Renters, Public Goods and Fiscal Outcomes

Andrew C. Worthington

August 1996

UNE Working Papers in Economics No. 22

Editor Brian Dollery

Department of Economics
University of New England
Armidale
New South Wales 2351
Australia

ISSN 1321-9081 ISBN 1 86389 363 6

RENTERS, PUBLIC GOODS AND FISCAL OUTCOMES

ANDREW C. WORTHINGTON

Department of Economics, University of New England,
Armidale NSW 2351, Australia.

Abstract. A recurrent observation in public finance expenditure analyses has been a systematic relationship between the fraction of renters in a given jurisdiction and the level of fiscal expenditures. It would appear that renters *ceteris paribus* are willing to support a higher level of publicly provided goods than homeowners. Traditionally, support for this finding has drawn on the notion of "renter illusion". However, more recent work has favoured the concept of "renter rationality". Using Australian household expenditure data, this paper offers evidence which suggests that these observations may be consistent with rational behaviour rather than the misperception of jurisdictional fiscal parameters.

Numerous studies in public finance have favoured the use of a median voter model in interpreting the results of econometric analyses.[1] This model, in its attempt to recognise the "...relationship between the demands of individual residents in each community and the observed activities of their governments", has proved itself a remarkably robust empirical tool (Holtz-Eakin, 1992: 17). By regressing expenditure against sets of demographic and socio-economic characteristics, generations of public finance analysts have sought insights into publicly provided goods - proxying individual preferences with readily available variables, such as income, age, sex, educational level and tax price. In general, these studies have supported the considerable evidence that already exists "...suggesting that the composition of the community - that is, the characteristics of the residents themselves - plays a central role in determining levels of important public outputs" (Schwab and Oates, 1991: 217). Moreover, they have also been successful in assessing the impact of political agents, grants and revenue structure, amongst other factors, on the scale and scope of jurisdictional expenditures (Holtz-Eakin, 1992: 17).[2]

One persistent finding of many of these studies has been the apparent systematic relationship that exists between the occupancy status of a community's residents as a whole and the level of expenditure on publicly provided goods (Barr and Davis, 1966; Bergstrom and Goodman, 1973; Peterson, 1975; Gronberg, 1980; Schwab and Zampelli, 1987; Heyndels and Smolders, 1994).[3] More particularly, where a measure proxying the proportion of renters (or homeowners) is included in a typical regression, an increase (increase) in the dominance of this sub-group is associated with an increase (decrease) in the level of expenditure, either in per capita or aggregate terms.[4] Put differently, *ceteris paribus* "...jurisdictions with a relatively large fraction of renters tend to spend more per capita on local public services" (Oates, 1988: 72). To account for this peculiar finding, a number of theoretical constructs have been proposed and duly tested in the literature. First, the concept of "renter illusion" - the systematic misperception of fiscal parameters - has been advocated. Studies by Bergstrom and Goodman (1973), Peterson (1975), Lovell (1978), Gronberg (1980), Heyndels and Smolders (1994) and Dollery and Worthington (1995) have dealt with this

concept. Second, more recent literature has been concerned with a model of "renter rationality" - that renters correctly perceive their own relevant fiscal parameters. Studies by Barr and Davis (1966), Hanushek (1975), Martinez-Vazquez (1983), Schokkaert (1987), Moomau and Morton (1992) and Carroll and Yinger (1994) have been directed to the analysis of this proposition. Finally, a model that relies on neither misperception nor accurate assessment of fiscal parameters in explaining renter behaviour has received some attention. Martinez-Vazquez and Sjoquist (1988) provide support for this proposal. It is to the survey of these alternative hypotheses, and a brief descriptive analysis, that the present study is directed.[5]

The paper itself is divided into three main areas. Section I provides a comprehensive survey of the three alternative hypotheses of renter behaviour. In particular, the section outlines the impact of the hypotheses on the demand for publicly provided goods, and the level of associated fiscal expenditures. The analysis of renter behaviour using Australian survey data is discussed in Section II, with particular attention directed to the issues raised previously, and the limitations of this approach. The paper ends with some brief concluding remarks in Section III.

I. MODELS OF RENTER BEHAVIOUR

The study of renter behaviour has generally been formulated within the construct of a median voter framework. In general, the studies have been concerned with the systematic impact of renters on actual fiscal outcomes (Bergstrom and Goodman, 1973; Lovell, 1978; Gronberg, 1980; Heyndels and Smolders, 1994; Dollery and Worthington, 1995), though several are directed at renter's attitudes or perceptions of relevant fiscal parameters (Peterson, 1975; Hanushek, 1975; Martinez-Vazquez, 1983; Schokkaert, 1987). As shown in Table 1, approaches to the provision of publicly provided goods, whether directly or indirectly concerned with the issue of renter behaviour, consist of three components. First, the selection of a suitable proxy for the provision of the public good, in most instances satisfied by governmental expenditure, aggregate or per capita. Second, the use of selected "taste" variables to model the characteristics of the median voter, such as income and age distribution, tax shares, educational level, population densities and so on. Generally these are thought of "in the context of the assumed model...as affecting either the budget constraint or the objective function of the median voter" (Holtz-Eakin, 1992:18). Finally, studies of renter behaviour have included a measure of the potential impact of renters on median voter outcomes.[6] Usually this is composed of the proportion of the jurisdictional population either renting (Martinez-Vazquez, 1983; Moomau and Morton, 1992; Heyndels and Smolders, 1994) or purchasing/owning (Hanushek, 1975; Gronberg, 1980; Beck, 1984; Brazer and McCarty, 1987; Schwab and Zampelli, 1987; Dollery and Worthington, 1995) their residence, though the use of dummy variables for occupancy status is not unknown (Peterson, 1975; Schokkaert, 1987). It is to the latter issue and its theoretical underpinnings, that the paper itself is directed.

