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Using NPI Satellite Accounts: What Can We Learn?

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Using NPI Satellite Accounts: What Can We Learn?

Growing interest in the nonprofit sector and the existence of international guidelines for capturing them in a national accounts framework (United Nations, 2003) have led to the publication of a number of satellite accounts for nonprofit institutions (NPIs) in the last few years. This paper reviews the lessons learned and uses these data to examine some potential applications of NPI satellite accounts.

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Introduction

Growing interest in the nonprofit sector and the existence of international guidelines for capturing nonprofit institutions (NPIs) in a national accounts framework have led to the publication of a number of satellite accounts for nonprofit institutions (NPIs) in the last few years. This paper reviews the lessons learned from these efforts, and uses the data to examine some potential applications of NPI satellite accounts.

Despite the substantial amount of work involved, constructing an NPI satellite account has several advantages. It may uncover entities or transactions previously missing from routine data collection activities, and it can improve the homogeneity of other sectors by reassigning NPIs formerly included there to the expanded NPI sector. NPI satellite accounts also provide information on the size and scope of the nonprofit sector and its contribution to the supply of various services in the economy. Of more general interest is the use of the NPI satellite account framework as a vehicle for illuminating the interaction of the NPI sector with other sectors, particularly the public sector, which increasingly collaborates with NPIs and for-profit corporations to deliver public services. Finally, NPI satellite accounts provide an entry point for looking at volunteering and other nonmarket and qualitative issues within a national accounts framework.

Implementation experience

In order to improve the statistical representation of NPIs in national accounts, the *Handbook on Non-Profit Institutions in the System of National Accounts*¹ defines a broad NPI sector that includes NPIs that the 1993 SNA assigns to corporations and government (in sectors S.11, S.12, and S.13) as well as the non-profit institutions serving households (NPISHs) (in sector S.15). It also recommends the provision of additional detail on government payments to NPIs and the presentation of alternative measures capturing the contribution of volunteering and the non-market output of market NPIs. The *Handbook* recommends a special classification, the International Classification of Nonprofit Organizations (ICNPO), and it contains suggestions for identifying NPIs and carrying out other aspects of compiling the data for filling out the recommended tables.

After the adoption of the *Handbook* in 2002, statistical offices in several countries began work implementing its recommendations. Some had earlier experience collaborating in data assembly for the Johns Hopkins Comparative Nonprofit Sector (CNP) Project (Salamon et al, 1999 and 2004) or in field-testing the *Handbook* during its development. Others were new to such efforts and faced the task of defining the scope of the sector as well as compiling the data to implement its satellite account.

¹ (United Nations, 2003). Hereafter referenced as the *Handbook*.

The five NPI satellite accounts or other presentations of data on NPIs reviewed here have a number of features in common. They are all the product of official statistical offices, which implies access to non-public data, adherence to customary statistical practices, and sensitivity to reliability issues and disclosure considerations. They have all been published in print form, and many of their data are available online. Finally their forms of presentation owe more to the national accounts systems that generated them than to the SNA-derived recommendations of the *Handbook*.

The first to be published was the **Australian** satellite account (Australian Bureau of Statistics, 2002). It drew on the findings from an earlier collaboration with researchers affiliated with the CNP project and made use of existing data on unpaid work for its estimates of the contribution of volunteering. Results are detailed by a truncated version of the ICNPO.

Because NPI status had not been a selection variable in data collection, NPI representation in the sampling frames was not adequate for detailed reporting of results. Future work will take advantage of increased NPI representation in the business register resulting from a new tax system that will require more NPIs to register and receive tax numbers.

The second was the **United States** disaggregation of the personal income and outlay account (Mead, 2002 and Mead et al 2003), which took advantage of longstanding explicit estimates of NPI activities in the personal income and outlay account to create a special presentation featuring separate estimates of households and NPIs. This annual presentation is now a regular feature of the national income and product accounts. The account excludes NPIs serving government and business, but it includes the market NPIs serving households that the 1993 SNA assigns to the corporations sector.

The underlying data benefit from the Census Bureau's inclusion, at least in part, of tax-exempt establishments in the Economic Census since 1977 and of the Internal Revenue Service tabulations, since 1982, of the income statements and balance sheets reported on information returns filed by NPIs. The limited detail on activity is by the categories used for reporting personal consumption expenditures.

The third was the **Belgian** satellite account, the result of a collaboration between the National Accounts Institute at the National Bank of Belgium and a research group at the University of Liège (National Accounts Institute-National Bank of Belgium and University of Liège, 2004). An update to the report, revising the previous estimates and adding two more years of data, was released in 2006 (Institute des comptes nationaux, 2006).

