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Paper prepared for the 34th IARIW General Conference

Dresden, Germany, August 21-27, 2016

Session 7F: Meeting the Measurement Challenges of Official Economics Statistics Offices IV

Time: Friday, August 26, 2016 [Morning]

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July 2016

Abstract

The *System of National Accounts (SNA)* classifies each resident institutional unit to one of five institutional sectors. The corporations sector in the *SNA* includes a concept of quasi-corporations, which are unincorporated enterprises that have no legal status separate from their owners but are engaged in market production and act independently of their owners. In the U.S. national income and product accounts (NIPAs), the treatment of quasi-corporations is currently not consistent with recommendations in the *SNA*. In particular, unincorporated enterprises owned by households and governments span more than one sector for production and income measures. In addition, some unincorporated enterprises that may not qualify as quasi-corporations are treated as quasi-corporations and vice versa. The result yields a lack of alignment between measures of production and income generated in production within a given institutional sector. This paper summarizes data on unincorporated enterprises in the U.S. economy in order to inform the sectoral treatment of U.S. quasi-corporations under *SNA* recommendations.

JEL Codes: C82, E01

Keywords: macroeconomic data, measurement, national income and product accounts

* *The views expressed in this paper are solely those of the authors and not necessarily those of the United States Department of Commerce or the Bureau of Economic Analysis. We thank Benyam Tsehaye, Stan Bellotti, and Ann Miller for advice and direction on federal enterprises. We also thank Eric Adjei for research assistance.*

1. Introduction

The *System of National Accounts (SNA)* classifies each resident institutional unit to one of five institutional sectors: households, nonprofit institutions serving households, general government, financial corporations, and nonfinancial corporations. Corporations in the *SNA* include legally constituted corporations, cooperatives, limited liability partnerships, notional resident units, and quasi-corporations. Quasi-corporations are unincorporated enterprises that are owned by households, governments, or non-residents. They have no legal status separate from their owners but are engaged in market production and act independently of their owners.

In the U.S. national income and product accounts (NIPAs), the treatment of quasi-corporations is currently not consistent with recommendations in the *SNA*. In particular, unincorporated enterprises owned by households or governments span more than one sector for production and income measures. In addition, some unincorporated enterprises that may not qualify as quasi-corporations are treated as quasi-corporations and vice versa. The result yields a lack of alignment between measures of production and income generated in production within a given institutional sector. The lack of alignment prevents a presentation of institutional sector accounts that are convenient for analyses within and between institutional sectors. Thus, in a recent article on reconciling remaining differences between the *SNA* and the U.S. NIPAs, McCulla, Moses, and Moulton (2015) outline the need for research on the sectoral treatment of U.S. unincorporated enterprises.

The *SNA* provides a clear set of criteria for treating unincorporated enterprises as institutional units separate from their owners, but in practice, identification of quasi-corporations faces challenges. In particular, the *SNA* recognizes challenges where the results of enterprise activity are not apparent or distinguishable in source data because the activities are integrated

with household data or general government data. In these cases, the *SNA* rejects unincorporated enterprises as separate institutional units because they do not have a complete set of financial accounts, which is necessary to measure income and capital flows as well as assets and liabilities.

Based on data sources for the U.S. economy, identifying quasi-corporations for households engaged in single owner enterprises and for households engaged in some types of partnership enterprises has historically been a challenge. Likewise, identifying quasi-corporations for governments engaged in enterprise activity has been a persistent challenge as a result of data sources. However, wider access to electronic data and the ubiquity of software for analyzing and managing the data may now facilitate the identification and evaluation of unincorporated enterprises in the U.S. economy in a way that was not always possible.