TABLE 1.

Summary of major studies of renter behaviour

Author(s)	Data (a)	Method (b)	Dependent Variable (c)	Occupancy Variable (d)	Other Independent Variables (d)	Relevant Findings
Barr and Davis (1966)	64 Pennsylvanian municipal areas Cross-sectional 1959	OLS	Per capita general, highway, judicial and other expenditures.	*Percentage of electorate owning property.*	*Per capita assessed property value.*	Property holding an important determinant of expenditure decisions.
Bergstrom and Goodman (1973)	826 US municipal areas Cross-sectional 1962	OLS (log-linear)	Total expenditures on police, parks and total excluding education and welfare.	*Percentage of municipal housing owner occupied.*	*Number of households, tax share of median voter, median income, measure of the crowding of the public good, percentage population change, percentage non-white, of population > 65, population density.*	Negative and significant coefficient between percentage owner occupied and the level of general expenditures.
Hanushek (1975)	140 Cleveland precincts Cross-sectional 1960	OLS	Probability of voter turnout, probability of voting in favour of expenditure increase.	*Percent homes owner-occupied.*	*Median income, value of owner-occupied dwelling, gross rent, ethnic breakdown, educational level, age level.*	Homeowners tend to vote more readily against increases in public expenditure.
Peterson (1975)	School districts in California Michigan N. Jersey N. York Kansas Cross-sectional 1968-71	OLS (log-log)	Desired school spending per pupil.	*Percentage of adult renters in school district. Dummy variable for renter status.*	*Household income, property tax base value divided by property value per pupil, state aid per pupil,* number of school children in household.	The rental population of an area is associated with the demand for higher public service levels.
Lovell (1978)	136 Connecticut towns Cross-sectional 1970	OLS GLS (linear and log-linear)	Educational expenditure per pupil.	*Proportion of homes owner-occupied in town.*	Percentage of population in poverty, *median family income, skewness of income distribution, property per pupil, median school years,* enrolments, percentage of Democrat voters.	Expenditures negatively related to the level of owner occupied housing.
Gronberg (1980)	83 Chicago localities Cross-sectional 1970	OLS, TSLS	Total municipal expenditures.	*Percentage owner occupied in local area.*	Labour force participation rate, percentage of non-whites, *per capita assessed value of property, median voter income,* median voter tax share.	Proportion of owner occupied negatively related to level of expenditures.
Martinez-Vazquez (1983)	Sundry St Louis precincts Cross-sectional 1974	OLS	"Yes" votes on increased expenditures in police, fire, parks, highway, library. Net benefits of increased expenditures.	*Percentage of renters in precinct.*	*Median income.*	Higher proportion of "yes" votes attributable to high rates of renter occupation. Results also suggest that "yes" votes on the behalf of renters are rational rather than illusionary.

Author(s)	Data (a)	Method (b)	Dependent Variable (c)	Occupancy Variable (d)	Other Independent Variables (d)	Relevant Findings
Beck (1984)	219 California municipal areas Cross-sectional 1971-74	NLLS	Per capita total expenditure.	*Percent of owner-occupied housing.*	*Per capita grant aid, tax base per household, per capita sales tax revenue, median family income, percentage non-white, percentage over 65 years, population, Gini coefficient.*	Demand for municipal services is a nonmono-tonic function of income, with minimum varying across communities.
Brazer and McCarty (1987)	600 Connec-ticut New Jersey Virginia districts Cross-sectional 1981-82	OLS (log-linear)	School expenditure per pupil. Municipal expenditure per capita.	*Proportion of owner-occupiers.*	*Tax price, state and federal aid*, proportion aged, education, poverty ratio, enrolment rates, *population growth* and density, nonresident and resident pupils, urbanisation.	Coefficient on owner-occupier negative and significant.
Schokkaert (1987)	2404 persons in Purrs, Belgium 1986	Logit	Probability of favouring increase in expenditure.	Dummy variable for home-ownership.	Dummy variables for *age, unemployment, urban status, job description, sports activity; measures of age, education, sex, income*, tax.	Homeowners appear more favourable to increases in expenditure.
Schwab and Zampelli (1987)	73 Maryland cities and counties Cross-sectional 1978	NLLS	Per capita police expenditure.	Proportion of owner-occupiers.	*Per capita income, price, grants, percentage non-white, unemployed, high school graduates.*	No relationship between percentage of homeowners and police expenditure.
Moomau and Morton (1992)	428 New Orleans precincts Cross-sectional 1982	Logit	Probability of voting in favour of change in property tax.	*Percentage of renter and homeowner households.*	Income, rental contract value, percentage white, *percentage black, homestead exemption value.*	The higher the value of rent the more likely renters will perceive the tax burden.
Heyndels and Smolders (1994)	302 Flemish municipal areas Cross-sectional 1990	OLS (log-linear)	Total expenditure.	Percentage of non-owner occupied residences.	*Population, median voter tax share, median voter total disposable income, measure of revenue-complexity, income elasticity measure, grant income equivalent divided by total income.*	No relationship between occupancy status and expenditure outcomes.
Carroll and Yinger (1994)	147 Boston towns Cross-sectional 1980	OLS, 2SLS, Box-Cox.	Median rents, index of public service quality, tax rate.	*Fraction of rental housing units.*	*Rental characteristics, population density, distance to CBD/highway, population growth rate.*	Property tax increases are exactly off-set by increases in rents. Provides support for renter rationality.
Dollery and Worthington (1995)	46 Austral-ian LGAs Cross-sectional 1991	OLS TSLS (linear and log-linear)	Total and per capita expenditure.	*Proportion of owner-occupied homes in local government area.*	*Rateable area and roads*, median voter tax price, income, *population, proportion of population over 65 years, measure of revenue-complexity, dummies for grant and utility reliance, ndirectness of revenue system.*	Proportion owner-occupied and expenditure negatively related.

