Deficits, Defense, and Income Redistribution

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By now there is a substantial literature in economics pioneered by George Stigler (1971) and refined by Sam Peltzman (1976) and Gary Becker (1985) that analyzes the role the state plays in redistributing wealth across different groups in society. This transfer of wealth can be effectuated implicitly by government laws and regulations or by direct taxation and the redistribution of the revenues to different groups (Meltzer and Richard 1981). The key feature of models in this literature is that the redistribution is implicitly assumed to occur repeatedly across the same groups at a given moment in time but not between different groups over time. These static models of government behavior contrast with macroeconomic models that view government policy from a normative prospective and analyze it within a dynamic framework. For example, Robert Barro (1979) assumes that the state chooses a tax path subject to the constraint that individual taxpayers seek to maximize their intertemporal utility.

With notable exceptions, the public choice literature has not focused on the possibilities available to the state to transfer wealth intertemporally across groups, nor has the macroeconomics literature. The question of whether deficit financing of government expenditures has an impact on the real economy is a case in point. If deficits do affect real variables, then budget deficits can be used by government to redistribute wealth across different generations. Conversely, changes in institutional structures, laws, or regulations intended to transfer income across groups to increase political support may lead to income transfers across generations. This paper examines whether the enfranchisement of blacks in the United States, who have relatively low incomes, has led to increased use of debt to finance government spending.

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A model by Alex Cukierman and Allan Meltzer (1989) allows us to bridge the gap between income transfers across groups and across generations. It generalizes Barro's (1974) overlapping generations model with bequest to account for differences in abilities and wealth among individuals. This heterogeneity in endowments permits for some individuals in society to be bequest constrained while others are not. By introducing the political structure of a representative democracy to derive collective choices, Cukierman and Meltzer show that it is possible for debt neutrality not to hold—that is, for fiscal deficits to have real effects on the economy. A more neglected implication of their model is that debt will be larger the greater the spread of the wealth distribution across individuals. That implication, which is the focus of attention in this paper, has an interesting corollary, namely, the likelihood that deficits increase with an extension of the franchise to low-wealth individuals who are likely to be bequest constrained.[1] More generally, if we do not live in a Ricardian world, then deficits can be used by individuals as an institutional vehicle for the redistribution of wealth across generations.

This paper presents some empirical evidence favorable to the proposition that fiscal deficits will be greater the more unequal the distribution of income and the greater the number of individuals who are at the lower tail of that distribution. It emphasizes that, if feasible, the forces that lead the state to redistribute income across different groups at any moment in time will also lead it to transfer wealth across generations through debt financing of expenditures. I will argue that the latter type of redistribution has been made possible in the United States since the mid-1960s by three factors: (1) an increase in the political participation of blacks, a previously disenfranchised low-income group, through legislation that reduced the cost to them of participating in the electoral process; (2) a period of very rapid economic expansion; and (3) changes in the political structure that are consistent with an increase in the degree of influence of subsidized groups (or a fall in the influence of taxed groups). Although I emphasize the redistributive aspect of deficits, this paper can be viewed as complementing the literature that emphasizes the impact that other income redistribution policies have had on the expansion of the public sector (e.g., see Becker 1985 and Peltzman 1980).

[1]Another corollary is that the likelihood of deficits increases with an increase in the expected rate of economic growth. The reason for this is that the desired amount bequeathed to one's offspring is inversely related to their expected wage. Therefore, higher expected opportunities for one's descendants lowers the desired amount to bequeath.

Framework for Analysis

This paper examines the impact of U.S. income transfer programs and defense spending on federal budget deficits, as measured by real deficits per capita and deficits as a percent of GNP. Deficits per capita can be viewed as the increment to tax liabilities imposed on the average member of a future generation if the bequest motive is not operative—that is, if all families are bequest constrained and if population growth is equal to the interest rate on the debt. At the other extreme when Ricardian equivalence holds, deficits per capita can be viewed as the average size of the bequest each individual of the current generation must leave annually for future generations. Similarly, deficits as a percentage of GNP can represent the average tax rate on future generations if bequests are not operative or, when they are fully operative, the average size of the bequest rate of the current generation. In effect, deficits as a percentage of GNP establish the bounds on the lump-sum average tax or bequest rate required to finance (or offset) the deficit when population growth is equal to the interest rate on the debt. The real effects caused by deficit financing would have to be factored in to establish the full cost to future generations or the total transfer required of the current generation to leave future generations no worse off.