Data come from general purpose administrative records; from a structural survey of associations; and, since 2002, data available from new accounting and reporting requirements for associations. In the 2006 update, estimation techniques for all components of the sector are now consistent with the central framework of the national accounts. For 2001, a special volunteer labor survey was undertaken; the results were reported in the 2004 publication. In the 2004 report data were classified by NACE-Bel reagggregated to a modified ICNPO structure; the 2006 version uses NACE-Bel directly.

The fourth was the **Canadian** satellite account (Statistics Canada, 2004), released as part of the Voluntary Sector Initiative. An update to the report adding two more years of data and making minimal revisions to the previous estimates was released in 2005. Data are reported for both the “core” NPI sector and a broader total that includes hospitals, universities and colleges that, although legally nonprofit, are considered part of the public sector in the national accounts.

Data come from multiple administrative files, many of which had not previously been used for national accounts work. In addition, use was made of two surveys, the *Canada Survey of Giving, Volunteering and Participating* and the *National Survey of Nonprofit and Voluntary Organizations*. Estimates were classified by ICNPO, but at the highest level of aggregation.

The fifth was the **French** satellite account (Kaminski, 2006), which provides a starting point for a more ambitious effort for the social economy.

The report uses as a classification the ICNPO adapted to the French circumstances. Of the 40 ICNPO subgroups identified, it was possible to provide estimates of expenditures for 35 subgroups, but estimates of receipts are available for only 14 subgroups. Improvements can only come if accounting data become available to supplement the wage data that drive the satellite account estimates.

Applications of NPI satellite accounts

As already noted, the currently available satellite accounts are few in number, but varied in presentation and in the classification used to detail the estimates; neither of these facts is particularly favorable for attempting a rigorous comparative analysis. Therefore, what follows is primarily anecdotal, with satellite account data used illustratively.

The discussion is organized around four themes: (1) measuring the size, scope and activity composition of the NPI sector; (2) improving the homogeneity of the institutional sectors in both the satellite account and the standard accounts; (3) using NPI satellite account information to explore interactions among the sectors; and (4) volunteering and other topics not traditional in national accounts.

Size, scope, and composition of NPI sector in relation to the total economy

NPI satellite accounts provide information on the size and scope of the nonprofit sector and its contribution to the supply of various services in the economy. Table 1 presents three such measures for our five countries, measures that are frequently used to argue for the importance of the NPI sector (Salamon, 1999 and 2004). These are the NPI share of GDP or gross value added (GVA), the NPI share of employment, and the NPI share of compensation of employees.

In the case of the NPI sector’s share of GVA/GDP, the results are not overwhelming. The NPI sector’s share of GVA/GDP is 5 percent or less—with the exception of a Canadian variant that includes hospitals, universities and colleges that traditionally have formed part of the public sector in the Canadian accounts.

For the other two measures, results are more promising for those wishing to make the case for the importance of the NPI sector. Shares of employment are twice those of GVA or GDP, and shares of compensation are substantially above the latter, although not so high as employment. The fact that NPIs account for a greater share of employment than compensation implies, if course, that on average, NPI wages are lower.

Although learning such facts about one's country may not seem a compelling reason to improve the statistical representation of NPIs and construct a satellite account, there is more to the story than just aggregates. Tables 2 and 3 show for Australia and Belgium, respectively, the industry composition of gross value added. Despite a rather small share of the total economy, they account for around 20 percent of GVA in several Australian industries and 50 percent or more in several Belgian industry groups.

Homogeneity of NPI and other sectors

One of the potential advantages to developing a NPI satellite account is to improve the homogeneity of other sectors by reassigning NPIs formerly included there to the expanded NPI sector. Tables 4-7 assess this claim by looking at several measures relating to income and outlay, as well as some production relationships.

In the 1993 SNA and its derivatives (Commission...World Bank, 1993), the sectoring of NPIs is based in large part on production relationships. In Belgium and, to a lesser extent in France, most NPIs, therefore, are found in the corporations sectors S.11 and S.12 because they cover half their costs through market receipts.² Table 4 looks at NPIs share in GVA and other balancing items for both Belgium's total economy and for the corporations sector. The variability of the NPI share as we move down the sequence of accounts implies differences between NPIs and other units in patterns of receipt and use of income.

Table 5 presents saving rates for the United States personal sector and its household and NPI components. Again households and NPIs have different saving behavior, a fact noted by Mead (2002) and Mead et al (2003).

Table 6 looks at the composition of income and outlays for government, hospitals, universities and colleges, and the "core" NPI sector, which excludes NPI hospitals, colleges and universities. In this case, using these measures it is difficult to know where to put hospitals and universities and colleges, because they are like neither government nor other NPIs. Their outlay pattern is more like other NPIs, but the pattern of their income sources is like neither sector.

Table 7 looks at two production relationship that can be calculated from three of the tables recommended in the *Handbook*, which show output, value added and employment by ISIC industry. The first is the ratio of value added to output, the second the ratio of output to employment. The data are for Belgium, averaged over 2000-2003, and they compare NPIs in corporations (S.11 and S.12) with other corporations in S.11 and S.12 and with NPISHs (S.15). For the most part the NPIs in S.11 and S.12 look more like NPISHs than like the other corporations in S.11 and S.12. The differences are smaller in Group N, Health and social work.