a) Singular dates represent cross-sectional studies - where two dates are given, different years for some cross-sectional variables have been used. b) OLS/GLS/TSLS/NLLS - Ordinary Least Squares, Generalised Least Squares, Two-Stage Least Squares and Non-Linear Least Squares respectively. c) More than one dependent variable indicates alternative equations have been evaluated.d) Italicised independent variables indicate significant t-values at 90% or more.

RENTER ILLUSION

The first renter behaviour hypothesis that has received attention in the public finance literature is that of renter illusion (Bergstrom and Goodman, 1973; Hanushek, 1975; Peterson, 1975; Gronberg, 1980; Schokkaert, 1987; Moomau and Morton, 1992; Heyndels and Smolders, 1994; Dollery and Worthington, 1995). In this approach, an increase in the proportion of renters in a given jurisdiction will *ceteris paribus* increase the level of expenditures. The presumption is that since the primary revenue of local governments is the property tax, only those voters directly levied (owners) will correctly perceive the tax-price of the public good - it would appear that higher taxes are "hidden" in rental payments.[7] Whilst we could expect that higher property taxes will be passed onto renters via higher rents, the illusionary hypothesis argues that a disjunction exists between a rental voter's perception of the level of public good services and the level of rents paid (Oates, 1988: 72). Even if the illusionary influence is not perfect, so long as the actual tax-price is underestimated, rental voters will support higher levels of public expenditure and therefore bias expenditures upwards (Oates, 1988: 72).

The first empirical study of renter illusion was undertaken by Bergstrom and Goodman in 1973. Bergstrom and Goodman (1973: 283) argued that whilst some variables incorporated in expenditure analysis were fairly uniformly applied across a jurisdiction, the inclusion of owner-occupied ratios would account for those sections of a given population with a similar income who paid a different tax share. Moreover, the study asserted that "...it may be that renters do not believe that they pay the entire property tax on their housing, and tend to vote for more public expenditures" as support for the significantly negative sign found on proportion of owner-occupied housing (Bergstrom and Goodman, 1973: 289).

Subsequent to the seminal argument of Bergstrom and Goodman (1973), several studies verified the persistence of renter illusion in the tax price-rent nexus. Peterson (1975: 110) found that "...renters do not perceive themselves as bearing the full costs of the property tax...[indeed] renters perceive themselves as absorbing only about 20 percent of any property tax increase". However, Lovell (1978: 491) asserted that "...renters perceive that landlords shift onto them a relatively large portion of the property tax", whilst Gronberg (1980: 451) observed that "...the effects of property tax differentials on rental prices may be an implicit or hidden cost to the rental household", without the benefit of empirical support. Later studies (Heyndels and Smolders, 1994; Dollery and Worthington, 1995) verified these findings, whilst Moomau and Morton (1992: 179) found evidence of variability in the illusionary influence, "...the higher the price of the rental contract, the more likely it is that renters will perceive...the property tax burden".

Accordingly, the renter illusion hypothesis explains the systematic relationship between the proportion of non-owner occupiers in a jurisdiction and the level of expenditure via the use of misperceptions in tax prices. All other things being equal, renters will perceive a lower tax price for

the publicly provided good, demand a higher level of expenditures and accordingly fiscal outcomes will be greater than those anticipated in the absence of illusionary influences.