If deficits provide a vehicle for the intergenerational redistribution of wealth, then we should expect that both the increment to average tax liabilities and the average tax rate on future generations should be positively related with other "tax rates" that are being levied to transfer income. In effect, when the current generation votes to redistribute income from some of their members to others of the same generation by increasing taxes, they will also seek to expand the tax base by relying on the wealth of future generations and increase the size of the deficit. In other words, *redistribution across groups and across generations should be positively correlated.*

On the other hand, if Ricardian equivalence holds then rational individuals know that deficit financing is an ineffective tool for achieving the desired intergenerational transfer of wealth and therefore, they must resort to taxing the wealth of the current generation since that is the only feasible tax base. Consequently, no correlation should be found between the average tax rate on the wealth of current taxpayers and deficit as a percentage of GNP, which in this case is the rate of intergenerational bequest. More generally, we should find that deficits are not positively related to the redistribution sentiment of voters. In order to empirically test the nature of this relation in the United States, I use federal social welfare expenditures—expressed in

per capita terms and as a percentage of GNP—as a measure of the average tax rate on individuals for the purpose of transferring income and as a proxy for the degree of redistribution sentiment of voters.

As discussed above, the likelihood that deficits are an effective vehicle for transferring wealth increases with the extension of the franchise to low-wealth individuals. Such a change occurred in the mid-1960s, in particular with the passage of the Civil Rights Act of 1964 and the Voting Rights Bill of 1965 that reduced institutional obstacles hindering the participation of blacks in the electoral process.[2] Thus, after 1965, the likelihood that deficits and expenditures on transfer programs are positively correlated should increase.

The mid-1960s marked two other relevant developments. First, the emergence of a series of redistribution programs directed toward domestic groups (President Lyndon Johnson's Great Society programs) as well as programs directly solely toward foreigners (e.g., the Peace Corps, the Alliance for Progress, and Food for Peace).[3] Second, the existence of a long economic expansion that acted as a catalyst for larger debt, as shown by Cukierman and Meltzer (1989). It should be pointed out that Peltzman's (1980) paper, which argued that economic equality spurs the growth of the redistributive state, provides a foundation for linking economic growth, income inequality, and deficit financing. Using his framework, one would expect that economic expansions thought to reduce income inequality and Civil Rights legislation that raises expectations of economic opportunities should lead to greater deficits if bequests are not fully operative and the optimum tax rate is constant.

Finally, Barro (1979) argues that wars are optimally financed by the issuing of debt. But even in times of peace, defense spending may not be financed by taxes on the current generation, and the debt may not be fully offset by bequest, if that spending is viewed by the current generation as serving to increase the likelihood that future generations may be able to consume the wealth bequeathed (Seiglie 1998). In other words, if defense spending serves to deter an attack that would destroy a fraction of the capital stock expected to be bequeathed to future generations, then, as in the case of bequest of human capital, deficits will not be fully offset. Therefore, the other explanatory variable is military spending per capita and as a share of

[2]Blacks as a group have much lower wealth than the national average. Francine Blau and John Graham (1990) estimate that the wealth of black families is only 18 percent of white families.

[3]Whether those transfer programs came about because of a shift in the median voter to one with lower wages or because of an overall change in the preferences (ideology) of a significant fraction of the electorate is unclear.

GNP. The complete set of variables and their definitions are summarized in Table 1.

Results

Table 2 presents the regression results for deficits per capita and as a percentage of GNP, as well as for the growth rate of this latter variable.[4] As expected, the coefficients for defense spending per capita and as a percentage of GNP, both of which may be viewed as proxies for taxes imposed on the current generation for the purpose of maintaining national security, are positive and statistically significant. This result is consistent with the notion that defense may be viewed by the current generation as a form of insuring the transferability of the capital stock to future generations. Therefore, defense spending is not fully offset by taxes on the current generation but instead is partly financed by additional debt.[5]

If, as expected, enfranchisement of a low-wealth group increases the likelihood that deficits provide a mechanism for redistributing wealth across generations or, equivalently, that future generations' wealth holdings are a taxable base from the viewpoint of the current generation, then the coefficient of *Redistribution* should be positive. In fact, in all three cases, it is positive and statistically significant at the 5 percent level, indicating that after 1964 the "potential" tax burden on future generations and the growth rate of that burden increase with the sentiment to redistribute across groups of the current generation.[6] Yet prior to 1964, this phenomenon seems not to have been important as can be seen by the statistical insignificance of the coefficients of SW/GNP and %ΔSW/GNP. Note also that all the coefficients are negative for the earlier period and statistically significant at the 10 percent level for the case of deficits per capita. This result is further highlighted in Table 3, which presents the results of regressing the separate components of social welfare expenditures on our deficit variables.