In this paper, we summarize data on unincorporated enterprises owned by U.S. households or by U.S. federal, state, or local governments in order to inform the sectoral treatment of U.S. quasi-corporations under *SNA* recommendations. In addition, we provide a preliminary look at data available on U.S. non-profit institutions, which are also not fully consistent in the U.S. NIPAs with *SNA* recommendations on institutional sectors (McCulla, Moses, and Moulton 2015). The next section outlines the *SNA* recommendations on quasi-corporations and institutional sectors. The third section identifies characteristics of institutional units in the U.S. economy. The fourth section describes the current treatment of unincorporated enterprises and institutional sectors in the U.S. NIPAs and demonstrates the implications of the current treatment for economic analysis. The fifth section presents empirical results on specific groups of units in the U.S. economy. The sixth section concludes and describes future work.

2. Quasi-Corporations and Institutional Sectors in the SNA

Institutional sectors in the *SNA* are groups of institutional units. An institutional unit is characterized by four criteria. First, a unit is entitled to own and exchange goods or assets. Second, a unit is able to incur liabilities, take on other obligations or future commitments, and enter into contracts under its own name. Third, a unit is able to make economic decisions and engage in economic activities for which the unit is directly responsible and accountable under the law. Fourth, a unit either has a complete set of financial accounts, including a balance sheet with assets and liabilities, or a complete set of accounts would be possible and meaningful for the unit from an economic perspective.

The *SNA* identifies two main types of institutional units: households and legal or social entities. A household is a group of people who share the same living accommodation, pool some of their income or wealth, and consume some goods and services collectively. A legal or social entity is recognized under the law or by society independently of the people or other entities that establish, own, or control it. Legal or social entities include enterprise units, government units, and non-profit institutions. Enterprise units are referred to in the *SNA* as corporations regardless of legal incorporation. Thus, corporations include “legally constituted enterprises” and “unincorporated enterprises” that are organized and operate as businesses. Unincorporated enterprises that satisfy the *SNA* criteria for an institutional unit are referred to in the *SNA* as quasi-corporations, which may be owned by households, governments, or non-residents.

2.1. Institutional Sectors

The *SNA* groups resident institutional units into five sectors: non-financial corporations, financial corporations, general government, households, and non-profit institutions serving households (NPISHs). In addition, the *SNA* includes a rest of world sector for non-resident units

with which resident units transact. Institutional units are grouped into sectors and subsectors based on similarities of objectives, functions, and behaviors. Objectives of units include utility maximization, profit maximization, or the provision of goods and services for collective or individual benefit that does not necessarily result in a profit or surplus. Units achieve their objectives by performing functions that include consumption, production, or capital formation. However, their behaviors are affected by the degree to which they seek profits and the degree to which they have autonomy or are subject to control.

Two specific subsectors recommended in the *SNA* are subsectors based on for-profit or non-profit objectives of a unit and subsectors based on control of a unit by government or by non-residents. The *SNA* also makes specific recommendations for subsectors in the financial corporations sector, general government sector, and households sector. Moreover, the *SNA* generally recommends grouping institutional units into subsectors according to the characteristics and needs of the economy for which statistics are compiled.

Figure 1 is based on an *SNA* illustrative allocation of units to institutional sectors. The distinction between units classified to the corporations sector and units classified to the general government sector or the NPISH sector is made according to the production basis of the units. The production basis refers to the market or non-market nature of production undertaken by an institutional unit. Market producers provide goods and services to purchasers at “economically significant” prices. In the *SNA*, an economically significant price is a price that has a significant influence on the amounts producers are willing to supply and on the amounts purchasers are willing to buy. Economically significant prices generally cover a majority of the costs of production and may yield a profit or surplus for the unit. In particular, the *SNA* provides the following practical guidance for economically significant prices:

“Although there is no prescriptive numerical relationship between the value of output (excluding both taxes and subsidies on products) and the production costs, one would normally expect the value of goods and services sold (the sales) to average at least half of the production costs over a sustained multiyear period.”
(SNA paragraph 22.29)

Market producers are classified to the non-financial corporations sector or the financial corporations sector. Non-market producers are classified to the general government sector or the NPISH sector.