RENTER RATIONALITY

Despite the strong support of the renter illusion hypothesis since Bergstrom and Goodman (1973), most studies have given either implicit or explicit consideration of the alternate hypothesis of "renter rationality". In this approach, the apparent link between a jurisdictions proportion of renters and the systematic increase in expenditures is the result of rational, informed decisions on the behalf of voters, rather than any misperceptions of relevant fiscal parameters. Studies of the former hypothesis may be divided into: early approaches that supported rational type-behaviour (Barr and Davis, 1966; Hanushek, 1975; Beck, 1984; Brazer and McCarty, 1987); those that qualified findings on renter illusion (Peterson, 1975; Oates, 1988; Heyndels and Smolders, 1994); and those that directly attack the theoretical foundations of renter illusion (Martinez-Vazquez, 1983; 1988). More generally, they may be discussed in terms of the incidence and distribution of property taxes amongst voters.

First, Barr and Davis (1966) argued that the market for rental properties would be unaffected by modifications in property tax. Given that the supply of such properties was fixed in the short run, and the demand for rental property did not depend on the tax rate, they proposed *inter alia* that the property tax change would not be passed on to renters. "In addition, the long run is indeed long in terms of tax shifting since sufficient time must be allowed for the tax to prevent what would have otherwise been a non-negligible addition to the stock of rental properties" (Barr and Davis, 1966: 152). We can see that the absence of effective shifting of property taxes onto renters, in both the short and long run, ensures a lower tax price for renters, and voter outcomes consistent with rational decisions.

Following Barr and Davis (1966), the issue of property tax-rent shifting has received some attention in the literature. Oates (1988) proposes certain circumstances where the burden of tax-expenditure increases would be shifted onto tenants as against owners. "If the higher revenues are associated with improved local services, then the tax-expenditure increase should translate into a higher demand for rental housing...that will drive up rents" (Oates, 1988: 72). However, Oates (1988: 72) adds that where "tax differentials do not reflect service differentials" and where "leases for tenants may introduce substantial time lags into the process of tax shifting" there is a reduction in the present discounted value of any tax increase - the burden of tax may remain on the lessor. Peterson (1975) and Hanushek (1975) have also addressed the issue of tax-shifting, and more particularly in the case of the former, the role of time lags in rental contracts. Alternatively, a paper by Carroll and Yinger (1994: 310) estimated that "...tenants are willing to pay higher rents to receive the better services purchased by higher property taxes [but] are indifferent to an increase in the property tax because the benefits...are exactly offset by an increase in rent".[8] Whilst much of the empirical work

remains to be done, there does appear to be some evidence that "renters may, in fact, have significantly lower tax-prices than do owner occupants" (Oates, 1988: 73).

Second, a somewhat related renter rationality argument has been proposed by Martinez-Vazquez (1983). Quite apart from the plausible arguments that renters differ from owner-occupiers in terms of both income (for instance, since renters have lower incomes they benefit from the progressive incidence of fiscal budgets) and general preference for public goods (for example, renters tend to have more school-age children) Martinez-Vazquez (1983: 244) proposes that the voting behaviour of renters will vary because they have a lower level of housing consumption expenditure, holding income constant. Given that "property taxes are usually levied proportionately to the consumption of housing" (Heyndels and Smolders, 1994: 329) any increase in expenditure on the publicly-provided good will entail larger net benefits to renters than homeowners of the same income level (Martinez-Vazquez, 1983: 244). If we assume that renters vote rationally, increases in expenditure will be the result of such considerations, not renter illusion. In fact, such an outcome will be enhanced where renters have stronger preferences for the public good (benefits vary) or where full tax shifting has not occurred. Accordingly, the lower the level of housing consumption expenditure or income for renters compared to owner-occupiers, and the higher the level of benefits of the former, the more likely voter outcomes are consistent with rational behaviour.[9] Whilst "the possibility of a certain degree of fiscal illusion in renter's behaviour cannot be excluded...[the present argument] provides sufficient bases to question the predominance, if not the validity, of the fiscal illusion hypothesis in explaining renters' behaviour" (Martinez-Vazquez, 1983: 244).

THE MARTINEZ-VAZQUEZ AND SJOQUIST HYPOTHESIS

The final approach to renter behaviour has been proposed by Martinez-Vazquez and Sjoquist (1988). In this model, even when income and tastes are accounted for, renters and owner-occupiers will behave differently when faced with fiscal decisions. Essentially, what has not been included in previous studies of property tax incidence is that renters have the option of either paying a rental payment that incorporates a higher property tax or "opting" out of a jurisdiction's fiscal system - that is, relocating. Owner-occupiers on the other hand are likely to incur a capital loss "...arising from the capitalisation of excessive public spending into their home values" (Martinez-Vazquez and Sjoquist, 1988: 429). As such, with property tax financing "...homeowners have an incentive to support efficient levels of government service provision" whereas renters "...with prompting from budget maximising bureaucrats could support an oversupply of the government service" (Martinez-Vazquez and Sjoquist, 1988: 429). In a sense, the Martinez-Vazquez and Sjoquist (1988) argument is one that depends on neither renter illusion nor rationality.