² For Belgium, this may be an artifact of the treatment of government payments to NPIs.

Interactions among the sectors

Of more general interest is the use of the NPI satellite account framework as a vehicle for illuminating the interaction of the NPI sector with other sectors, particularly the public sector, which increasingly collaborates with NPIs and for-profit corporations to deliver public services. Figures 1-4 illustrate one such story about the role of public policy on health care in the growth of NPI hospitals and thus, the NPI sector in the United States.

Figure 1 shows the contributions to GDP of NPIs, the Federal government, and State and local governments from 1929 to the present. Curiously, the NPI sector outweighed the Federal government sector until 1932, and it began doing so again in 1992 as contracting out activities previously performed in house became more and more prevalent. In any case, the GDP share of the NPI sector has been steadily growing since the 1940s.

One source of this growth has been the NPI hospital industry, whose share of personal consumption expenditures (PCE) is shown in Figure 2. Here again the bulk of this expenditure is by NPI hospitals, although recently there has been competition from for-profit proprietary hospitals. Despite the cost containment efforts of the 1990s, NPI hospitals still account for around 4 percent of PCE.

Government social benefits, primarily Medicare and Medicaid, fueled the demand for these hospital services. Figure 3 shows the components of government spending on health as a percent of government current outlays. Note the jump in Federal social benefits in 1966 when Medicare was introduced. State and local social benefits have also risen sharply, as have Federal grants in aid to State and local governments. In Figure 4, government current outlays on health closely mirror PCE for hospitals until the 1980s, when the rate of growth in government current outlays on health becomes much more rapid than that of NPI hospitals.

Volunteering and other non-traditional topics

The last application of the NPI satellite account is as an entry point for looking at volunteering and other non-market and qualitative issues. In their satellite account work, Australia and Canada made use of existing surveys of volunteering, and Belgium undertook a special survey for the year 2001. In the United States, volunteering data are collected by the Bureau of Labor Statistics, but BEA so far has not made an imputation.

Table 8 shows, for Australia, Belgium and Canada, the impact of adding an imputation for the replacement value of volunteer time to GVA, compensation of employees, and NPI income from private philanthropy. For Australia, volunteering accounts for over 30 percent of extended measures of gross value added and compensation of employees. For Belgium and Canada the ratios are around 20 percent. Where volunteering really makes a difference is in income from philanthropy, where volunteering accounts for around 70 percent of the extended measure.

Tables 9 and 10 show for Australia and Canada, respectively, the fields in which volunteers contribute most prominently. In Australia it is social services, culture and other

(religion, political organizations, environmental, advocacy, and international assistance). In Canada it is law, advocacy and politics; environment; and culture and recreation.

Conclusions and lessons learned

The first conclusion to be drawn from reading the methodological notes about these satellite accounts is that producing them is hard work. There is much effort required to determine what is in scope, and much of the territory is likely to be unfamiliar. New data sources need to be integrated with old standards. Constructing an NPI satellite account also may uncover entities or transactions previously missing from routine data collection activities, and decisions will need to be taken on how, if at all, they should impact the core accounts. Therefore, if such an effort is to be made, there must be a payoff from undertaking this considerable work. The empirical findings reported above suggest what that payoff might be.

First, NPIs are significant contributors to GDP and employment, both in the aggregate and especially for particular industries. Thus improving the statistical picture of them is important for a better understanding of the economy and such industries as health, education, social welfare, and culture and recreation.

Second, getting NPIs out of the corporations and government sectors is likely to improve the homogeneity of those sectors with respect to production, saving, and other behavior.

Third, having improved data on the NPI sector also makes it possible to look at all the ways, direct and indirect, that government can carry out its service provision and redistributive functions.

Finally, taking account of the contribution of volunteers to both production and philanthropy is a starting point for looking at more qualitative issues within a national accounts framework.

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Table 1. The NPI Sector: Selected measures of size and scope, 1997 - 2004

Measure and Country	1997	1998	1999	2000	2001	2002	2003	2004
NPI share of gross value added/GDP								
Australia	-	-	3.3	-	-	-	-	-
Belgium	-	-	-	4.0	4.2	4.4	4.5	-
Canada (basic prices)								
Total	6.8	6.9	6.8	6.5	6.8	-	-	-
Core	2.4	2.5	2.5	2.3	2.5	-	-	-
France	-	-	-	-	-	2.9	-	-
United States	4.7	4.7	4.7	4.7	4.9	5.2	5.2	5.1
NPI share of paid employment								
Australia	-	-	6.8	-	-	-	-	-
Belgium	-	-	-	9.2	9.3	9.6	10.0	-
Canada	-	-	-	-	-	-	-	-
France	-	-	-	-	-	5.8	-	-
United States	-	-	-	-	-	-	-	-
NPI share of compensation of employees								
Australia	-	-	5.3	-	-	-	-	-
Belgium	-	-	-	7.2	7.4	7.7	8.0	-
Canada								
Total	10.6	10.5	10.5	10.3	10.7	-	-	-
Core	3.3	3.4	3.4	3.3	3.5	-	-	-
France	-	-	-	-	-	4.4	-	-
United States	7.2	7.2	7.1	7.0	7.2	7.6	7.7	7.7

