

**Charles University in Prague**

Faculty of Social Sciences  
Institute of Economic Studies



BACHELOR THESIS

**Distributional impacts of meal vouchers**

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Academic Year: **2013/2014**

## **Declaration of Authorship**

I hereby declare that I compiled this thesis independently, using only the listed resources and literature.

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Prague, May 16, 2014

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Signature

## **Acknowledgments**

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## **Bibliography Reference**

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## **Extent of the Thesis**

79,527 (with spaces)

67,256 (without spaces)

## Abstract

The thesis aims to analyze distributional impacts of meal voucher system in the Czech Republic, especially in the context of income inequality between different income groups. In the first part, we study the features of the Czech meal voucher scheme, relevant legislative framework and offer a comparison of the Czech meal voucher system with other European countries. In the second part, we perform an analysis of the redistributive effects of meal allowances on various income deciles, quantify the impact of meal allowances tax exemption on the government budget and simulate replacement of current meal allowances by flat meal allowances according to several scenarios. Based on our analysis, the meal allowances tax relief represents burden of 11.3 bn Kč for the state budget. Our findings suggest that current form of meal allowances widens the income gap between beneficiaries and non-beneficiaries, within as well as across the income deciles. The affluent households receive meal allowances more frequently, and moreover, nominally and proportionately higher. We believe a replacement of current meal allowances scheme by one with a flat meal allowances (using the constant budget) would promote income equality. Then, the lower deciles would benefit, due to higher share of individuals entitled to the meal allowances, while the upper-deciles households would see decline in the meal allowances.

**JEL Classification** D31, H23, H24, J32

**Keywords** meal allowances, income inequality, redistributive effects, tax reliefs

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## Abstrakt

Cílem této práce je analyzovat distribuční dopady stravenkového systému v České republice a to zejména v souvislosti s příjmovou nerovností mezi jednotlivými příjmovými skupinami. V první části práce se zabýváme rysy stravenkového systému v České republice, příslušným legislativním rámcem a nabízíme srovnání českého stravenkového systému s jinými evropskými zeměmi. V druhé části této práce provádíme rozbor redistribučních efektů stravného na jednotlivé příjmové decily, vyčíslujeme dopady daňového zvýhodnění stravného

na státní rozpočet a podle několika scénářů simulujeme nahrazení současné podoby stravného rovným příspěvkem na stravování. Na základě naší analýzy představuje daňové zvýhodnění stravného pro státní rozpočet zátěž 1.3 mld Kč. Naše zjištění naznačují, že současná podoba stravného rozšiřuje příjmovou propast mezi příjemci a nepřijemci, a to jak v rámci jednotlivých decilů, tak napříč nimi. Majetnější domácnosti dostávají stravné častěji, navíc v nominálně i poměrně vyšších hodnotách. Věříme, že nahrazení současného systému systémem s rovným příspěvkem na stravování (využívajícího současný rozpočet) by podpořilo příjmovou rovnost. Nižší decily by benefitovaly, díky vyššímu podílu jedinců oprávněných pobírat stravné, zatímco domácnosti z vyšších decilů by zaznamenaly pokles ve stravném.

**Klasifikace JEL**

D31, H23, H24, J32

**Klíčová slova**

stravné, příjmová nerovnost, redistribuční efekty, daňové úlevy

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# Contents

List of Tables	ix
Acronyms	xi
Thesis Proposal	xiii
<b>1 Introduction</b>	<b>1</b>
<b>2 Background</b>	<b>3</b>
2.1 History and basic description of meal voucher scheme . . . . .	3
2.2 Meal vouchers like governmental social program . . . . .	4
2.3 Some aspects of meal vouchers . . . . .	6
2.4 Meal vouchers in the Czech Republic . . . . .	10
<b>3 Description of the Czech meal voucher system</b>	<b>13</b>
3.1 How does it work? . . . . .	13
3.2 Electronic meal vouchers . . . . .	14
3.3 Legislative framework . . . . .	15
<b>4 Comparison of meal voucher schemes across Europe</b>	<b>17</b>
4.1 Western Europe . . . . .	18
4.1.1 Belgium . . . . .	18
4.1.2 France . . . . .	19
4.1.3 Germany . . . . .	20
4.2 Central and Eastern Europe . . . . .	21
4.2.1 Austria . . . . .	21
4.2.2 Hungary . . . . .	21
4.2.3 Poland . . . . .	22
4.2.4 Romania . . . . .	22
4.2.5 Slovakia . . . . .	23

---

4.3	Northern Europe . . . . .	24
4.3.1	Sweden . . . . .	24
4.4	Southern Europe . . . . .	24
4.4.1	Italy . . . . .	24
<b>5</b>	<b>Distributional impacts</b>	<b>26</b>
5.1	Data description . . . . .	26
5.2	Methodology . . . . .	27
5.3	Results . . . . .	29
5.3.1	Entire population . . . . .	29
5.3.2	Employees . . . . .	31
5.3.3	Beneficiaries . . . . .	32
5.3.4	Beneficiaries and non-beneficiaries . . . . .	33
5.3.5	Average beneficiary . . . . .	34
<b>6</b>	<b>Meal allowances and the government budget</b>	<b>35</b>
6.1	Impact on the government budget . . . . .	35
6.2	Abolition of tax exemptions . . . . .	36
6.2.1	Abolition . . . . .	36
6.2.2	Unchanged labor cost . . . . .	36
6.3	Replacement by flat tax allowances . . . . .	37
<b>7</b>	<b>Conclusion</b>	<b>40</b>
	<b>Bibliography</b>	<b>48</b>
<b>A</b>	<b>Entire population</b>	<b>I</b>
<b>B</b>	<b>Employees</b>	<b>X</b>

# List of Tables

4.1	Wanjek, 2005 *	18
5.1	Population: Meal allowances by income deciles of population . .	30
5.2	Employees: Meal allowances by income deciles of employees . . .	31
5.3	Population: Meal allowances of beneficiaries by income deciles .	33
5.4	Employees: Meal allowances of beneficiaries by income deciles of employees . . . . .	33
6.1	Different levels of meal allowances . . . . .	37
A.1	Entire population: Meal allowances by social group of house- hold's head . . . . .	I
A.2	Entire population: Meal allowances by income deciles . . . . .	I
A.3	Entire population: Households' members granted meal allowances by income deciles . . . . .	II
A.4	Entire population: Meal allowances by size of municipality . . .	II
A.5	Entire population: Meal allowances by type of municipality . . .	II
A.6	Entire population: Number of individuals comprised in house- holds granted MA, by social group of household's head within different income deciles . . . . .	III
A.7	Beneficiaries: Meal allowances by income deciles . . . . .	III
A.8	Beneficiaries and non-beneficiaries: net income by social group .	III
A.9	Beneficiaries: Households' members granted MA by income deciles	IV
A.10	Beneficiaries and non-beneficiaries: net income by income deciles	IV
A.11	Average beneficiary: marginal effect of income decile and social group . . . . .	V
A.12	Average beneficiary: marginal effect of hours worked, education and subordinates . . . . .	V
A.13	Average beneficiary: marginal effect of occupation . . . . .	VI

A.14 Replacement of MA: flat meal allowances 250 Kč (by income deciles) . . . . .	VII
A.15 Replacement of MA: flat meal allowances 250 Kč for employees only (by income deciles) . . . . .	VII
A.16 Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas (by income deciles) . . . . .	VIII
A.17 Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas only among employees (by income deciles) . . .	VIII
A.18 Population: monthly income (Kč) with different level of meal allowances (per CU, by income deciles) . . . . .	IX
A.19 Population: monthly income (Kč) with different level of meal allowances (entire household, by income decile) . . . . .	IX
B.1 Employees: Meal allowances by income deciles of employees . . .	X
B.2 Employees: Meal allowances by occupation . . . . .	XI
B.3 Employees: Households' members granted MA by income deciles of employees . . . . .	XII
B.4 Beneficiaries: Meal allowances by income deciles of employees .	XII
B.5 Beneficiaries: Households' members granted MA by income deciles of employees . . . . .	XIII
B.6 Beneficiaries and non-beneficiaries: net income by income deciles of employees . . . . .	XIII
B.7 Replacement of MA: flat meal allowances 250 Kč (by income deciles of employees) . . . . .	XIV
B.8 Replacement of MA: flat meal allowances 250 Kč for employees only (by income deciles of employees) . . . . .	XIV
B.9 Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas (by income deciles of employees) . . . . .	XV
B.10 Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas only among employees (by income deciles of employees) . . . . .	XV
B.11 Employees: monthly income (Kč) with different level of meal allowances (per CU, by income deciles of employees) . . . . .	XVI
B.12 Employees: monthly income (Kč) with different level of meal allowances (entire household, by income deciles of employees) . .	XVI

# Acronyms

- CU** consumer unit by definition OECD
- D** percentage difference between a net income of households receiving level of meal allowances stated in the following column and those who do not
- Difference** percentage difference between a net income of households receiving meal allowances and those who do not
- EH** Entire household
- HE** Higher employee
- Individuals** number of individuals comprised in households granted with meal allowances
- LE** Lower employee
- M.** Manufacture
- MA** monthly meal allowances per consumer unit
- MA Current** current meal allowances
- MA I** percentage share of income constituted by meal allowances
- MA Tax** meal allowances decreased by income tax, social security and health contribution
- MMA** number of members granted with meal allowance
- NI** monthly net income per consumer unit
- NI beneficiaries** monthly net income of households receiving meal allowances per consumer unit
- NI non-beneficiaries** monthly net income of households receiving meal allowances per consumer unit
- NoM** number of members of household
- Particip.** percentage share of households granted with meal allowances
- P+EA** Pensioner living in household with economically active members
- P-EA** Pensioner living in household without economically active members

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<b>SE</b>	Self-employed person
<b>SME</b>	Small and medium enterprises
<b>SMMA</b>	percentage share of members of household granted with meal allowance
<b>Sub.</b>	Subordinates
<b>SW</b>	skilled workers
<b>UN</b>	Unemployed person
<b>UW</b>	unskilled workers
<b>Working</b>	percentage share of economically active members of household

# Bachelor Thesis Proposal

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<b>Author</b>	Lenka Röhryová
<b>Supervisor</b>	Petr Janský Ph.D.
<b>Proposed topic</b>	Distributional impacts of meal vouchers

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**Topic characteristics** The aim of the thesis is to analyse market size of meal vouchers in Czech Republic and distribution costs of meal vouchers. Meal vouchers are widely used employee benefits. Because of tax relief they seem to be advantageous for employers as well as for employees, who do not pay income tax on meal vouchers. If company decides to provide meal vouchers, generally, it can deduct from the tax base as much as 55 percent of the value of the vouchers. Also social and health insurance payments are not comprised in the value of meal voucher. However, meal vouchers are accompanied by several expenditures, especially ones associated with the administration, for both businesses and restaurants, distribution of vouchers, press etc. Voucher providers cover many of these expenses. I consider it important to quantify these costs in order to analyse efficiency of meal voucher system.

## Hypotheses

- Who is the largest user of meal vouchers?
- How big are benefits from meal vouchers?
- How big are the costs of using meal vouchers?
- What is the size of the vouchers' market?
- How the meal voucher system contributes to business development?

**Methodology** I will use data from SILC (Statistics on Income and Living Conditions, Czech statistical office) to identify amount of household using meal vouchers, and determine how part of households' income is represented by meal vouchers. Further, I try to analyse market size probably on the basis of turnover and profits of voucher providers. Finally, I would like to observe expenses and revenues of small and medium enterprises as well as larger companies related to vouchers. For this purpose I will use available data collected by Czech statistical office. Based on these findings, I try to estimate distribution costs of meal vouchers. There are many other issues connected with meal vouchers e.g. impact on price stability or consumer behaviour, but the most of them are out of scope of this thesis.

## Outline

1. Introduction
2. Literature review
3. Description of legislative framework of the voucher system in Czech Republic
4. Partial analysis of vouchers' market
5. Modelling of distribution costs
6. Conclusion

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Supervisor

# Chapter 1

## Introduction

Meal vouchers are widely used employee benefit. Because of tax relief they seem to be advantageous for both, employers and employees. This tax exemption was broadly discussed issue some three years ago. Meal vouchers affect behavior of employees as well as firms. On the one hand, they reduce labor costs and possibly improve eating habits of employees and thus potentially increase productivity. Moreover, they give small and medium enterprises, that cannot afford canteens, the ability to take care of catering their staff, as well as the big ones do. However, they bring significant administrative burden and many restrictions. Employers must allocate an office worker who records the number of days worked by individual employees and accordingly orders the number of vouchers. Likewise restaurants have certain amount of money tied to meal vouchers and have to deal with a lag in the exchange. Furthermore, restaurants have reduced profit by commission. Whether their costs associated with meal vouchers outweigh revenue from customers attracted by vouchers is a matter for further study. Neither employees are not strictly better off. They are restricted by manner of use of meal vouchers and their validity (especially at the end of calendar year). In addition, in case of insufficiently long lunch break they do not have an opportunity to take a meal at proper restaurant. Last, but not least, disadvantage of meal vouchers is a negative impact on the state budget.

The objective of this thesis is to examine the impact of meal vouchers on income redistribution. Do meal vouchers contribute to income equality? Which income group benefits from the vouchers? Are volumes of meal vouchers equally distributed among different social groups? Many of these questions depend on structure of meal voucher market and properties of representative

of each group. Meal vouchers could be granted in certain sector or company size more frequently. Therefore, a profile of typical receiver of meal vouchers was assembled within this thesis.

