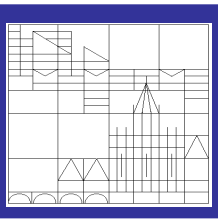
University of Konstanz
Department of Economics



Empirical Determinants of In-kind Redistribution: Partisan Biases and the Role of Inflation

Zohal Hessami and Silke Uebelmesser

Working Paper Series
2012-20

http://www.wiwi.uni-konstanz.de/forschung/

Empirical determinants of in-kind redistribution:

Partisan biases and the role of inflation

Zohal Hessami[a,*] and Silke Uebelmesser[b]

[a] *Department of Economics, University of Konstanz, Box 138, 78457 Konstanz, Germany*
[b] *Department of Economics, University of Jena, Carl-Zeiß-Straße 3, 07743 Jena, Germany*

Abstract

This paper investigates how government ideology and inflation affect the government's choice between cash transfers and in-kind transfers. Our hypotheses are based on three observations: (i) in-kind transfers create stigma, (ii) but make recipients less vulnerable to inflation; (iii) poor benefit recipients make up the core constituency of left-wing parties. Using dynamic panel data estimations for 32 OECD countries over the time period from 1980 to 2007, we provide evidence that the in-kind share of social benefits is lower under left-wing governments. This partisan bias is weakened when left-wing governments respond to inflation by increasing the share of in-kind transfers.

Keywords: In-kind redistribution; social benefits; partisan biases; inflation

JEL codes: D78; E31; H42; I38

* Corresponding author: Tel.: +49 7531 88 2137, fax: +49 7531 88 3130.
E-mail addresses: Zohal.Hessami@uni-konstanz.de, Silke.Uebelmesser@uni-jena.de.

1. Introduction

The theoretical public finance literature offers various explanations why social benefits are provided in-kind rather than in cash even though in-kind transfers create consumption distortions. These arguments mostly draw on paternalism, self-selection, and political economy considerations. In contrast, Currie and Gahvari (2008) point out "the limited empirical evidence that can be brought on" these explanations and state that "the empirical work seems to largely accept the paternalism theory and move on to other questions" (p.334). Previous studies mainly seek to explain why in-kind benefits exist in the first place, while from an empirical viewpoint the next step is to explain the variation in the choice of redistributive measures across countries and over time.

This paper takes this next step by testing the influence of two variables that have been neglected both in the theoretical and empirical literature on in-kind redistribution. We hypothesize that left-wing governments opt for a smaller in-kind share of social benefits than centrist and right-wing governments because they are more concerned that benefit recipients are stigmatized. In addition, we argue that inflation shifts the choice of redistributive measures towards in-kind benefits when left-wing governments are in power as they want to shield their constituency – typically the poorer sections of society – from inflation.

There are a few related contributions in the literature that focus on a different determinant of the share of in-kind transfers, namely inequality:[1] Glomm and Ravikumar (2003) as well as Fernandez and Rogerson (1999) provide empirical evidence for a link between inequality and in-kind transfers, while Anderberg and Balestrino (2007, 2011) derive a positive relationship between the two variables within their theoretical model.

2. Hypotheses

The existing empirical literature on partisan biases in social policy investigates the influence of government ideology on welfare state size (Allan and Scruggs, 2004). The question whether there are partisan biases in the choice of redistributive measures has so far been ignored. We suspect that there are such biases given that in-kind benefits create welfare stigma[2]. Hence, left-wing parties that are interested in protecting their constituency in order to get re-elected are likely to provide a higher share of social benefits in cash than centrist and right-wing governments.

An explanation for the converse statement (a higher in-kind share of social benefits under centrist and right-wing governments) is that politicians of centrist and right-wing parties may be

[1] One may establish a link from inequality to the partisan biases that are the focus of our paper since inequality can affect citizens' voting behavior and since policies chosen by an incumbent government may influence inequality.

