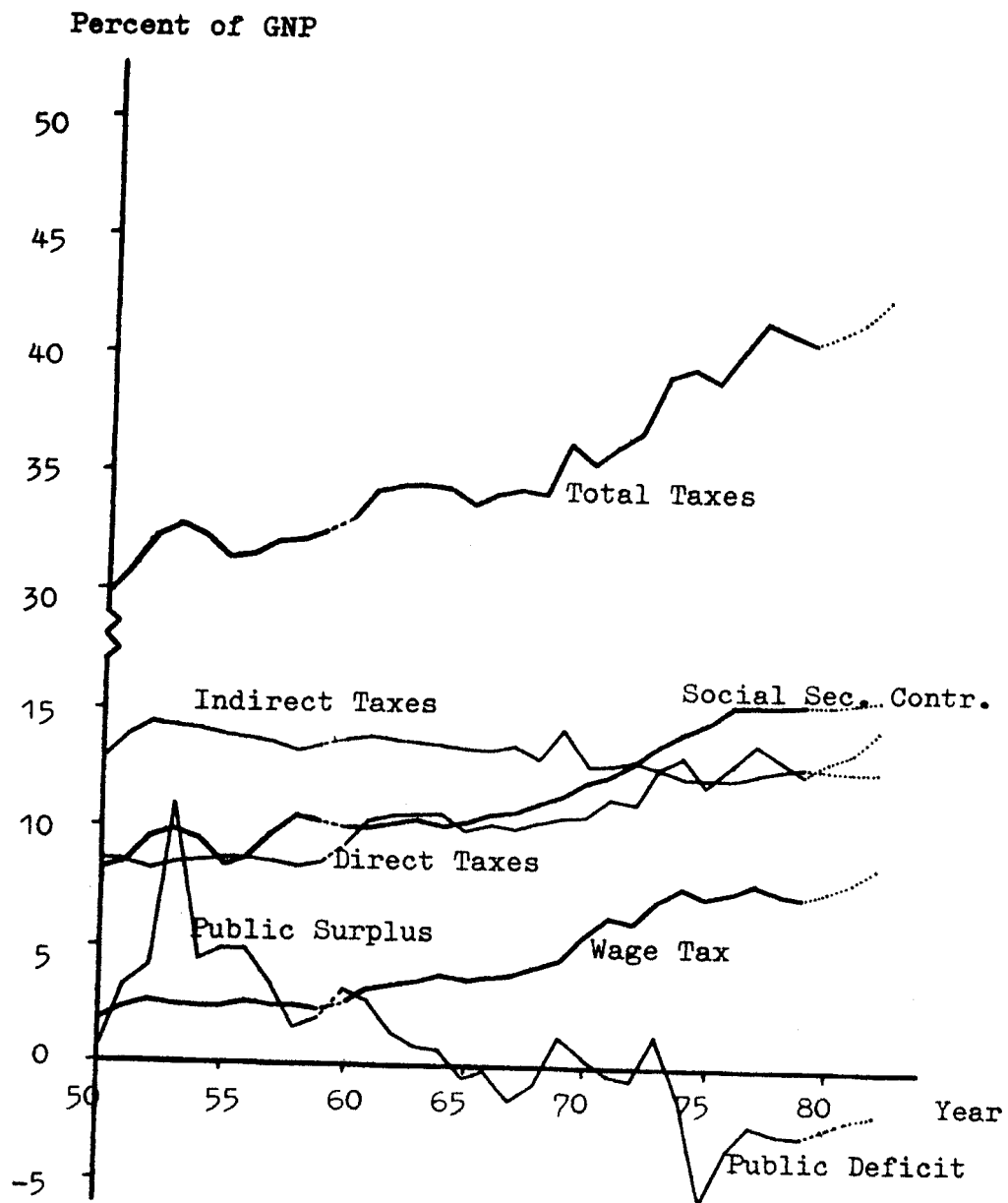
13. The comparatively constant indirect tax ratio reduces to the prevailing proportional tax rates, whereas the income tax schedule is progressive. The increase of the direct tax ratio is due to the effects of inflationary and real income growth because exemptions and tax schedule have not appropriately been adjusted especially for inflation. The social security contribution ratio also increased strongly, nearly in the same extent as direct taxes, but this growth was caused by discretionary contribution rate increases to prevent deficits in the social security system which otherwise would have been created in consequence of the use of pay-as-you-go financing.

14. Between the real growth rate of GNP and the total tax ratio there also exists a negative correlation (see Table 3 in the Appendix). Compared to the expenditure ratio the connection seems to be less strong. The cause might be the increasing importance of public deficits in financing public expenditures, whereas direct tax rates have been casually reduced. But nevertheless, there are negative correlations between the real growth rate and the direct tax ratio as well as the social security contribution ratio. On the other hand the positive sign of the indirect tax ratio points to a positive correlation which could lead back to the slight decrease of the indirect tax ratio during the post-war period. In the multiple regression equations only the sign of the social security contribution ratio changes, but all are not statistically significant.