The households sector in the *SNA* is a mixture of non-producers and market producers. Households primarily engage in final consumption and are thus non-producers. However, the households sector also includes market producers to the extent that households engage in market production but cannot be separately identified as an institutional unit and thus classified to one of the corporations sectors as a quasi-corporation.

As mentioned above, profit-seeking behavior and control are important factors in the *SNA* to classify units to institutional sectors and subsectors. Market producers that are controlled by government are classified to a public subsector, and market producers that are controlled by non-residents are classified to a foreign-controlled subsector. Market producers that are not controlled by government or by non-residents are classified to a national private subsector. In addition to corporations and quasi-corporations, market producers include non-profit institutions that charge economically significant prices but that are also prohibited as a source of profits or surplus for the units that establish, finance, or control them. Thus, separate subsectors are also recommended on for-profit institutions and non-profit institutions in the non-financial corporations sector and the financial corporations sector. Non-market producers that are controlled by government are classified to the general government sector, which also includes a separate subsector for non-profit institutions that are subject to government control. Finally,

non-market producers that operate independently of the government are classified to the NPISH sector.

2.2. Quasi-Corporations

The *SNA* concept of quasi-corporations is intended to classify to the corporations sector those unincorporated enterprises that do not have a legal status separate from their owners but are nevertheless engaged in market production and have similar objectives, functions, and behaviors of corporations as opposed to the household, government, or non-resident units that own them. In practice, the lack of legal status can complicate the identification of quasi-corporations. However, the *SNA* emphasizes that unincorporated enterprises must satisfy the four criteria for an institutional unit in order to be treated as quasi-corporations and, thus, classified to the corporations sector. In particular, the *SNA* emphasizes the necessity of a complete set of financial accounts, including income and capital flows between an enterprise and its owner and including a balance sheet, for treating unincorporated enterprises as quasi-corporations. Given the challenges associated with identifying quasi-corporations, the *SNA* provides additional recommendations on classifying unincorporated enterprises owned by households and unincorporated enterprises owned by governments.

2.2.1. Unincorporated Enterprises Owned by Households

For unincorporated enterprises owned by households, the *SNA* explicitly classifies three productive activities to households rather than quasi-corporations: raising agricultural goods for own consumption, housing services of owner occupants, and services of domestic staff. For all other productive activities that fit within the *SNA* boundary, the *SNA* is clear that the four criteria for an institutional unit are necessary and sufficient and, therefore, advises against introducing additional criteria on household unincorporated enterprises as follows:

“Experience has shown that countries have difficulty treating unincorporated enterprises owned by households as quasi-corporations. However, it is not useful to introduce additional criteria, such as size, into the definition of quasi-corporations owned by households. If an enterprise is not in fact operated like a corporation and does not have a complete set of accounts of its own, it cannot and should not be treated as a quasi-corporation however large it may be.” (SNA paragraph 4.46)

In addition, the SNA provides the following paragraph on single owner enterprises:

“Very frequently, and especially so in the case of a professional working alone, there may be complete information available on the production activities but it may not be possible to separate out other income flows, transfers and financial transactions related to the production activity from those for the household in general. In this case as well as in ones where even the information on the production activity is incomplete, an unincorporated enterprise remains as part of the household.” (SNA paragraph 24.6)

Likewise, the SNA provides the following paragraph on partnership enterprises:

“Household unincorporated market enterprises also include unincorporated partnerships that are engaged in producing goods or services for sale or barter on the market. The partners may belong to different households. When the liability of the partners for the debts of the enterprises is unlimited, the partnerships must be treated as unincorporated enterprises and remain within the household sector since all the assets of the household, including the dwelling itself, are at risk if the enterprise goes bankrupt. However, unincorporated partnerships with many partners, such as some large legal, accounting or architectural firms, are likely to behave like corporations and should be treated as quasi-corporations assuming complete sets of accounts are available for the partnerships. Partnerships whose partners enjoy limited liability are effectively separate legal entities and, as already noted, are treated as corporations.” (SNA paragraph 4.156)