[2] Moffitt (1983) defines welfare stigma as the "disutility arising from (observable) participation in a welfare program" (p.1023). For example, when poor people pay with food stamps in supermarkets or when they reside in public housing

more prejudiced against and more suspicious about transfer recipients. Some of them even appear to expect benefit recipients to spend transfers on cigarettes and alcohol rather than their childrens' education.[3] Both lines of reasoning imply:

H1: *Left-wing governments opt for a lower in-kind share of social benefits than centrist and right-wing governments.*

A second hypothesis addresses the question whether governments respond to inflation by changing the relative emphasis placed on in-kind and cash transfers. This conjecture is based on the conventional wisdom that especially the poor are vulnerable to rising prices (Al-Marhubi, 1997; Easterly and Fischer, 2001). A government concerned about benefit recipients may find it difficult to constantly increase the nominal value of cash transfers to keep up with inflation and therefore chooses a higher in-kind share. This implies:

H2: *Left-wing governments raise the in-kind share of social benefits in response to inflation.*

3. Data and methodology

The dynamic panel data estimations for 32 OECD countries over the 1980-2007 period (five-year averages)[4] are based on the following specification:

$$\begin{aligned} \textit{In-kind benefit share}_{it} = {} & \alpha_i + \beta \textit{In-kind benefit share}_{it-1} + \gamma \textit{Left-wing}_{it} + \delta \textit{Inflation}_{it} \\ & + \zeta \textit{Left-wing}_{it} * \textit{Inflation}_{it} + \eta \mathbf{X}_{it} + \mu_t + \varepsilon_{it}, \end{aligned} \quad (1)$$

where α_i (with i = 1, 2, 3…, 32)[5] and μ_t (with t = 1, 2, …, 6) are the country and time fixed effects. ε_{it} is the error term.

For the dependent variable, we use data on in-kind shares of social expenditures from the OECD SOCX Database.[6] In order to account for the persistence of the dependent variable and to capture dynamic effects, we include a lagged dependent variable.

To test hypothesis 1, our estimations rely on a measure for the ideology of the chief executive's party from the Database of Political Institutions. This widely used index classifies governments as

---

projects, other people can observe their status as benefit recipients.

[3] To give an example, in 2008 Philipp Missfelder, chairman of the youth organization of the conservative German CDU, argued that an increase in cash benefits would give a boost to liquor and cigarette sales (http://www.zeit.de/online/2009/08/missfelder-tabak-hartz-4).

[4] Five-year averages reduce measurement error and allow us to take into account that changes in the political choices of redistributive measures take some time to show effect. The first and the last period comprise four years.

[5] Switzerland and Germany are the two OECD countries that are not included for reasons of data availability.

[6] Social expenditure data from the OECD comprise expenditures in the following domains: old age, health, incapacity, family, unemployment, survivors, and housing. For further information see OECD (2011).

right-wing, centrist or left-wing in terms of economic policy as follows: "Right: for parties that are defined as conservative, Christian democratic, or right-wing; left: for parties that are defined as communist, socialist, social democratic, or left-wing; center for parties that are defined as centrist or when party position can best be described as centrist (e.g. party advocates strengthening private enterprise in a social-liberal context)." (Keefer, 2010, p.7).

Since centrist parties are rare and we do not have any priors regarding differences in the choice of redistributive measures between right-wing and centrist parties, we use them jointly as the reference category. This means that the explanatory variable $Left\text{-}wing_{it}$ is 1 for left-wing governments and 0 otherwise. One robustness check tests for potential differences by adding a $Centrist_{it}$ dummy. To test hypothesis 2, we include inflation rates from the OECD Key Economic Indicators and their interaction with government ideology.[7]

The vector of control variables $\mathbf{X}_{it}$ contains five variables. First, we include the total volume of social expenditures. We expect a negative relationship between welfare state size and in-kind redistribution if governments cover the most basic needs such as housing, health care and food with in-kind transfers to ensure the survival of recipients. With a growing welfare state, the government provides additional benefits in cash. Second, the estimations control for real GDP per capita (in thousands) based on Bearse et al.'s (2000) argument that poor countries rely more strongly on in-kind redistribution.[8] Third, we include a measure of openness (trade/GDP) as previous studies have emphasized the role of globalization for social policy, especially regarding the insurance function of the welfare state (Rodrik, 1998). Fourth, $\mathbf{X}_{it}$ includes unemployment rates since unemployment benefits are exclusively paid in cash. Finally, we use a measure of population density (inhabitants/km^2) to capture that the degree of social cohesion may affect social policy.[9]

We estimate equation (1) using the system GMM estimator which performs better in the case of a persistent dependent variable than the difference GMM estimator (Arellano and Bover, 1995; Blundell and Bond, 1998). The OLS estimator is ill-suited since the simultaneous inclusion of a lagged dependent variable and fixed effects gives rise to biases with T smaller than 30 (Judson and Owen, 1999).