3. Some Suppositions about State Activity and Growth

15. In principal, two hypotheses could be formulated to be tested in the preceding analyses: (1) because the growth rate has decreased, the public expenditure ratio has increased (Keynesian hypothesis), and (2) because the public expenditure ratio has increased, the growth rate has been depressed (Neoclassical hypothesis). The problem is that it is only possible to confirm, and not to reject, both hypotheses using simple time-series analyses. And for both hypotheses one can find some supporting *ad hoc* arguments. In Germany the Keynesian hypothesis is based on the arguments that the period of reconstruction has been finished and the first signs of saturation can be observed accompanied by a change in norms, that is to say a new orientation from material to non-material values. But the resulting decrease in the growth rate is taken as a symptom of an economic crisis by government and bureaucracy, both still following the

CHART 3. Post-war Developments of Tax Ratios and Surplus/Deficit Ratio.



Source: See Chart 1.

traditional aims. Therefore public expenditures will be increased to overcome the current growth retardation, but because we are confronted with a secular trend, such economic policies do not lead to a substantial growth enhancement but to a strong increase in the public expenditure ratio.

16. The Neoclassical hypothesis is based on the conception that politicians and bureaucracy are both interested in a growing public budget, thus increasing their power and influence, and politicians will use the expenditures especially to favour their voters and the related pressure groups. This process and the Keynesian policy described above shift resources from the private (business) sector to the public sector. Because public sector productivity is less than business sector productivity (if not zero or even negative in the case of redistributive activities) the growth of public expenditures leads to a growth retardation in the total economy.

17. Perhaps both simple hypotheses together could provide an explanation applicable to the post-war developments. High growth rates in the two decades after World War II accompanied more or less by secular inflation lead to an increasing tax yield resulting especially from the progressive income tax system.¹¹ Plenty of tax revenues might have caused politicians and the bureaucracy to increase expenditures particularly for social security because that kind of public expenditure is seen as a benefit by the recipients who have no concrete knowledge about the financing aspects. Naturally, many very important social reforms have been made, but since adding to existing programs is politically far easier than reducing or replacing them, few programs are ever re-examined. As long as growth rates were sufficient no serious pressures were created to do such a re-examination. Thus transfer payments to households as well as to the business sector increased, although the net redistributive effect, especially of social transfers, is dubious.

18. Whereas redistributive activities of state authorities have been strongly increased, their influences on private investments and savings are less important than often supposed.¹² The cause could be seen in the development of net burdens of the household and the business sector. Chart 4a shows the development of the tax ratio of the business sector¹³ related to the gross value added of the business sector, the ratio of subsidies and the ratio of net burden. From 1960 to 1980 the tax burden increased but subsidies, too, increased thus yielding an increase of the net burden ratio of the business sector compared to the mid-sixties. The development of the household sector ratios is presented in Chart 4b, all related to the gross income of employees. The tax ratio¹⁴ has been at least partially offset by rising transfers.¹⁵ Compared to the early sixties a clear increase can be observed especially if the reform of child benefits is taken into consideration, which has led to an increase of transfers partially due to a simple expansion of both sides of the budget. The increase results from the growing

¹¹The elasticity of the total tax system has been around 1.2 in the post-war period.

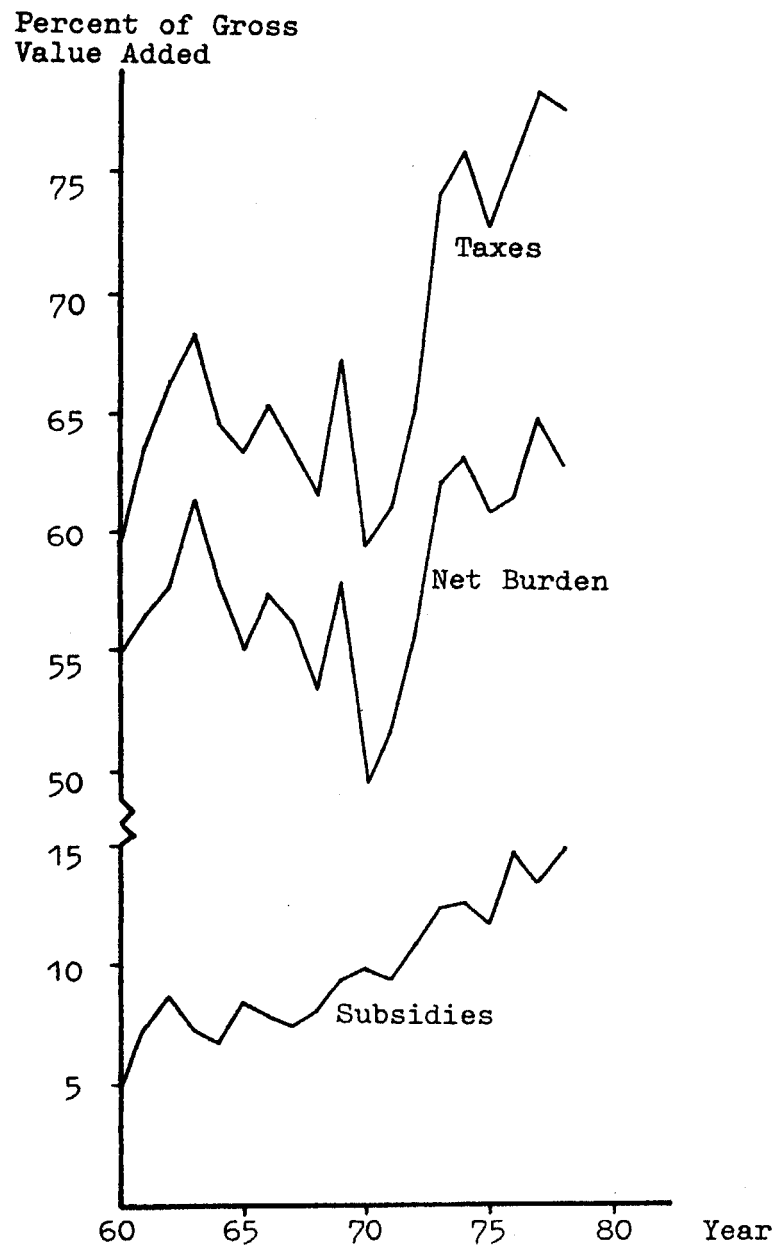
¹²See Neumark (1981) and Petersen (1982).

