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Service cheques in Europe - a model for Germany?

Employment effects and macro-economic costs: five scenarios

Dirk Finger

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Abstract

In the mid-nineties, near all european governments look almost desperately for a panacea against sluggish growth and high unemployment. Since this problem concerns mainly low-skilled workers, the creation of low-profile jobs in the personal service sector still seems to be one of the most promising solutions. After a long period of scepticism dominating economic thinking about the growth potential of this sector, a renaissance of the service-idea is taking place at the moment. The so called service cheque finds itself at the centre of this new policy approach. Its objective is twofold: to subsidize demand and to reduce the cost of labour. After France and Belgium, Germany is the third country introducing it at a large scale. The findings of this essay back up the opinion that direct welfare benefits, promoting the use of service-cheques, are preferable to those that rely on tax-relief incentives. On the other hand, the idea to provide households with a special welfare benefit in terms of service-cheques could prove risky once the system's high elasticity of output provokes uncontrollable budget deficits. Alternative models should therefore also be considered.

Zusammenfassung

Zu Beginn der neunziger Jahre suchen alle europäischen Regierungen beinahe Politikansätzen händeringend nach neuen zur Förderung eines beschäftigungsintensiven Wachstums. Da allem vor geringer qualifizierte Arbeitnehmer von konjunktureller und zunehmend struktureller Arbeitslosigkeit betroffen sind, erscheint die Schaffung neuer Arbeitsplätze im personennahen Dienstleistungssektor die erfolgversprechendste Lösung zu sein. Nachdem die traditionelle Wirtschaftstheorie für lange Jahre dieser Idee eine Absage erteilt hat, erlebt der Dienstleistungsgedanke zur Zeit eine Renaissance. Im Mittelpunkt dieser Politik steht der sogenannte Dienstleistungsscheck. Nach Frankreich und Belgien ist Deutschland das dritte Land, welches dieses Instrument in großem Stil einsetzt. Die Ergebnisse dieser Studie unterstützen die Ansicht, daß direkte Transferleistungen besser dazu geeignet sind, den personennahen Dienstleistungssektor zu fördern, als Systeme, die Steuererleichterungen verwenden. Andererseits zeigt die vorliegende Analyse, daß Transfermodellen eine hohe Output-Elastizität innewohnt, welche das Risiko von unkontrollierbaren Einbussen öffentlicher Gelder bei gleichzeitig schwachen employmentseffekten beinhalten. Alternativmodelle sollten deshalb ebenso berücksichtigt werden.

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Introduction

In France and Belgium, several new models of public promotion policies to favour the creation of a personal-service market are currently applied or find themselves in preparation. If considered in terms of employment, domestic and personal services have two main advantages: first, they demand a rather low level of training and professional abilities. Second, it is a sector widely protected from international price-competition. These services are therefore hoped to have enough capacity to create employment on a large scale (Europäische Kommission, 1993). The crucial element of the new policy approach is the service-cheque. This instrument can be used to purchase domestic and family services (housekeeping, childcare, shopping, cleaning, assistance to the elderly etc.)¹. The cheque's advantages are twofold: it represents a legal substitution for a genuine contract of employment, reducing transaction costs this way, and allows the employer to benefit from financial incentives (tax reduction or direct allowances).

In 1997, the German government introduced a service-cheque system which is based on the French "Cheque-emploi-service", whereas the social-democrats in opposition (SPD) propose an alternative model relying on direct transfer payments to identified households.

This discussion paper will not only explain the very concept of the servicecheque but also discuss the first experiences of existing systems in the European Community. It will also offer a typology of these models (1). Secondly, the problems of a possible implementation of different types of service-cheques in Germany will be examined (2). Finally, five scenarios will simulate probable impacts on public finance and employment (3).

¹ Existing service cheque systems, like in France or Belgium, use their own specified definition of domestic and family services. In statistical terms, the ISIC category 9 is more or less appropriate.

1. New policies to promote personal services in Europe

1.1 Domestic and family services: an underdevelopped market?

Traditional economic theory denies the idea that many jobs could be created by active development policies in a presumably underdevelopped market for domestic and family services. Therefore, all current policies doing this are lacking a proper theoretical basis. However, the search for empirical evidence to legitimate political action in this field becomes more and more successful.

The early theoretical approaches to the boom of services in all post-war economies predicted a slow but irreversable transition between the productorientated, industrial sector and the person-orientated service sector. The three sector-analysis (Fourastié, 1954; Fuchs, 1968) insisted on the idea that the needs of modern consumers become more and more immaterial once the most needs for physical goods are satisfied. New consumption patterns would therefore tend to services rather than to consumer goods.

But this "great hope" (Fourastié) for the emergence of new jobs in the personal service sector was soon dampened by new research in the behaviour of economic agents. Economists found out that services become, relatively speaking, more expensive than industrial products since services suffer from a structural lack of productivity-growth (Baumol, 1967). When television-sets, washing-machines or cars become cheaper, due to new cost-saving production-methods, labour-intensive work doesn't become cheaper.

Others proved that consumers tend automatically towards a do-it-yourselfattitude once the marginal cost of services gets out of line with marginal benefit. Thus handymanship and self-repair substitute commercial services in the private sphere (Gershuny, 1978). Additionally, the production of services shifts to black markets when labour markets get highly regulated (work protection rules, social security contributions etc.). High prices and increasing transaction costs make domestic and family services unpopular and only affordable to affluent households and those with a status consciousness. From this perspective, any public effort to promote the creation of a market for domestic and family services seems vain and a waste of taxpayer's money.

But in the 1990's, a more optimistic view is back on the political and sientific scene: personal services can develop a hidden growth potential, it is argued, either by becoming more efficient and hence at reduced cost, or with the help of an initial public investment to promote this sector boost of (Scharpf, 1995: Appelbaum/Schettkat, 1996). Other advocates of active policies in favour of domestic and family services brought in new evidence: they found a mismatch between an underdeveloped offer of domestic and family services and a potential demand with not enough funds to pay for it (Laville, 1991; Cette/Cueno/Eyssartier, 1992; Lebrun/de Sélys, 1994; Knigge/Rijnbout, 1995). Both public and business stayed aloof of this potential market for neither the rules nor the necessary infrastructures have not been provided yet.

This new "service-school" argues that thousands of low-skilled workers could find new jobs in domestic services if only demand would be sufficient. Another condition would be a transparent market with full competition in both prices and quality. This requires, in return, public intervention in order to give this market a legal framework, official standards and controlling institutions. On the demand side, recent empirical research gave hints concerning unsatisfied needs of great parts of the population. Several French institutes for social research say that between two and four millions of households in France would be prepared to create a market of roughly 20 thousand million francs, creating 80,000 to 160,000 jobs, if the costs were subsidized at 50 per cent by others. Moreover, they found that middle-class families especially would be most interested in buying domestic and family services (DARES, 1995; IGAS, 1995; SESP, 1996). These are the most important needs:

- due to demographic changes, a growing number of elderly demands care and everyday domestic services, since more and more individuals wish to spend their old age at home
- the dissolution of traditional family structures produces increasingly one-parent households and young singles living alone. They have to come to terms with both, career and private tasks
- growing social problems due to poverty, unemployment, and crime leave many individuals without care, education, or even physical protection. Often, this expects too much of public social security institutions.

Whilst other popular labour intensive services, like entertainment, sports, holidays, or travel, are more easily delivered by private businesses, this sort of domestic, personal, and often social services remains mainly underdevelopped. This is not only due to market failure, but also caused by a lack of efficient public coordination of this market. But where permanent market failure still claims public intervention to produce certain social goods, the current trend to roll back the state's stake in the economy demands new solutions in return².

These considerations lead to the idea that active labour market policies could help to develop a genuine market in this field. Hence the service cheque has the aim to do both, to bring together supply and demand and to make domestic and family services popular among consumers.

1.2 How does a service-cheque work ?

There are many variations in service cheques. Although every single one combines a variety of ends, this essay proposes the differentiation into three basic types, distinguished by their principal objective. This method is useful to analyze the three main examples of service cheques in Europe: the French CES, the Belgian LBA-cheque and the newly tested TES in France.