The thesis is structured as follows: The Chapter 2 covers brief history of meal vouchers, pros and cons of meal vouchers, cash-equivalency and some other aspects of meal vouchers and description of governmental meal vouchers programs. Review of academic literature related to meal vouchers in the Czech Republic is presented within this chapter, too. The Chapter 3 gives some basic description of meal voucher scheme in the Czech Republic and relevant legislative framework. The Chapter 4 offers a brief overview several of meal voucher schemes across Europe. The Chapter 5 presents empirical part of this thesis: data description, methodology, observed distributional impacts of meal voucher on different income groups and a profile of typical beneficiary. Within the Chapter 6 are described impacts of meal allowances on the government budget. In addition, in this chapter we simulate replacement of meal allowances tax exemption by another tax solutions of meal allowances. The findings are summarized in the Chapter 7. Detailed results are attached in the Appendix A (related to the entire population) and Appendix B (related to the employees).

# Chapter 2

## Background

### 2.1 History and basic description of meal voucher scheme

The meal voucher scheme originates from the United Kingdom from the early 1950s. The restaurants had entered into arrangements with nearby companies, which reimburse them for meals eaten by their workers. The proper meal each day was in post-war Britain important social need. John Hack noticed the workers paying for their meals with a slip of paper. Consequently, he started to run his own company providing a voucher system for a service charge. The luncheon vouchers (as meal vouchers were called in the UK) became popular, thus the British Government granted them full exemption from the National Insurance Contribution in 1954. During 1960s was meal voucher scheme adopted in other European countries. (Wanjek, 2005)

Employers who usually pay between 50 and 100 percent of the voucher's face value grant vouchers. National laws determine the restrictions on use of vouchers. In some countries can be vouchers used only for sit-down meals or for meals of a specific caloric content, the number of vouchers that can be used per day (week or month) can be restricted, or the vouchers are valid only within a particular area. The voucher can be granted in a form of paper stamps or in a form of payment card. The paper tickets can be marked up by employee's name or the name of the company; it can be used only by employee himself or by his spouse or by anyone in the employee's family sometimes (vouchers "Vales Despensa" in Mexico). The original vouchers (for the purpose of purchasing food) have been extended to include new types of vouchers for health services, education etc. For example, The Ticket Canasta in Argentina

is used to purchase food, medical and hygiene products and school equipment. (Wanjek, 2005)

## 2.2 Meal vouchers like governmental social program

In European context are vouchers usually used as an employee benefit. However in some countries, voucher scheme constitutes an integral part of the governmental social program. Bradford and Shaviro (1999) describe voucher consumer-side and supplier-side issues using such voucher-like government programs from the United States. They offer some basic overview of voucher schemes and problems associated with them. In their opinion, vouchers are determined by a particular fashion how people actually use them (compare to subsidies). The voucher scheme must fulfill four criteria. Vouchers are granted to consumers based on personal or household characteristics. The consumer must have an intermediate choice among specific commodities vouchers are earmarked for. The certain level of supplier competition must exist (it is associated with consumer's choice). The marginal rate of reimbursement (MRR) is declining. The typical is 100%-0% structure of MRR; the 100 percent reimbursement of vouchers, followed by zero reimbursement as consumption of earmarked commodities increases.

They introduce four vouchers programs: Food Stamps, Medicare, Housing and Education. Within the Food Stamp program receives a household the difference of 30 percent of monthly income and an amount spent on an adequate low-cost diet. The Medicare (federal health insurance program) reimburses aged and certain disabled persons. They have an opportunity to choose the supplier of services (accepted by the Medicare). The lack of a final marginal reimbursement rate of zero does not sort the Medicare among voucher programs (in terms of this paper). The Housing is tenant-based assistance program. The entitled tenant pays in rent 30 percent of an income allocated for this purpose and government makes up the difference between this amount and a rent based on fair market price. The Education, voucher program adopted in Wisconsin, grants to families vouchers for a fixed amount of money that can be used for paying tuition at all certificated schools (public school are usually free of charge, unlike private schools).

The reasonings for voucher programs are related to distribution of certain

goods or services, externalities, paternalism or various market failures. In case of nonoccurrence of desirable transaction is easier to correctly identify the certain needy (starving) than within program focused on broader issue (poverty). Thus, the positive externalities of such transaction are on the beneficiaries' side (better schooling may reduce crime in certain area) as well as on donors' side (voters usually prefer to enable a poor person to buy a food rather than alcohol). This is closely related to paternalism, the unrestricted cash would be used another way than its original purpose. There are alternative non-vouchers solutions as providing voucher recipients with cash, providing suppliers of earmarked commodities with direct subsidies, or the earmarked commodities supplied by the government itself.

On the consumers-side deal Bradford and Shaviro with issues associated with providing a grant to consumers rather than suppliers, consumers' choices, cash-equivalence, incentives to be cost-conscious and eligibility criteria. The key reason for subsidizing consumers rather than suppliers is to distinguish consumers, based on the consumers' personal or household characteristics. As a consequence may consumers using vouchers face different prices for the same commodity (price discrimination). It is up to regulator to deal with inequalities of this type. From a consumer perspective are vouchers generally inferior or cash-equivalent. *"In fact, however, a voucher is equivalent to a cash grant unless the earmarking alters the recipient's overall budget allocation between commodities."* (Bradford and Shaviro, 1999, p.20) However, the voucher programs are still better option for consumer than government supply programs because offer consumer greater choice, especially in the form of private suppliers. On the other hand, consumer should be cost-conscious while using vouchers. He should use vouchers for purchase of adequate goods, e.g. to buy a food not only for reasonable price but also with given caloric content.

The optimal value of voucher depends on the marginal rate of reimbursement - *"the percentage of a dollar of extra expenditure for an earmarked commodity that the government would bear"* (Bradford and Shaviro, 1999, p.31) Setting MRRs is akin to setting marginal tax rates. The Pigovian taxes applied to mitigate negative externalities or optimal income tax (OIT) *"that taxes the commodity choice of market goods that are paid for through market work"* (Bradford and Shaviro, 1999, p.32) are set by similar mechanism. Bradford and Shaviro classify the mechanisms of setting of MRR according to target of voucher program. Cases, where the limitation of consumer's choice responds to externalities or paternalism, resemble Pigovian taxes. Cases where the vouch-

ers serve distributional objectives resemble the OIT. Sometimes, vouchers tend to be cash equivalent and therefore any restriction of consumer choice and thus voucher itself would be redundant. In this cases would be replacing vouchers with cash Pareto improvement. Finally, they describe limitation of "Program cost" in form of 100% - 0% MRR structure which, as they mention, do not have to be guaranty of "budget control". They also describe type of voucher that allows beneficiary not to spend the entire voucher and keep the cost saving from paying less (Housing). At the conclusion of consumers-side, they describe eligibility criteria based on personal or household characteristics and how to test them (Income Tests, Asset Tests, Household Composition, Staying Within the Jurisdiction and Other Subsidiary Criteria, Age).

At the supplier-side Bradford and Shaviro describe suppliers' incentives to minimize cost and innovate, supply and demand effects in competitive markets and noncompetitive and nonprofit markets. They discuss effect of competition and profitability on quality of goods and services and allocative and price effects under voucher programs. They do not neglect a time element in voucher schemes related to short-run and long-run price elasticities. The beliefs about prices in the long run affects current supply of given commodity. Therefore inappropriate voucher scheme might lead to undesirable shift in supply. In case of monopoly or nonprofit sector (where is not clear what is being maximized) might be successful adopting of voucher scheme difficult.

### 2.3 Some aspects of meal vouchers

With cash-equivalency of voucher deal Hammeresh and Johannes (1983) in their work. Their analysis relates to "moneyness" and "incomness" of already mentioned Food stamps. Within Food Stamp program were paid out almost 11 billion worth of stamps to households containing 22 million members in 1982. They conclude that despite of fact that Food Stamp money is excluded from the money stock serve not only as a medium of exchange but also as high-powered or base money. The original purpose of increasing the amount of food consumed by recipients and improving nutritional value of the food was not met. But Food Stamps may still help smooth the consumption. To uncover "moneyness" and "incomness" of Food stamps made they set of regression equations using monthly data regarding Food Stamps (Food Stamp issuances (FSI) and Food Stamp redemptions (FSR)). With respect to these variables they defined the Food Stamp Income (FSY) as the difference between FSI and

the purchase price of the Stamps and the Food Stamp Money (FSM) in month  $t$  as:

$$FSM_t = S_t + .5FSR_t.$$

Where  $S_t$  is the dollar amount of Food Stamps outstanding at the end of month  $t$  and  $FSR_t$  is the average amount of Food Stamps redeemed (they assume that  $.5FSR_t$  is outstanding on average during  $t$ ), subscripts are time indices. The FSR is constructed by interpolating linearly annual data on Food Stamp destructions.  $S$  is estimated as:

$$S_t = S_{t-1} + FSL_t, \text{ where: } FSL_t = FSI_t - FSR_t$$

To examine Food Stamp as money they use a general short-run adjustment equation of demand for money:

$$\ln M = \lambda \ln M_{-1} + \gamma X + \epsilon$$

Where  $M$  is demand for money,  $X$  is a vector of variables,  $\lambda$  and  $\gamma$  are estimators to be estimated and  $\epsilon$  is an error term.

For their purposes they substitute  $M$  for  $[M + \alpha FSM]$ :

$$\ln[M + \alpha FSM] = \lambda \ln[M_{-1} + \alpha FSM_{-1}] + \gamma X + \epsilon$$

$\alpha$  measures "moneyness", in case of  $\alpha = 1$  would be Food Stamps perfectly money-equivalent. They estimated 3 types of money demand equations: Goldfeld (1976), Friedman's (1978) and Hamburger's (1977) specification. They worked with data from two sub-periods: January 1959- January 1974 and February 1979- April 1981. Their results suggest that Food Stamps are Money. Furthermore, they argue Food Stamps as "missing money", which economists had been searching for since Goldfeld (1976), because they acts like  $M1$ . Consequently, they discussed Food Stamps as money with respect to fiscal and money supply stabilizer during recession etc.

For the purpose of estimation of the "Incomeness" they divide population into three groups: non-recipients, recipients who are capable of smoothing consumption (without Food Stamps) and recipients who are not (because of too low income), based on these they construct aggregate consumption. They found out that Food Stamp recipients behave differently on average from non-recipients.

The paper of Ziliak and Gunderson (2003) is associated with the aforementioned program of Food Stamps, too. They offer brief description of Food Stamp program and other cash-assistance programs and work-support programs, e.g. Temporary Assistance to Needy Families (TANF) or the Earned Income Tax Credit. In 1994 spent federal government about 25 billion dollars for the provision of food stamps for 27 million people. They use data on households from the Panel Study of Income Dynamics (PSID) over 1980-1999 and try to estimate the effect of food stamps on income and food consumption stabilization. The dataset is unbalanced panel treating missing observations as random events. They split the sample into low-risk sample of all families to a high-risk sample of families with current incomes less than 130 percent of the poverty line. All examined food stamp recipients are inframarginal (they spend more on food than they receive in form of food stamps). Their results suggest that food stamps reduced income volatility by about 3 percent and consumption volatility by about 4 percent (across all families) and by 12 and 14 percent at high-risk families, respectively. Based on previous studies they state that the receipt of food stamps do not lead to a decrease in the labor supply.

In background provide Ziliak and Gunderson changes in legislative framework of Food Stamp program during 90s, especially eligibility criteria. *"Households have to meet three financial criteria to qualify for the Food Stamp Program: the gross income, net income, and asset tests."* (Ziliak and Gunderson, 2003, p.3) They present development of number of household eligible for food stamps according to the criteria and number of household eligible for food stamps and really provided by food stamps, because amount of eligible households that do not participate ranges between 40 and 60 percent (depending on the method of estimation). To examine the effect of the cyclical and secular changes in the utilization of food stamps over 80s and 90s on program's role as an income and consumption stabilizer they introduce two models. For the analysis of income volatility they income decompose income into "permanent" and "transitory" components. They eliminate the time-invariant permanent component by first differencing of the original equation and estimate also robust models with the random growth heterogeneity suppressed. To examine consumption volatility they use consumption growth as function of aggregate (allocated by central planner across households) and household-specific resources. They estimates how the income growth affect the consumption growth and impact of food stamps on the variance of consumption growth expressed as

$$\text{Var} \Delta \ln c_{it} \approx \beta^2 \text{Var}(\Delta \ln y_{it}) + \text{Var}(\Delta g_{it}) + 2\text{Cov}(\Delta \ln y_{it}, \Delta g_{it}).$$

Where  $c$  is consumption,  $y$  is income,  $g$  average food stamp transfer rate. A clue to determine the variance is covariance term between log income changes and changes in the average food stamp transfer rate. The covariance should be negative because amount of food stamps rise when income decreases. Therefore consumption volatility should be lower with than without food stamps. The key variables they used were food consumption expenditures, gross labor and capital income, taxes, transfers, and demographics. Apart from these they take into account many other factors with possible impact on income growth as state-specific variables such as the unemployment rate, the growth rate in Gross State Product ect. and head-specific variables such as family size, age of the youngest child, level of education of the head, race of the head, head's self-employment status, health status, industry ect. To estimate impact of income growth on the consumption growth they use instrumental variables.

Their estimation suggests that income volatility rose up to mid 1980s and then declined for most of the samples until 1990s when it was increasing until 1993. The following two years of less volatile income were followed by another more volatile period in 1995. Moreover, their findings indicate that food stamps reduce the level of income volatility, especially for the most needy. Food consumption is less volatile than income with respect to the food consumption elasticities. There is significant different between typical and low-income households, food is about 10 percent of total expenditures for the first one but 20-30 percent for the second one. The link between consumption and income volatility is weaker for the low-income families than for pooled sample of all households. It is understandable; the poor family has meager but constant consumption nearly independent of income volatility. The high degree (almost 14 percent) of consumption volatility reduction by the Food Stamp Program among high-risk household is caused by negative correlation of food stamp benefit changes and changes in income.