¹³Income tax on profits, corporation tax, employers' contributions to social security system, etc.

¹⁴Wage tax, employees' contributions to social security system, value added tax, excise duties, etc.

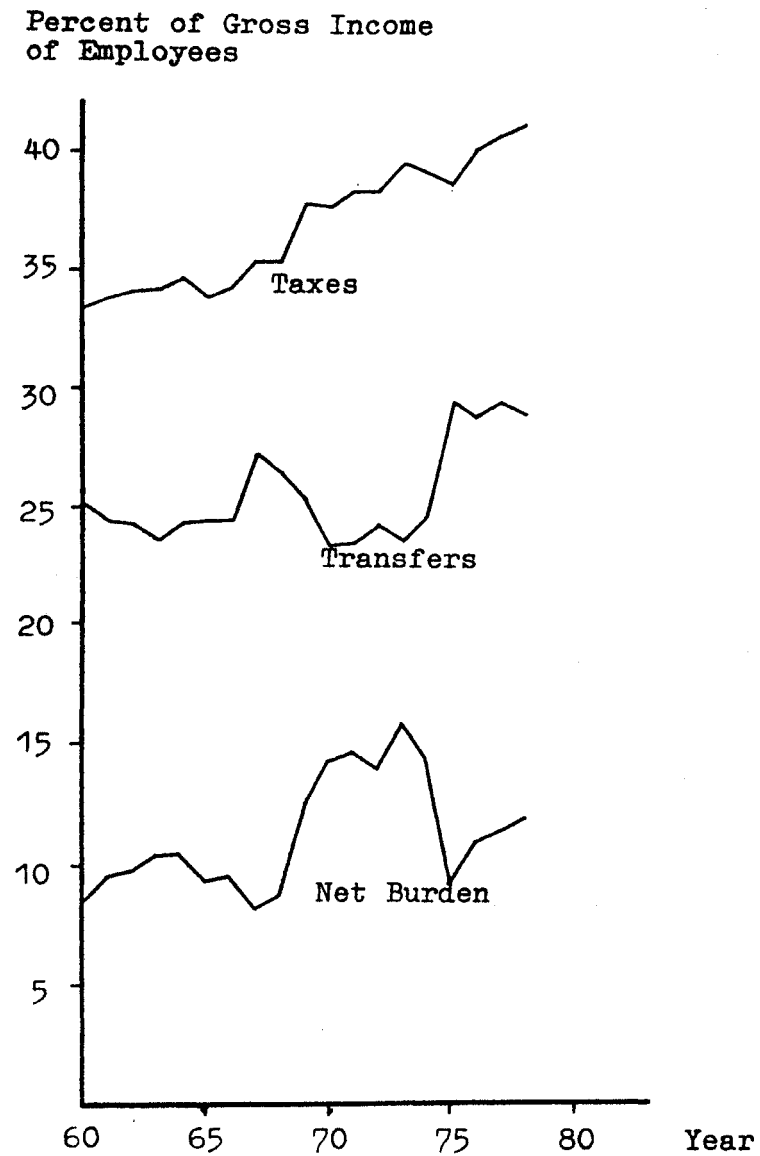
¹⁵The transfer ratio is also influenced by the income tax reform of 1975; see above (footnote 5).

CHART 4a. Business Sector Ratios



Source: See Chart 1.

CHART 4b. Household Sector Ratios



Source: See Chart 1.

burden of wage taxes and social security contributions imposed prevalingly on the working generation within the lower and middle income brackets.

19. Because the net burden of the business sector and the higher income brackets increased less, it is likely that savings and investments are more dependent on other influences than on taxes. If investments should have been depressed by increasing public activities, this could lead back rather to the crowding out effect of strongly growing public deficits. But which consequences might follow out of the increased net burden for employees' households? With increasing tax burdens compliance with direct taxes and contributions will be impaired, and the imperceptibility of indirect taxes ("indirect tax illusion") will disappear. Resistance against taxation will increase, thus inducing politicians to increase deficits which are needed to finance especially the ever increasing expenditures for social security. The high elasticity of transfer payments can only be reduced by a substantial reform which is not very likely. The resistance of pressure groups is very strong and a majority of politicians fear losing their reputation because substantial reforms are often defamed as "social cutback" by interest groups and large parts of the mass media. And long term political perspectives for social reforms are as badly needed as they are regrettably absent.