Basically, one can differentiate between the cheque- and the voucherprinciple. The service voucher represents a substitute for money which can only be used for the purchase of a specific good, namely identified domestic and family services. A cheque, on the other hand, is a means to benefit from a special financial, in most cases fiscal advantage when utilized to buy such a service. Vouchers can be in circulation on an anonymous basis whereas cheques always belong to a specific, namely fixed person. A voucher's value is fixed by the issuing institution, a cheque's value, on the contrary, is at the user's discretion.

What they have in common is a combined supply- and demand-side policy. They are a supply-side measure which simplifies the hiring process (substitute for a contract of employment, easy payment of social security contributions) and cheapens labour costs (direct subsidy, tax reduction, access to manpower in public employment

² This essay does not intend to discuss the normative question if social goods should be better produced by public structures instead of market forces. The actual debate does simply not consider other possibilities. This, however, does not mean that public solutions have to be dropped altogether.

schemes). But they are also a demand side measure which gives parts of the population the financial means to purchase services.

As far as the final objectives of such a sytem are concerned, there are three basic models of service cheques (see table1):

First, a cheque-system can be used to legalize work in the hidden economy, i.e. employment without any legal framework and control by fiscal authorities. To bring such forms of productive activity back into the national scheme for social charges is therefore seen as the main success of an approach to reassure *the market order* (German: "Ordnungspolitik"). The French "Chèque-emploi-service" (CES) is one example, the proposition of the German government and the coaltion party CDU is another.

Table 1	market-order policy	employment policy	industrial policy
examples	CES, CDU-model	ALE-model	TES, SPD-model
main objective	legalization of underground employment	reintegration of long- term unemployed	creation of new markets and employment
regulation	individuals	public employment agencies	commercial and other service- agencies
means of			
payment	cheque	cheque or voucher	voucher

Second, if a service cheque is introduced to put long term unemployed back to work, one can talk of a *labour market policy* approach. In this case, the cheque functions as a means to subsidize low-skilled employment by lowering labour costs. The most prominent model of this kind is the Belgian "Chèque-ALE". In the third case, the cheque scheme works more as a demand-side policy: here the system transfers additional purchasing power to economic agents who would otherwise renounce to the consumption of domestic and family services. This approach tries to strengthen an industry which is both, an almost vanished economic sector (domestic servants) and a promising, job creating industry of the future. This approach can be called *industrial policy*³. The newly created "Titre-emploi-service" (TES) in France and the approach of the social democrat opposition party SPD in Germany are examples.

As mentioned beforehand, within der European Union, the most important service cheques in use are the CES and the ALE-cheque in Belgium⁴. Another promising model is the French TES:

Introduced in 1994 by a comprehensive law for employment ("Loi quinquennale"), the "Chèque-emploi-service" (CES) can be used to pay for officially approved domestic and family services, like childcare, housekeeping, cleaning or ironing, gardening, assistance to elderly or disabled persons, etc. The CES serves at the same time as a contract of employment, an instrument to settle the social security contributions in order to insure the worker, and a means of payment. Its basis should be the minimal wage per hour, i.e. about 30,50 francs (4.7 Ecu). The household cabn claim a reduction of 50 per cent of the sum spent on wages for domestic and family services (maximum: 90,000 francs per year). The incentive to use the CES is therefore a tax reduction of 45,000 francs (7,030 Ecu), at the most. In 1996, due to the great success of the CES with consumers, the limit of working time paid by this cheque was enlarged from originally eight hours to the full legal time of 39 hours per week. In this case, an additional contract is required and a special contribution to finance training programs are claimed.

Yet the first experiences with the CES were ambiguous:

At the end of December 1995, about 250,000 permanent users were registered; this is roughly 0.6 per cent of the adult population of France. Scientific surveys found out that 160,000 of these persons were new consumers of domestic and family

³ In German, the author uses the labels "Ordnungspolitik", "Arbeitsmarktpolitik", and "Industriepolitik".

⁴ Besides, there exist smaller schemes in the Netherlands, Finland, Danmark, Great Britain, and Spain.

services. Since the introduction of the scheme, the overall number of households using domestic services grew from 717,000 to 877,000, i.e. by roughly 20 per cent (DARES, 1995). This would reduce windfall-effects to roughly 50 per cent. Thus, the CES has successfully legalized black market employments in making service cheques popular with many new consumers.

On the other hand, by May 1996, the CES has promoted the creation of roughly 40,000 full-time jobs (if the number of hours worked in the CES-scheme are divided by the ordinary 39-hours working period). At first sight, this appears as a poor result given the loss of about 600 million francs in taxes⁵. Even the generation of 430 million francs of incoming social security contributions can not make good this public deficit of roughly 8,000 francs (1,860 Ecu) per job created. However, additional inflows in VAT must be considered.

On the other hand, opportunity costs should be mentioned, in order to calculate the scheme's negative impact on other governmental programs or the demand for other products in general. Besides, the typical user of the CES still belongs to wealthy classes in the population; those who have benefited for years from tax reductions for domestic employment. In addition, the CES neither resolved the problem of quality control, nor did it contribute to the creation of a commercial market, since the cheque only settles transactions between private individuals.

Even older than the CES, but less important on a quantitative scale, is the Belgian "Chèque-ALE". This model, using both cheques and vouchers, was introduced in the summer of 1994 in order to help the long term unemployed to find a new, meaningful temporary occupation in household services. It is therefore an instrument of labour market policy. The employers (individuals, local authorities, social institutions, and agricultural producers) buy vouchers at a fixed price per hour (200 to 300 Belgian francs (5,2 respectively 7,7 Ecu). Yet the worker is not allowed to work more than 45 hours a month.

To do this, employers benefit from subsidized prices and a supplementary tax reduction (maximum: 32,000 Belgian francs, 825 Ecu, per year). The services are executed by persons out of work for at least three years. Theoretically, this happens on a compulsary basis, but in fact no registered unemployed is forced. Besides, every person willing to participate is allowed to keep 100 per cent of transfer payments,

⁵ This data is, however, not officially confirmed by the Ministry for employment.

gaining at the same time a timely extension of his right to receive unemployment benefits.

But the ALE-cheque, too, is not a complete success: although about 0.6 per cent of all Belgian adults have had bought cheques by February 1996, about 15,000 of the 150,000 long term unemployed (minimum: three years) have worked within the scheme, and this, on average, for only 22.5 hours a month. Since the direct impact on the "first" labour market is excluded, the genuine creation of full-time jobs was nil. Besides, only a few people made real gains by supplementary sources of income. On the other hand, "the case of most long term unemployed remains hopeless"⁶.

However, this cheque has one big advantage: the execution of the law introducing the ALE-system is a matter of local authorities. Here, political parties, employers and trade unions fix together the guidelines (wage-level, type of services etc.) in order to prevent disturbing effects on local markets and businesses. The social structure of the population is also considered.

A final example of a European service voucher scheme is the new "Titreemploi-service" (TES) in France. This model is currently being tested in several French regions. Its basic feature is a direct subsidy on service vouchers attributed to interested employees by their firms, respectively the firms works' councils. This makes the subsidy a part of income. Both the voucher's face value and the terms of financial aid are fixed at the discretion of the issueing authority. The tax reduction incentive equals the one for the CES.

The TES could possibly make service vouchers useful for all French employees. Additionally, a real market for domestic and family services will be created by opening the system to commercial businesses applying for a special licence. Hence firms or work's councils issuing the TES have to provide addresses of the local service industry. The national employer's union, the CNPF, is heavily promoting the creation of new firms filling the gap in domestic and family services in France (SESP, 1996). One of the first enterprises using the TES is Rhône-Poulenc Agro at Lyons. About 50 per cent of staff is reported having expressed strong interest in the voucher scheme.

⁶ Quote from a Karel Beack, Administrateur Général at the National Office for Employment in Brussels, 18th of March, 1996.

Before we turn our attention to the problem of introducing such a scheme in Germany, two other variants of the service cheque should not be ignored.