Surveying the literature on approaches to renter behaviour yields a number of issues. First, regardless of the assumptions underlying renter behaviour, and even when income and tastes are accounted for, "ignoring the renter-homeowners status is likely to introduce specification biases"

(Martinez-Vazquez and Sjoquist, 1988: 430). That is, there is evidence to suggest that renters form enough of a deviation from the usual assumptions of homogeneity in the median voter model to impact significantly upon fiscal outcomes. Second, whilst renter illusion has been criticised "...as a convenient *ad hoc* explanation for empirical results" (Martinez-Vazquez and Sjoquist, 1988: 430), there is no firm evidence supporting either of the alternative hypotheses. Perhaps, no study could possibly attain such a result until the psychological "black box" in which voting decisions are made is more fully understood. Finally, and bearing in mind the previous issues, whilst there still exist reasons to believe that median voter models of public finance encompass unreasonable assumptions as to the homogeneity of voter groups, more detailed analysis of community composition is valuable.

II. DATA ANALYSIS

The conventional procedure in public finance for evaluating the impact of community composition on fiscal outcomes has been the use of the median voter model. Whilst this approach offers tantalising support for the systematic impact of renter behaviour on the provision of public goods in general (see Table 1), it has hitherto been unable to discriminate fully between the main alternative hypotheses, namely renter illusion and renter rationality (Martinez-Vazquez, 1983). An alternative that suggests itself is the use of survey data to highlight actual differences between renters and homeowners (Schokkaert, 1987; Gibbs and Kemp, 1993). Whilst this approach certainly has limitations - not the least being the severance of the link between voting and fiscal outcomes, and *a fortiori* the failure to address the psychological "black box" in which voting decisions are made - it does provide a general framework for analysing median voter results.[10] Moreover, "despite the traditional economist's suspicion against this method [survey], there are now already many good examples in the economic literature" (Schokkaert, 1987: 176).

TABLE 2.
Correlation Matrix of Occupancy/Expenditure/Income Variables

	Govt. Income	Private Income	Total Income	Direct Tax	Indirect Tax	Total Tax	Direct Benefits	Indirect Benefits	Total Benefits	Curr. Housing Costs	Cap. Housing Costs	Total Housing Costs
Govt. Income	1.000											
Private Income	-0.513	1.000										
Total Income	-0.372	0.987	1.000									
Direct Tax	-0.418	0.939	0.940	1.000								
Indirect Tax	-0.322	0.563	0.550	0.492	1.000							
Total Tax	-0.438	0.941	0.938	0.974	0.676	1.000						
Direct benefits	1.000	-0.513	-0.372	-0.418	-0.322	-0.438	1.000					
Indirect Benefits	0.277	0.013	0.065	-0.002	0.078	0.017	0.277	1.000				
Total Benefits	0.803	-0.315	-0.194	-0.266	-0.154	-0.265	0.803	0.795	1.000			
Curr. Housing Costs	-0.241	0.300	0.281	0.294	0.306	0.328	-0.241	0.001	-0.151	1.000		
Cap. Housing Costs	-0.042	0.088	0.087	0.113	0.093	0.120	-0.042	-0.002	-0.028	0.045	1.000	
Total Housing Costs	-0.106	0.165	0.160	0.187	0.172	0.203	-0.106	-0.002	-0.068	0.314	0.962	1.000

Source: ABS (1992) *1988-89 Household Expenditure Survey - Australia* Cat. No. 6544.0

The data selected is drawn from the Australian Bureau of Statistics (ABS) 1988-89 Household Expenditure Survey - Australia (ABS, 1992). The sample, composed of 7042 probability weighted households, contains detailed weekly information on expenditure, income and demographic variables. Selected descriptive statistics are detailed in Tables 2 - 4.

TABLE 3.

Household Weekly Expenditures/Income ($) - Renters, Non-Renters, All Groups.

Expenditure Income Type	Renters n=1861		Non-Renters n=5181		All Groups n=7042	
	Mean	*StdDev*	*Mean*	*StdDev*	*Mean*	*StdDev*
Income						
Government	74.23	96.88	60.24	88.75	63.79	91.07
Private	474.65	450.15	611.21	583.54	576.60	555.94
Total	548.88	401.50	671.46	547.28	640.40	516.98
Taxation						
Direct	108.57	129.07	142.83	179.75	134.15	169.01
Indirect	58.14	47.72	67.29	51.74	64.98	50.90
Total	166.72	161.08	210.13	208.63	199.13	198.55
Govt. Benefits						
Direct	74.23	96.88	60.24	88.75	63.79	91.07
Indirect	102.31	91.44	112.12	83.52	109.63	85.70
Total	176.54	159.81	172.36	136.37	173.42	142.67
Housing Costs						
Current	90.58	55.59	67.531	81.59	73.37	76.50
Capital	-11.80	185.11	41.60	300.92	28.06	277.17
Total	78.78	189.32	109.13	318.09	101.44	291.18

Source: ABS (1992) *1988-89 Household Expenditure Survey - Australia* Cat. No. 6544.0