20. Social security in the present form has become a "social property" (sozialer Besitzstand) irrespective of the more than dubious redistributive effects which are created by today's system and irrespective of the future financial problems which will occur. Zero pricing for public goods and increasing transfers have impaired the consciousness of citizens that all public expenditures have to be financed by citizens themselves. Consequently claims against the anonymous state have increased, often supported by pressure groups which are increasingly important and which have been able to generate the impression within their membership that costless benefits are to be expected. These illusions, leading to additional expenditure pressures on the one hand, have particularly caused the growing tax burden on the other hand. Both taxes and transfers certainly influence the attitudes of individuals, although currently the real extent of the disincentive effects cannot be exactly evaluated.

21. Because of growing transfer payments and an increasing tax burden it is likely that disincentives especially in the lower and middle income brackets have been intensified and that today disincentives in these brackets are much more important than in the upper income brackets.¹⁶ Additionally knowledge is spreading that many redistributive measures shift public means without net effects—only with an employment effect for the bureaucracy involved. As the result of the complexity in social law as well as tax law a majority of citizens do not understand the system, whereas for a growing informed minority the system has become exploitable. The moral hazard in taking advantage of the social security system on the one hand and growing tax resistance on the other hand will lead to a growing discontent with the state and representing government, the first symptoms of which can be easily observed. In Germany we have reached a high living standard; therefore it is likely that the substitution effect of taxes

¹⁶Marginal tax burdens (including social security contributions) for middle income groups are considerably higher than for higher income groups; see Petersen (1982).

(and transfers) dominates the income effect of taxation. Because the income of employees is taxed at the source, tax evasion is impossible. Substituting (taxed) labour for (untaxed) leisure is only one possibility for avoiding taxation available to employees; switching from the formal economy into the informal economy is another. This possibility—meaning that resources are legally or illegally withdrawn from the formal economy, thus influencing its growth potential—will be analysed in the following chapters.

III THE HIDDEN ECONOMY IN GERMANY

22. There are various different kinds of activities within the hidden economy. Beginning with the illegal activities of tax evasion and fraud, illicit work and black-market (barter) transactions up to legal activities as domestic work (done by men and women or spouses and children), do-it-yourself activities, neighbourhood aid and voluntary work gratuitously done in social welfare institutions, political parties, clubs, non-profit organizations etc. Most of these activities are not expressed in our national accounts statistics, but contribute to society's total welfare. As long as the informal economy is growing proportionally to the formal economy, the real growth rate of GNP might be an appropriate measure for the increase (or decrease) in total welfare (see Feige (1982)).

23. Only if the informal economy is growing faster than the formal economy is traditional real growth rate of GNP misleading in measuring the growth of total welfare. But the current problem is how to get a correct diagnosis considering the fact that suitable statistics are not available. Estimates comparable to those made by Eisner (1978) and Kendrick (1979) for the United States including major imputations have not yet been made for the Federal Republic, and we are just starting with first estimate of the "monetary unobserved sector" following the framework of Feige (1982). Therefore it is only possible to give some very preliminary results and some anecdotal information which demonstrate simultaneously the lack of useful data.

24. A very rough measure of the monetary unobserved sector is the estimation of the discrepancy between the income reported to the fiscal administration (published at three year intervals in the German income tax statistics) and the national income of the national accounts statistics. But in the two sets of statistics income is grouped in different ways¹⁷ so that a comparison is restricted to two components: (1) the income of employees and (2) other income (i.e. income from agriculture and forestry, from business, of self-employed persons, from private capital assets, and from leasing). For the period 1961 to 1974 data are available which show that between 72.7 percent and 78.6 percent of national income has been reported to the fiscal administration (see Table 4 in the Appendix). But this difference is not due to illegal underreporting; it includes all existing tax concessions. Considering the adjusted income of employees,¹⁸ underreporting has been between 9.0 percent (in 1961) and 2.1 percent (in

¹⁷Income tax statistics follow the definition of the taxable base in the German income tax law which is not compatible with national accounts statistics.

¹⁸Data of the income tax statistics adjusted for employers' social security contributions and voluntary social service payments of firms; see Albers (1974).

1974). This declining trend demonstrates that taxation at the source has worked successfully.

25. Other income is overwhelmingly taxed by assessment procedures; here between 60.3 percent and 65.1 percent has been reported to the fiscal administration. Using the German "report of subsidies" (Subventionsbericht) and similar data we tried to estimate which part of underreporting is due to legal concessions.¹⁹ In Table 4, other income adjusted by the income tax base which corresponds to the different tax concessions is also shown. Here a declining trend in underreporting can also be observed, but underreporting is considerably higher than in the case of employees' income, thus pointing to the fact that, if assessment is used, there are more possibilities for underreporting. But the declining trend is particularly caused by strongly increasing tax concessions. The unexplained remainder, which—apart from certain failures in our data and rough estimates—corresponds approximately to the illegal underreporting of the taxable base, amounts to 16 percent of national income in 1961 and 4.8 percent in 1974. By and large the German fiscal administration has worked effectively compared to developments in other countries.