Source: Australian Bureau of Statistics (1999), Institute des comptes nationaux, (2006), Statistics Canada (2005), Kaminski (2006), US Department of Commerce, Bureau of Economic Analysis (NIPA tables 1.3.5, 1.12), and author's calculations.

Table 2. NPI share of industry gross value added, Australia 1999 (a)

	NPI gross value added \$m	Industry gross value added \$m	NPI share of industry gross value added %
Agriculture, forestry and fishing	—	20,282	—
Mining	—	26,708	—
Manufacturing	—	71,541	—
Electricity, gas and water supply	—	14,559	—
Construction	—	38,521	—
Wholesale trade	—	32,211	—
Retail trade	—	33,009	—
Accommodation, cafes and restaurants(b)	3,122	14,332	21.8
Transport and storage	—	31,080	—
Communication services	—	18,129	—
Finance and insurance	—	40,773	—
Property and business services	803	66,589	1.2
Government administration and defence	—	23,850	—
Education	6,037	27,700	21.8
Health and community services	6,419	34,999	18.3
Cultural and recreational services	1,317	10,726	12.3
Personal and other services	2,004	14,536	13.8
Ownership of dwellings	—	58,160	—
Total	19,702	577,705	3.4

(a) NPI gross value added is at basic prices.

(b) Includes hospitality clubs.

Source: Australian Bureau of Statistics (1999), Table 5..

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**Table 3. NPI share of gross value added in particular industries, Belgium 2000–2003
(in percent)**

	2000	2001	2002	2003
Total all activities	4.5	4.7	4.9	5.0
A. Agriculture, hunting and forestry	0.7	0.7	0.8	1.3
B. Fishing and aquaculture	0.0	0.0	0.0	0.0
C. Mining and quarrying	0.0	0.0	0.0	0.0
D. Manufacturing	0.3	0.3	0.4	0.4
E. Electricity, gas and water supply	0.0	0.0	0.0	0.0
F. Construction	0.0	0.0	0.0	0.0
G. Wholesale and retail trade, repair of motor vehicles and personal goods	0.1	0.1	0.1	0.1
H. Hotels and restaurants	2.6	2.8	2.6	2.7
I. Transport, storage and communication	0.2	0.2	0.2	0.2
J. Financial intermediation	0.0	0.0	0.0	0.0
K. Real estate, renting and business activities	1.9	2.1	2.3	2.4
L. Public administration	0.0	0.0	0.0	0.0
M. Education	1.5	1.6	1.8	1.8
N. Health and social work	47.9	48.2	49.6	49.9
85.A Human health activities	41.1	41.8	43.0	43.2
85.B Veterinary activities	25.4	25.7	21.7	16.8
85.C Social work activities	65.7	64.0	65.1	66.6
O. Community, social and personal service activities	32.4	32.3	33.8	33.0
90.A Sewage and refuse disposal and sanitation	0.4	0.4	0.3	0.2
91.A Activities of business, employers and professional organizations and other membership organizations	90.5	92.9	91.5	91.9
92.A Motion picture and video activities and radio and television activities	2.7	1.9	2.6	7.0
92.B Other entertainment activities	38.3	37.1	38.0	33.7
92.C News agency activities and other cultural activities	64.3	62.4	57.1	59.4
92.D Sporting activities and other recreational activities	27.9	31.9	29.1	28.4
93.A Other service activities	1.2	1.3	1.5	0.6
P. Private households	0.0	0.0	0.0	0.0

Source: Institute des comptes nationaux, (2006) and author's calculations.

**Table 4. NPI share of balancing items, Belgium 2000–2003
(in percent)**

	Total economy				Corporations sector (S11 & S12)			
	2000	2001	2002	2003	2000	2001	2002	2003
Gross value added (B.1g)	4.0	4.2	4.4	4.5	5.7	5.9	6.2	6.3
Net operating surplus (B.2n)	1.3	0.8	0.7	0.6	1.6	1.0	0.9	0.7
Balance of primary incomes (B.5n)	0.3	0.2	0.2	0.2	3.5	3.5	2.8	1.8
Disposable income (net) (B.6n)	1.4	1.3	1.3	1.4	5.6	8.5	5.7	2.9
Adjusted disposable income (net) (B.7n)	0.4	0.3	0.2	0.3	5.6	8.5	5.7	2.9
Net saving (B.8n)	2.8	2.5	2.0	3.0	6.6	13.0	7.6	3.5
Changes in net worth due to saving and capital transfers (B.10.1)	3.4	3.2	2.7	3.7	6.5	11.8	7.8	5.7
Net lending / net borrowing (B.9)	4.7	4.8	2.1	3.4	-68.8	-5.8	18.2	3.7

Source: Institute des comptes nationaux, (2006) and author's calculations.