The European Commission proposes to make service vouchers a part of regular wage increases (Lebrun/de Sélys, 1994; de Sélys, 1995). This would happen by yearly wage negociations between employers and trade unions. The model hopes to generate this way the creation of 500,000 full-time jobs in Germany, respectively 70,000 in Belgium.

Another interesting scheme wants employees to have the option of paying social security contributions or buying service cheques instead (Debonneuil/Lahidji, 1994; Lahidji, 1995). The share of social security funds available for this form of purchase should be limited to real returns by additional contributions due to newly employed workers.

At first, the cheque idea seemed limited to France and Belgium, but more recently, the shock of unemployment passing the border of four million persons has produced a debate about the idea of introducing a service cheque in Germany as well.

2. A service-cheque for Germany: five options

2.1 Institutional and political restraints

Both the German labour market and the development of domestic and family services are different from the French or the Belgian context. Any attempt to introduce a service voucher has not only to consider the minor stake of domestic and family services in the German economy in general, but also institutional restraints like the major role of legal "minor" employment, the strong oligopolization of charitable organizations, and the expansion of community service as an alternative to military service.

Non-industrial services, as broadly defined in ISIC 6 and 9, play a smaller role in the German economy than in its neighbouring countries. Historically, the importance of domestic and family services between 1930 and 1979 declined from eight to four per cent in terms of its proportion of employment. The same sector increased in France by one percent (Singlemann, 1979). Price differentials between services and consumer goods were also higher in Germany than in France or Great Britain (Petit, 1986). Today, domestic services are still less important in Germany than elsewhere. In Germany, only 35,000 persons, liable to pay social security contributions, are currently employed in this sector. In France, it was 690,000 in 1994. This means that only 0.1 per cent of all German households consume domestic services on a regular basis (in France, the rate is about 3.1 per cent).

But there are other, institutional differences: the legal concept of "minor" employment⁷ adds about another 3 million workers, who are not in the ordinary employment regime, to an estimated number of 2.4 million people offering domestic and family services in the underground economy (ISG, 1993; Drohsel, 1996). The incentive to legalize domestic employment is thus especially weak. Finally, the extremely restrictive immigration law in Germany is not helpful in legalizing long-term activities of foreigners earning money in German homes.

Another problem is the strong stake of oligolopolized charitable organisations, having a strong grip on the heavily regulated market for social services. They employ most of the 180,000 young men doing their community service as an alternative to military service ("Zivildienst"). More than 10 per cent of them work in the domestic sector, delivering domestic and family services of all kind (shopping, cleaning, hoovering, care etc.), normally without any special qualification. The price of their performance is much below market level (about DM10, or Ecu5.2, per hour) and available to all ill, disabled or elderly persons without any further restrictions, like income for example. The rapid increase of these community workers proves both the poorly developed state of the German market for domestic and family services and the growing demand for them.

Finally, the personal service sector lacks efficient trade union representation, not only coordinating working conditions and pay, but also demanding public help to develop their field of activity. Even employers are not organized. This fact plays an important role in explaining the relative weakness of this industry.

All these restraints imply the need for the reorganization of the personal service sector, once a scheme of public subsidy is implemented.

⁷ "Geringfügige employment" defines legal employment without statutory insurance. This scheme applies for jobs with less than 15 hours work per week remunerated with at most DM610 per month (§ 8 SGB IV).

Following the French example, Germany introduces a service cheque to solve the problem.

2.2 Variable prospects of success: five alternative models

In 1997, the German government implements a service cheque system similar to the French CES. Yet the specific German institutional context and the ambiguous results of the French experience (see above) make a success of this approach highly questionable. Other models, though, might be more promising.

Like in France or Belgium, German fiscal policy has for years made domestic help deductable from income tax. However, this scheme is much more restrictive than the French counterpart⁸. The current finance act, designed by finance minister Theo Waigel, provides for 1997 a reform of this law: the new concept (we call it the *tax-relief model*) comprises four novelties:

- the non-restricted access to this tax allowance for domestic help
- an increase of deductible expenses from DM12,000 to DM18,000 per year
- all employments comprising monthly wages between 590 and DM1,500 are concerned
- the introduction of a service cheque ("Haushaltsscheckheft") to settle tax relief. This cheque, as designed for the German government, is not a real means of payment since it only proves the transaction in order to benefit from tax relief. The staff is still paid in cash.

The model works almost like the CES (Fig. 1): in France, a household, interested in the tax reduction scheme, orders service cheques of a certain number from a financial institution, normally a commercial bank. With these, it pays domestic services, provided by individually hired service staff. This personnel can exchange the cheques against cash at the issuing bank. The bank, in return, charges the household's account (these steps, however, are not necessary in the German model).

⁸ Since 1990, the German income tax system makes DM12,000/year deductable for households with two children, if they are younger than 10 years. Single persons must have one child of this age (§10, Abs.1, Nr.8a EStG).

On the other hand, the household pays social security contributions to the state. This task is nevertheless facilitated, because it is enough to send a social coupon, attached to each cheque, to the social insurance institution. In using the system, the household can claim a tax reduction at the end of the year by attaching the receipt of the social charges to the yearly tax return. The State simply coordinates the scheme.



This scheme is critizised by parliamentary opposition parties. The social democrats in the lower house, the Bundestag, propose an alternative scheme (we call it the *welfare benefit-model*). Their idea consists of four basic elements:

- a newly created social allowance of DM1,200 per year for households with either a child of less than 14 years of age or an elderly person which is at least 80 years old. Every additional child under 14 years old allows another DM600 per year
- this transfer payment is financed by the federal budget and granted in form of service vouchers
- the existing tax allowance-scheme of finance act for income tax will be abolished
- additionally, service-agencies coordinate the supply-side. Authorized employment pools organize both the service activities and the legal state of employment of the worker.

The functionning of the welfare benefit-model (Fig. 2) differs from other industrial policy-models, like the TES or the proposal of the European Commission: the big difference is that public investment to subsidize the service cheque is a direct one, a general transfer payment to a huge number of households.

Households qualifying for the new social benefit receive service vouchers worth DM1,200 or more per year. With these they pay services exclusively delivered by licenced service agencies, be they commercial or not. The agencies, in return, exchange these vouchers against cash at a public institution which is directly controlled by the state.



A third possibility is the introduction of the Belgian ALE-system. It is based on the possibility of buying vouchers which subsidize the labour cost of long term unemployed delivering domestic services. The framework would be service pools organizing the activity of the unemployed (we call this scheme the *employmentpolicy model*).

In this model (Fig. 3), households buy cheques from a specially created local employment agency, closely attached to the local job centre, in order to pay an unemployed person executing domestic and family services. The employment agency, in return, gratifies every received voucher with a fixed sum, slightly lower than its original value. In addition, the unemployed benefits from a special health insurance regime during his service activity. Moreover, the household benefits from tax relief when using the scheme.

In order to give a complete picture of possible service cheque options, the industrial policy-models of the European Commission, the French TES and the proposition of Michèle Debonneuil and Reza Lahidji should be considered.

The European Commission proposes a regular wage increase in industry (for example 2.5 per cent) being transformed into service vouchers with a higher nominal face value (4.5 per cent). The TES works similarly since it relies on employers and employees settling deals to finance price sunbsidies for service vouchers. The TES brings in, though, the idea of a coordinated, but commercial supply-side network (we call it the *wage-increase model*).



In the Commission's scheme (Fig. 4), the employee receives, instead of a wage increase w, service vouchers, worth w + x, from his employer. The enterprise orders vouchers from a marketing firm which, in return, takes on the vouchers once used to pay a service company or an individual executing domestic and family services. For the consumption of these vouchers, here again, a fiscal incentive of tax relief is provided. Yet the basic feature of this model remains the social partners negociating a wage increase in service vouchers.