26. But the unexplained remainder is a very imperfect measure of the monetary unobserved sector because it neglects essential parts of unobserved activities, especially the development of illicit work and do-it-yourself activities. Since in these areas currency is particularly used as medium of exchange, a simple currency-demand deposit ratio is often used as proxy for the monetary unobserved sector (see, e.g. Gutman (1977)). It is obvious that this measure is a very weak one. But strong changes in a long-term trend, thus pointing to changes in paying habits using currency instead of demand deposits, at least could be interpreted as a symptom of an increasing informal economy, although currency is not the only medium of exchange used within the informal sector (see Feige (1982)).

27. In Table 5 in the Appendix the German currency-demand deposit ratio is presented for the post-war period. This ratio shows a declining trend only interrupted by some small increases. The decreasing ratio is the result of the increasing use of demand deposits (spreading cashless payment) in the post-war period. As opposed to the development in the United States this trend is going on because of a further growing use, for instance, of Euro-checks and credit cards. The late introduction of credit cards in Germany compared to the United States on the one hand and the use of demand deposits for "black market transactions" on the other hand might have slowed a change in the trend, but a reduction in the rate of decline is obvious.

28. Both imperfect measures do not support the hypothesis of a growing monetary unobserved sector in Germany and estimates of the development of the "non-monetary unobserved sector" (Feige (1982)) as made by Kendrick and Eisner for the United States revealing a dramatic growth in this sector relative to observed income as well as suitable micro observations are not yet available. Because our research project is in the very first phase, today we have only some anecdotal evidence which has its own relevance. Do-it-yourself activities have

¹⁹I wish to thank my colleague Karl Heinz Jüttemeier who placed the data of tax concessions at my disposal; see Jüttemeier (1982).

become popular in all classes including the well-to-do; home-worker service markets are spreading out and at present roughly two-thirds of tool sales are made to non-professionals compared to about one third in the fifties. The craftsmen's association often complains of the negative impacts resulting from these activities on the handicrafts branch, but particularly about the influence which illicit work might exert on the employment situation in this branch. In the early seventies around 70 percent of new home buildings in rural areas have been produced using illicit work, and at present nearly all buildings in the countryside are produced by do-it-yourself and illicit work. Planning as well as the procedure of permission is overwhelmingly done by public employees as a legal side-line (see Aberle and Eggenberger (1979)).

29. Fines for illicit work increased strongly from DM 1.4 Mill. in 1976 to DM 3.7 Mill. in 1980. This small amount shows that only the peak of an enormous iceberg is punished. The total extent of illicit work in the handicrafts branch is estimated at around DM 35 Bill. in 1980, that is roughly 10 percent of its turnover. A slightly increasing trend is prognosticated by the craftsmen's association, but their interest in illicit work is heavily influenced by the business cycle.

30. The low participation ratio especially of married women older than 35 years, in comparison with other developed countries (see Albers (1980)) as well as the tendency of the German trade unions in demanding more leisure (35-hours-week) and an earlier retirement age point to the fact that a considerable do-it-yourself and illicit work potential exists and will strongly increase if trade unions are successful in realizing their demand. The present high level of unemployment increases informal sector potential, too, and many people are surprised that the substantial increase in unemployment has not been accompanied by strong protests but by widespread acquiescence (see Shankland (1980)), perhaps due partially to the relatively high level of living resulting from the combination of unemployment benefits and informal sector activities.

IV. CAUSES AND CONSEQUENCES OF THE INFORMAL ECONOMY

31. Apart from the problems in measuring the development of the informal sector, we will speculate about possible causes which have led or will lead to an increase of the informal sector relative to the institutional economy, and about the consequences for economic and social policy. The main causes have already been presented above: strongly increasing transfers connected with a strongly increasing tax and contribution burden especially for lower and middle income brackets. In several cases shifting from official labour to social welfare and informal economy lead to higher net incomes in the lower brackets with only the constraint that official property is not accumulated, a factor which is not very important in these income brackets.

32. Because people show a behaviour which has economic consequences if they are moving into social welfare, retirement, or doing illicit work instead of official work, society is pressed to criminalize these activities,²⁰ thus introducing new laws and regulations which are overwhelmingly ineffectual but improve the

²⁰In recent years several laws have been designed especially by conservative politicians to reduce illicit work.

existing jungle. And all this because we are obviously unable to remove defects within our tax and transfer system which have been created in the historical development process.

33. In the opinion of many politicians illicit work is dangerous for the state as well as for economic and social policy, but this opinion is apparently not shared by the total population. Perhaps therefore the German panel of economic experts (Sachverständigenrat) (1980) has written about the "economia sommersa": "The official economy following the pressure of the division of labour has certainly imperfections which in certain cases might be reduced by the informal economy ("Schattenwirtschaft"). The informal economy produces without distortions resulting from taxes and contributions as well as excessive regulations. Since the informal economy rather promotes than injures social consensus, this might have led to a certain toleration of this sector. It would not be an appropriate response to combat this sector with rigorous legislation. Fair tax rules are preferable. But if shifting into the informal sector would become a matter of course, there is no time to be lost."

34. Without doubt, a strongly increasing informal sector and shrinking formal economy would create substantial financial problems for the public budget, especially for social security because the existing system is dependent on real growth of GNP.²¹ But that does not necessarily mean a serious danger because politicians and the bureaucracy would be forced to change expenditure behaviour and to reform the social security system. Beyond this, real growth of GNP is not necessarily affected by the growth of the informal economy, especially if service sector and similar activities with low productivity and a low degree of division of labour are shifted whereas activities with high productivity (using economies of scale) remain in the formal economy.