The reference to a previous paragraph in the last sentence of paragraph 4.156 is as follows:

“Cooperatives are set up by producers for purposes of marketing their collective output. The profits of such cooperatives are distributed in accordance with their agreed rules and not necessarily in proportion to shares held, but effectively they operate like corporations. Similarly, partnerships whose members enjoy limited liability are separate legal entities that behave like corporations. In effect, the partners are at the same time both shareholders and managers.” (SNA paragraph 4.41)

Paragraphs 4.41 and 4.156 imply that limited liability of owners is a sufficient criterion to recognize an enterprise such as a cooperative, limited liability partnership, or limited liability company as a corporation because the enterprise is deemed to be a separate legal entity for which a complete set of financial accounts is possible as a result of the limited liability. Likewise, paragraphs 4.41 and 4.156 imply that an unincorporated enterprise owned by a household that risks unlimited liability is deemed to not be a separate legal entity with a complete set of financial accounts as a result of the unlimited liability. In other words, a household owner's liability for the debts and obligations of the enterprise can be used in practice to classify a household unincorporated enterprise. Thus, unincorporated enterprises owned by households who risk unlimited liability are classified to the households sector, and unincorporated enterprises owned by households who enjoy limited liability are classified to the corporations sector. While paragraphs 4.41 and 4.156 focus on partnership enterprises, the same conclusions can be drawn for single owner enterprises in paragraph 24.6.

2.2.2. Unincorporated Enterprises Owned by Governments

For unincorporated enterprises owned by governments, the *SNA* makes clear as follows that there is no condition such as limited liability under which an enterprise is deemed to be legally separate from its owner:

“When a government unit wishes to intervene in the sphere of production it has three options: a) it may create a public corporation whose corporate policy, including pricing and investment, it is able to control; b) it may create an NPI that it controls; [or] c) it may produce the goods or services itself in an establishment that it owns but that does not exist as a separate legal entity from the government unit itself.” (SNA paragraph 4.120)

As a result, the *SNA* specifies the following three criteria under which a government quasi-corporation should be recognized:

“However, a government establishment, or group of establishments engaged in the same kind of production under common management, should be treated as a quasi-corporation if the following three criteria hold: a) the unit charges prices for its outputs that are economically significant; b) the unit is operated and managed in a similar way to a corporations; and c) the unit has a complete set of accounts that enable its operating surpluses, savings, assets and liabilities to be separately identified and measured. Such quasi-corporations are market producers that are treated as separate institutional units from the government units that own them. They are classified, sectored and sub-sectored in the same way as public corporations.” (SNA paragraph 4.121)

In addition, the SNA provides further clarification on the enterprise’s independence from its government owner:

“In order to be treated as a quasi-corporation the government must allow the management of the enterprise considerable discretion not only with respect to the management of the production process but also the use of funds. Government quasi-corporations must be able to maintain their own working balances and business credit and be able to finance some or all of their capital formation out of their own savings, depreciation reserves or borrowing. The ability to distinguish flows of income and capital between quasi-corporations and government implies that their operating and financing activities are not fully integrated with government revenue or finance statistics in practice, despite the fact that they are not separate legal entities.” (SNA paragraph 4.122)

Finally, the SNA clarifies its sectoring recommendation for an enterprise that is not independent of its government owner:

“Producer units of government that cannot be treated as quasi-corporations, like all unincorporated enterprises that cannot be separated from their owners, remain in the same institutional unit as the owner, in this case within the general government sector. They are likely to consist largely, or entirely, of non-market producers: that is, producers most or all of whose output is supplied to other units free, or at prices that are not economically significant...However, it is possible for an unincorporated enterprise within a government to be a market producer. The example often quoted is that of a bookshop within a museum.” (SNA paragraph 4.123)

Paragraphs 4.121 – 4.123 imply that the most important determinants of a government quasi-corporation are engagement in market production and the ability to distinguish flows of income and capital between the enterprise and the government owner. In other words,

economically significant prices and a complete set of financial accounts can be used in practice to classify a government unincorporated enterprise. Thus, unincorporated enterprises owned by governments are classified to the general government sector if they do not charge economically significant prices or if they do not have a complete set of financial accounts, and unincorporated enterprises owned by governments are classified to the corporations sector if they charge economically significant prices and they have a complete set of financial accounts.