Finally, Debonneuil and Lahidji want to utilize social security contributions in order to finance service vouchers. This means, contributors to statutory unemployment insurance are free to spend a part of their charges on services. This part is fixed by new inflows out of the creation of service-jobs entering the contributions-regime (we call it the *contributions-model*). Households receive, if they wish, a part of their social security contributions in the form of service cheques. Domestic services are delivered by licenced service agencies having the obligation to take on unemployed persons exclusively (Fig. 5).



These models would have different macroeconomic impacts on employment and public finance. In order to have an idea of possible cost-benefit relations of each model (see, for example, Musgrave/Musgrave, 1973; Mishan, 1975), different evaluation models are used. Besides, for the sake of simplification, we won't consider developments over time.

Figure 1 displays the effect of public subsidies in favour of the consumption of specific services: the initial demand curve D leads to the demand for a given volume of services (Y) and thus employment (Ey1) as determined by their marginal cost (mc1). A public subsidy on the price of Y would reduce their marginal cost to mc2. The volume of services consumed now grows to Ey2.

<u>Figure 1</u>: The effect of a service cheque-subsidy on the consumption of personal services



However, the cost of the public subsidy will transform into a new tax burden, respectively additional costs per household. Hence the overall demand for goods and services will decline. This means, in return, a shift of D to the right (D'). The consumption of services will be lower than beforehand (Ey2), but still higher than the initial volume (Ey1). Yet since the subsidy is transformed in cost (new taxes etc.),

equaling P1RSP2, a real benefit loss (QRS) emerges. A redistribution of benefits from others to the consumer of services happens. We see that the aim of a service subsidy-scheme must be an optimal cost-benefit solution implying both additional consumer rent and the net creation of employment. The redsitribution effect also has to be considered though.

How can the impacts of such a policy on public finance and employment be simulated? Two different basic assumptions *ex ante* are possible:

- a given sum of public money is "invested" in a service cheque scheme
- a given number of people using the service cheque

Here, the second approach is used. The reason for this is twofold: on the one hand, the current consumption pattern is crucial in the case of domestic services. On the other hand, the invested money can be calculated on the basis of the number of consumers. However, a final comparison will confront costs, per job created, for all five schemes. Besides, for the sake of simplification, a job is defined and calculated as full-time employment.

3. Five scenarios: sensitivity and cost-benefit analysis

Several evaluation methods show that the efficiency of all schemes discussed above differ from one another in many ways: the tax relief model and the employment policy model do not imply the risk of huge public deficits. Their employment potential is, however, rather poor. In this respect, the other schemes are much more promising. But whilst the welfare benefit-model and the contributions-model might imbalance public budgets in their pessimistic scenarios, only the wage increase model combines overall cost and employment efficiency. But this is the model whose chances of getting implemented is the most improbable.

Any attempt to simulate a cost-benefit evaluation for different policies *ex ante* must be based on common assumptions for all scenarios: the hourly wage of a service worker in the public contributions-scheme, before tax, is roughly DM25. Social

security contributions are fixed at about 45 per cent⁹. Income tax for low-wage jobs is assumed at 15 per cent on the average¹⁰. Value added tax (VAT) is 15 per cent. In order to measure the global employment impact of different, mainly part-time schemes, full-time employment implies 1,650 hours per year, i.e. a gross wage of DM41,250 per year. The reduction of transfers per unemployed person and year are assumed DM15,000. The overall cost of an unemployed person per year is reported DM39,250¹¹.

In order to determine the financial impact of the policies discussed here, a distinction between budget balance and public balance is necessary. Budget balance means changes in inflows or outflows of the federal state budget (taxes, subsidies etc.), whereas the more global public balance comprises not only the state's funds properly speaking, but also the social security budgets and financial flows of the semi-independant federal office of employment ("Bundesanstalt für Arbeit").

Some important elements of costs and benefits can not be considered since it is impossible to fix them in money terms: more important still, future entitlements to social benefits through the integration of an unemployed person or a not legally working individual into social contributions scheme (rents etc.) are left out. They therefore do not appear in the final budget. Nor are the increased transaction costs affected by the new scheme accounted for. The same goes for the opportunity costs of the increased consumption of services at the expense of other goods, the crowding-out effect of the funding of public subsidies on private investment, the discounted cost of capital, and the impact of expansion of demand on the German balance of payments¹². On the other hand, additional benefits for others (reduction of crime through reintegration of unemployed into the labour market, social stability etc.) are not considered either.

⁹ German social security contributions-scheme / statutory charges (39,2 per cent = 1995: 20,3 per cent pension scheme, 13,5 per cent health insurance, 6,5 unemployment insurance, and 1,7 per cent care insurance. A supplementary accident insurance and the solidarity contribution for Eastern Germany are added.

¹⁰ For all models is assumed, that the employer's contribution to the social security system is taxexempt.

¹¹ Public Institute for labour market resarch (IAB), BT-Drs. 13/3588.

¹² This argument, however, seems negligable as personal services are mainly produced on a national scale.

3.1 The tax-relief model

If we assume an average working time of 500 hours per year and household, a yearly tax relief per household of DM5,000, a gross income of DM12,500 before tax and contributions per part-time job, a 100 p.c. utilization rate of cheques, a number of 120,000 households using the cheque, no windfall or displacement-effect, and a jobless reintegration rate of 50 p.c, the equivalent of about 36 400 full-time jobs could be created. This would provoke a federal budget deficit of DM600 million. On the other hand, inflows of social charges would amount to DM675 million. If we assume that half of the new jobs will be taken over by formerly unemployed persons, a reduction of transfers of DM714 million could be achieved. The short term overall public balance per job would then be positive (see calculation example on page 34).

Yet since the French CES provoked a mere 20 per cent growth of household users since the tax relief-scheme was reformed, a lower number of households is more realistic. The Ministry of labour reports that roughly 30,000 households already use the tax relief-scheme, as defined by the "old" version. The Ministry forsees 50,000 additional households, i.e. employments after the envisaged reform. A sensitivity analysis, varying the number of households, windfall or displacement-effects¹³, and the jobless reintegration rate, is displayed in table 1.1 (p.29). It shows that a more realistic expectation comprises the net creation of 13,650 full-time jobs, at the price of a negative budget deficit of about 13,340 per employment created. An example of how the "realistic" scenario was calculated is given on page 34.

The sensitivity analysis of the scenario gives the more or less neutral macroeconomic efficiency feature of this model. If a distinction between costs and benefits for the employee, other actors and society as a whole is to be made, a genuine costbenefit analysis must be brought in (see table 1.2, page 29). In order to calculate monetary measures concerning the average person working in the scheme, the results of scenario II are used.

¹³ In the case of the service cheque, these effects comprise two phenomenons: first, the public subsidy is not effective since the household would, or already has consumed personal services on a legal basis (full-time employment or minor employment, as defined as "geringfügige employment"); second, a nonofficial employment already existed in the underground economy. In the latter case, a legalization produces additional benefits for society (contributions, income taxes, transfer payments). However, there is no additional output, no additional VAT and no genuine creation of employment.

The additional income per worker is fixed at DM30,938 per year since the average full-time wage (DM41,250) is reduced by a quarter by a windfall/displacement effect of 25 p.c. The average tax shortfall per person, in return, is fixed at DM21,981. This number derives from the assumption that a tax relief of DM5,000 is consumed by 60,000 households, and the total sum is divided by the actual job potential of 13,648 employments. Even if the cost of the scheme (DM250 per head) turned out being exaggerated, the final cost-benefit relation might barely be affected.

Table 1.2 tells us two things: on the one hand, the more or less "neutral" budget effect is confirmed: society's cost-benefit balance is exactly 1. On the other hand, the positive outcome for the employee is completely compensated by losses for other agents in society. Given the fact, that wealthy households, too, benefit from windfall effects, the balance is negative for specific groups, like households who are forced to use the main part of their income for consumption. This is, because short term budget deficits might require the increase of consumption taxes like VAT.

In conclusion, a modestly negative budget balance is, in a short term perspective, compensated by a more or less positive overall public balance. However, the employment effect is relatively poor, even in the optimistic scenario III. Besides, there is little incentive to create full-time jobs, for no private or public pools assure the optimal coordination of short-time employments in thousands of households. The tax relief scheme is also socially unjust as only households with high income tax rates can afford service staff on a legal basis.