35. Within the informal sector the responsibility of the citizen for his own work as a rule strengthens his motivation. Because of the lower degree of division of labour what we call "Selbstverwirklichung" in German is easier and the alienation from work often observed in the formal economy is not present. Thus the increase of the informal economy would mean an improvement of working conditions, meeting the demand for more humanity at work. All these facts increase total welfare but are hard to evaluate.

36. But apart from these advantages of the informal economy the fact remains that a strong increase of the informal sector induced by an economic and social policy which neglects the existence of an informal sector could be dangerous: if public policy goes on using Keynesian measures for enhancing the growth of the formal economy this will require additional revenues (taxes or debt) which will strengthen the movement into the unobserved sector, thus reducing public tax revenues and increasing public deficits. Following the lines of supply-side economics would be less dangerous because reductions particularly in marginal tax rates within the lower income brackets etc. would diminish the incentive to shift into the unobserved sector, especially if transfer payments without net redistributive effect are simultaneously removed.

37. A supply-side oriented economic policy will only succeed if the movement into the informal sector can be stopped or—if a mass movement has already

²¹See, e.g. Petersen (1981a).

happened—can be turned back. But if we are confronted with a secular trend which results from a new-orientation from material to non-material values, in the long run these measures will fail, too. Then new forms of economic and social management will be implemented which perhaps are similar to methods used in pre-capitalistic times, or perhaps are totally unknown at present. But because such methods must be developed slowly, current economic policy should not accelerate these developments.

V. SOME FINAL REMARKS

38. Our analysis has shown that certain negative correlations exist between public expenditure and tax ratios on the one hand and the growth rate of real GNP on the other. But these correlations are not necessarily a symptom that state activities in total have growth-retarding effects especially if the existence of an informal sector is taken into consideration. However, it is likely that state activities have induced shifts of resources from the formal into the informal economy, whereas the effects on the growth of total welfare are difficult to evaluate.

39. If the informal economy is increasing and the formal economy shrinking, this development is not necessarily dangerous for our societies. In view of the positive aspects involved in this development apocalyptic visions about the danger of the current state activity for a free society (see, for instance, Brunner (1978)) at least seem to be a bit exaggerated. Opportunities as well as risks are included; the informal economy works like a valve: if government is going beyond certain limits, naturally difficult if not impossible to determine, citizens will react. They have the possibility to vote with their feet, i.e. to escape into the informal sector, thus limiting government sector in a certain way.

40. But apart from this "automatic stabilisation effect" of the informal economy, in our current economic and social policy we should consider the existing informal economy because otherwise a threatening acceleration of movement into the informal sector might be possible, thus leading to serious crises in the public budget and the social security system. To prevent such developments, we need additional information about the current state and the probable future development of the informal economy because our existing statistics are not useful for this purpose.

41. Particularly we need enlarged national accounts statistics comparable to Eisner's total income system of accounts (TISA). And this system has additionally to be harmonized with our existing tax statistics. Beyond this we need useful statistics of income distribution, also taking account of the existence of an informal sector; it is often supposed that informal sector income is distributed in favour of the lower income groups, thus indicating that perhaps total welfare is distributed more equally than formal sector income (see Feige, (1982)). For this purpose we need regularly collected survey data and user analyses. Besides these micro data, some additional information for macroeconomic approaches to determine the trend of development as, e.g., in Feige's framework is necessary.

42. This is more than the usual plea for more data; it is a plea for a useful public statistics. In Germany we are counting even the last animal in agricultural

statistics and even the egg-shells which are wasted in bakeries in our handicrafts statistics, but data which are wanted badly for important economic analyses are not available. Here a shift of resources is more than necessary.

43. Apart from the current state some conclusions for economic policy can be drawn. Politicians and the bureaucracy should be fully aware that we are approaching the limit at which the burden imposed on the employed generation will create serious disincentive effects. Up to now government rather welcomed the additional (overwhelmingly inflationary) tax revenue and used it for further increases in public expenditures, with the consequence that at least for some periods inflation accelerated. The inflationary process did not only lead to a declining money illusion, but to an increasing "tax awareness" (or declining "tax illusion"), too.

44. Therefore it seems to be senseless to substitute indirect for direct taxes to lower possible growth-retarding pressures, because with an increasing share of indirect taxes their imperceptibility disappears. Just as the money illusion decreases with an increasing rate of inflation, so the "indirect tax illusion" decreases with an increasing share of indirect taxes. Beyond this indirect taxes (as well as the expenditure tax) promote the movement "back to barter" and "back to nature," because do-it-yourself and barter transactions would become more lucrative,²² so that eventual positive effects on the growth of formal economy could be compensated for.

45. Particularly a reduction of marginal tax rates for lower and middle income brackets accompanied by an inflationary adjustment scheme seems to be necessary and could be financed by abolishing the numerous loopholes within the German income tax system.²³ Also harmonizing the tax and transfer system through an integration of social concepts into the income tax system can lead to a widening of the tax base, avoid cumulative side effects of different kinds of transfer payments as well as combined marginal tax-transfer rates which are often higher than 100 percent, and so contribute to a stronger realization of the principle of "vertical equity." A comprehensive tax base would give the financial scope for reducing tax progressivity and especially for reducing the disincentive effects in the lower and middle income brackets, thus canalizing the movement into the informal economy in calm paths.