Already mentioned cash-equivalency aspect of vouchers is subject of Identifying Voucher Plans without Welfare Losses by Raymond Jackson (1999). Using indifference curve analysis determines the algebraic relations of cash-equivalency or cash-inferiority of vouchers within social safety net programs. This article is in response to a textbook axiom of superiority of vouchers over cash transfers because of the above-mentioned reasons (paternalism, externalities etc.). He stated that the welfare losses resulting from in-kind (voucher) benefits (instead

of cash transfer) depend on relationship between the size of the voucher income and the income elasticity of demand for the earmarked commodity. He analyses normal good and inferior goods separately and sets couple of equations determining conditions under which is voucher plan economically efficient. Generally, recipient must consume at least voucher-subsidized amount of given good. If this voucher-subsidized amount of earmarked good is larger than its current consumption then the income elasticity of demand must be sufficiently high to satisfy given restriction. In graphical illustration must be budget constraint modified by voucher transfer a tangent to the possible highest valued indifference curve. He extends the principle of welfare loss to gifts by Waldfoegel's work from 1993.

## 2.4 Meal vouchers in the Czech Republic

In the Czech Republic is the area of meal voucher scheme practically academically uncharted. Macroeconomic efficiency of meal voucher system was partially processed by Buus and Žďárek in 2007 and revised by Buus in 2011 in terms of completion of tax amendments. The aim of these studies is examination of fiscal impacts of meal vouchers and catering of employees generally. They also estimate impact of replacement of meal vouchers by tax relief on fiscal deficit in three scenarios (optimistic, pessimistic and middle). They mention secondary effects on aggregate demand, aggregate consumption, tax collection, quality of food and catering services, price of meals, revenue of catering services, health and labor productivity. All following figures are from later version (2011).

According to their calculus are 4.254 million employees of 5.232 employed workers and the rest of them are self-employed. 1.3 million of employees are provided with meal vouchers, 1.75 million of employees use canteen and 1.204 million of them take a meal on their own.

They gained 2151 employees' responses and 353 employers' responses within questionnaire survey. 176 employees' responses were eliminated due to repeating of answers. They divide sample into two sub-periods. They declare the first period (29.5.2007- 31.5. 2007) to be biased due to high rate of questionnaires fulfilled within APROPOS IPs (over 9%), the data from the second period (1.6. 2007-8.6. 2007) are more trustworthy, the possible distortion is estimated up to 1.54% and it is still within commonly used confidence intervals (5% or 10%).

The employees' questionnaire contained informations about employee's industry, position, region, salary, employee's perception of meal vouchers, type

of catering scheme used by employer (canteen, vouchers...), utilization of meal vouchers, employee's monthly food expenditures and employer's contribution to them, required compensation in case of elimination of meal assistance, changes in employee's eating habits in case of elimination of meal assistance and two questions examining an elasticity of employee's labor supply. The employers answered several questions about industry, company ownership, personal expenditures and meal allowance, number of employees, catering scheme, expected compensation in case of elimination of meal vouchers and type of the compensation, eating habits of employees, eating culture in the company and some questions examining an elasticity of labor demand. Based on these findings they try to estimate following effects: Level of utilization of employees' catering without tax relief; salary compensation in case of elimination of meal allowance; increase in taxation of labor; impact of tax incidence on structure of consumption, employment, tax collection and VAT, monetary aggregates, catering services, unemployment benefits; labor supply and demand elasticity. They also try to estimate impact of tax incidence on shadow economics (based on other studies).

They analyzed fiscal impact in several steps. At first, they tried to estimate expenditures of employees' catering scheme. Secondly, they tried to estimate fiscal benefits of employees' catering scheme (using link between rate of utilization of system and degree of underlying benefits, labor market and secondary effects). Finally, they sum it up in terms of fiscal impacts. The estimated size of meal voucher market in 2012 (according to APROPOS's data) is 16 000 millions CZK and size of canteen market is 21 100 millions CZK. They estimated employers' contribution to meal allowance for private sector (data obtained by questionnaire survey) and using ČSU data they predicted value of meal allowance in state-owned or subsidized organizations. By OLS they estimated employers' contribution to meal allowance across European Union in 2004-2006. They also try to estimate the effect of marginal income tax and tax exempt employers' contribution on the size of employers' contribution to employees' meal by OLS, LAD model, Fixed effects, WLS, Quantile regression and heteroscedasticity robust model (using EU data).

According to their middle scenario would have replacement of tax exempt meal allowance (or meal vouchers only) by monthly fixed tax relief of 150, 250, 400, 500 CZK or by lowered VAT at 17% or 20% negative impact on fiscal deficit.

Several aims of this theses are similar to those of unpublished study by

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Janský and Dušek (2012). In their study they examine the impact of meal vouchers on redistribution among various population groups (income deciles) using ČSU data. According to their findings, more than two fifths of households use meal vouchers (or canteens) and meal vouchers constitute one percent of net income of average household. They conclude that meal vouchers do not mitigate income inequalities among households. They simulate the replacement of the meal allowances tax exemption by a flat tax allowance in accordance with the planned tax reform of 2011 as well. Their results suggest that the flat tax allowance would not change income inequalities among receivers of meal vouchers but mitigate income inequalities between beneficiaries and non-beneficiaries.

## Chapter 3

# Description of the Czech meal voucher system

Employers provide meals to employees in the form of canteens or in the form of meal vouchers. Meal vouchers as well as subsidized canteens should be granted on the top of the normal salary. Unlike other countries this nature of meal allowances is not explicitly stated in the law. Vouchers are one of the most common employee benefits in the Czech Republic. According to PWC's study PayWell 71% of employers use meal vouchers as an employee benefit, which places them at the sixth position in the ranking of the most popular benefits in the Czech Republic. (Benefit Plus, 2014) Meal vouchers in the Czech Republic are provided by three companies, Edenred, Sodexo Pass Česká republika and Le Chéque Déjeuner, who cover almost 100% of the market. Meal vouchers are received by 31.2% of employees and 44.2 % of them use canteens. (Buus, 2011, p. 2) Neither vouchers nor canteens are subject to Czech health and social security contributions and income tax. Employees are entitled to meal allowance only for business trip. In case of regular shift shall employer enable employees to take meals in breaks given by regulation, whether employer provides meal allowance to employees is up to him. The rules regulating meal subsidies are stated in the Labour Code and the Income Tax Act.

### 3.1 How does it work?

Successful distribution of meal vouchers depends on 5 players: employers, employees, vouchers providers, restaurants (merchants) and state.

Employer buys meal vouchers from provider for a given price, which con-

sists of nominal value of voucher and commission. The commission, usually between 0-3%, depends on the number of employees (the bigger the number of employees the better the probability of smaller commission). These vouchers are distributed to employees as a benefit on the top of their normal salary. The number of vouchers granted to individual employees depends on the number of workdays of the respective employee. Whether employees contribute to the voucher's price or the vouchers are granted for free depends on employer. Employees use vouchers for purchase of meal or food at the restaurants or the shops. Law does not regulate payment by vouchers, so merchant decides whether he will give change for voucher. Merchants are reimbursed from the provider of meal vouchers. Finally, the reimbursement of the merchant consists of the nominal value of the vouchers minus the commission for mediation of the sale (around 5%). The commissions paid by merchants and employers generate revenue for the provider of the vouchers. Voucher providers ensure the distribution of vouchers, from the press to the management of sites, where vouchers can be picked up by the employers or reimbursed to merchants. Moreover, voucher providers arrange an agreement with restaurants and shops where meal vouchers are accepted. By law, vouchers must be characterized by safety features to protect them against illegal counterfeiting. The vouchers are valid one calendar year as voucher providers issue new type of tickets every year. The state stands outside of this mechanism and creates business environment, including tax relief and legislative framework. (Rejzlová, 2013, pp. 17-24; Talaš, 2010, pp. 39-45)

## 3.2 Electronic meal vouchers

Since September 2013 it is possible to pay with an electronic meal vouchers: "e-stravenky Benefit Plus" by Benefit Management s.r.o. Over 1000 restaurants accept them. Electronic meal vouchers are issued in form of payment card or employee can download application Benefit Plus and pay directly from his mobile phone. Significant decrease in price of smart phones and subsequent expansion of them is the main reasons for introduction of electronic meal vouchers. The electronic meal vouchers reduce the administrative burden for merchants and for employers. Employers do not have to distribute paper tickets, just open an employee's account and load value of meal vouchers on the card. Employee activates the card by mobile phone where he among others receives authorization code for over 500 Kč payments and overview of payments.

He can pay with an accuracy of crown and does not have to deal with change. Payment lasts 15 seconds and merchant does not have to count and stamp paper meal vouchers. (Benefit Plus, 2014)

### 3.3 Legislative framework

*"The employer shall enable employees on all shifts to take meals."* (Act No 262/2006 Coll., the Labour Code, Section 263, Subsection 1) Civil servants as well as employees in private sector can receive meal allowances. Current values (for year 2014) of meal allowances are stated in the Decree.<sup>1</sup> There are three bounds for meal allowances according to duration of business trip (5-12 hours, 12-18 hours, more than 18 hours). The minimal value of meal allowance for employee from the private sector for the business trip lasting 5-12 hours (which corresponds to the usual working hours) is 67 Kč. The upper limit is not given. The value of meal allowance for civil servant (for the same duration) ranges between 67 Kč and 80 Kč.

The meal allowances could be reduced in several cases. For instance: *"If during a business trip (while working away) an employee is provided with a meal which has the characteristics of breakfast, lunch or dinner and the employee does not financially contribute to payment for such meal, the employer is entitled to reduce the meal allowance for each meal by the amount of up to 70% of the meal allowance, if the business trip lasts 5 to 12 hours"*. (Act No. 262/2006 Coll., the Labour Code, Section 163, Subsection 2) In the private sector is employer entitled to use lower degree of meal allowance curtailment whereas in public sector are meal allowance always reduced in such manner, as laid down in the Act. The rules for meal allowances abroad are described in Section 170 of Labour Code for employees in private sector and in the Section 179 of Labour Code for civil servants. I will not go over these rules as they are beyond the scope of this thesis.

*"The value of meals provided as a non-monetary fulfillment of the employer to employees for consumption at the workplace or in the canteen hedged through other entities"* (Czech National Council's Act No. 586/1992 Coll., on Income Tax, Section 6, Subsection 9, Paragraph b) is not subject to employee's income

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<sup>1</sup>Decree by the Ministry of Labour and Social Affairs No. 435/2013 Coll

tax. Consequently, this meal allowance is not subject to health contribution<sup>2</sup> and social security contribution.<sup>3</sup>

Tax solutions of meal allowances for the employer is based on the Income Tax Act.<sup>4</sup> Expenditures related to running his own catering facility as well as meal allowances for meals provided by other entities<sup>5</sup> are tax deductible expenses up to 55% of the price of one meal per shift (nominal value of the meal voucher). The remaining 45 % of the price are tax non-deductible expenses. In case that the potential tax deductible expense exceeds 70% of the current upper limit for meal allowance for civil servants (currently 80 Kč) is as tax deductible expense considered only up to this limit, i.e. maximal tax deductible expense for year 2014 is 56 Kč.<sup>6</sup> Consequently, the maximal employer's contribution with tax deductible expense of 55% of its value is 101.8 Kč (rounded). Above mentioned figures are related to 5 to 12 lasting working hours. The cost of meal (hedged through meal vouchers) means the value of meal vouchers including fee for for mediation of the sale.<sup>7</sup> The employee's contribution is not obligatory. According to their nature are meal vouchers cash equivalents(Rejzlová, 2013, p. 13). Consequently, they are not subject of value added tax, unlike commission on voucher for provider.<sup>8</sup>

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<sup>2</sup>Czech National Council's Act No 592/1992 Coll., on General Health Insurance Contributions, Section 3, Subsection 1

<sup>3</sup>Act No 589/1992 Coll., on Social Security Insurance and State Employment Policy Contributions, Section 5, Subsection 1

<sup>4</sup>Section 24, Subsection 2, Paragraph j, Subparagraph 4 of Income Tax Act

<sup>5</sup>meal vouchers are involved in this type of meal allowances

<sup>6</sup> Czech National Council's Act No. 586/1992 Coll., on Income Tax, Section 24, Subsection 2, Paragraph j, Subparagraph 4

<sup>7</sup>according to GFD Instruction No. D-6, Section 24, Subsection 2, Paragraph 19

<sup>8</sup>Act No 235/2004 Coll., on Value Added Tax, Section 4, Subsection 2, Paragraph a

## Chapter 4

# Comparison of meal voucher schemes across Europe

Meal vouchers in any form are used remuneration technique in 21 European countries. (Wanjek, 2005) Table 1 summarizes the basic figures associated with meal vouchers in Europe. We take a closer look at 10 of these countries, our neighbors (Slovakia, Poland, Germany, Austria), two other countries from Western Europe (Belgium, France) and two additional countries from CEE region (Hungary, Romania), representative of Northern Europe (Sweden) and Italy for Southern Europe. Each of these countries represent different concept of meal voucher scheme adapted to local circumstances. Individual systems differ by technical implementation and also by that each of them follows different goals. In this section, we focus on countries with unusual conditions of vouchers implementation or other peculiarities. For instance, in Romania the voucher system aims to solve the problems of malnutrition and absenteeism, on the other hand, in Hungary the main purpose of the voucher plan is improvement of eating habits (quality of food) and tax collection. Italian government introduce system of centralized procurement within meal voucher market. France, with its deep rooted food culture, has a well-functional meal voucher scheme with exemplary relations among players. And in Sweden the voucher system survives despite the fact that Sweden does not provide any tax exemption on vouchers. The following is a brief description of the meal voucher systems in mentioned countries.