A more promising approach must combine mass effects in the creation of employment, the possibility for the service staff to work on desired scale (part-time or full-time), and a more just share of the policy's cost. The welfare benefit-model attempts such a combination.

3.2 The welfare benefit-model

For this model, the same basic assumptions as for the tax relief model are used (wage level before tax: DM25 /hour, i.e. DM41,250/year with 1,650 h/year; con-

tributions-scheme: 45 p.c.; average income tax and VAT: 15 p.c.). Additionally a public transfer payment of DM1,200 per year, i.e. DM10 of DM25 per hour is given. This subsidy equals 40 per cent of real costs, and is meant a compensation for the social contributions to pay. The three scenarios displayed in table 2.1 (p. 30) use the same variables like table 1.1. Yet since the number of households is given (10 million), an assumed utilzation rate is added in order to test different reactions of agents not having asked for this benefit in the first place. The same idea explains the second new variable, the demand privately added from the families budget to the given public funds.

We see in table 2.1 (p.30) that the results differ in many ways from the tax relief scheme: the employment effect is much more promising; even in the worst case, a mere 100,000 jobs could be created.

Service-pools assure the creation of full-time jobs. In addition, we find a socially acceptable redistribution effect, since the cost for other agents, as shown in table 2.2 (p.30), is beared by a broader demographic and social basis.

On the other hand, pools mean higher transaction-costs, which do not appear in our scenario, and the budget effect might be very negative once the worst scenario (scenario III) turns out being realistic. Besides, mass effects provoke proportionally higher opportunity costs and crowding-out effects.

3.3 <u>The employment-policy model</u>

There does not exist a employment policy model designed for Germany. For this reason, a basic "optimistic" scenario uses elements of the Belgian example, the ALE (see above). In this country, about 0.6 per cent of the adult population bought service cheques or vouchers. This would correspond to about 370,000 users in Western Germany. On the supply-side, about 480,000 long term unemployed (two years and more) could theoretically take part in the programme. An obligation to do service work is, however, excluded by the German Constitution. The working time of the Belgian scheme is, on the average, only 250 hours per year. The price of a voucher is fixed at DM15/hour. The effective service demand per household is 100 hours/year, consumption per household being DM1,500/year with a wage per hour of DM10. The

degree of utilization of cheques is 100 p.c. The net tax relief is assumed max. DM650; this would correspond with a real tax reduction of DM250 per household. Although there are no social contributions to pay by neither side, the state adds a five p.c. accident insurance. The participant's wage is tax free.

Like the tax relief model, the employment policy model relies mainly on short-time jobs. In the optimistic variant, 600,000 households could produce the equivalent of about 93,000 full-time jobs. If you presume a more realistic demand, 20,500 jobs could be created. The budget effect is always positive since neither low tax shortfalls nor any additional transfers compensate the public "profit" of five DM per hour worked and paid with service cheques. Yet the modest number of employment created are still far from the "first" labour market (see table 3.1, p.31). Table 3.2 confirms the social character of this policy, which relies on the solidarity of others with the long term unemployed. On the benefit side, this model produces no long term costs *ex post* as the worker cannot claim any social benefits based on his service activity.

Even though the employment policy model produces mainly positive effects at almost no cost, its overall performance is rather modest. The main objective of the service cheque, besides the satisfaction of new needs for domestic services, the creation of employment, is not achieved. This, on the contrary, is the final aim of the wage-increase model.

3.4 The wage-increase model

This model is based on the assumption, that huge numbers of German employees accept service vouchers as a substitute for a yearly wage increase. The negotiated percentage rate (2.5) is "beefed up" by a public subsidy of additional 2 p.c. The basic assumptions here is DM4,125 gross wage of workers per month, i.e. DM49,500 per year, a gross wage of employees of DM5,000 per month, i.e. DM60,000 per year. This fixes the average wage per year at DM52,650, after having weighted the relation 70 p.c. workers, 30 p.c. employees and civil servants.

An optimistic scenario would rely on the participation of about 10 million households (there are 9,7 million members of the German trade union federation, DGB). Table 4.1 (p.32) shows that such a great demand might create the equivalent of almost one million jobs. A more realistic variant, however, is the participation of five

million households, giving work to 320,000 people. The cost-benefit balance (table 4.2, p.32) underpins this remarkable result. There are almost no negative redistributional effects of the scheme's costs.

One might nevertheless argue that this model relies on a very improbable assumption: it is hardly imaginable that a trade union accepts the transformation of a wage increase in kind. Besides, the real utilization rate of this voucher might be lower than the assumed 75 per cent since workers and employees do not belong to the "classic" clientele of domestic and family services. On the other hand, this fact might help to change general consumption patterns in favour of this sort of services.

Our final scenario considers the idea to utilize social security contributions in order to finance additional demand for services.

3.5 The contribution-model

About 28 million workers and employees currently pay contributions to the public unemployment insurance scheme. The contribution rate is 6.5 p.c. This means for an average gross wage of DM52,650 a charge of DM3,422 per year.

Table 5.1 (p.33) shows that the assumption of 14 million households could create the impressive number of 582,000 employments. On the other hand, if a more realistic scenario is used, implying 7 million households using 10 p.c. of their contributions, about 170,00 jobs might be created. A quick glance at the pessimistic variant confirmes the impression that the model's job creation rate is highly elastic implying the risk of high deficits for the insurance scheme. Table 5.2, however, shows that no negative distributional effects might emerge.

This is a very interesting, though not very realistic model, because it is based on two unlikely assumptions: first, that many non-frictional unemployed find easily a new job in domestic services, and second, that new created jobs will generate enough inflows to finance the functioning of the social security regime. This rather mixed feature is reinforced by the fact that the insurance's budget can only become balanced in a long term since shortfalls in contribution scheme are not immediately compensated by new inflows. This implies, in return, the need for short term subsidies out of the state's budget. This means additional costs. Besides, one might point out that the scheme has a segmentational impact as the unemployment insurance system finances nearly all employment policies. Shortfalls would therefore mean less funds for specific integration schemes like public employment creation or qualification.

Conclusion

This essay presented five different models of service cheques. Although the tax-relief model is the most prominent one, as applied in France and probably in this country, other variants seem more interesting and even more efficient in promoting employment in family and domestic services. As a means to reinstall the market order, the tax relief model is successful in fighting underground economy; its job-creating potential is, however, rather poor. The same goes for the employment-policy model, as it is applied in Belgium. Enriching the national policy instruments for reintegrating long term unemployed, this variant cannot resolve the mismatch-problem on the labour market of personal services either.

The industrial policy approach is in many ways more promising is, as represented by the welfare benefit-model, the wage-increase model, and the contributions-model (see table 6). First, they could create considerable numbers of jobs thanks to mass-effect potentials. All of them have also high rates of *burden sharing*, i.e. the cost of the scheme are more or less equally distributed among members of society. Nevertheless, a distinction must be drawn between these variants: both, the model based on welfare benefits and the scheme using social security contributions suffer from the uncertainty of its effects on the behaviour of the economic agent. It is characteristic for the industrial policy-approach that mass effects go with a high *elasticity of output*. This means that a small change in crucial variables provokes very different outcomes. The risk of considerable losses in public funds are therefore always imminent.