46. However, we do not want to repeat the favourite song of some neoclassically oriented economists which runs "to give market a chance," whereas some of them often intend exclusively a real "social cutback." Perhaps society is moving in the opposite direction. Even Schumpeter (1918), currently often quoted by Neoclassical economists, was not totally sure about future developments, but he wrote in *Crisis of the Tax State*: "The first premise for the socialized society is that capitalism has done its work and that with the help of entrepreneurs a strongly rationalized economy exists, so that one can look forward in peace to the inevitable slowdown in economic development, because socialism means the liberation of life from the economy, turning off the economy." And later on he continued: "By and by private enterprise will lose

²² Especially in the case of personal progressive expenditure taxes; see Petersen (1981b).

²³ Here one has only to mention the numerous articles written on a comprehensive tax base.

its social purpose because of the development of the economy and the increasing social sympathy. Society is outgrowing the private enterprise and tax state: That is sure!" We are not as sure as Schumpeter 60 years ago, but we think that we have to keep this possibility in mind.

APPENDIX

TABLE 1

REGRESSIONS FOR THE RATIOS OF TOTAL EXPENDITURES E^t , EXPENDITURES FOR GOODS AND SERVICES E^{g+s} , TRANSFERS TR , INTEREST I , PURCHASES PUR , AND PERSONNEL OUTLAYS PER (IN NOMINAL AND REAL TERMS)

Variable	Coefficients		N	R^2	F	DW
E^t	17.539	-0.337	32	0.385	20.379 ¹	1.448
E^{g+s}	18.908	-0.695	32	0.441	25.491 ¹	1.602
TR	14.961	-0.617	32	0.264	12.102 ¹	1.252
I	7.557	-2.158	32	0.133	5.760	1.167
PUR	20.390	-1.361	32	0.382	20.190 ¹	1.580
PER	15.055	-1.150	32	0.402	21.818 ¹	1.467
E^t_r	22.304	-0.459	32	0.356	18.121 ¹	1.329
E^{g+s}_r	19.831	-0.704	32	0.040	2.285	0.965
TR_r	13.563	-0.553	32	0.341	17.053 ¹	1.386
I_r	7.557	-0.216	32	0.133	5.760	1.167
PUR_r	6.846	-0.141	32	-0.031	0.054	0.984
PER_r	32.815	-3.087	32	0.245	11.067	0.994

Source: Calculated from Statistisches Bundesamt: Volkswirtschaftliche Gesamtrechnungen, various issues.

¹Significant at 1 percent.

TABLE 2
MULTIPLE REGRESSIONS FOR THE EXPENDITURE RATIOS

No.	Constant	E'	E^{g+s}	TR	I	PUR	PER	N	R^2	F	DW
(1) Nominal	17.539	-0.337 (20.379) ¹						32	0.385	20.379 ¹	1.448
(2) Nominal	26.272		-0.624 (9.274) ¹	-0.800 (3.034)	3.572 (3.393)			32	0.468	10.075 ¹	1.689
(3) Nominal	26.321			-0.802 (2.679)	3.563 (3.216)	-0.635 (1.606)	-0.611 (0.931)	32	0.448	7.293	1.691
(4) Real	22.304	-0.459 (18.121) ¹						32	0.356	18.121 ¹	1.329
(5) Real	25.553		-0.309 (0.662)	-1.241 (14.437) ¹	4.410 (5.244)			32	0.463	9.894 ¹	1.700
(6) Real	25.451			-1.248 (10.958) ¹	4.422 (4.940)	-0.325 (0.366)	-0.267 (0.053)	32	0.443	7.157	1.707

Source: See Table 1.

¹Significant at 1 percent—F-values in parentheses.

TABLE 3

REGRESSIONS FOR THE RATIOS OF TAXES T_{ST} , INDIRECT TAXES T_{IND} , DIRECT TAXES T_{DIR} , SOCIAL SECURITY CONTRIBUTIONS T_{SOC} , AND SURPLUS/DEFICIT S/D

No.	Constant	T_{ST}	T_{IND}	T_{DIR}	T_{SOC}	S/D	N	R^2	F	DW
(1)	21.983	-0.469 (14.595) ¹					32	0.305	14.595 ¹	1.466
(2)	-29.484		2.612 (15.603) ¹				32	0.320	15.603 ¹	1.633
(3)	15.230			-0.929 (12.387) ¹			32	0.269	12.387 ¹	1.436
(4)	13.879				-0.795 (13.675) ¹		32	0.290	13.675 ¹	1.401
(5)	4.699					0.644 (28.549) ¹	32	0.471	28.549 ¹	1.786
(6)	-20.117		2.126 (1.509)	-0.389 (0.403)	0.118 (0.025)		32	0.285	5.126 ¹	1.615
(7)	7.788	-0.085 (0.261)				0.572 (9.418) ¹	32	0.457	14.054 ¹	1.756
(8)	-3.006		0.599 (0.132)	-0.382 (0.483)	0.360 (0.287)	0.584 (7.820) ¹	32	0.425	6.734 ¹	1.804

Source: See Table 1.