[7] In line with Baskaran (2012), we transform the inflation rate to p = [inflation rate/(1 + inflation rate)] to address the fact that some countries have very large inflation rates during the sample period, which may unduly influence the estimates.

[8] Bearse et al.'s (2000) model assumes that poor countries differ from rich countries in terms of a less productive tax collection technology leading to a low quality of public service. Since this may induce top-income earners in poor countries to opt out of the public service, the median voter pre-emptively allocates a larger share of the public budget to in-kind redistribution rather than redistribution in cash.

[9] Sources: Penn World Tables, OECD Macro Trade Indicators and Economic Outlook, World Development Indicators

4. Results

Table 1 reports the estimation results. Models (1) to (3) are the baseline estimations where the main explanatory variables that we are interested in are included successively. Models (4) to (6) represent three robustness checks that in turn use lag restrictions to address the "too many instruments problem" (Roodman, 2009), that treat our main explanatory variables as endogenous and that add a centrist government dummy to test for differences within the group of non-left-wing parties. The highly significant lagged dependent variable points towards persistence in the dependent variable that justifies our dynamic specification and the use of the system GMM estimator. The high p-values for the Hansen *J*-statistic indicate that the instruments are valid. Finally, as expected there is first-order autocorrelation and no evidence for second-order autocorrelation.

From the baseline estimations we can infer that when included separately neither the left-wing government dummy nor the inflation rate have a significant influence on the share of in-kind redistribution. However, in the complete specification of model (3), the coefficients for the base effects and the interaction term are significant at the 5 and 10 percent level, respectively. With zero inflation, the negative left-wing government coefficient implies that left-wing governments put a stronger emphasis on cash benefits than non-left-wing governments as argued in hypothesis 1. In addition, right-wing and centrist governments respond to inflation by decreasing the in-kind share of social benefits. In the absence of appropriate inflation-indexation of benefits this would imply a cut in real social expenditures under non-left-wing governments. Finally, the positive interaction term suggests that left-wing governments react to inflation by increasing the share of in-kind benefits which confirms our second hypothesis.

The first robustness check re-estimates model (3) using only the first lags as instruments. The results are virtually unchanged except that the inflation coefficient is now even significant at the 1 percent level. Model (5) additionally treats the three explanatory variables of interest as endogenous. Again, the results are qualitatively the same. Finally, model (6) extends model (3) by including a centrist dummy and its interaction with the inflation rate. Both are insignificant, while the results for the other covariates are unchanged.

Table 1. System GMM estimations

Dependent variable: *In-kind benefit share*	**Baseline estimations**			**Robustness checks**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Lagged dependent variable	0.942***	0.956***	0.954***	1.012***	0.994***	0.972***
	(14.393)	(14.934)	(15.168)	(16.261)	(21.353)	(20.062)
Left-wing government	-0.292		-4.951**	-5.244*	-10.068**	-5.354**
	(-0.568)		(-1.976)	(-1.756)	(-2.452)	(-2.163)
Inflation rate		-1.126	-1.498**	-2.189***	-4.314**	-1.533**
		(-1.169)	(-1.984)	(-2.937)	(-2.310)	(-2.176)
Left-wing government			6.191*	6.771*	12.415**	6.413**
***Inflation rate**			(1.872)	(1.712)	(2.415)	(1.966)
Centrist government						5.280
						(0.685)
Centrist government						-9.105
***Inflation rate**						(-0.857)
Social expenditures/GDP	-0.006	-0.003	0.003	0.051	0.026	-0.005
	(-0.113)	(-0.071)	(0.068)	(0.886)	(0.454)	(-0.120)
Real GDP per capita	0.018	0.012	0.024	0.030	0.020	0.031
	(0.506)	(0.346)	(0.694)	(0.850)	(0.547)	(0.892)
Openness	0.003	0.004	0.003	0.004	0.006	0.007
	(0.383)	(0.644)	(0.499)	(0.565)	(0.860)	(1.208)
Unemployment rate	0.081	0.085	0.079	0.076	0.077	0.052
	(0.992)	(1.065)	(1.061)	(0.915)	(0.987)	(0.701)
Population density	-0.002	-0.002	-0.002	-0.004	-0.005**	-0.003*
	(-0.817)	(-1.209)	(-1.311)	(-1.641)	(-1.969)	(-1.802)
Observations	120	123	120	120	120	120
Hansen *J*-test (p-value)	0.448	0.446	0.478	0.281	0.598	0.226
AR(1)-test (p-value)	0.026	0.024	0.037	0.034	0.036	0.052
AR(2)-test (p-value)	0.918	0.762	0.847	0.885	0.791	0.802
Instruments	21	21	23	17	29	25