**Table 5. Personal, NPI and household saving rates, United States 1997–2004
(in percent)**

	1997	1998	1999	2000	2001	2002	2003	2004
Personal saving as a percentage of disposable personal income	3.6	4.3	2.4	2.3	1.8	2.4	2.1	1.8
Household saving as a percentage of household disposable income	3.0	3.8	1.7	1.6	1.4	2.2	2.0	1.6
Nonprofit institution saving as a percentage of nonprofit income and receipts from sales	7.0	5.8	6.7	7.2	3.3	2.0	1.3	1.9

US Department of Commerce, Bureau of Economic Analysis (NIPA table 2.9).

**Table 6: Composition of income and expenditure, saving rates, Canada 1997 and 2001
(in percent)**

	1997 Govern- ment	1997 Hospitals	1997 Univer- sities	1997 Other NPIs	2001 Govern- ment	2001 Hospitals	2001 Univer- sities	2001 Other NPIs
Income:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sales of goods and services	7.3	14.8	32.9	41.2	7.4	13.9	32.9	43.7
Membership fees		0.0	0.0	17.6		0.0	0.0	16.1
Investment income	8.2	0.4	2.9	4.8	8.7	0.3	2.2	5.7
Current transfers from:	1.7	84.8	64.2	36.4	1.7	85.8	64.9	34.5
Households		0.5	1.6	13.7		0.4	1.9	12.1
Businesses		0.0	2.7	1.6		0.0	3.7	1.4
Other NPIs		1.1	3.9	0.0		1.2	2.7	0.0
Governments		83.2	56.0	21.1		84.2	56.5	21.1
Contributions to social insurance plans	10.8				11.4			
Taxes	71.9				70.7			
Outlay:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Gross current expenditure on goods and services	51.8	99.1	95.5	94.6	54.1	99.2	94.9	95.3
Current transfers to other sectors	29.1	0.9	4.5	2.3	29.8	0.8	5.1	2.5
Current transfers to other NPIs		0.0	0.0	3.1		0.0	0.0	2.3
Interest	19.1				16.1			
Saving as % of income	0.3	-1.6	4.7	12.7	2.5	-3.3	-0.6	8.3

Source: Statistics Canada (2005) and author's calculations.

Table 7. Selected production relationships for NPI corporations, other corporations, and NPISHs, Belgium 2000–2003

	Value added as percent of output			Output per 1000 employees (millions of euros)		
	Average 2000–2003			Average 2000–2003		
	NPIs in S11 & S12	Other corporations in S11 & S12	NPISHs S15	NPIs in S11 & S12	Other corporations in S11 & S12	NPISHs S15
Total all activities	59.0	34.0	62.7	58.6	197.3	51.9
A. Agriculture, hunting and forestry	50.6	42.3	–	55.5	113.0	–
B. Fishing and aquaculture	–	47.5	–	–	231.4	–
C. Mining and quarrying	–	42.6	–	–	223.5	–
D. Manufacturing	58.6	24.6	–	32.5	287.1	–
E. Electricity, gas and water supply	–	57.8	–	–	383.1	–
F. Construction	49.2	30.4	–	35.8	175.0	–
G. Wholesale and retail trade, repair of motor vehicles and personal goods	33.2	40.1	–	107.1	152.4	–
H. Hotels and restaurants	45.8	38.2	–	66.1	86.6	–
I. Transport, storage and communication	44.2	34.5	–	123.7	183.8	–
J. Financial intermediation	–	51.1	–	–	202.6	–
K. Real estate, renting and business activities	55.5	40.0	66.9	66.8	171.8	87.3
L. Public administration	–	–	–	–	–	–
M. Education	42.7	43.1	68.7	101.9	105.0	50.9
N. Health and social work	62.4	55.0	68.5	54.4	80.4	44.4
85.A Human health activities	57.4	51.1	–	71.5	100.5	–
85.B Veterinary activities	42.3	39.5	–	156.2	–	–
85.C Social work activities	75.5	68.4	68.5	33.5	47.7	44.4
O. Community, social and personal service activities	47.0	37.2	58.0	94.2	166.2	56.4
90.A Sewage and refuse disposal and sanitation	55.4	31.0	–	45.5	218.2	–
91.A Activities of business, employers and professional organizations and other membership organizations	46.6	35.0	59.4	120.1	167.8	54.9
92.A Motion picture and video activities and radio and television activities	23.3	38.2	–	145.5	269.0	–
92.B Other entertainment activities	46.6	33.5	–	85.2	232.9	–
92.C News agency activities and other cultural activities	58.0	37.8	65.9	63.4	184.5	53.5
92.D Sporting activities and other recreational activities	56.8	38.3	33.9	63.9	170.7	92.0
93.A Other service activities	56.9	44.2	–	47.8	77.7	–
P. Private households	–	–	–	–	–	–

Source: Institute des comptes nationaux, (2006) and author's calculations.