¹Significant at 1 percent— F -values in parentheses.

TABLE 4
INCOME REPORTED TO THE FISCAL ADMINISTRATION AND
NATIONAL INCOME (DM BILL.)

Year	1961	1965	1968	1971	1974
(1) Income of employees reported to the fisc	129.0 ¹ 148.8 ²	189.6 ¹ 216.7 ²	216.1 ¹ 249.6 ²	340.7 ¹ 393.4 ²	470.6 ¹ 549.1 ²
(2) National income of employees	163.4	235.2	271.9	408.3	560.7
(1) as a percentage of (2)	78.9 ¹ 91.1 ²	80.6 ¹ 92.1 ²	79.5 ¹ 91.8 ²	83.4 ¹ 96.4 ²	83.9 ¹ 97.9 ²
(3) Other income reported to the fisc	63.3 ¹ 68.4 ²	79.1 ¹ 89.8 ²	89.3 ¹ 117.2 ²	117.0 ¹ 159.1 ²	136.4 ¹ 186.6 ²
(4) Other national income	97.3	123.4	148.0	182.8	211.7
(3) as a percentage of (4)	65.1 ¹ 70.3 ²	64.1 ¹ 72.8 ²	60.3 ¹ 79.2 ²	64.0 ¹ 87.0 ²	64.4 ¹ 88.1 ²
(5) Total income reported to the fisc	192.3 ¹ 219.1 ²	268.7 ¹ 306.5 ²	305.4 ¹ 366.8 ²	457.7 ¹ 552.5 ²	607.0 ¹ 735.7 ²
(6) National income	260.7	358.6	419.9	591.1	772.4
(5) as a percentage of (6)	73.8 ¹ 84.0 ²	74.9 ¹ 85.5 ²	72.7 ¹ 87.4 ²	77.4 ¹ 93.5 ²	78.6 ¹ 95.2 ²

Source: See Table 1; Statistisches Bundesamt: Fachserie 14, various issues; Bundesministerium der Finanzen: Subventionsberichte, various issues.

¹Tax statistics.

²Adjusted income.

TABLE 5
CURRENCY, DEMAND DEPOSITS, M_1 , AND M_2

Year	C^a	D^a	M^a	M_2^a	C/D^b	C/M_1^b	C/M_2^b
1930	6.38			25.85			0.247
1932	5.64			18.73			0.301
1936	6.96			21.63			0.322
1938	10.40			28.64			0.363
1940	16.77			48.87			0.343
1948	6.39	6.87	13.26	14.41	0.930	0.482	0.443
1949	7.46	8.86	16.32	18.46	0.842	0.457	0.404
1950	8.11	9.96	18.06	22.54	0.814	0.449	0.360
1951	9.31	11.65	20.96	27.31	0.799	0.444	0.341
1952	10.81	12.32	23.13	31.93	0.877	0.467	0.339
1953	11.96	13.24	25.20	36.47	0.903	0.475	0.328
1954	12.75	15.70	28.45	39.38	0.812	0.448	0.324
1955	14.04	17.44	31.48	42.68	0.805	0.446	0.329
1956	14.88	19.01	33.89	47.65	0.783	0.439	0.312
1957	16.46	21.35	37.81	54.94	0.771	0.435	0.300
1958	17.94	24.64	42.58	60.52	0.728	0.421	0.296
1959	19.34	28.26	47.61	67.58	0.684	0.406	0.286
1960	20.83	30.25	51.08	72.70	0.689	0.408	0.287
1961	23.20	35.52	58.71	82.18	0.653	0.395	0.282
1962	24.25	39.03	63.28	88.46	0.621	0.383	0.274
1963	25.51	42.26	67.77	94.52	0.604	0.376	0.270
1964	27.89	45.16	73.05	100.82	0.618	0.382	0.277
1965	29.65	48.87	78.53	106.92	0.607	0.378	0.277
1966	30.88	48.74	79.62	113.39	0.634	0.388	0.272
1967	31.51	56.41	87.92	127.57	0.559	0.358	0.247
1968	32.59	60.88	93.47	142.33	0.535	0.349	0.229
1969	34.69	64.74	99.43	156.88	0.536	0.349	0.221
1970	36.89	71.33	108.22	173.38	0.517	0.341	0.213
1971	40.29	81.23	121.52	198.60	0.496	0.332	0.203
1972	45.77	93.53	139.30	232.33	0.489	0.329	0.197
1973	47.43	95.43	142.86	265.86	0.497	0.332	0.178
1974	51.52	106.91	158.43	279.60	0.482	0.325	0.184
1975	56.48	123.42	179.90	279.32	0.458	0.314	0.202
1976	60.57	126.28	186.85	298.18	0.480	0.324	0.203
1977	67.51	140.57	208.08	331.81	0.480	0.324	0.203
1978	76.20	161.71	237.91	375.41	0.471	0.320	0.203
1979	79.88	167.99	247.87	406.49	0.476	0.322	0.197
1980	83.96	173.39	257.35	440.54	0.484	0.326	0.191

Source: Calculated from Deutsche Bundesbank.

^aIn DM Bill.

^bIn percent.

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