	Last update to law	Workforce enrolled (%)	Maximum daily employer exemption (in €) <sup>1</sup>	Average voucher value (in €) <sup>1</sup>	Average monthly wage (in €) <sup>1</sup>	Minimum monthly wage (in €) <sup>1</sup>	Exemption /minimum wage (%)
<b>Europe</b>							
Austria	1994	10.0	4.40	1.96	1,811	1,200	7.9
Belgium	2003	25.0	4.91	5.00	2,032	1,290	7.5
Czech Republic	2002	28.3	1.52	1.57	430	150	21.9
Finland	2003	2.9	3.20	7.00	1,900	No law	n/a
France	2001	10.5	4.60	6.50	1,850	1,090.50 <sup>2</sup>	8.8
Germany	2002	1.8	3.10	4.04	2,270	1,155	5.8
Greece	1995	0.6	2.70 <sup>3</sup>	2.50	1,000	528	11.0
Hungary	2004	80	1.22	1.10	433	204	12.3
Ireland	1965	0.7	0.19	1.53	1,800	1,072	0.42
Italy	1998	10.1	5.29	4.94	1,735	1,077	10.6
Luxembourg	2001	16.7	5.60	8.25	2,032	1,290	9.4
Netherlands	2001	0.2	0	5.68	1,808	1,050	n/a
Poland	1998	0.4	2.30	1.60	530	210	23.7
Portugal	2003	2.2	6.09	3.41	645	356	38.8
Romania	2002	17.3	1.60	1.60	125	70	43.4
Slovakia	2002	5.2	1.74	1.43	316	144	26.2
Spain	1999	1.4	7.81	4.34	1,813	450	37.5
Sweden	1991	4.1	0	6.60	2,000	No law	n/a
Switzerland	2000	0.9	4.74	5.73	3,185	1,910	7.6
Turkey	2002	2.9	3.86	1.70	800	377	25.4
United Kingdom	1999	0.3	0.217	4.18	2,950	1,022	0.5

Table 4.1: Wanjek, 2005 \*

\* Some of the data in Table 4.1 do not correspond to the values specified below (in description of individual countries), as a result of legislative changes

## 4.1 Western Europe

### 4.1.1 Belgium

Belgium uses a meal voucher scheme similar to the Czech one. Meal vouchers are mainly granted to blue-collar workers and employees earning lower wages as a benefit in addition to the normal salary. (Derthoo, Wouters and Vanassche, 2010) The vouchers are provided for one lunch per working day and merchants are not permitted to return any change, moreover employees have to pay the price difference in cash. Accredited companies sell meal vouchers (Edenred or Sodexo) directly to employers. (Quaghebeur and Doutreligne, 2013) The vouchers are still subject of corporate income tax. (PWC, 2010) Average net value of one ticket is 6 euros but it differs according to specific industry. (Derthoo, Wouters and Vanassche, 2010)

Meal vouchers are exempt from social security contributions and income tax if following conditions are met. They have to be granted under collective agreement (in case of unions) or individual written agreement (where collective agreement is not possible). There are limitations on the employer's maximum contribution per voucher, which is 5.91 euros and on the employee's minimum contribution that has to be at least 1.09 euro per meal voucher (so in case of 6 euros ticket employee gets 4.91 euros net of tax and social security). The number of vouchers obtained by employee has to correspond to the number of days actually worked. Each voucher is valid for three months and can be used for purchase of meal or food explicitly noted on the ticket. The vouchers are "nominative", or alternatively, they are recorded on the employee's payslip. The remuneration compensation is not provided for the meal vouchers (because of social security contribution and income tax relief). (PWC, 2010)

From January 1, 2011 the electronic meal vouchers (in form of payment cards) were introduced by Royal Decree of October 12, 2010. They are alternative possibility to the paper vouchers, not their replacement. Also, there are extra conditions for electronic meal vouchers that have to be fulfilled. Additionally to the number of vouchers, there has to be the gross value of vouchers (reduced for the contribution of the employee) reported on the employee's payslip. Further, the employee has to be able to check validity and the balance of meal vouchers before use. In the voucher agreement (collective or individual) are fixed terms of reversibility for the choice for electronic meal vouchers. The electronic vouchers do not entail any additional cost for employees, except the cases of loss or theft. (PWC, 2010)

The same Royal Decree introducing an electronic form of meal vouchers also prohibits cumulating the vouchers with an allowance for the meal on the same day. Since 2007 self-employed individuals can obtain meal vouchers under the same conditions as regular employees. (PWC, 2010)

#### **4.1.2 France**

French meal voucher system is one of the oldest in Europe and it is built on the original British system. Over 10.5% of employees use meal vouchers (civil servants included) but almost 83% of workers consider meal vouchers as valuable benefit. Strong eating habits of long, sit-down lunches help the meal voucher system to run smoothly. Only negligible part of French workers brings

packed lunch with. Unions broadly support the voucher scheme. (Wanjek, 2005)

Conditions for tax-exempt meal vouchers are similar to that in Belgium. Special commission within French Ministry of Finance supervises the meal voucher program. Vouchers are granted by one voucher per one workday. Employees working at home or part time workers who are not working during lunch hours are not entitled to meal vouchers. Generally, vouchers should not be used on Sundays and holidays. They are not allowed to return cash in change. Both employers and employees bear the voucher cost almost equally, employer's contribution makes 50-60% of the total cost and the rest of value is borne by employee. The employer's contribution is exempt from tax and social contribution up to 5.33 euros provided that all conditions are met. The difference is subject to social contribution. (Afigec, 2014) Therefore maximum value of French meal voucher lies between 8.88 euros and 10.66. euros (Derthoo, Wouters and Vanassche, 2010) The vouchers could be used only by employees of certain company. Every ticket is valid for the calendar year of issue; if employee does not spend them they could be exchanged free of charge (within 15 days) for the same number of valid vouchers. (Afigec, 2014)

### 4.1.3 Germany

Around 12 millions of workers (of total 35 millions) can use canteens in their workplace, but almost two thirds of German workers do not receive any meal allowance. Many of them carry a homemade packaged food or use supermarket or bakery nearby. (Edenred, 2013a)

Meal vouchers are considered as cash benefit. Since January 1, 2014 can employer support employees by meal vouchers up to an amount of up to 6.10 euros per workday. The value of voucher consists of employer's and employee's contributions. Within the 6th Regulation amending the social security charges regulation (SvEV) set Federal Council (on October 10 2013) employee's contribution at 3.00 euros (an increase of 7 cents). (Edenred, 2013a) The maximal employer's contribution is 3.10 euros.<sup>1</sup> (Edenred, 2013c)

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<sup>1</sup>Section 8, Subsection 2, Income Tax Act

## 4.2 Central and Eastern Europe

### 4.2.1 Austria

The Austrian system recognizes meal vouchers (for the purchase of ready-to-eat warm meals) and food vouchers (for purchase of any food products). Each is a subject to different tax relief. The meal vouchers are tax exempt up to 4.4 euros per employee per workday. From the employees point of view are the meal vouchers not subject to social contribution and income tax (for employees).<sup>2</sup> (Edenred, 2012a) The food vouchers are exempt from tax up to 1.10 euro per employee per working day. Food vouchers are free of income tax and social insurance contributions for employees.<sup>3</sup> (Edenred, 2012b)

### 4.2.2 Hungary

Hungarian voucher plan includes two variants of vouchers. Meal vouchers can be used for purchase ready-to-eat warm meals at affiliated dining places. Food vouchers may be unrestrictedly used for buying of virtually any product (alcohol included) mostly in hypermarkets. (Wanjek, 2005) Both are involved in the group of fringe benefits. (RSM DTM Hungary, 2010) Since 2012 the employees may obtain Erzsébet Vouchers (issued by the Hungarian National Holiday Fund) as a benefit on the top of basic salary within Erzsébet programme.<sup>4</sup> Erzsébet vouchers are released in paper form or in electronic form. This programme is self-funding and the revenue from the distributions of meal vouchers is used by state for the social holiday scheme. (Ministry of Public Administration and Justice, 2012; 2013)

Over 80% of workforce (private employees as well as civil servants) are enrolled in voucher scheme. One of aims of a voucher system was to improve regulation of tax collection. Communism strongly influenced eating habits. Over 90% of companies provide some form of subsidized meals. However, in many case they offer nutritious rich but low-quality meals. Consequently, Hungarians are among the least healthy nations in Europe. Therefore, the Johan Béla programme was introduced that should, inter alia, improve quality of consumed food. Thus, regulated meal voucher become more preferable. (Wanjek, 2005)

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<sup>2</sup>Section 3, Subsection 1 Z 17, Income Tax Act 1988

<sup>3</sup>Section 3, Subsection 1Z 17, Income Tax Act 1988

<sup>4</sup>Hungarian social programme

The fringe benefits were taxed by personal income tax of 16% and health contribution levied on them was additional 14% in 2013. The tax base is 1.19 times the value of benefits. Consequently, the tax burden for the fringe benefits is 35.7%. The yearly limit of fringe benefits is 500,000 forints. The most popular fringe benefit is SZÉP leiusrecard. Payment card with three sub-accounts: accommodation, catering and leisure. All of them are limited, yearly upper for catering is 150,000 forints. (UCMS Group, 2013b) Employee's contribution to voucher is not compulsory. The monthly upper limit for Erzsébet vouchers obtained by employee is 8,000 forints. (UCMS Group, 2013a)

The European Commission has brought Hungary before the Court of Justice of the European Union. The monopoly for issuing meal vouchers created within Erzsébet programme infringes (according to European Commission) the fundamental principles of the freedom of establishment and the freedom to provide services and the Services Directive. (European Commission, 2013)

### 4.2.3 Poland

The value of meal vouchers is exempt from social security contributions to 190 zł per month, provided that the employee is not entitled to receive it in any equivalent (i.e. if employee does not receive meal voucher for several reasons he is not entitled to any compensation).<sup>5</sup> However, meal vouchers are subject to Personal Income Tax. According to the Act on the taxation of legal entities<sup>6</sup> the meal vouchers granted to employees are tax deductible expense for the company. Similarly to the Czech Republic, VAT is paid only on the commission and not on the net value of the meal vouchers.<sup>7</sup> (Edenred, 2013d)

### 4.2.4 Romania

Meal vouchers are valuable social policy tool in Romania. Due to missing lunchtime culture and expensive restaurants are vouchers rather for food than meals. To follow initial purpose of recruiting workers and abusing malnutrition is voucher market highly regulated by numerous frequently changing quotas. The unions are strongly participated. Over 4.5 million of Romanians receive

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<sup>5</sup>Section 2, Subsection 1, Paragraph 11 of the Decree of the Minister of Labour and Social Affairs from 18 December 1998, as amended

<sup>6</sup>Article 15, Subsection 1 of Act of 15 February 1992, as amended

<sup>7</sup>Act of 11 March 2004 on the tax on goods and services, as amended

food allowance in form of tickets. The supervising authority is Ministry of Finance. (Wanjek, 2005)

Tickets are not transferable to cash. Employer covers 100% of voucher's value. The maximum amount underlying tax exemption is recalculated every 6 months based on the official price index, currently it is 9.35 Lei/day (for 1st trimester 2013). Voucher expenses are fully deductible and exempt from taxes at corporate level. Since July 2010 are meal vouchers taxed at 16% for the income tax of employee. (Edenred, 2013b) The amendment of Law no. 142/1998 (original law dealing with granting of meal vouchers) introducing electronic meal vouchers in form of payment card has been adopted on 15 October 2013. Electronic vouchers bring several changes. The value of voucher is transferred directly to the employee by the issuers and not by the employer and they allow for debit of the food's price. Again there is not possibility of conversion to cash, so employee cannot use this card for cash withdrawals. The restriction on using a maximum number of vouchers per day is abolished. (Nistor and Barbu, 2013)

#### **4.2.5 Slovakia**

Slovakian meal voucher scheme (including legislative framework) is similar to the Czech one, with one significant exception. Employer is obliged to provide warm meal to employees within each shift longer than 4 hours. Employer can run his own canteen or provide meals hedge by other entities. The eating-place has to be in the workplace or nearby. Employees are entitled to a meal allowance of at least 55% of the price of meal. Furthermore, the employer contributes to the price of meal according to a collective agreement. Employer can adjust conditions of meal providing with the consent of Trade Union. (Act No 311/2001 Coll., the Labour Code, Section 152) The employer's contribution in accordance with the Labour Code is tax deductible expense (Act No 595/2003 Coll., the Income Tax Act, Section 19, Subsection 2, Paragraph c, Subparagraph 4). The meal allowance is not subject to income tax (for employees) (Act No 595/2003 Coll., the Income Tax Act, Section 5, Subsection 7, Paragraph b). Consequently, they are exempt from social contribution. (Kooperativa, 2013)

Meal voucher market is significantly smaller than in the Czech Republic. Only 9.1% of workforce is involved in the voucher scheme. (KC 2 Ltd. and Industry Watch Group, 2010)

## 4.3 Northern Europe

### 4.3.1 Sweden

Sweden has a unique meal voucher system functional without any tax incentive. Strong tradition of social benefits for employees makes from subsidized meals important bargaining tool between employers and unions. After abolition of meal vouchers tax exemption in 1991 decreased share of workers using meal vouchers dropped to 4%. About 95% of restaurants accept vouchers. They have to follow several conditions to be entitled receive vouchers. (Wanjek, 2005)

As I have mentioned above, Swedish meal vouchers (*rikskuponger*) are fully taxed at current market value. Value of voucher is usually borne equally by employer and employee. Meal vouchers are not allowed to be used for purchase of tobacco or alcohol. Merchant can return in change up to 10 Swedish kronas. (Wanjek, 2005) The tax advantages are related to the special circumstances when the employer covers the employee's cost associated with 3 meals a day. In this case can employer report taxable benefit of 20 euros per day on behalf of the employee. (Derthoo, Wouters and Vanassche, 2010)

## 4.4 Southern Europe

### 4.4.1 Italy

Majority of Italian workers has catering provided by employers, especially in medium-large firms and public sector. A quality and price of meals are usually (as part of working conditions) result of negotiations between Trade Unions and Employers' Association. Employer could choose whether he will provide meals by canteens (*mense aziendali*) or by agreement with certain restaurant (or network of restaurants) or by meal vouchers. In case of vouchers is an amount of vouchers based on bilateral agreement between issuer and employer. (Roson, 2004) The net value of voucher is given in accordance with the collective labor agreement. The average Italian meal voucher amounts around 5.29 euros. From the tax point of view, meal vouchers are exempted from social security and income taxes. (Derthoo, Wouters and Vanassche, 2010) They are subject to lower VAT. Similarly as in the Czech Republic, one restaurant can participate in several voucher networks, unlike employer who can choose only one provider. (Roson, 2004)

The Italian voucher market has oligopolistic nature, ruled by multinational companies (Sodexo, Le Chéque Déjeuner etc.). The total value of vouchers used in Italy is approximately 1,400 millions of euros. About 900,000 employees in private sector and 400,000 civil servants use meal vouchers. Because of huge number of civil servants enrolled in voucher programme the Ministry of the Economy and Finance introduced a system of centralized procurement. Consip, the agency controlled by Ministry, bargains with voucher issuers the supply conditions for large-scale orders (discounts etc.). It arranges a set of competitive auctions, where issuers compete for a contract for the supply of vouchers to all public entities in a given territory for 2 years. The possible negative impact of low purchase price of vouchers (arising from the auction) in the form of expensive conditions for the restaurants is mitigated by additional quality requirements, e.g. minimum number of restaurants accepting vouchers etc. (Roson, 2004)

# Chapter 5

## Distributional impacts

The main aim of this thesis is to contribute to efficiency analysis of the meal voucher scheme in the Czech Republic with description of distributional impacts. We examine an impact of meal allowances on households' disposable income across various income groups. We analyze a size of "meal allowances" instead of "meal vouchers income" since meal vouchers and canteens are not distinguished in used dataset. According to cited study by Buus (2011) is it possible to calculate that canteens use 58.6% of beneficiaries whilst meal vouchers receive 41.4% of beneficiaries, but it is impossible to arrive at a more detailed distinction of meal allowance usage among various income groups due to lack available information.