During the earlier period, the coefficients of the Social Security and public aid components of social welfare expenditures are negative and not statistically significant. Whereas, after the mid-1960s, the coefficients are positive and statistically significant at the 10 percent

[4]Evan Tanner and Peter Liu (1994) find that the deficit for the United States is stationary when a structural break is included and that interest-inclusive expenditures and revenues are cointegrated (Engle and Granger 1987).

[5]The theoretical argument along with empirical evidence from other countries can be found in Seiglie (1998).

[6]A Chow test suggests a breakpoint somewhere between 1962 and 1967.

TABLE 1

SYMBOLS AND DEFINITIONS

Variable	Definition
Deficit/PC	Annual federal deficit (surplus) per capita in constant dollars
Deficit/GNP	Federal deficit (surplus) as a percentage of GNP
%ΔDeficit/GNP	Annual percentage change of Deficit/GNP
SW/PC	Annual federal social welfare expenditures per capita in constant dollars
SW/GNP	Federal social welfare expenditures as a percentage of GNP
%ΔSW/GNP	Annual percentage change of SW/GNP
Defense/PC	Defense spending per capita in constant dollars
Defense/GNP	Defense spending as a percentage of GNP
%ΔDefense/GNP	Annual percentage change of Defense/GNP
SS&PA/PC	Real annual spending per capita on the Social Security and public aid components of social welfare expenditures
SS&PA/GNP	Expenditures on the Social Security and public aid component as a percent of GNP
Education/PC	Real annual spending per capita on the education component of social welfare expenditures
Education/GNP	Expenditures on the education component as a percent of GNP
Health/PC	Real annual spending per capita on the health component of social welfare expenditures
Health/GNP	Expenditures on the health component as a percent of GNP
D_t	Dummy variable defined as having a value of zero before 1964 and one thereafter
Redistribution	Captures structural shift of the slope of the income transfer variables after enfranchisement and is defined as (D_t*SW/PC), (D_t*SW/GNP), (D_t*%ΔSW/GNP), (D_t*SS&PA/PC), and (D_t*SS&PA/GNP), respectively

NOTES: Data for social welfare expenditures are from U.S. Social Security Administration, *Social Security Bulletin* and *Statistical Abstract of the United States* (various years). Data for other variables are from the *Economic Report of the President* (various years). Constant dollar values were derived by using the implicit GNP price deflator (1982 = 100).

TABLE 2

RESULTS OF REGRESSING REAL DEFICITS PER CAPITA, DEFICITS AS A PERCENTAGE OF GNP, AND THE ANNUAL RATE OF CHANGE OF THE SHARE OF THE DEFICIT IN GNP ON SELECTED VARIABLES FOR THE UNITED STATES, 1939–1989

Independent Variables	Dependent Variable		
	Deficit/PC	Deficit/GNP	%ΔDeficit/GNP
Constant	−.678 (.297)	−.005 (.141)	1.10 (2.09)
SW/PC	−.997 (1.73)		
SW/GNP		−1.01 (1.26)	
%ΔSW/GNP			−2.77 (.757)
Defense/PC	.635 (12.11)		
Defense/GNP		.62 (8.81)	
%ΔDefense/GNP			−.390 (.597)
Redistribution	1.51 (2.51)	1.93 (2.29)	32.76 (3.00)
Intercept Dummy (D_t)	−7.75 (2.81)	−.096 (2.29)	−1.28 (1.69)
ρ	.281 (1.96)	.296 (2.20)	
Adjusted R^2	.88	.87	.10
Mean of Dependent Variable	3.68	.033	.80

NOTES: The t-ratios are shown in parentheses below coefficients. The Durbin-Watson statistic was low for the first two regressions indicating the possibility of serial correlation and was corrected using an AR(1) specification.