Table 8. Imputed value of volunteering as percent of expanded measures of GVA, compensation, and income from philanthropy (in percent)

	Australia 1999	Belgium 2001	Canada	
			1997	2000
Gross value added including volunteers	31.1	20.0	20.2	17.7
Compensation of employees incl. volunteers	34.3	21.8	22.8	19.9
Income from private philanthropy, incl. volunteers	72.6	72.9	67.5	60.5

Source: Australian Bureau of Statistics (1999), Institute des comptes nationaux, (2006), Statistics Canada (2005) and author's calculations.

Table 9. NPI GROSS VALUE ADDED (a), Percentage Contribution to Total

	National accounts basis % pts	Volunteer services % pts	Total % pts
Education and research	31.5	9.7	24.7
Health	15.1	5.2	12.0
Social services	17.4	31.0	21.6
Culture and recreation	22.5	24.4	23.1
Business and professional associations, and unions	3.0	3.2	3.0
Other (b)	10.5	26.5	15.5
Total	100.0	100.0	100.0

(a) NPI value added measures the value of output of NPI goods and services less the value of the intermediate consumption used in producing the output.

(b) Includes NPIs that are religious congregations and associations, political organisations, and those involved in environmental and animal protection, advocacy, and international assistance.

Source: Australian Bureau of Statistics (1999), Table 4.

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Table 10. Ratio of volunteer input to total value of NPI labor services, Canada 1997 and 2000 (in percent)

	1997	2000
Culture and recreation	58.2	56.1
Education and research	14.2	10.4
Health	5.3	4.7
Social services	42.0	40.8
Environment	59.0	60.5
Development and housing	26.3	22.1
Law, advocacy and politics	64.8	65.9
Phil. Intermediaries & volunteerism promotion	38.6	30.9
International	42.9	49.1
Religion	54.8	51.5
Business & professional assns., unions	6.8	14.0
Not elsewhere classified	7.2	9.6
Total	22.8	19.9

Source: Statistics Canada (2005) and author's calculations.