### 5.1 Data description

We used data of sample survey "Životní podmínky" realized by Czech Statistical Office's in 2011, the national modification of European survey EU-SILC (European Union - Statistics on Income and Living Conditions). Data were collected about May 1, 2010.

The sample consists of 20,629 observations of individuals assigned to 8,866 households. Household of employees are represented by 4,134 households in the sample. Each household is labeled by nine-digit code based on its geographical properties. Observations are described by 251 variables, 83 variables describing households and 169 variables describing individuals. These variables summarize living conditions concerning income, housing, family relations, education, health care, nutrition etc. For the purpose of our analysis, we use net income of households, income in kind (especially meal allowances) of households, mu-

municipality size, type of municipality, social group of a head of household and occupation of a head of household.

Household's income itself is meaningless without information about number of members of household. Two-person household with the same disposal income as four-person household faces different living costs, thus enjoys different living standard. For better comparability of outcomes we recalculated income variables by consumer units (CU).<sup>1</sup>

For converting the sample to the entire population was used calibration weight  $pkoef$ <sup>2</sup>, which takes into account frequency of not encountered households and unfulfilled questionnaires within certain groups.<sup>3</sup>

## 5.2 Methodology

We examine an impact of meal allowances on households' net income. We do not estimate an impact of meal allowances on individuals' net income for several reasons. Firstly, in used dataset is stated whether individual receives meal allowances but not an amount of them. But using recalculated meal allowances of households occurs mismatch between households and individuals receiving meal allowances. Secondly, large share of individuals with net income equals zero would distort the outcomes. Another reason for choosing household as a base unit (instead of individual) is sharing of incomes and expenses. Households typically share incomes. Other family members, including children, often use meal vouchers. In case of canteens subsidized eating of one member positively affects income of the entire household. Thus, from economic point of view affect meal allowances all members of household.

For the stratification of society by income were used income deciles similarly to the study by Janský and Dušek (2012). Each decile contains 10% of households based on a net income recalculated by CU.

Since this thesis is focused on meal vouchers as employee benefit we con-

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<sup>1</sup>We use OECD's definition of consumer unit. Each household is described by a sum of consumer units depending on household composition and age of children. Head of household has weight 1.0 consumer unit, children aged 0-13 years weight 0.5 unit and other members of household weight 0.7 consumers unit.

<sup>2</sup>To facilitate use of frequency weights we rounded the coefficient to an integer by truncating  $pkoef$  toward 0. Since the properties of adjusted coefficient are similar, it should not significantly affect the results.

<sup>3</sup> $pkoef$  assigns weight to each individual (household) based on municipality size (Prague's households obtain the highest weights) and social group (with increasing income increase the value of the coefficient).

structured income deciles for employees separately. In addition, meal vouchers and canteens are used mainly by employees, consequently any changes of the meal voucher system (or meal allowances in general) are most relevant to employees. Thus, we present outcomes for employees' households separately. For better representativeness of the results we constructed income deciles by employees' income only. Below we split employees into beneficiaries and non-beneficiaries estimate the income inequalities between these two groups.

In order to gain a deeper insight into distributional impacts, we look at a number of households' members granted with meal allowances and compare them with a total number of members. For modeling purposes we use the total number of people living in household (instead of CUs although all recalculation are done by CUs), as we believe that share of household's members granted with meal allowances provides better insight into the source of household's meal allowance income.

For completeness, we examined an impact of meal allowances on income inequality among receivers of non-zero meal allowances. Similarly to the general part of research, we observed required variables across income deciles for the entire population and for employees only.

For easier interpretation of results, we use monthly data on income and meal allowances instead of annual ones. We express income in meal allowances as a share of net income consisting of meal allowances ("the meal allowances income"). For the rate of participation and income inequalities among beneficiaries and non-beneficiaries we use dummy variable (dummy=1 if person is a member of household using canteen or meal vouchers, 0 otherwise).

We obtain meal allowances, net income, meal allowances income and participation rate for different groups within various income deciles, social groups, municipality size, type of municipality, sectors of activity and occupations.

We use the probit model for profiling of typical recipient of meal allowances. A dependent variable *meal\_all* indicates whether individual receives meal allowances and as independent variables we use the set of individual's characteristics.

$$meal\_all = \beta_0 + \beta_1 group + \beta_2 ni\_decil + \beta_3 occup + \beta_4 h\_worked + \beta_5 h\_worked^2 + \beta_6 educ + \beta_7 subor + \epsilon$$

Where *group* denotes social group (employee, pensioner, self-employed...) *ni\_decil* denotes income decile, *occup* denotes occupation, *h\_worked* denotes number of hours worked per week, *educ* denotes education, *subor* indicates whether individual has subordinates and  $\epsilon$  is error term. All independent variables are categorical variables, except *h\_worked* which is discrete variable. For purposes of the probit model we aggregate *education* into 3 groups: education without maturity exam, secondary education with maturity exam and related courses and university education. We include squared term *h\_worked*<sup>2</sup> in order to capture the fact that meal allowances receive mainly employees working full-time, i.e. about 40 hours per week (variable *h\_worked* takes values from 0 to 96). Regression analysis is used as a tool of descriptive statistics and does not aim to clarify any causal relationships among variables.

## 5.3 Results

Based on the finding, we conclude that 48.05% of Czech households are granted meal allowances in any form, i.e. households comprising about 5,008,817 members. Participation in larger municipalities (especially in Prague) is slightly lower than in smaller municipalities. An average household receives 175.45 Kč per month per one consumer unit in a form of meal allowances. Considering average monthly income per one CU of 15,102.94 Kč, meal allowances constitute 1.14% of household's income. (see Table 5.1 and Table A.5)

### 5.3.1 Entire population

Participation rate among income deciles significantly differs. Among households in three upper deciles 60-70% of households are granted meal allowances whereas participation rate of households from the three lowest deciles does exceed 40%. Only 26% of the first-decile households receive negligible part of their income in meal allowances (around 0.8%). This amount counts only about

54 Kč per month per CU. Proportionately, the richer end of households again benefits the most (from the seventh to ninth decile the share income in form of meal allowances accounts for 1.4% of net income compared to the  $\leq 1\%$  for the deciles on the lower end). The decline in the tenth decile is probably caused by a significant increase in the monthly net income per CU between ninth and tenth decile. (Table 5.1) Even if we consider the same percentage share of income constituted by meal allowances for all deciles, the upper-deciles workers would still enjoy higher meal allowances in absolute terms. Consequently, as the share of meal allowances income (as a part of total income) actually rises with the household's income, the meal allowances system in its current form probably helps to promote income inequality

Very low level of meal allowances per CU within the first decile is probably caused by low participation. While in higher deciles over a third of household's members receive the vouchers, the participation in the lowest decile only slightly exceeds 7%. (Table A.3) This probably stems from the higher share of economically active members within the high-deciles households, as well as the typically larger size of the average household on the lower end of the income ladder.

Decile	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
1	53.82	6185.35	0.81%	26.23%	1045003
2	91.78	9167.92	1.00%	34.50%	1040288
3	102.15	10654.09	0.96%	37.81%	1042585
4	100.89	11632.73	0.87%	35.90%	1042185
5	151.47	12739.73	1.19%	45.31%	1043062
6	169.26	13923.83	1.22%	48.29%	1041999
7	211.55	15456.07	1.37%	58.96%	1041804
8	245.60	17585.20	1.40%	62.70%	1042525
9	306.03	20792.98	1.48%	67.78%	1044191
10	322.17	32925.03	1.10%	63.03%	1040524
Total	175.45	15102.94	1.14%	48.05%	10424166

Table 5.1: Population: Meal allowances by income deciles of population

When we take a closer look at the distribution of households by social status of the head of household, then households headed by employees display significantly higher rate of participation as well as in kind income in form of

meal allowance, as we expected (compared to households headed by pensioners, unemployed etc.). (Table A.1)

### 5.3.2 Employees

Nearly 70% of employees use meal allowances and, on average, they account for 1.73% of net income, i.e. almost 270 Kč of 16 030 Kč. There are still significant disparities in the participation rate among upper and lower deciles (over 30% between the first and the tenth decile) but the participation is fairly high even for the first income decile (over 40%). The share of net income constituted by meal allowances differs across all deciles, with maximum in the seventh decile (almost 1.9%) and minimum in the first decile (1.39 %). (Table 5.2)

One third of households' members receive meal allowances on average. It is by ten percent higher share than among entire population. The difference in share of beneficiaries between lower and upper deciles occurs among employees as well. The reasoning would be similar to that for the entire population. Share of economically active members is generally higher within all deciles and rises more smoothly, unlike the trend within the entire population. The fall in a share of economically active members in the tenth decile probably reflects a social pattern of affluent families with only one employed (but highly-earning) member. (Table B.3)

E. decile	Mean			
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)
1	100.66	7204.36	1.39%	42.83%
2	149.00	9815.78	1.51%	53.84%
3	184.90	11212.78	1.65%	62.97%
4	221.07	12435.31	1.77%	63.90%
5	218.90	13628.28	1.61%	65.49%
6	236.94	14954.83	1.58%	67.15%
7	312.74	16689.27	1.87%	72.07%
8	316.68	18751.38	1.68%	77.06%
9	362.73	21941.65	1.63%	69.44%
10	315.36	18576.01	1.82%	75.80%
Average	269.25	16030.11	1.73%	69.44%

Table 5.2: Employees: Meal allowances by income deciles of employees

When ranked by occupation, the people serving in military, legislators, se-

nior state officials and teachers display the highest participation rates (over 85%). In case of members of army it is more than 95%. We observe very high participation rate (between 80-85%) also among managers, scientists, engineers, technicians, specialized manufacturers and lower state officials. Thus the largest share of beneficiaries is among civil servants and technicians in physical, technical, biological, medical and related fields. The largest share of income constituted by meal allowances (almost 2.5%) enjoy the employees of the military and state administration. (Table B.2)

On the other hand, the lowest participation rate (below 50%) is among models, salespersons, skilled workers in the mining of raw materials, construction workers and unskilled workers in agriculture, forestry, fisheries and related fields. Only 24% of the unskilled workers are granted meal allowance. This group has also the lowest meal allowances income, only 0.61% of a net income. The remaining mentioned groups and management of small businesses have meal allowances income slightly above 1.2%. (Table B.2)

### 5.3.3 Beneficiaries

Among recipients of non-zero meal allowances is share of income constituted by meal allowances as well as nominal value of meal allowances logically higher. An average value of the meal allowances income is 2.37%, i.e. over 365 Kč. In this sample can we observe decreasing relative meal allowances income with increasing income decile, unlike in previous observations. The first income decile receives 3.07% of its income in a form of meal allowances whereas the richest households receive only 1.74%. This should be expected phenomenon inasmuch as the cost of common meal does not significantly differ for low-income and high-income workers. (Table 5.3)

Number of members receiving meal allowances is fairly balanced across the deciles (compared to general part of analysis). A trend of increasing share of economical active members persists among beneficiaries (entire population as well as employees only), too. (Table A.9 and Table B.5)

The meal allowances income for employees (both in absolute and relative terms) is only slightly higher than that for the entire population. An average meal allowances share is 2.49% of a net income and average nominal value of meal allowances stands almost at 388 Kč. Looking at employees results, we observe the effect of almost non-increasing share of income constituted by meal allowances similar to the entire population estimates but there is still growing

Decile	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
1	205.16	6797.68	3.07%	100.00%	274148
2	266.03	9180.96	2.89%	100.00%	358911
3	270.19	10659.97	2.53%	100.00%	394150
4	280.98	11659.03	2.41%	100.00%	374196
5	334.30	12737.43	2.63%	100.00%	472599
6	350.47	13911.52	2.52%	100.00%	503228
7	358.78	15476.01	2.32%	100.00%	614284
8	391.70	17624.76	2.23%	100.00%	653670
9	451.47	20751.52	2.18%	100.00%	707804
10	511.15	31278.38	1.74%	100.00%	655827
Total	365.14	16565.21	2.37%	100.00%	5008817

Table 5.3: Population: Meal allowances of beneficiaries by income deciles

trend in nominal value of meal allowances. The first decile meal allowances income is distinctly higher (3.25%) than others. (Table 5.4)

E. decile	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
1	235.02	7266.84	3.25%	100.00%	174425
2	276.75	9856.06	2.81%	100.00%	206952
3	293.64	11171.38	2.63%	100.00%	216899
4	345.94	12443.72	2.77%	100.00%	193004
5	334.26	13614.69	2.45%	100.00%	190142
6	352.88	14963.06	2.36%	100.00%	191033
7	433.96	16716.40	2.60%	100.00%	192966
8	410.94	18790.75	2.18%	100.00%	167375
9	522.38	22079.21	2.35%	100.00%	103683
10	416.06	18786.88	2.41%	100.00%	2405988
Total	387.74	16682.93	2.49%	100.00%	4042467

Table 5.4: Employees: Meal allowances of beneficiaries by income deciles of employees

### 5.3.4 Beneficiaries and non-beneficiaries

Data for entire population suggests that average receiver of meal allowances has income increased by 3 180 Kč per month. Across all income deciles the net

income of non-beneficiaries is lower than the net income of beneficiaries (but for the tenth decile). The richest recipients have income lower by nearly 4 000 Kč per month (compared to non-recipients). It is probably caused by high rate of self-employed persons (with low participation) and low rate of lower employees (with high participation). (Table A.10)

We observe similar effect for participating and non-participating employees. The net income of average beneficiary is higher by 2 524 Kč per month. Using income deciles obtained for employees only, all employees' households enjoy higher income when receiving meal allowance (compared to entire population).<sup>4</sup> (Table B.6)

### 5.3.5 Average beneficiary

Estimates of the probit model suggest that average recipient of meal allowances is employee with subordinates who works full-time, 40 hours per week. He has university education. He is member of the military, teacher, legislator or clerical worker (which can be attributed to high usage of meal allowances). This result can be affected by high usage of subsidized canteens among state owned institutions. He is assigned to upper three deciles or to the fifth decile. All of these values are statistically significant at 5% significance level. The marginal effects are available at Tables 11, 12 and 13 in Appendix A.