The only exception is the wage increase model: since broad sections of society have a strong incentive to use service vouchers as a part of income, mass effects without any destabilizing effects on the public budgets might be attainable. Nevertheless, the success of such a policy depends on two things: the interest of the agent in seeing nominal wage increases transformed into non-monetary value with an orienta-

ted consumption pattern, and the degree of cooperation between the trade unions and employers in order to conclude such a deal. Both these elements seem barely probable on today's political scene. For two reasons: first, in times of stagnating wage levels, workers are not willing to accept an additional loss of purchasing power to buy consumer goods. Second, the automatic implication of the state in industrial wage deals is not compatible with the general independance of the social partner's negotiations from public authority, as fixed in the German constitution. The model's *implementation chances* are therefore rather low. Yet a final judgement of this scheme should consider the experience of the new "Titre-emploiservice" in France. First data should be available early 1997.

efficiency criteria	tax relief	welfare benefit	employment policy	wage increase	social contributions
1. employment potential (full- time)	13,700	330,000	20,500	325,000	175,000
2. budget balance-effect per job (DM)	- 13,340	- 19,000	8,200	- 3,400	8,600
3. public balance-effect per job (DM)	15,000	9,500	8,200	25,000	9,200
4. redistributional effect	high	medium	high	low	low
5. output elasticity	low	high	medium	very high	very high
implementation potential	high	medium	high	low	low

table 2: five models in comparison

The findings presented before lead to the following policy propositions:

- First, once the decision to implement a service cheque system is made, the relation between the social sector, regulated by oligopolized charitable organizations, and domestic services in general should be redefined. Either a deregulation process makes this protected market a commercial one, with associations and private firms competing for the new cheque demand; or a clear separation between public and social services on the one hand, and private and personal services on the other should be made.
- Second, the existing status of legal minor employment ("geringfügige employment") - without any right to social security allowances - should be suppressed in favour of a cheque scheme reducing additional cost for employers. In order to compensate the discriminated non-service sector, manpower-pools for flexible and short-time employment could benefit from tax relief schemes or other forms of public promotion.
- Third, the idea to introduce a tax relief model should be dropped in favour of an industrial policy approach. A model based on welfare benefit transfers might be the best solution, even if unforseen side effects can produce high public deficits. This risk could be reduced, however, by sociological research effords revealing the effective demand potential for domestic and family services in Germany. The benefiting population could thus better identified, and windfall-effects reduced. The most promising solution, a combination of private income and public subsidy, should be object of a public debate between employers, trade unions and public authorities.
- Fourth, additionally transaction costs could be saved by using chip-cards instead of old-fashionned paper-cheques. Especially a welfare benefit-model could be based on chip-cards distributed to households and occasionnally recharged by financial institutions.

Besides, any hope to create more than 300,000 jobs by the help of service cheques could prove to ambitious a policy, for the employment potential of personal services is limited by the number of unemployed persons willing to do this kind of low-profile work. Only a process of active revaluation of services as an occupation equal to other professions might change this handicap in the long run.

Tables

scenario ¹⁴	employment	budget	social	transfer	budget	public
		balance	charges	savings	balance/job	balance/job
scenario I <i>"optimistic"</i>	36,364	- 285 m	675 m	714 m	- 7,837	30,250
scenario II <i>"realistic"</i>	13,648	- 182 m	253 m	134 m	- 13,335	15,021
scenario III "pessimistic"	4,558	- 111 m	85 m	18 m	- 24,353	- 1,755

<u>Table 1.1</u>: The tax-relief model - sensitivity analysis (three scenarios): employment in persons, cost/benefits in DM

<u>Table 1.2</u> The tax-relief model: cost-benefit balance in prospective (in DM per person/year), using assumptions of scenario II (see table 1.1)

	employee	others	society
benefit			
1. additional income, output	30,938	0	30,938
2. additional income tax / VAT	- 4,721	4,721	0
3. additional social security contributions	- 13,922	13,922	0
4. reduction of transfer payments	- 3,750	3,750	0
5. other benefits	+	+	+
cost			
1. tax shortfall	0	21,981	21,981
2. cost of cheque-scheme	0	250	250
3. other costs	_	_	_
sum of benefits	8,545	22,393	30,938
sum of cost	0	22,231	22,231
balance	8,545	162	8,707
cost-benefit relation	1.38	1.0	1.4

¹⁴ - The "optimistic" scenario I: 120.000 households, no windfall/displacement-effect, 50 p.c jobless reintegration rate

⁻ The "realistic" scenario II: 60.000 households, 25 p.c windfall/displacement-effect, 25 p.c. jobless reintegration rate

⁻ The "pessimistic" scenario III: 30.000 households, 50 p.c windfall/displacement, 10 p.c. jobless reintegration rate

scenario ¹⁵	employment	budget	social	transfer	budget	public
		Dalance	charges	Savings	balance/job	balance/job
scenario I <i>"optimistic"</i>	727,273	- 5,700 m	13,500 m	14,300 m	- 7,837	30,387
scenario II <i>"realistic"</i>	327,273	- 6,200 m	6,100 m	3,200 m	- 18,944	9,472
scenario III "pessimistic"	109,091	- 5,100 m	2,000 m	428 m	- 46,750	- 24,750

<u>Table 2.1</u>: The welfare benefit-model - sensitivity analysis (three scenarios): employment in persons, costs/benefits in DM

<u>Table 2.2</u> The welfare benefit-model: cost-benefit balance in prospective (in DM per person/year), using assumptions of scenario II (see table 2.1)

	employee	others	society
benefit			
1. add. income, output	30,938	0	30,938
2. add. income tax / VAT	- 4,721	4,721	0
3. add. social security contributions	- 13,922	13,922	0
4. reduction of transfer payments	- 3,750	3,750	0
5. other benefits	+	+	+
cost			
1. budget outflow	0	27,498	27,498
2. cost of voucher-scheme	0	100	100
3. cost of pool coordination		300	300
4. other costs			
sum of benefits	8,545	22,393	30,938
sum of cost	0	27,898	27,898
balance	8,545	- 5,505	3,040
cost-benefit relation	1.38	0.80	1.11

¹⁵ - The "optimistic" scenario I: 150 p.c. additional demand, 100 p.c. utilization rate, no windfall/displacement-effect, 50 p.c. jobless reintegration.

⁻ The "realistic" scenario II: 100 p.c additional demand, 75 p.c. utilization rate, 25 p.c. windfall/displacement effect, 25 p.c. jobless reintegration rate.

⁻ The "pessimistic" scenario III: 50 p.c. additonal demand, 50 p.c. utilization rate, 50 p.c. windfall/displacement-effect, 10 p.c. jobless reintegration rate.

scenario ¹⁶	employment	budget	social	transfer	budget	public
		balance	charges	savings	balance/job	balance/job
scenario I <i>"optimistic"</i>	92,929	710 m	_	_	7,640	7,640
scenario II <i>"realistic"</i>	20,444	167 m	_	_	8,169	8,169
scenario III "pessimistic"	4,566	37 m	_	_	8,103	8,103

Table 3.1: The employment-policy model - sensitivity analysis (three scenarios)

<u>Table 3.2</u> The employment-policy model: cost-benefit balance in prospective (in DM per person/year), using assumptions of scenario II (see table 3.1)

	unemployed	others	society
benefit			
1. add. income, output	2,500	0	2,500
2. add. VAT	- 375	375	0
3. add. social security contributions	0	0	0
4. reduction of transfer payments	0	0	0
5. other benefits	+	+	+
cost			
1. budget outflow	0	556	556
2. add. accident insurance	0	19	19
3. cost of voucher-scheme	0	100	100
4. cost of pool coordination	0	300	300
5. other costs			
sum of benefits	2,125	375	2,500
sum of cost	0	975	975
balance	2,125	- 600	1,525
cost-benefit relation	6.67	0.38	2.56

¹⁶ - The "optimistic" scenario I: 600.000 households, 250 h/year service demand, no windfall/displacement-effect

⁻ The "realistic" scenario II: 300.000 households, 150 h/year service demand, 25 p.c. windfall/displacement effect

⁻ The "pessimistic" scenario III: 150.000 households, 100 h/year service demand, 50 p.c. windfall/displacement-effect

<u>Table 4.1</u>: The wage-increase model - sensitivity analysis (three scenarios): employment in numbers, cost in DM

scenario ¹⁷	employment	budget	social	transfer	budget	public balance/iob
scenario I	1.4 m	- 2,000 m	26,700 m	27,500 m	- 1,429	40,143
<i>"optimistic"</i> scenario II	324,848	- 1,100 m	6,000 m	3,200 m	- 3,386	24,935
"realistic" scenario III "pessimistic"	53,333	- 838 m	990 m	209 m	- 15,713	6,769

<u>Table 4.2</u> The wage-increase model: cost-benefit balance in prospective (in DM per person/year), using assumptions of scenario II (see table 4.1)

	employee	others	society
benefit			
1. add. income, output	30,938	0	30,938
2. add. income tax / VAT	- 4,721	4,721	0
3. add. social security contributions	- 13,922	13,922	0
4. reduction of transfer payments	- 3,750	3,750	0
5. other benefits	+	+	+
cost			
1. budget outflow	0	13,135	13,135
2. cost of voucher-scheme	0	100	100
3. cost of pool coordination	0	0	0
4. other costs			
sum of benefits	8,545	22,393	30,938
sum of cost	0	13,235	13,235
balance	8,545	9,158	17,703
cost-benefit relation	1.38	1.69	2.34

¹⁷ - The "optimistic" scenario I: 10 million households, 150 p.c. additional demand, 100 p.c. utilization rate, no windfall/displacement-effect, 50 p.c. jobless reintegration rate.