3. Characteristics of U.S. Legal or Social Entities

In this section, we outline characteristics of U.S. legal or social entities that are helpful for understanding their sectoral treatment under the *SNA* recommendations. U.S. legal or social entities include private enterprises, general government units and public enterprises, and non-profit institutions.

3.1. Private Enterprises

In the U.S. economy, private enterprises consist of six primary legal forms of business organization: 1) sole proprietorships, 2) partnerships, 3) cooperatives, 4) “C” corporations, 5) “S” corporations, and 6) limited liability companies.¹ While the legal requirements for each form of organization may vary by state, the organizational forms generally yield groups of units that share similar objectives, functions, and behaviors and can be treated as a single unit for statistical purposes.

Sole Proprietorships

A sole proprietorship is a business owned and operated by one individual with no legal separation between the business and the owner. Sole proprietorships do not require any registration or other formal action to form, but they may require licenses or permits to operate.

¹ The information summarized here is primarily gathered from descriptions published by the U.S. Small Business Administration at www.sba.gov and the U.S. Internal Revenue Service at www.irs.gov.

In addition, the owner may have to file a fictitious name if the business operates under a name different from the owner. Due to the lack of legal separation between the business and the owner, the owner's liability for the business' debts and obligations are not limited to assets associated only with the business. Thus, the owner may be held personally liable for all debts and obligations of the business, including liabilities attributable to employee actions. Under U.S. tax law, the business and the owner file a single individual income tax return.

Partnerships

A partnership is a business owned by more than one individual or other business entity. Partnerships may require registration with a state government in addition to any licenses or permits that are required to operate. Partnerships are also generally initiated with a legal partnership agreement. The legal name of a partnership is the name given in the partnership agreement or is simply the last names of the partners. If the partnership operates under a name different from the legal name, the owners may have to file a fictitious name.

There are two main types of partnerships with different implications for the extent of owners' participation and assumption of risk: 1) general partnerships, and 2) limited partnerships. A *general partnership* may not require registration with a state government. In addition, a partnership agreement is generally not required under state law but is strongly encouraged. Under a general partnership, each owner actively participates in management and each owner can be held personally liable for the business' debts and obligations. In addition, each owner's actions are binding on the entire business. A *joint venture* is a special kind of general partnership that is formed for a limited period of time for a single purpose. Once a joint venture is established, a partnership, corporation, or limited liability company may be formed to conduct ongoing business. A *limited partnership* is owned by at least one general partner, also

known as a managing partner, and at least one limited partner. The general partner actively participates in daily operations and has unlimited liability for the business's debts and obligations. The limited partner is required to play a passive role in order to enjoy the benefits of limited liability. A *limited liability partnership* is a special type of limited partnership that is not available in all states and is only available for businesses formed by individuals, usually for professional practices such as law, accounting, and medical practices. Under a limited liability partnership, all owners actively participate and all owners enjoy limited liability for the business' debts and obligations. In addition, each owner in a limited liability partnership is protected from debts that may arise from other owners' negligible actions or misconduct.

Under U.S. tax law, a partnership is required to file an information return that reports income that is passed through to owners' federal income tax returns. The partnership does not pay any income tax but may be liable for other tax obligations such as employment taxes and excise taxes.