Average marginal effect was used for quantifying of marginal effects. To find the maximum of the log likelihood function (-5486.252), six iterations were necessary. The likelihood ratio chi-square of 10525.23 indicates that whole our model is statistically significant. We used McFadden's  $R^2$  for measurement of goodness of fit. Because  $PseudoR^2$  equals 0.490 and  $adjusted PseudoR^2$  equals 0.484 we conclude that model sufficiently captures reality.

If we focus on occupations we can observe intuitive mismatch between characteristics of typical beneficiary and representative of lower three deciles. Therefore, significantly lower participation rate among poorer households may be attributed to this mismatch (representatives of lower-three deciles often work in the sectors offering low meal allowances benefits).

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<sup>4</sup>self-employed persons are excluded from income decile creation

# Chapter 6

## Meal allowances and the government budget

### 6.1 Impact on the government budget

The annual total amount of meal allowances (constituted by employers' contribution) accounts for over 17.3 bn Kč in the Czech Republic. Meal allowances are not subject of health contribution and social security contribution and they are exempt from income tax of employees. If they would not be associated with the tax exemptions, employees would pay 11% as health and social security contribution and employers would pay 34% of meal allowances' value for these purposes. Moreover, meal allowances would be part of employees' super-gross wage and thus subject of income tax. The super-gross wage was approximately 1.34 times gross wage and related income tax was 15%. All these tax rates were in force in 2010 (used dataset is from 2010). Consequently, employees would pay over 1.9 bn Kč and employers would pay almost 5.9 bn Kč in health and social security contribution. The potential income tax would account for over 3.48 bn Kč. In total, tax exemption of meal allowances burdens the government budget by of almost 11.3 bn Kč. The nearly twofold difference between our result and the 5.886 bn Kč arrived at by Jareš(2010) stems from the fact we take into account also the health and social security contribution as the previous study considered only income tax exemption.<sup>1</sup>

In addition, employers have an opportunity to deduct 55% of value of meal allowances. The potential reduction of tax base represents another loss to the

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<sup>1</sup>his result is based on estimate that 3 millions of employees receive meal allowances of 60Kč for 218 days, therefore it differs from our estimate of value of income tax exemption

state budget. Under very strong assumption that all employers using meal allowances reduce their tax base is the upper bound estimate of this loss 1.8 billions korunas (basic corporate income tax was 19% in 2010). However due to lack of data on how the employers really use the reduction of the tax base, we do not use this figure in further calculations.

## 6.2 Abolition of tax exemptions

This section deals with impact of the abolition of meal allowances tax exemptions on the households' incomes. There are three possible scenarios. Firstly, all of the tax exemptions would be abolished and meal allowances would remain at the same size (employers would compensate employees' salaries so that the net income of employees remains unchanged). We view this possibility as highly unlikely and believe that employers would cease to subsidize employees' lunches without any compensation or they would compensate employees' salaries so that their labor costs remain unchanged. Tables A.18, A.19, B.11 and B.12 summarize these estimates.

### 6.2.1 Abolition

In the case of abolition of meal allowances without any compensation, an average household would see its income drop by 421 Kč per month. Per consumer unit, this would translate into a decline of 175 Kč per month per CU. Considering only households of employees, the average household would see its income drop by 636 Kč per month (269 Kč per month per CU).

### 6.2.2 Unchanged labor cost

Within the second possibility (labor costs remained unchanged) employers would grant either 1) entire meal allowances contribution (but it would be burdened with taxes) or 2) at least 45% of previous meal allowances contribution.

**Scenario 1** Within the first scenario, the average household would see its income lowered by 274 Kč per month (114 Kč per month per CU). The obtained meal allowances would constitute 0.4% of the household income. The income of average employee's household would be reduced by 414 Kč per month (114

Kč per month per CU) and obtained meal allowances would constitute 0.6% of household income. The government budget would increase by the aforementioned 11.3 bn Kč.

**Scenario 2** Within the second scenario, remaining 45% of meal allowances would constitute 0.18% of household income (0.27% in case of employee's household). The income of average household would drop by 355Kč per month (148 Kč per month per CU). The income of average employee's household would be reduced by 536 Kč per month (227 Kč per month per CU). This scenario would increase the government budget by 6.2 bn Kč.

All of aforementioned impacts on the government budget do not take into account changes in tax incidence and other related mechanisms. For instance, in the first case (non-compensation of meal allowances) resources would not be allocated within wage mechanism but they would be used another way and finally would affect the government budget as well.

Level of meal allowances	Population		Employees	
	EH	CU	EH	CU
NI without MA (Kč )	34812.23	15102.94	38826.99	16030.11
MA I (%)	1.14%		1.73%	
NI with MA Current (Kč )	35233.28	15278.39	39463.21	16299.35
MA I (%)	0.40%		0.60%	
NI with entire MA Tax (Kč )	34959.18	15164.17	39049.03	16124.07
MA I (%)	0.18%		0.27%	
NI with 45% of MA Tax (Kč )	34878.36	15130.49	38926.91	16072.39

Table 6.1: Different levels of meal allowances

### 6.3 Replacement by flat tax allowances

We simulated the replacement of current meal allowances by flat meal allowances according to four scenarios. In the first two scenarios, we use monthly lump sum of 250Kč as it was proposed within the planned tax reform in 2011 (Janský and Dušek, 2012) and we redistribute flat meal allowances so that state expenses remain unchanged in the second two scenarios. Both kinds of meal allowances were distributed among all economically active individuals and among employees only.

**Scenario 1** In the first case we use flat meal allowances of 250Kč granted to all economically active individuals. The meal allowances in this form constitute 0.97% of household's net income. Generally, we can say that over 24% of households are better off and almost 21% of households are worse off. Average value of meal allowance per beneficiary decreases by almost 28Kč. The fact that over 24% of households are better off (although eight of ten deciles has lower income absolute terms) stems from the higher number of beneficiaries across all deciles, i.e. meal allowances are nominally lower but more people enjoy them. What is more important is that lower-deciles households are significantly better off and meal allowances of two lowest deciles are even nominally higher. (Tables A.14 and B.7)

The same trend is possible to observe within employees' households. The poorest households are better off but the richest ones have meal allowances significantly lowered compared to current form of meal allowances. The high rate of rich households which are worse off with flat meal allowances cause high general rate of households which are worse off almost 32% (nearly 27% of households are better off). The meal allowances in this form constitute 1.25% of net income of average employee's household.

The results suggest that the scenario 1 would offer more socially fair system but with generally lower level of meal allowances (especially for upper deciles). It would represent burden of 13.8 billions korunas (by 2.5 billions korunas higher than current meal allowances scheme).

**Scenario 2** Within the second scenario we use flat meal allowances of 250Kč granted to employees only. Net income of average household is increased by 0.80% with meal allowances in this form. Among an entire population the number of households which are better off is lower (only 16.33%) and 21% of households are worse off again. Average value of meal allowances per beneficiary for entire population decreased by 47 Kč. Similarly to the previous scenario, the lower-deciles households are better off but meal allowances of all deciles are even nominally lower. (Tables A.15 and B.8)

Among employees' households the situation is different. The poorest households are better off (the nominal value of meal allowances of the first decile is higher) but the richest ones have meal allowances significantly lowered compared to their current form. The high rate of rich households which are worse off with flat meal allowances cause high general rate (almost 32%) of households which are worse off (nearly 25% of households are better off).

The scenario 2 offers less adequate solution of meal allowances. Number of households which are better off is lower than within the first option and, more importantly, the number of households which are worse off is significantly higher. On the other hand, the second scenario is cheaper than the first one (11.4 billions korunas).

**Scenario 3** The third scenario introduces solution using the budget of current meal allowances scheme, i.e. 11.3 bn Kč. The resources are equally distributed among all economically active individuals (204 Kč per beneficiary). The part of net income constituted by meal allowances is 0.79% and value of average monthly meal allowances per beneficiary is lowered by almost 49 Kč. Share of households which are better off is almost 24% (share of households which are worse off is again about 21%). The trend of benefiting poorer households persists. (Tables A.16 and B.9)

Impacts on employees' households are similar to the first scenario. The meal allowances are nominally lower among all deciles. The high rate of rich households which are worse off influence high rate of all households which are worse off again, i.e. over 32% (nearly 27% of households are better off).

The scenario 3 would burden the state budget by similar amount as scenario 2. However, unlike the second one, it offers desirable distributional impact in favor of lower-deciles households and thus smoothens the income inequality. Moreover, it has better affect on employees' households than the scenario 2.

**Scenario 4** Here we distribute the current budget of meal allowances scheme only among employees. The outcomes are worse for entire population as well as for employees' households only therefore we do not describe them (see Appendix, Tables A.17 and B.10).

Consequently, we view the scenarios 1 and 3 as the best solutions. The first scenario is preferable in terms of impact on population as, at 250 Kč, it offers higher value of meal allowances. The average meal allowance would decrease only by 28Kč whereas in the third case the average meal allowance would decline by over 48Kč. However, it is by 2.5 bn Kč more expensive than the scenario 3. It is thus on the policy maker to decide.

# Chapter 7

## Conclusion

In the thesis we summarize distributional impacts of meal vouchers. We use meal allowances as a proxy for meal vouchers. Meal allowances are partially tax deductible thus all taxpayers contribute to them. The average amount per consumer unit was 175 Kč per month and in total, the meal allowances burdened the 2010 Czech budget by over 11.3 bn Kč according to our analysis.

In theory, thanks to their embedded redistributive nature, the meal allowances should, among other beneficial effects, contribute to income equality. However, our findings suggest that the current system in fact increases the income inequality between beneficiaries and non-beneficiaries, both between the income deciles and within them. When analyzing alternative scenarios, we arrive at a conclusion that replacement of the current system with a fixed contributions to all economically active individuals would promote income equality across the income deciles.

Based on our findings, over 48% of total Czech households are granted meal allowances which constitutes 1.14% of household's net income. Generally, more affluent households reap higher benefit from meal allowances. Among the top income deciles, we find high participation rate (over 60%) and a high share of members granted with meal allowances. Consequently, the meal allowances constitute larger share of their income nominally as well as proportionately. Low-income households receive less meal allowances, score low participation rate (below 40%) and very low share of members granted meal allowances. The significant distinction in participation rate among poor and rich households is partially caused by the fact that meal allowances are mostly granted in certain sectors, which may not employ typical representative of a low-income household. Moreover, this phenomena is likely bolstered by the higher share of

working members within the higher income deciles.

We observe similar trend of higher utilization of meal allowances by up-scale families also among the households headed by employees (as opposed to households headed by unemployed, pensioners etc). Intuitively, participation of employees' households is generally higher, almost 70%.

Analyzing the households of the beneficiaries separately, we find that the share of income constituted by meal allowances declines with increasing net income (unlike in entire population where percentage share of income constituted by meal allowances increases along with increasing net income). This suggests that meal allowances do not widen income gap between poorer and richer beneficiaries. However, when comparing disposable income of beneficiaries and non-beneficiaries we see that an average recipient of meal allowances earns a 3,180 Kč higher monthly net income than a non-beneficiary (in case of households headed by employees the difference stands at 2524 Kč). Together with the fact that poorer households generally obtain meal allowances less frequently, we arrive at the aforementioned conclusion: meal allowances do not contribute to income equality, moreover, they increase income gap between beneficiaries and non-beneficiaries.

On our estimates, the meal allowances represent 11.3 bn Kč burden for the government budget. We arrive at the figure by adding up the foregone income tax together with social security and healthcare contributions. In the thesis, we simulate the replacement of the current system by one with flat meal allowances. If the 11.3 bn Kč would be distributed in the form of a flat meal allowances (of 204 Kč monthly among all economically active members), the arising scheme would foster social equality, helping the households from lower income brackets. These would benefit mostly due to the increase in the number of individuals in the group who could apply for the benefit. However, as this is a zero-sum-game, such legislative change would be highly disadvantageous for the upper-scale households. The absolute value of the meal allowances they receive would fall, while, unlike in the lower deciles, a number of members of this group already applies for the benefits, so the boost from the increase of the number of recipients would be much smaller for the high-earners. Thus, affluent households would see a significant decline in meal allowances.