⁻ The "realistic" scenario II: 5 million households, 100 p.c. additional demand, 75 p.c. utilization rate, 25 p.c. windfall/displacement effect, 25 p.c. jobless reintegration rate.

⁻ The "pessimistic" scenario III: 2.5 million households, 50 p.c. additional demand, 50 p.c. utilization rate, 50 p.c. windfall/displacement-effect, and 10 p.c. jobless reintegration rate.

<u>Table 5.1</u>: The contributions-model - sensitivity analysis (three scenarios): employment in numbers, cost/benefit in DM

scenario ¹⁸	employment	budget	social	transfer	budget	public
		balance	charges	savings	balance/job	balance/job
scenario I <i>"optimistic"</i>	581,818	5,000 m	1,200 m	11,400 m	8,594	29,563
scenario II <i>"realistic"</i>	174,545	1,500 m	- 1,600 m	1,700 m	8,594	9,167
scenario III "pessimistic"	43,636	378 m	- 1,600 m	171 m	8,663	- 22,917

<u>Table 5.2</u> The wage-increase model: cost-benefit balance in prospective (in DM per person/year), using assumptions of scenario II (see table 5.1)

	employee	others	society
benefit			
1. add. income, output	30,938	0	30,938
2. add. income tax / VAT	- 4,721	4,721	0
3. add. social security contributions	- 13,922	13,922	0
4. reduction of transfer payments	- 3,750	3,750	0
5. other benefits	+	+	+
cost			
1. budget outflow	0	15,938	15,938
2. cost of voucher-scheme	0	250	250
3. cost of pool coordination	0	0	0
4. other costs			
sum of benefits	8,545	22,393	30,938
sum of cost	0	16,188	16,188
balance	8,545	6,205	14,750
cost-benefit relation	1.38	1.38	1.91

¹⁸ - The "optimistic" scenario I: 14 million households, additional demand: 150 p.c., windfall/displacement: 0 p.c., reintegration rate: 50 p.c.

⁻ The "realistic" scenario II: 7 million households, additional demand: 100 p.c., windfall/displacement: 25 p.c., reintegration rate: 25 p.c.

⁻ The "pessimistic" scenario III: 3.5 million households, additional demand: 50 p.c., windfall/displacement: 50 p.c., reintegration rate: 10 p.c.

Examples of calculation

1. Tax-relief model

Scenario I ("optimistic")		
- wages: 120,000 households x DM12,500 = DM1,500 m		
- employment: 1,500 m / 25 / 1,650 = 36,364 jobs		
- tax shortfall: 120,000 x DM5,000 = DM600 m		
- social charges: DM1,500 m / 100 x 45 = DM675 m		
- taxes: 1,500 m / 100 x 15 = DM225 m		
- VAT: 1,500 m - 675 m - 225 m = 600 m / 100 x 15 = DM90 m		
- transfer savings: 36,364 / 100 x 50 (reintegration of unemployed) = 18,182 x 39,250 = DM714 m		
- federal budget: - 600 m + 225 m + 90 m = - 285 m / 36,364 = - DM7,837		
- public budget: - 285 m + 675 m + 714 m = DM1,100 m / 36,364 = DM30,250		
Scenario II ("realistic")		
- wages: 60,000 households x DM12,500 = 750 m / 100 x 75 (windfall, substitution)		
= DM563 m		
- employment: 563 m / 25 / 1,650 (full-time) = 13,648 jobs		
- tax shortfall: 60,000 x 5,000 DM = DM300 m		
- social charges: 563 m / 100 x 45 = DM253 m		
- taxes: 563 m / 100 x 15 = DM84 m		
- VAT: 563 m - 253 m- 84 m = 226 m / 100 x 15 = DM34 m		
- transfer savings: 13,648 / 100 x 25 (reintegration) = 3 412 x 39 250 = DM134 m		
- federal budget: - 300 m + 84 m + 34 m = - 182 m / 13,648 = - DM13,335		
- public budget: - 182 m + 253 m + 134 m = 205 m / 13,648 = DM15,021		
Scenario III ("pessimistic")		
- wages: 30,000 x DM12,500 = DM375 m / 100 x 50 (windfall, substitution)		
= DM188 m		
- employment: 188 m / 25 / 1,650 (full- time) = 4,558 jobs		
- tax shortfall: 30,000 x 5,000 DM = DM150 m		
- social charges: 188 m DM / 100 x 45 = DM85 m		
- taxes: 188 m / 100 x 15 = DM28 m		
- VAT: 188 m - 85 m - 28 m = 75 m / 100 x 15 = DM11 m		
- transfer savings: 4,558 / 100 x 10 (reintegration) = 456 x 39,250 = DM18 m		
- federal budget: - 150 m + 28 m + 11 m = - 111 m / 4,558 = - DM24,353		
- public budget: - 111 m + 85 m + 18 m = - DM8 m / 4,558 = - DM1,755		

2. Welfare-benefit model

Scenario I ("optimistic") - wages: 10 m households x DM1,200 DM = DM12,000 m x 2,5 (additional demand) = DM30,000 - employment: 30,000 / 25 / 1,650 (full-time) = 727,273 jobs - subsidy: 10 m x DM1,200 = DM12,000 - social charges: 30,000 / 100 x 45 = DM13,500 - taxes: 30,000 / 100 x 15 = DM4,500 - VAT: 30,000 - 13,500 - 4,500 = DM12,000 / 100 x 15 = DM1,800 - transfer savings: 727,273 / 100 x 50 (reintegration) = 363,637 x DM39,250 = DM14,300 m - federal budget: - 12,000 + 4,500 m + 1,800 m = - 5,700 m / 727,272 = - DM7,837 - public budget: - 5,700 m + 13,500 m + 14,300 m = 22,100 m / 727,272 = DM30,387 Scenario II ("realistic") - wages: 10 m households x DM1,200 = DM12,000 m / 100 x 75 (utilization) = 9,000 m x 2 (additional demand) = DM18,000 m / 100 x 75 (windfall, substitution) = DM13,500 m - employment: 13,500 / 25 / 1,650 (full-time) = 327,273 jobs - subsidy: DM9,000 m - social charges: 13,500 m / 100 x 45 = DM6,100 m - taxes: DM13,500 m / 100 x 15 = DM2,000 m - VAT: 13,500 m - 6,1 - 2,000 m = 5,400 m / 100 x 15 = DM810 m - transfer savings: 327,273 / 100 x 25 (reintegration) = 81,818 x DM39,250 = DM3,200 m - federal budget: - 9,000 m + 2,000 m + 810 m = - DM6,200 m / 327,273 = - DM18,944 - public budget: - 6,200 m + 6,100 m + 3,100 m = 3,300 m / 327,273 = DM9,472 Scenario III ("pessimistic") - wages: 10 m x DM1,200 / 2 (utilization) x 1,5 (additional demand) = DM9,000 m / 2 (windfall, substitution) = DM4,500 m - employment: DM4,500 m / 25 / 1,650 (full-time) = 109,091 jobs - subsidy: DM6,000 m - social charges: 4,500 m / 100 x 45 = DM2,000 m - taxes: 4,500 m / 100 x 15 = DM675 m - taxes: 4,500 m - 2,000 m - 675 m = DM1,800 m / 100 x 15 = DM270 m - transfer savings: 109,091 / 10 = 10,909 (reintegration) x DM39,250 = DM428 m - federal budget: - 6,000 m + 675 m + 270 m = - DM5,100 m / 109,091 = DM46,750 - public budget: - 5,100 m + 2,000 m + 428 m = - 2,700 m DM / 109,091 = DM24,750