Issues raised in the literature relevant to the analysis of renter behaviour may be classified under four headings; tax prices associated with public good provision, benefits of governmental activity, levels of income, and housing consumption expenditure. First, it would appear that renters as a group have significantly lower levels of taxation than homeowners, while governmental benefits are higher than that found for owner-occupiers (Table 3). By itself, this would suggest that as the proportion of renters in a given fiscal jurisdiction increases, and accordingly as the probability the median voter shares such characteristics increases, the larger the differential in fiscal outcomes. More particularly, renter-dominated fiscal jurisdictions should exhibit higher levels of public good expenditure as renters react rationally to larger net governmental benefits. Second, renters appear to have lower levels of income (Table 3). Traditionally, higher levels of income are associated *prima facie* with higher levels of governmental expenditure, assuming public goods are normal. However, there is some evidence to suggest that such an assumption ignores both the pressure for redistribution as income falls and the significant substitution effect that exists between private and public goods as income increases. Third, in general renters appear to have lower housing consumption expenditures (Table 3) (Guadagno, 1992; Schwenk, 1993). Given that property taxes are levied proportionately to the level of said consumption, it would indicate that a renter's

contribution to a primary local government revenue source is less than that of a owner-occupier. Finally, Table 4 details the descriptive analysis of these variables when income is held constant. That is, given that most median voter studies control for the effects of income and tax price, the question presents itself whether this is sufficient to account for the renter-homeowner dichotomy. The results presented would seem to indicate that even after such allowances, the characteristics of renters differ in terms of both tax prices and housing consumption. Moreover, there are obviously compositional differences between renters and owner-occupiers income and expenditure to account for these differentials.

TABLE 4.

Renter/Non-Renter Mean Expenditure/Benefits Across Income Groups ($)

Income ($)	Renters				Non-Renters			
	n	*Housing*	*Taxation*	*Benefits*	*n*	*Housing*	*Taxation*	*Benefits*
300-400	2294	7920.70	149.41	180.01	5400	10747.00	205.14	173.23
400-500	2342	8195.10	157.39	170.32	5403	10754.00	206.82	171.03
500-600	2317	8398.00	166.23	171.86	5375	10846.00	208.40	170.73
600-700	2300	8238.20	172.54	172.22	5310	10824.00	209.80	171.62
700-800	2304	8606.80	179.43	169.10	5306	10858.00	210.64	171.33
800-900	2234	8746.40	184.18	169.59	5293	10866.00	211.45	171.30
900-1000	2192	8973.50	188.73	171.32	5284	10840.00	212.01	171.23

Source: ABS (1992) *1988-89 Household Expenditure Survey - Australia* Cat. No. 6544.0

This simple descriptive analysis would appear to support the notion that renters form a defined sub-group in median voter analysis, and that such differences are not adequately accounted for after controlling for income, tax price and some other taste variables. Moreover, some tentative evidence exists to suggest that in general renters will rationally support higher levels of publicly provided goods and therefore a higher level of governmental expenditure than owner-occupiers of the same income level. Such results would offer some support for the renter rationality, as against the renter illusion, approach to public finance. However, the analysis presented does not systematically link such observations to particular fiscal outcomes, nor does it conform to general median voter procedures. More particularly, several broad assumptions have been employed that: (1) link housing consumption expenditure directly to property tax incidence; (2) effectively ignore sources of local governmental revenue such as grants, fees and fines; and (3) use measures of taxation, which are only strictly applicable to an entire federal system for insights into local jurisdictional expenditure. Apart from these limitations, the study provides a suitable starting point for further investigation.

III. CONCLUSION

Median voter models have traditionally employed income and other demographic characteristics to account for the demand for publicly provided goods, rather than occupancy status. Where such a measure has been included, the results imply a positive (negative) relationship between the proportion of renters (owner-occupiers) in a jurisdiction and the level of public good expenditure.

Conventionally, this has been used to provide support for the renter illusion hypothesis - the notion that renters underestimate the level of burden associated with property taxes. However, it has been argued that the fiscal illusion literature is *ad hoc*, theoretically inadequate and empirically untestable. An alterative hypothesis, that of renter rationality, has been proposed which attempts to account for variation in public good outcomes using rational, informed behaviour. Whilst much of the empirical work remains to be done - such as examining the capitalisation of taxes in rents, the lags incurred in such a process, and other dynamics of rental markets - the present study provides a cursory examination of detailed expenditure data. The results indicate that some support for the renter rationality hypothesis may exist.

---

[1] The median voter literature is extensive, certainly to the extent of preventing any cursory survey. For early applications and issues see Borcherding, T.E. and Deacon, R.T. 1972. The Demand for the Services of Non-Federal Governments. *American Economic Review* 62: 842-853; Bergstrom, T.C. and Goodman, R.P. 1973. Private Demands for Public Goods. *American Economic Review* 63: 280-296; and Romer, T. and Rosenthal, H. 1979. The Elusive Median Voter. *Journal of Public Economics* 12: 143-170.

[2] The most common use of community composition in public finance is as a "taste" variable in demand estimation. A more recent alternative is that proposed by Hamilton (1983), Schwab and Zampelli (1987) and Holtz-Eakin (1992) where the unit costs of public good provision depend on community characteristics, particularly income.

[3] The literature on renter behaviour defines those either owning or purchasing their home as owner-occupiers or homeowners, whilst those leasing their residences are described as renters or tenants.

[4] "Some of the studies use as their independent variable the percentage owner occupied in the jurisdiction [as against the proportion or percentage renter occupied]. In a statistical or conceptual sense, however, it is immaterial which of the two variables is used (Martinez-Vazquez, 1983: 244).