The tax incidence and impact of tax deductibility of meal allowances on a government budget are out of scope of this thesis. As such factors are essential for an assessment of various tax solutions of meal allowances, we encourage further studies on the matter.

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# Appendix A

## Entire population

Group	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
LE	217.13	13375.59	1.61%	62.01%	2716043
SE	84.13	17255.46	0.53%	32.46%	1650521
HE	314.82	18351.77	1.84%	75.94%	3105446
P+EA	153.04	15443.31	1.02%	51.81%	540399
P-EA	2.71	12206.67	0.02%	1.38%	1858463
UN	77.74	8133.82	0.70%	27.55%	427328
Others	13.52	8962.15	0.13%	5.73%	125966
Total	175.45	15102.94	1.14%	48.05%	10424166

Table A.1: Entire population: Meal allowances by social group of household's head

Decile	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
1	53.82	6185.35	0.81%	26.23%	1045003
2	91.78	9167.92	1.00%	34.50%	1040288
3	102.15	10654.09	0.96%	37.81%	1042585
4	100.89	11632.73	0.87%	35.90%	1042185
5	151.47	12739.73	1.19%	45.31%	1043062
6	169.26	13923.83	1.22%	48.29%	1041999
7	211.55	15456.07	1.37%	58.96%	1041804
8	245.60	17585.20	1.40%	62.70%	1042525
9	306.03	20792.98	1.48%	67.78%	1044191
10	322.17	32925.03	1.10%	63.03%	1040524
Total	175.45	15102.94	1.14%	48.05%	10424166

Table A.2: Entire population: Meal allowances by income deciles

Decile	Mean			
	NoM.	MMA	SMMA (%)	Working (%)
1	3.81	0.29	7.27%	21.33%
2	3.43	0.43	11.76%	30.41%
3	3.04	0.47	13.45%	27.80%
4	3.04	0.47	12.98%	28.60%
5	3.00	0.64	18.94%	36.04%
6	3.15	0.67	20.73%	43.68%
7	3.09	0.85	26.78%	51.19%
8	2.98	0.91	31.44%	61.39%
9	2.85	0.99	36.99%	69.09%
10	2.76	0.94	36.73%	72.81%
Total	3.12	0.67	21.70%	44.23%

Table A.3: Entire population: Households' members granted meal allowances by income deciles

Size	Mean			
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)
do 199 inhab.	145.79	13528.35	1.10%	48.72%
200 az 499	138.43	14055.17	0.95%	41.46%
500 az 999	152.41	13862.51	1.05%	46.66%
1 000 az 1 999	171.07	13813.58	1.24%	51.89%
2 000 az 4 999	160.91	14641.28	1.08%	51.38%
5 000 az 9 999	166.92	14734.54	1.09%	50.48%
10 000 az 49 000	182.45	14195.11	1.23%	48.69%
50 000 az 99 999	164.80	14920.70	1.10%	44.76%
100 000 a vice	210.85	18111.99	1.16%	46.98%
Total	175.45	15102.94	1.14%	48.05%

Table A.4: Entire population: Meal allowances by size of municipality

Type	Mean			
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)
Prague	229.29	19842.15	1.19%	46.58%
Regional municipality	191.92	16000.17	1.19%	49.66%
Urban municipality	170.24	14250.99	1.15%	47.60%
Rural municipality	156.01	14056.82	1.09%	48.39%
Total	175.45	15102.94	1.14%	48.05%

Table A.5: Entire population: Meal allowances by type of municipality

Decile	Number of individuals							
	LE	SE	HE	P+EA	P-EA	UN	Others	Total
1	301,522	172,185	106,418	11,623	125,438	255,686	72,131	1,045,003
2	362,341	187,450	178,019	31,141	214,006	57,172	10,159	1,040,288
3	284,516	129,184	182,551	35,588	362,536	41,097	7,113	1,042,585
4	269,140	104,868	222,342	51,729	381,276	7,045	5,785	1,042,185
5	283,614	128,389	261,953	34,917	311,567	12,655	9,967	1,043,062
6	301,225	135,610	294,621	87,847	202,041	17,078	3,577	1,041,999
7	302,065	122,126	365,945	108,217	128,005	11,126	4,320	1,041,804
8	305,592	177,102	383,389	87,758	78,471	3,542	6,671	1,042,525
9	213,134	211,931	506,736	65,896	33,057	8,957	4,480	1,044,191
10	92,894	281,676	603,472	25,683	22,066	12,970	1,763	1,040,524

Table A.6: Entire population: Number of individuals comprised in households granted MA, by social group of household's head within different income deciles

Decile	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
1	205.16	6797.68	3.07%	100.00%	274148
2	266.03	9180.96	2.89%	100.00%	358911
3	270.19	10659.97	2.53%	100.00%	394150
4	280.98	11659.03	2.41%	100.00%	374196
5	334.30	12737.43	2.63%	100.00%	472599
6	350.47	13911.52	2.52%	100.00%	503228
7	358.78	15476.01	2.32%	100.00%	614284
8	391.70	17624.76	2.23%	100.00%	653670
9	451.47	20751.52	2.18%	100.00%	707804
10	511.15	31278.38	1.74%	100.00%	655827
Total	365.14	16565.21	2.37%	100.00%	5008817

Table A.7: Beneficiaries: Meal allowances by income deciles

Group	Mean		
	NI beneficiaries (Kč)	NI non-beneficiaries (Kč)	Difference (%)
LE	14354.42	12349.53	1.61%
SE	17629.37	17200.29	0.53%
HE	19010.45	17581.23	1.84%
P+EA	15815.87	15360.30	1.02%
P-EA	15449.69	12164.13	0.02%
UN	12070.71	6744.38	0.70%
Others	14190.07	8658.90	0.13%
Total	16930.36	13750.43	

Table A.8: Beneficiaries and non-beneficiaries: net income by social group

Decile	Mean			
	NoM.	MMA	SMMA (%)	Working (%)
1	4.41	1.12	27.72%	30.25%
2	3.90	1.24	34.09%	42.85%
3	3.84	1.25	35.57%	44.71%
4	3.96	1.32	36.15%	45.76%
5	3.64	1.41	41.80%	52.67%
6	3.51	1.39	42.92%	54.81%
7	3.39	1.44	45.41%	60.34%
8	3.16	1.45	50.14%	69.68%
9	2.93	1.47	54.56%	72.23%
10	2.82	1.49	58.27%	76.71%
Total	3.43	1.39	45.17%	58.88%

Table A.9: Beneficiaries: Households' members granted MA by income deciles

Decile	Mean		
	NI beneficiaries (Kč)	NI non-beneficiaries (Kč)	Difference (%)
1	7002.84	5967.58	0.81%
2	9446.98	9161.05	1.00%
3	10930.16	10650.51	0.96%
4	11940.02	11617.99	0.87%
5	13071.72	12741.64	1.19%
6	14261.98	13935.32	1.22%
7	15834.80	15427.42	1.37%
8	18016.46	17518.70	1.40%
9	21202.98	20880.24	1.48%
10	31789.53	35732.23	1.10%
Total	16930.36	13750.43	1.14%

Table A.10: Beneficiaries and non-beneficiaries: net income by income deciles

Decile	Estimates	Group	Estimates
2	0.0121 (0.99)	LE	0.248*** (9.39)
3	0.0409*** (3.32)	SE	-0.0387* (-2.18)
4	0.0205 (1.66)	HE	0.186*** (8.37)
5	0.0481*** (4.00)	P-EA	0.0236 (1.81)
6	0.0396*** (3.37)	UN	0.111*** (5.99)
7	0.0397*** (3.44)	Others	-0.00475 (-0.34)
8	0.0500*** (4.35)		
9	0.0591*** (5.11)		
10	0.0512*** (4.27)		

as a base group are used 1<sup>st</sup> decile and N/A respectively

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

Table A.11: Average beneficiary: marginal effect of income decile and social group

Hours worked	Estimates	Education	Estimates	Sub.	Estimates
Hours worked	0.00406*** (7.45)	secondary education with maturita exam and related courses	0.0504*** (4.53)	yes	0.138*** (3.53)
Hours worked <sup>2</sup>	-0.0000588*** (-6.78)	university education	0.0796*** (6.41)	no	0.118** (3.24)

as a base group are used N/A, education without maturita exam and N/A respectively

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

Table A.12: Average beneficiary: marginal effect of hours worked, education and subordinates

Occupation	Estimates	Occupation	Estimates
The military	0.215** (2.73)	Customer services workers	0.0499 (1.25)
Legislators, senior officials	0.0981 (1.73)	Sale assistants and models	-0.0266 (-0.73)
Managers of large enterprises	0.0638 (1.44)	SW in agriculture, hunting etc.	-0.0236 (-0.58)
Managers of SME	0.00579 (0.14)	UW in agriculture and fishing	-0.0510 (-0.47)
SE in physics and related fields	0.0437 (1.04)	SW in the mining and construction	-0.0521 (-1.44)
SE in biological, medical etc.	0.0637 (1.36)	SW (metal and machinery)	0.0479 (1.20)
Special teachers	0.0893* (1.99)	Manufacturer of precision machinery	0.0163 (0.38)
Other scientists	0.0526 (1.25)	Other skilled processors and manufacturers	-0.00995 (-0.26)
Technicians in technical and related fields	0.0735 (1.75)	Operators of industrial equipment	0.0744 (1.71)
Technicians in biology and related fields	0.0543 (1.32)	Assembly workers	0.0696 (1.65)
Other teachers	0.102* (2.14)	Drivers	-0.00863 (-0.23)
Other auxiliary teaching staff	0.0621 (1.53)	UW sale and service oriented	-0.0118 (-0.31)
Clerical staff	0.0867* (2.02)	UW in agriculture, forestry, fisheries etc.	-0.0867 (-1.70)
Officials in services and trade	0.0748 (1.71)	UW in mining, construction, transport etc.	0.0122 (0.31)

as a base group is used N/A

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

Table A.13: Average beneficiary: marginal effect of occupation

Decile	Mean				
	New Income (Kč)	LSI	(%) Loss (Kč)	Better off (%)	Worse off (%)
1	6256.86	1.08%	14.04	15.46%	6.88%
2	9269.18	1.11%	7.22	19.78%	11.24%
3	10745.40	0.86%	-7.94	15.83%	12.89%
4	11727.42	0.81%	-4.18	16.31%	12.63%
5	12856.61	0.92%	-26.59	18.32%	17.95%
6	14064.48	1.01%	-21.62	24.69%	19.66%
7	15618.99	1.05%	-37.57	26.01%	26.23%
8	17777.36	1.09%	-42.80	31.51%	30.54%
9	21006.26	1.03%	-76.81	34.41%	35.84%
10	33147.41	0.74%	-81.00	37.91%	35.75%
Total	15243.63	0.97%	-27.72	24.02%	20.96%

Table A.14: Replacement of MA: flat meal allowances 250 Kč (by income deciles)

Decile	Mean				
	New Income (Kč)	LSI	(%) Loss (Kč)	Better off (%)	Worse off (%)
1	6235.58	0.75%	-2.29	8.93%	6.88%
2	9249.52	0.89%	-7.40	14.00%	11.27%
3	10728.70	0.70%	-20.64	10.79%	12.89%
4	11714.33	0.70%	-14.23	12.34%	12.75%
5	12841.32	0.80%	-38.40	13.59%	18.08%
6	14042.76	0.85%	-38.45	17.96%	19.66%
7	15600.61	0.94%	-52.00	20.32%	26.31%
8	17749.10	0.93%	-65.23	22.54%	30.54%
9	20967.15	0.84%	-108.00	22.02%	35.92%
10	33095.29	0.58%	-123.80	20.88%	35.81%
Total	15219.07	0.80%	-47.04	16.33%	21.01%

Table A.15: Replacement of MA: flat meal allowances 250 Kč for employees only (by income deciles)

Decile	Mean				
	New Income (Kč)	LSI	(%) Loss (Kč)	Better off (%)	Worse off (%)
1	6243.42	0.88%	4.02	15.23%	7.16%
2	9250.14	0.90%	-7.08	19.66%	11.42%
3	10728.23	0.70%	-21.01	15.78%	12.94%
4	11709.61	0.66%	-17.62	16.27%	12.78%
5	12834.64	0.74%	-43.53	17.90%	18.54%
6	14038.04	0.82%	-42.15	24.61%	19.97%
7	15588.36	0.86%	-61.63	25.80%	26.51%
8	17741.23	0.89%	-71.66	31.24%	30.92%
9	20966.16	0.84%	-109.28	34.12%	36.17%
10	33105.60	0.60%	-115.22	37.64%	36.10%
Total	15217.18	0.79%	-48.51	23.82%	21.25%

Table A.16: Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas (by income deciles)

Decile	Mean				
	New Income (Kč)	LSI	(%) Loss (Kč)	Better off (%)	Worse off (%)
1	6234.78	0.73%	-2.89	8.93%	6.93%
2	9248.21	0.88%	-8.38	14.00%	11.33%
3	10727.50	0.69%	-21.55	10.79%	12.89%
4	11713.03	0.69%	-15.21	12.34%	12.81%
5	12839.70	0.78%	-39.65	13.56%	18.28%
6	14040.86	0.84%	-39.93	17.96%	19.89%
7	15598.30	0.92%	-53.82	20.32%	26.31%
8	17746.48	0.92%	-67.32	22.54%	30.65%
9	20964.36	0.83%	-110.27	22.02%	35.96%
10	33092.56	0.57%	-126.02	20.85%	35.93%
Total	15217.21	0.79%	-48.50	16.33%	21.10%

Table A.17: Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas only among employees (by income deciles)