Figure 1. NPI and Government Gross Value Added as Percent of GDP, United States

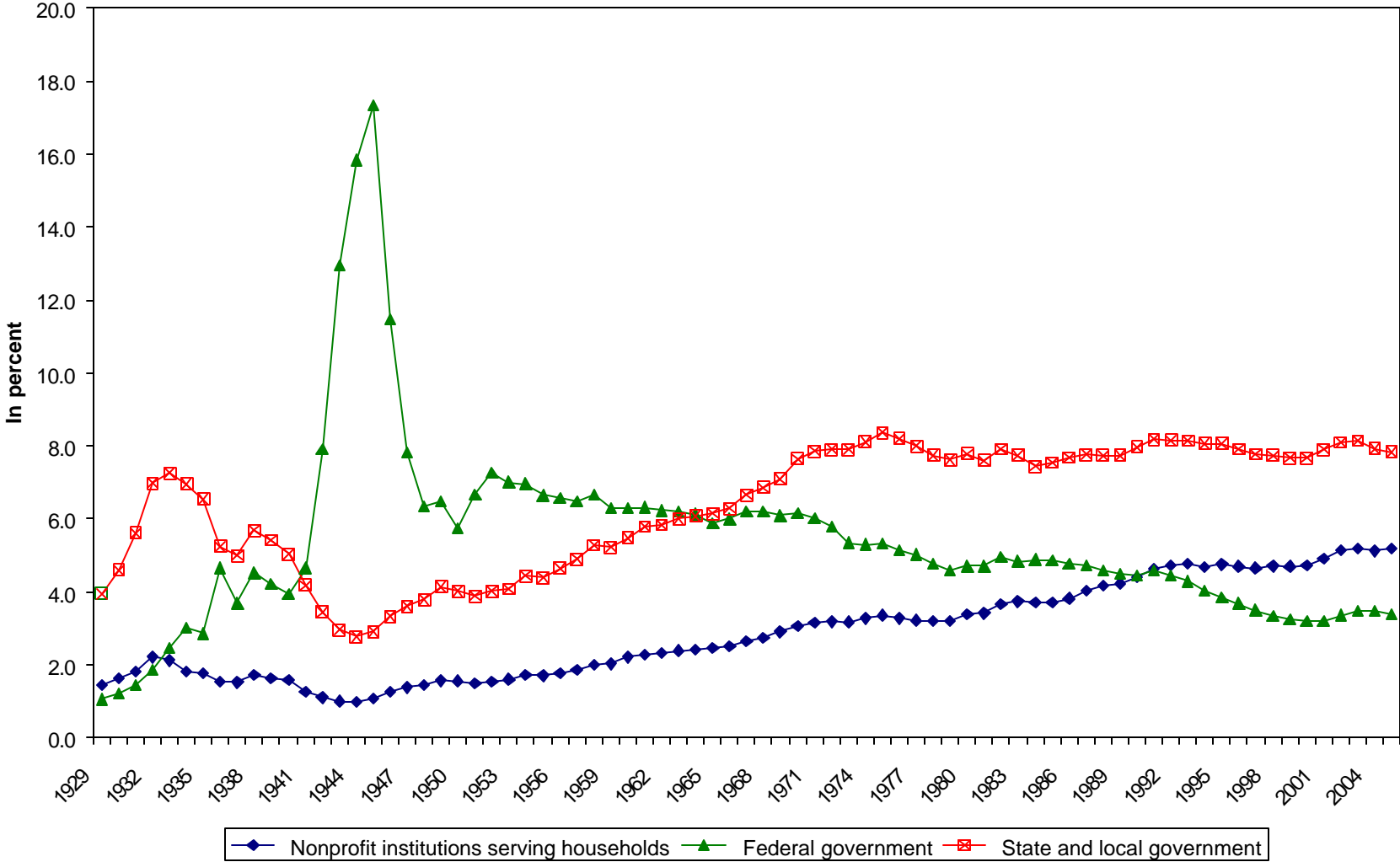


Figure 2. Hospitals as Percent of Personal Consumption Expenditures, United States