[5] Another hypothesis which implies a public expenditure demand larger than that implied by individual interests is that of "public regardingness". Inclination to support higher expenditures in this approach is neither strictly rational (in terms of self-interest) nor the result of misperceptions (Hanushek, 1973; Martinez-Vazquez, 1981)

[6] The use of such a measure is also apparently consistent with "average voter" or "weighted average voter" models of public sector behaviour, where "...the demands of all individuals in the community influence the public budget"(Holtz-Eakin, 1992: 17).

[7] Efficiency aspects of property taxation are also addressed in Hochman (1981), Bucovetsky (1982), Krelove (1993) and Pogodzinski and Sjoquist (1993).

[8] The situation where the property tax is a benefit tax - that is, the tax burden coincides with the benefits from the services it finances - has received some attention in the literature. See Carroll and Yinger (1994) for a recent analysis. A somewhat related issue is the dynamics of decisions to either buy or rent a house - Weiss (1978) and Henderson and Ioannides (1989) provide examples of this kind of work.

[9] Martinez-Vazquez (1983: 245) proposed that the differential in net benefits would be reduced by the deductibility of mortgage and property tax payments in state/federal taxes and increased by the passing on of depreciation allowances in the form of lower rents.

[10] Putting aside the well-known advantages and disadvantages of the median voter model using actual outputs or expenditure (Holtz-Eakin, 1992), the alternatives of referendum voting and direct survey pose their own problems for public finance analysis. First, whilst referendum results are an "...explicit statement of community preferences...it is not possible to relate characteristics of an individual to his actual vote" (Hanushek, 1975: 124). Accordingly, it is necessary to match aggregate voting behaviour and group characteristics, as in traditional median voter models. Second, whereas surveys do allow direct assessment of attitudes to public expenditure, they are compromised by "...the validity of the response in terms of true, underlying preferences" (Holt-Eakin, 1975: 124). The main advantage of survey techniques is that a "richer" set of preferences and socio-economic constraints may be evaluated, as against both individual or aggregate voting outcomes (Schokkaert, 1987).

REFERENCES

Australian Bureau of Statistics (ABS). 1992. *1988-89 Household Expenditure Survey - Australia.* Unit Record Files on Magnetic Tape - July 1992 Update. Catalogue No. 6544.0

Barr, J.L. and Davis, O.A. 1966. An Elementary Political and Economic Theory of the Expenditures of Local Governments. *The Southern Economic Journal* 33: 149-165.

Beck, J.H. 1984. Nonmonotonic Demand for Municipal Services: Variation Among Communities. *National Tax Journal* 37: 55-68.

Bergstrom, T.C. and Goodman, R.P. 1973. Private Demands for Public Goods. *American Economic Review* 63: 280-296.

Brazer, H.E. and McCarty, T.A. 1987. Interaction Between Demand for Education and Municipal Services. *National Tax Journal* 40: 555-566.

Bucovetsky, S. 1982. Inequality in the Local Public Sector. *Journal of Political Economy* 90: 128-145.

Carroll, R.J. and Yinger, J. 1994. Is the Property Tax a Benefit Tax? The Case of Rental Housing. *National Tax Journal* 47: 295-316

Dollery, B.E. and Worthington, A.C. 1995. An Empirical Test of Fiscal Illusion and Local Expenditure in Australia. *Federalism Research Centre Discussion Paper Series.* Canberra: Australian National University (forthcoming).

Guadagno, M.A.N. 1992. Families with High Housing Expenditures: A Comparison of Homeowners and Renters. *Family Economics Review* 5: 2-11.

Gibbs, I. and Kemp, P. 1993. Housing Benefit and Income Redistribution. *Urban Studies* 30: 63-72.

Gronberg, T.J. 1980. The Interaction of Markets in Housing and Local Public Goods: A Simultaneous Equations Approach. *Southern Economic Journal* 46: 445-455.

Hamilton, B.W. 1983. The Flypaper Effect and Other Anomalies. *Journal of Public Economics* 22: 347-361.

Hanushek, E.A. 1975. The Demand for Local Public Services: An Exploratory Analysis. Chapter in J.E. Jackson (ed) *Public Needs and Private Behaviour in Metropolitan Areas.* Cambridge (Mass): Ballinger.

Henderson, J.V. and Ioannides, Y.M. 1989. Dynamic Aspects of Consumer Decisions in Housing Markets. *Journal of Urban Economics* 26: 212-230.

Heyndels, B. and Smolders, C. 1994. Fiscal Illusion at the Local Level: Empirical Evidence for the Flemish Municipalities. *Public Choice* 80: 325-338.

Hochman, O. 1981. Land Rents, Optimal Taxation and Local Fiscal Independence in an Economy with Local Public Goods. *Journal of Public Economics* 15: 59-85.

Holtz-Eakin, D. 1992. Elections and Aggregation: Interpreting Econometric Analyses of Local Government. *Public Choice* 74: 17-42.

Ihlanfeldt, K.R. 1980. An Intertemporal Empirical Analysis of the Renter's Decision to Purchase a Home. *Journal of the American Real Estate and Urban Economics Association* 8: 180-197.