Decile	Mean						
	Without MA	D	With MA	D	EMAT	D	45% of MAT
1	6185.35	0.81%	6239.17	0.28%	6204.13	0.13%	6193.80
2	9167.92	1.00%	9259.70	0.35%	9199.95	0.16%	9182.33
3	10654.09	0.96%	10756.23	0.33%	10689.74	0.15%	10670.13
4	11632.73	0.87%	11733.62	0.30%	11667.94	0.14%	11648.57
5	12739.73	1.19%	12891.20	0.42%	12792.59	0.19%	12763.52
6	13923.83	1.22%	14093.08	0.42%	13982.90	0.19%	13950.41
7	15456.07	1.37%	15667.62	0.48%	15529.90	0.21%	15489.30
8	17585.20	1.40%	17830.80	0.49%	17670.92	0.22%	17623.77
9	20792.98	1.48%	21099.01	0.52%	20899.79	0.23%	20841.05
10	32925.03	1.10%	33247.20	0.38%	33037.47	0.17%	32975.63
Total	15102.94	1.14%	15278.39	0.40%	15164.17	0.18%	15130.49

Table A.18: Population: monthly income (Kč) with different level of meal allowances (per CU, by income deciles)

Decile	Mean						
	Without MA	D	With MA	D	EMAT	D	45% of MAT
1	17041.28	0.81%	17206.07	0.28%	17098.79	0.13%	17067.16
2	23244.99	1.00%	23497.75	0.35%	23333.20	0.16%	23284.69
3	24594.49	0.96%	24866.48	0.33%	24689.41	0.15%	24637.20
4	26984.97	0.87%	27259.49	0.30%	27080.78	0.14%	27028.09
5	29341.43	1.19%	29738.76	0.42%	29480.10	0.19%	29403.83
6	33303.85	1.22%	33725.68	0.42%	33451.07	0.19%	33370.10
7	36742.64	1.37%	37262.07	0.48%	36923.92	0.21%	36824.22
8	40707.07	1.40%	41279.90	0.49%	40906.99	0.22%	40797.04
9	46236.87	1.48%	46900.04	0.52%	46468.32	0.23%	46341.02
10	69992.82	1.10%	70665.11	0.38%	70227.45	0.17%	70098.40
Total	34812.23	1.14%	35233.28	0.40%	34959.18	0.18%	34878.36

Table A.19: Population: monthly income (Kč) with different level of meal allowances (entire household, by income decile)

# Appendix B

## Employees

E. decile	Mean			
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)
1	100.66	7204.36	1.39%	42.83%
2	149.00	9815.78	1.51%	53.84%
3	184.90	11212.78	1.65%	62.97%
4	221.07	12435.31	1.77%	63.90%
5	218.90	13628.28	1.61%	65.49%
6	236.94	14954.83	1.58%	67.15%
7	312.74	16689.27	1.87%	72.07%
8	316.68	18751.38	1.68%	77.06%
9	362.73	21941.65	1.63%	69.44%
10	315.36	18576.01	1.82%	75.80%
Total	269.25	16030.11	1.73%	69.44%

Table B.1: Employees: Meal allowances by income deciles of employees

Occupation	Mean			
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)
The military	350.56	15441.87	2.44%	95.48%
Legislators, senior officials	290.95	19365.94	1.49%	86.81%
Managers of large enterprises	370.24	26897.31	1.52%	81.34%
Managers of SME	264.82	22117.54	1.31%	63.88%
SE in physics and related fields	343.72	21269.82	1.72%	79.61%
SE in biological, medical etc.	373.77	25484.06	1.56%	81.72%
Special teachers	331.50	19336.04	1.78%	86.19%
Other scientists	363.32	21935.29	1.70%	76.97%
Technicians in technical and related fields	330.35	18008.22	1.95%	80.06%
Technicians in biology and related fields	263.11	16058.50	1.71%	73.43%
Other teachers	277.27	13752.19	2.14%	77.61%
Other auxiliary teaching staff	311.58	17701.66	1.90%	76.19%
Clerical staff	342.84	14726.59	2.44%	81.75%
Officials in services and trade	357.31	15434.68	2.31%	70.60%
Customer services workers	269.60	14028.38	2.01%	72.82%
Sale assistants and models	198.99	14659.87	1.31%	47.06%
SW in agriculture, hunting etc.	191.52	15170.52	1.23%	51.72%
UW in agriculture and fishing	378.73	17137.90	2.00%	65.03%
SW in the mining and construction	159.91	12956.20	1.21%	44.64%
SW (metal and machinery)	262.64	14070.96	1.84%	69.48%
Manufacturer of precision machinery	289.06	15615.53	2.04%	81.89%
Other skilled processors and manufacturers	207.47	12750.43	1.55%	59.15%
Operators of industrial equipment	264.01	13233.65	1.99%	74.55%
Assembly workers	235.21	13180.52	1.78%	67.29%
Drivers	209.21	13930.81	1.51%	63.77%
UW sale and service oriented	194.79	12596.69	1.51%	52.97%
UW in agriculture, forestry, fisheries etc.	86.06	12102.90	0.61%	24.01%
UW in mining, construction, transport etc.	218.89	12391.36	1.66%	58.48%
Total	269.25	16030.11	1.73%	69.44%

Table B.2: Employees: Meal allowances by occupation

E. decile	Mean			
	NoM.	MMA	SMMA (%)	Working (%)
1	4.25	0.50	12.57%	34.13%
2	3.87	0.69	19.61%	44.05%
3	3.81	0.83	23.05%	47.32%
4	3.50	0.94	28.10%	55.42%
5	3.36	0.88	28.64%	62.38%
6	3.35	1.00	31.93%	63.25%
7	3.04	1.16	39.15%	73.70%
8	2.79	1.12	42.89%	78.67%
9	2.79	1.19	44.66%	82.23%
10	3.26	1.09	37.10%	59.10%
Total	3.38	0.99	32.76%	57.83%

Table B.3: Employees: Households' members granted MA by income deciles of employees

E. decile	Mean				N
	MA (Kč)	NI (Kč)	MA I (%)	Particip. (%)	Individuals
1	235.02	7266.84	3.25%	100.00%	174425
2	276.75	9856.06	2.81%	100.00%	206952
3	293.64	11171.38	2.63%	100.00%	216899
4	345.94	12443.72	2.77%	100.00%	193004
5	334.26	13614.69	2.45%	100.00%	190142
6	352.88	14963.06	2.36%	100.00%	191033
7	433.96	16716.40	2.60%	100.00%	192966
8	410.94	18790.75	2.18%	100.00%	167375
9	522.38	22079.21	2.35%	100.00%	103683
10	416.06	18786.88	2.41%	100.00%	2405988
Total	387.74	16682.93	2.49%	100.00%	4042467

Table B.4: Beneficiaries: Meal allowances by income deciles of employees

E. decile	Mean			
	NoM.	MMA	SMMA (%)	Working (%)
1	4.27	1.16	29.35%	34.28%
2	3.81	1.28	36.42%	45.51%
3	3.95	1.31	36.61%	48.13%
4	3.65	1.47	43.98%	57.00%
5	3.37	1.34	43.74%	63.19%
6	3.48	1.49	47.55%	64.85%
7	3.08	1.61	54.33%	77.17%
8	2.84	1.46	55.65%	79.71%
9	2.78	1.71	64.31%	84.74%
10	3.29	1.44	48.94%	60.06%
Total	3.38	1.43	47.18%	60.05%

Table B.5: Beneficiaries: Households' members granted MA by income deciles of employees

E. decile	Mean		
	NI beneficiaries (Kč)	NI of non-beneficiaries (Kč)	Difference (%)
1	7501.86	7157.55	1.39%
2	10132.81	9768.80	1.51%
3	11465.02	11283.17	1.65%
4	12789.67	12420.42	1.77%
5	13948.95	13654.08	1.61%
6	15315.94	14938.02	1.58%
7	17150.36	16619.27	1.87%
8	19201.69	18619.12	1.68%
9	22601.59	21629.12	1.63%
10	19202.93	17915.59	1.82%
Total	17070.67	14546.70	1.73%

Table B.6: Beneficiaries and non-beneficiaries: net income by income deciles of employees

E. decile	Mean				
	New Income (Kč)	LSI (%)	Loss (Kč)	Better off (%)	Worse off (%)
1	7319.80	1.63%	11.36	22.59%	12.02%
2	9961.33	1.48%	-1.83	25.65%	19.01%
3	11369.42	1.40%	-20.06	24.84%	22.79%
4	12614.51	1.44%	-31.52	28.18%	27.46%
5	13825.97	1.45%	-17.83	36.83%	26.56%
6	15155.92	1.34%	-28.33	33.21%	31.13%
7	16918.55	1.37%	-64.88	35.88%	38.54%
8	18992.78	1.29%	-63.05	38.46%	40.65%
9	22193.88	1.15%	-93.27	40.25%	42.85%
10	18762.74	1.11%	-102.04	23.70%	35.97%
Total	16213.89	1.25%	-67.79	26.70%	31.72%

Table B.7: Replacement of MA: flat meal allowances 250 Kč (by income deciles of employees)

E. decile	Mean				
	New Income (Kč)	LSI (%)	Loss (Kč)	Better off (%)	Worse off (%)
1	7316.21	1.58%	8.71	21.53%	12.02%
2	9960.68	1.48%	-2.34	25.45%	19.01%
3	11368.76	1.39%	-20.53	24.65%	22.79%
4	12609.88	1.40%	-35.05	26.77%	27.46%
5	13822.02	1.42%	-20.82	35.63%	26.56%
6	15148.92	1.30%	-33.55	31.12%	31.13%
7	16913.86	1.35%	-68.60	34.39%	38.54%
8	18983.28	1.24%	-70.68	35.41%	40.65%
9	22187.46	1.12%	-98.51	38.16%	42.85%
10	18755.02	1.07%	-108.06	21.32%	35.97%
Total	16207.83	1.22%	-72.49	24.84%	31.72%

Table B.8: Replacement of MA: flat meal allowances 250 Kč for employees only (by income deciles of employees)

E. Decile	Mean				
	New Income (Kč)	LSI (%)	Loss (Kč)	Better off (%)	Worse off (%)
1	7298.10	1.33%	-4.68	22.24%	12.37%
2	9933.97	1.21%	-22.53	25.50%	19.16%
3	11339.97	1.13%	-42.30	24.70%	22.92%
4	12580.82	1.17%	-57.57	27.66%	27.98%
5	13788.80	1.18%	-47.15	36.72%	26.66%
6	15118.11	1.09%	-58.06	32.96%	31.62%
7	16875.45	1.12%	-99.52	35.76%	38.79%
8	18947.40	1.05%	-100.03	38.26%	40.85%
9	22146.46	0.93%	-131.92	39.46%	43.64%
10	18727.64	0.90%	-129.82	23.46%	36.35%
Total	16179.34	1.02%	-94.97	26.45%	32.06%

Table B.9: Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas (by income deciles of employees)

E. Decile	Mean				
	New Income (Kč)	LSI (%)	Loss (Kč)	Better off (%)	Worse off (%)
1	7314.42	1.56%	7.39	21.53%	12.02%
2	9958.36	1.45%	-4.09	25.45%	19.01%
3	11366.27	1.37%	-22.42	24.65%	22.79%
4	12607.09	1.38%	-37.21	26.77%	27.46%
5	13818.92	1.40%	-23.27	35.52%	26.66%
6	15145.81	1.28%	-35.99	31.12%	31.37%
7	16910.27	1.32%	-71.49	34.39%	38.67%
8	18979.57	1.22%	-73.70	35.41%	40.65%
9	22183.53	1.10%	-101.71	38.16%	42.85%
10	18752.15	1.05%	-110.32	21.31%	36.12%
Total	16204.99	1.20%	-74.73	24.83%	31.82%

Table B.10: Replacement of MA: flat meal allowances, redistribution of 11.3 billions korunas only among employees (by income deciles of employees)

E. decile	Mean						
	Without MA	D	With MA	D	EMAT	D	45% of MAT
1	7204.36	1.39%	7305.01	0.49%	7239.49	0.22%	7220.17
2	9815.78	1.51%	9964.78	0.53%	9867.78	0.24%	9839.18
3	11212.78	1.65%	11397.67	0.58%	11277.31	0.26%	11241.81
4	12435.31	1.77%	12656.38	0.62%	12512.46	0.28%	12470.03
5	13628.28	1.61%	13847.18	0.56%	13704.68	0.25%	13662.66
6	14954.83	1.58%	15191.77	0.55%	15037.52	0.25%	14992.04
7	16689.27	1.87%	17002.01	0.65%	16798.41	0.29%	16738.38
8	18751.38	1.68%	19068.06	0.59%	18861.90	0.26%	18801.11
9	21941.65	1.63%	22304.38	0.57%	22068.25	0.26%	21998.62
10	18576.01	1.82%	18891.37	0.64%	18686.07	0.29%	18625.53
Total	16030.11	1.73%	16299.35	0.60%	16124.07	0.27%	16072.39

Table B.11: Employees: monthly income (Kč) with different level of meal allowances (per CU, by income deciles of employees)

E. decile	Mean						
	Without MA	D	With MA	D	EMAT	D	45% of MAT
1	21978.50	1.39%	22277.38	0.49%	22082.81	0.22%	22025.44
2	27695.34	1.51%	28089.66	0.53%	27832.96	0.24%	27757.27
3	30969.80	1.65%	31457.49	0.58%	31140.00	0.26%	31046.39
4	32468.48	1.77%	33043.60	0.62%	32669.20	0.28%	32558.80
5	34528.20	1.61%	35050.27	0.56%	34710.40	0.25%	34610.19
6	38229.00	1.58%	38813.62	0.55%	38433.03	0.25%	38320.81
7	39773.58	1.87%	40508.19	0.65%	40029.96	0.29%	39888.95
8	41419.49	1.68%	42094.59	0.59%	41655.10	0.26%	41525.51
9	48644.76	1.63%	49422.75	0.57%	48916.28	0.26%	48766.94
10	43522.10	1.82%	44250.26	0.64%	43776.23	0.29%	43636.46
Total	38826.99	1.73%	39463.21	0.60%	39049.03	0.27%	38926.91

Table B.12: Employees: monthly income (Kč) with different level of meal allowances (entire household, by income deciles of employees)