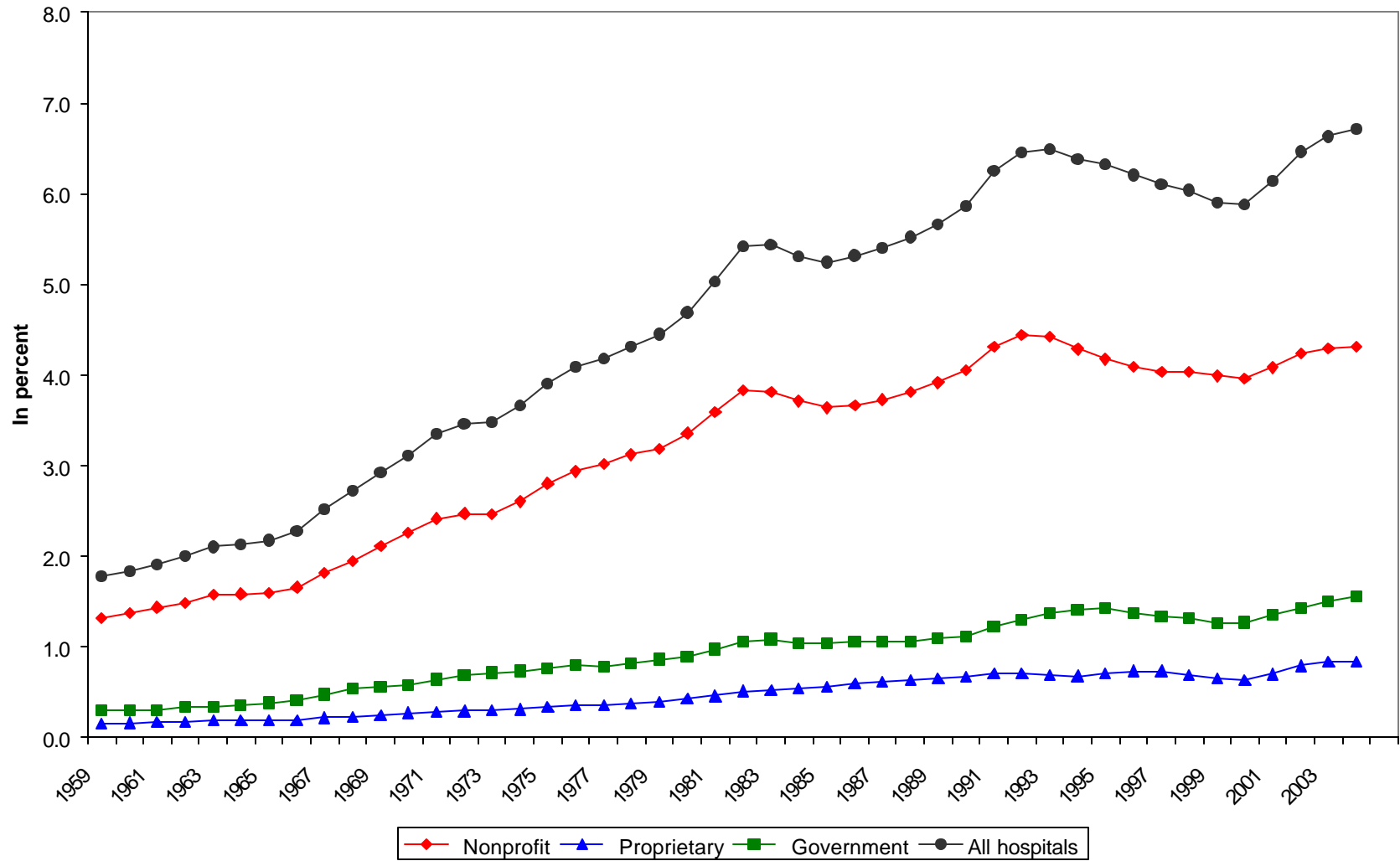


Figure 3. Government Spending on Health as Percent of Total Current Outlays, United States

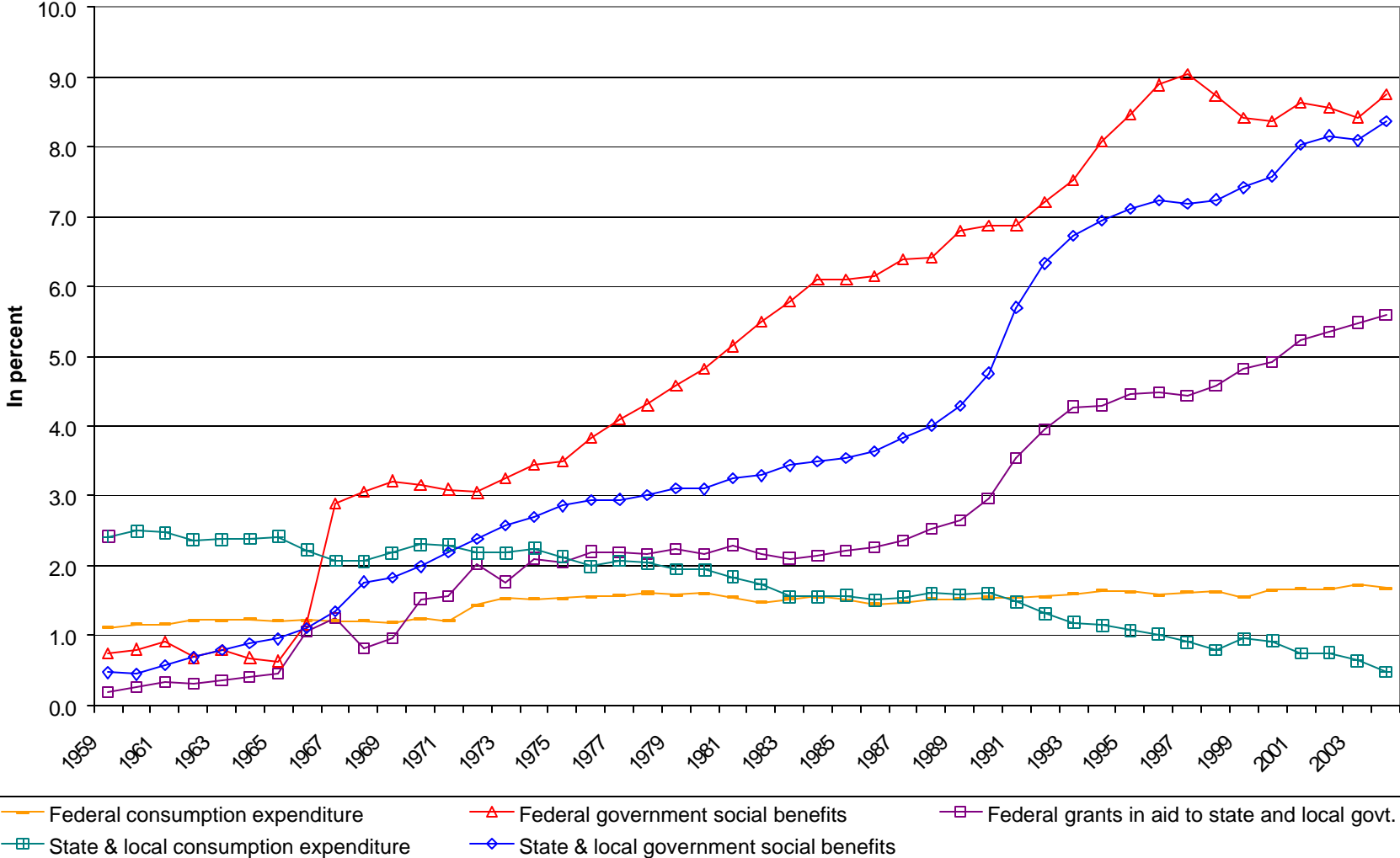


Figure 4. Government Health Outlays and PCE for Hospitals, United States