Krelove, R. 1993. The Persistence and Inefficiency of Property Tax Finance of Local Public Expenditures. *Journal of Public Economics* 51: 415-435.

Levy, M.D. 1979. A Comparison of Voting Behaviour on Tax Initiatives with Different Perceived Distribution Consequences. *National Tax Journal.* 32: 551-554.

Lovell, M.C. 1978. Spending for Education: The Exercise of Public Choice *The Review of Economics and Statistics* 60: 487-495.

Martinez-Vazquez, J. 1981. Selfishness versus Public 'Regardingness' in Voting Behaviour. *Journal of Public Economics* 15: 349-361.

_____. 1983. Renters' Illusion or Savvy? *Public Finance Quarterly* 11: 237-247.

_____. 1988. Property Tax Financing, Renting, and the Level of Local Expenditures. *Southern Economic Journal* 55: 424-431.

Moomau, P.H. and Morton, R.B. 1992. Revealed Preferences for Property Taxes: An Empirical Study of Perceived Tax Incidence. *The Review of Economics and Statistics* 74: 176-179.

Oates, W.E. 1988. On the Nature and Measurement of Fiscal Illusion: A Survey. In G. Brennan, P.S. Grewel and P. Groenewegen (eds). *Taxation and Fiscal Federalism: Essays in Honour of Russell Matthews.* Sydney: ANU Press.

Peterson, G. 1975. Voter Demand for Public School Expenditures. Chapter in J.E. Jackson (ed) *Public Needs and Private Behaviour in Metropolitan Areas.* Cambridge (Mass): Ballinger.

Pogodzinski, J.M. and Sjoquist, D.L. 1993. Alternative Tax Regimes in a Local Public Good. *Economy* 50: 115-141.

Schokkaert, E. 1987. Preferences and Demand for Local Public Spending. *Journal of Public Economics* 34: 175-188.

Schwab, R.M. and Oates, W.E. 1991. Community Composition and the Provision of Local Public Goods: A Normative Analysis. *Journal of Public Economics* 44: 217-237.

_____. and Zampelli, E.M. 1987. Disentangling the Demand Function from the Production Function for Local Public Services: The Case of Public Safety. *Journal of Public Economics* 33: 245-260.

Schwenk, F.N. 1993. Housing Expenditures of the Elderly: Owners and Renters. *Family Economics Review* 6: 2-7.

Weiss, Y. 1978. Capital Gains, Discriminatory Taxes, and the Choice Between Renting and Owning a House. *Journal of Public Economics* 10: 45-55.

UNE Working Papers in Economics

1. Baldry, J.C. and Dollery, B.E. 1992. *Investment and Trade Sanctions against South Africa in a Model of Apartheid.*

2. Wallis, J.L. and Dollery B.E. 1993. *The Economics of Economics: a Model of Research Discourse.*

3. Schulze, D.L. 1993. *Financial Integration and Financial Development: A Conceptual Framework.*

4. Dollery, B.E. and Whitten, S. 1994. *An Empirical Analysis of Tariff Endogeneity in Australia, 1904-1978.*

5. Schulze, D.L. and Yong, Jong-Say. 1994. *Rational Expectations and Monetary Policy in Malaysia.*

6. Pullen, J.M. and Smith, G.O. 1994. *Major Douglas and the Banks.*

7. Pullen, J.M. 1994. *Toward a Mathematical Model of Malthus.*

8. Dollery, B.E. and Jackson, C. 1994. *A Note on Methodological Parallels Between Accounting and Economics.*

9. Anwar, S. and Shamsuddin, A.F.M. 1994. *Effects of Terms of Trade Changes in a Public Input Economy.*

10. Siriwardana, M. 1994. *Recovery from the 1930s Great Depression in Australia: a Policy Analysis Based on a CGE Model.*

11. Dollery, B.E. 1994. *Perspectives in Wolf's Theory of Nonmarket Failure.*

12. Harris, G. 1994. *Resolving the Productivity Puzzle: a Review of the Determinants of Research Productivity.*

13. Harris, G. 1994. *Research Performance Indicators in Australia's Higher Education.*

14. Gow, J. and Davidson, B. 1994. *A Public Choice Perspective on Agricultural Adjustment Assistance.*

15. Kaine, G. and Gow, J. 1994. *Supply Response in Grape Production to a Vine Pull Scheme.*

16. Gow, J. 1994. *An Empirical Investigation of Public Choice Theory: the Case of the Rural Adjustment Scheme.*

17. Siriwardana, M. 1994. *The Economic Impact of Tariffs of the 1930s Australia: the Brigden Report Re-examined.*

18. Taslim, M.A. 1995. *Saving-Investment Correlation and International Capital Mobility.*

19. Dollery, B. and Hamburger, P. 1995. *The Dunleavy and Niskanen Models of Bureaucracy: The Case of the Australian Federal Budget Sector 1982-92.*

20. Worthington, A.C. and Dollery, B.E. 1995. *Fiscal Federalism in Australia: Equity/Efficiency versus Public Choice Approaches in Explaining Intergovernmental Grants.*

21. Gow, J. 1996. *A Review of Drought Policy in Australia 1989-1995.*