3. Employment-policy model

<u>Scenario I ("optimistic")</u>

- wages: 600,000 households x 250 x 15 = DM2,300 m

- employment: 2,300 m / 15 / 1,650 (full-time) = 92,929 jobs

- tax shortfall: 600,000 x 250 DM = DM150 m

- accident insurance: 2,300 m / 100 x 5 = DM115 m

- public "profit": 600,000 x 250 x DM5 = DM750 m

- VAT: 600,000 x 250 x DM10 = 1,500 m / 100 x 15 = DM225 m

- federal budget bzw. public budget: - DM 150 m - 115 m + 750 m + 225 m =

DM710 m / 92,929 = DM7,640

Scenario II ("realistic")

- wages: 300,000 households x 150 x 15 = 675 m / 100 x 75 (windfall, substitution)

= DM506 m

- employment: 506 m / 15 / 1,650 (full-time) = 20,444 jobs

- tax shortfall: 300,000 x DM250 = DM75 m

- accident insurance: 675 m / 100 x 5 = DM34 m

- public "profit": 300,000 x 150 x DM5 = DM225 m

- VAT: 300,000 / 100 x 75 = 225,000 x 150 x 10 = DM338 m / 100 x 15 = DM51 m

- federal budget, respectively public budget: - 75 m - 34 m + 225 m + 51 m = DM167 m / 20,444 = DM8,169

Scenario III ("pessimistic")

- wages: 150,000 households x 100 x 15 = DM225 m / 2 (windfall, substitution) = DM113 m

- employment: 113 m / 15 / 1,650 (full-time) = 4,566 jobs

- tax shortfall: 150,000 x 250 = DM38 m

- accident insurance: 225 m / 100 x 5 = DM11 m

- public "profit": 150,000 x 100 x DM5 = DM75 m

- VAT: 150,000 / 2 = 75,000 x 100 x 10 = DM75 m DM / 100 x 15 = DM11 m

- federal budget, respectively public budget: - 38 m - 11 m + 75 m + 11 m =

DM 37 m / 4,566 = DM8,103

4. Wage-increase model

Scenario I ("optimistic")

- wages: 10 m households x DM2,369 = DM23,700 m x 2,5 = DM59,300 m - employment: 59,300 m / 25 / 1,650 = 1,4 m jobs - social charges: DM59,300 m / 100 x 45 = DM26,700 m - taxes: 59,300 m / 100 x 15 = DM8,900 m - VAT: 59,300 m - 26,7 - 8,900 m = 23,700 m / 100 x 15 = DM3,600 m - subsidy: 52,650 / 100 x 2 = DM1,053 x 10 m = DM10,500 m - transfer savings: 1,4 m / 2 x 39,250 (reintegration) = DM27,500 m - federal budget: - 10,500 m + 8,900 m + 3,600 m = 2 ,000 m / 1,4 m = DM1,429 - public budget: 2,000 m + 26,700 m + 27,500 m = 56,200 m / 1,4 m = DM40,143 Scenario II ("realistic") - wages: 5 m households x DM2,369 = 11,800 m / 100 x 75 (utilization) = DM8,900 m x 2 (additional demand) = DM17,800 m / 100 x 75 (windfall, substitution) = DM13,400 m - employment: 13,400 m / 25 / 1,650 = 324,848 jobs - social charges: 13,400 m / 100 x 45 = DM6,000 m - taxes: 13,400 m / 100 x 15 = DM2,000 m - VAT: 13,400 m - 6,000 m - 2,000 m = 5,400 m / 100 x 15 = DM810 m - subsidy: 52,650 / 100 x 2 = 1,053 DM x 5 m / 100 x 75 = DM3,900 m - transfer savings: 324,848 / 4 = 81,212 x DM39,250 (reintegration) = DM3,200 m - federal budget: - 3,900 m + 2,000 m + 810 m = - DM1,100 m / 324,848 = DM3,386 - public budget: - 1,100 m + 6,000 m + 3,200 m = DM8,100 m / 324,848 = DM24,935 Scenario III ("pessimistic") - wages: 2,5 m households x DM2,369 = DM5,900 m / 2 (utilization) = DM2,950 m x 1,5 (additional demand) = DM4,400 m / 2 (windfall, substitution) = DM2,200 m - employment: DM2,200 m / 25 / 1,650 (full-time) = 53,333 jobs - social charges: DM2,200 m / 100 x 45 = DM990 m - taxes: DM2,200 m / 100 x 15 = DM330 m - VAT: 2,200 m - 990 m - 330 m = DM880 m / 100 x 15 = DM132 m - subsidy: 52,650 / 100 x 2 = DM1,053 x 2,5 m / 2 = DM1,300 m - transfer savings: 53,333 / 10 x 39,250 (reintegration) = DM209 m - federal budget: - 1,300 m + 330 m + 132 m = - DM838 m / 53,333 = - DM15,713 - public budget: - 838 m + 990 m + 209 m = 361 m DM / 53,333 = DM6,769

5. Contributions model

Scenario I ("optimistic")

- wages: 14 m households x DM3,422 / 100 x 20 (part of contributions) = 9,600 m x 2,5 (additional

demand) = DM24,000 m

- employment: 24,000 m / 25 / 1,950 (full-time) = 581,818 jobs

- contributions shortfall: DM9,600 m

- social charges: DM24,000 m / 100 x 45 = DM10,800 m

- taxes: DM24,000 m / 100 x 15 = DM3,600 m

- VAT: 24,000 m - 10,800 m - 3,600 m = 9,600 m DM / 100 x 15 = DM1,400 m

- transfer savings: 581,818 / 2 = 290,909 x DM39,250 (reintegration) = DM11,400 m

- federal budget: 3,600 m + 1,400 m = DM5,000 m / 581,818 = DM8,594

- public budget: 5,000 m + 10,800 m - 9,600 m + 11,400 m = DM17,600 m / 581,818 = DM30,250

Scenario II ("realistic")

- wages: 7 m households x DM3,422 / 100 x 20 = 4,800 m x 2 (additional demand) = 9,6 / 100 x 75

(windfall, substitution) = DM7,200 m

- employment: 7,200 m / 25 / 1,650 (full-time) = 174,545 jobs

- contributions shortfall: DM4,800 m

- social charges: 7,200 m / 100 x 45 = DM3,200 m

- taxes: 7,200 m / 100 x 15 = DM1,100 m

- VAT: 7,200 m - 3,200 m - 1,100 m / 100 x 15 = DM1,700 m

- transfer savings: 174,545 / 4 = 43,636 x DM39,250 (reintegration) = DM856 m

- federal budget: 1,100 m + 435 m = DM1,500 m / 174,545 = DM8,594

- public budget: 1,500 m + 3,200 m - 4,800 m + 1,700 m = DM1,600 m / 174,545 = DM9,167

Scenario III ("pessimistic")

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- wages: 3,5 m households x DM3,422 / 100 x 20 = 2,400 m x 1,5 (additional demand) = 3,600 m / 2
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(windfall, substitution) = DM1,800 m

- employment: 1,800 m / 25 / 1,650 = 43,636 jobs

- contributions shortfalll: DM2,400 m

- social charges: 1,800 m / 100 x 45 = DM810 m

- taxes: 1,800 m / 100 x 15 = DM270 m

- taxes: 1,800 m - 810 m - 270 m = 720 m / 100 x 15 = DM108 m

- federal budget: 270 m + 108 m = DM378 m / 43,636 = DM8,663

- public budget: 378 m + 810 m - 2,400 m + 171 m = - 1,000 m / 43,636 = DM22,917

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