a. Hypothesis tests based on heteroscedasticity-robust standard errors
b. Stars indicate significance at 10% (*), 5% (**), 1% (***)
c. z-statistics in parentheses
d. Inflation rate rescaled as p = [Inflation/(1+ Inflation)]
e. Left-wing and centrist government measure the share of years that left-wing or centrist parties were in power in each five-year period
f. Model (4) uses a lag restriction; model (5) additionally treats the three covariates of interest as endogenous; model (6) includes the centrist government dummy and its interaction with inflation

5. Conclusion

This paper addresses the dearth of research on the determinants of in-kind redistribution by testing the influence of partisan biases and inflation. Based on system GMM estimations, we find that left-wing governments exhibit a stronger preference for cash transfers than right-wing and centrist governments. In addition, our results suggest that inflation plays a critical role in this relationship.

References

Allan, J.P., Scruggs, L., 2004. Political partisanship and welfare state reform in advanced industrial societies. American Journal of Political Science 48, 496-512.

Al-Marhubi, F., 1997. A note on the link between income inequality and inflation. Economics Letters 55, 317-19.

Anderberg, D., Balestrino, A., 2007. Non-cooperative households and the size and composition of public expenditure. Economics of Governance 8, 61-81.

Anderberg D., Balestrino, A., 2011. Public spending with non-cooperative families. CESifo Economic Studies 57, 259-282.Arellano, M., Bover, O., 1995. Another look at the instrumental variable estimation of error-components models. Journal of Econometrics 68, 29-51.

Baskaran, T., 2012. Revenue decentralization and inflation: a re-evaluation. Economics Letters 116(3), 298-300.

Bearse, P., Glomm, G., Janeba, E., 2000. Why poor countries rely mostly on redistribution in-kind. Journal of Public Economics 75, 463-81.

Blundell, R., Bond, S., 1998. Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics 87, 115-43.

Currie, J., Gahvari, F., 2008. Transfers in cash and in-kind: theory meets the data. Journal of Economic Literature 46, 333–83.

Easterly, W., Fischer, S., 2001. Inflation and the poor. Journal of Money, Credit and Banking 33, 160-78.

Fernandez R., Rogerson R., 1999. Education finance reform and investment in human capital: Lessons from California. Journal of Public Econonomics 74, 327-350.

Glomm G., Ravikumar B., 2003. Public education and income inequality. European Journal of Political Economy 19, 289-300.

Judson, R.A., Owen, A.L., 1999. Estimating dynamic panel data models: a guide for macroeconomists. Economics Letters 65, 9-15.

Keefer, P., 2010. Database of Political Institutions: Changes and Variable Definitions. World Bank: Washington, D.C.

Moffitt. R.A., 1983. An economic model of welfare stigma. American Economic Review 73, 1023-35.

OECD, 2011. Social Expenditure Database (SOCX) 1980-2007. OECD: Paris.

Rodrik, D., 1998. Why do more open economies have bigger governments? Journal of Political Economy 106, 997-1032.

Roodman, D., 2009. A note on the theme of too many instruments. Oxford Bulletin of Economics and Statistics 71, 135-85.