TABLE 3

RESULTS OF REGRESSING REAL DEFICITS PER CAPITA AND DEFICITS AS A PERCENTAGE OF GNP ON COMPONENTS OF SOCIAL WELFARE EXPENDITURES FOR THE UNITED STATES, 1939–1989

Independent Variables	Dependent Variable	
	Deficit/PC	Deficit/GNP
Constant	−4.15 (2.84)	−.067 (4.72)
SS&PA/PC	−.741 (1.21)	
SS&PA/GNP		−.288 (.553)
Education/PC	−3.47 (.879)	
Education/GNP		−3.28 (.810)
Health/PC	8.14 (2.72)	
Health/GNP		9.52 (4.28)
Defense/PC	.552 (9.12)	
Defense/GNP		.594 (12.3)
Redistribution	1.12 (1.77)	1.09 (1.87)
Intercept Dummy (D_t)	−3.79 (1.30)	−.034 (1.12)
ρ	.263 (1.90)	.060 (.44)
Adjusted R^2	.90	.90

NOTE: The t-ratios are shown in parentheses below coefficients.

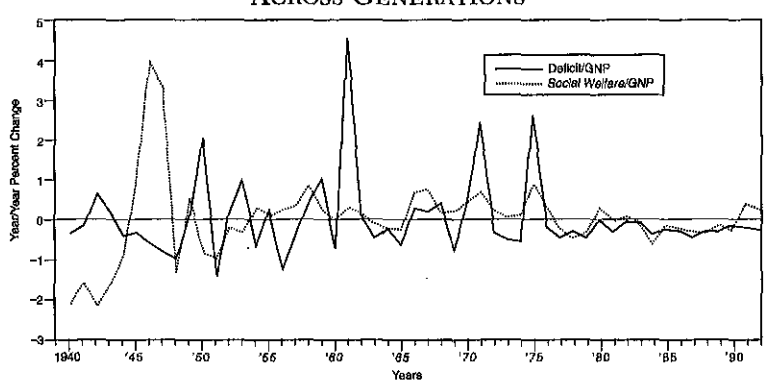
level.[7] This is indicated by the results for the variable *Redistribution*. As expected, the results for defense spending are positive and significant at the 5 percent level for both regressions.

Allen Drazen (1978) argues that bequest in the form of human capital may lead to Ricardian equivalence no longer holding. This implies that parents who bequeath human capital would prefer the government to finance these expenditures with debt. Therefore, we include the education and health components of social welfare expenditures separately without accounting for a structural break to test this proposition. During the sample period, spending on health is positively related to deficits in both regressions as well as statistically significant. We would expect this result if parents perceive increases in this form of human capital to be a bequest to future generations. Similar results are not found for federal educational outlays. This is not surprising given that a large proportion of public spending on education occurs at the state and municipal levels and not at the federal level.

Figure 1 depicts how after the mid-1960s political pressure to redistribute among the current generation, %ΔSW/GNP, is positively correlated with pressure to redistribute across generations, as measured by the percentage changes in the potential average tax rate, %ΔDeficit/GNP. It has to be emphasized that the political feasibility to redistribute across generations seems not to have been present prior to the mid-1960s, but becomes possible after that period—a

FIGURE 1

RELATION BETWEEN REDISTRIBUTION ACROSS GROUPS AND ACROSS GENERATIONS



[7]A further breakdown into Social Security and public aid spending reveals that the impact of Social Security is dominant.

period in which blacks, who are disproportionately represented in the lower tail of the wealth distribution, gained access to the levers of political power.

Finally, we note that the coefficient for the intercept dummy, D_t, is negative and statistically significant for almost all the regressions. Thus, it seems that although the use of deficit financing for the purpose of wealth redistribution increased after the mid-1960s, the average size of the deficit either in per capita terms or as a percentage of GNP declined after that period (although the 1980s seem to reflect a reversal). This may be reflecting the fact that the earlier years comprised two major wars whose impact on the behavior of deficits is not being fully captured by the military expenditure variables.

Conclusion

During the mid-1960s, a structural shift in the behavior of U.S. budget deficits appears to have occurred. That shift is consistent with the proposition that, if economically feasible, the political forces that redistribute income across groups will also redistribute wealth across generations by increasing debt. The paper also argues that defense spending should be positively related to deficits, because that component of government spending ensures the transferability of bequests. The empirical evidence supports those propositions.

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