Cooperatives

A cooperative is a business that is owned and controlled by multiple individuals, known as members, for purposes of producing output to benefit the members. Cooperatives generally require registration in addition to any licenses or permits that are required to operate, and many cooperatives choose to incorporate. Whether incorporated or not, cooperatives are governed by bylaws. A board of directors is generally elected by the cooperative members and officers are chosen to run the cooperative. Cooperative members purchase shares and have voting rights that are not weighted by their shares, resulting in democratic governance. Cooperative members' liabilities are limited to their shares. Under U.S. tax law, a cooperative is required to file a

corporate tax return that reports income that is passed through to owners' individual income tax returns. The cooperative does not pay any federal income tax on qualified profits.

"C" Corporations

A "C" corporation is a business owned by one or more shareholders, who may be individuals from one or many households or that may be another business entity. A "C" corporation is required to be registered with a state government in addition to any licenses or permits that are required to operate. The legal name of a "C" corporation is the name given in the articles of incorporation and generally needs to include a corporate designation such as "Corporation", "Incorporated", or "Limited". If the "C" corporation operates under a name different from the legal name, the corporation may have to file a fictitious name. Each owner's liability for the business' debts and obligations is limited to the owner's share of the business' assets. Thus, each owner is protected from personal liability related to decisions and actions of the business. Under U.S. tax law, a "C" corporation is required to file a corporate tax return, and the business is required to pay taxes. In addition, distributed profits paid to shareholders or capital gains realized on shares sold are taxed on each shareholder's individual income tax return.

"S" Corporations

An "S" corporation is a domestic business owned by 100 or fewer shareholders, who must be individuals, trusts, or estates and who may or may not be part of the same household. An "S" corporation first requires a "C" corporation to be registered with a state government in addition to any licenses or permits that are required to operate. The "C" corporation then elects to be treated as an "S" corporation with the Internal Revenue Service. Under an "S" corporation election, each owner's liability for the business' debts and obligations is limited to the business'

assets. Thus, each owner is protected from personal liability related to decisions and actions of the business. However, owners are not necessarily protected from some types of litigation. Under U.S. tax law, an “S” corporation is required to file a corporate tax return, and all income is passed through to owners’ individual income tax returns. Shareholders who work for the business must be paid a reasonable compensation rather than distributed profits. The “S” corporation does not pay any federal income tax but may be liable for other tax obligations including state income taxes.

Limited Liability Companies

A limited liability company is a business owned by one or more individuals, known as members, who may or may not be part of the same household. A limited liability company may also be owned by two or more corporations or other limited liability companies. The number of members is not limited, and members may play an active or passive role. Limited liability companies combine the liability protections of a corporation with the tax efficiencies of a partnership. In addition, limited liability companies may be managed directly by the members like a partnership or managed by hired professionals like a corporation, but they are not subject to the same regulatory reporting requirements as corporations. State governments require specific registration documents for limited liability companies in addition to any licenses or permits that are required to operate. The legal name of the business is the name that is used for registration, and the name must follow specific rules including uniqueness, reference to “LLC” or some variation, and compliance with words restricted by the state.

Under a limited liability company, each member’s liability for the business’ debts and obligations is limited to the business’ assets. Thus, each member is protected from personal liability related to decisions and actions of the business. However, members are not protected

from wrongful acts committed by themselves or their employees. Under U.S. tax law, a single-member limited liability company is by default classified as a disregarded entity and required to report income and deductions on the member's federal income tax return, and a multi-member limited liability company is by default classified as a partnership and required to file a partnership tax return and pass all income through to members' federal income tax returns. In the case of a partnership return, the limited liability company does not pay any federal income tax but may be liable for other tax obligations including state income taxes. However, a limited liability company may also elect to be classified and taxed as a "C" corporation or an "S" corporation.

3.2. General Government Units and Public Enterprises

The set of all institutional units that directly represent a government, or are considered to be directly carrying out the policies of a government, constitutes the public sector in the *SNA*. In the U.S. economy, the public sector includes federal, state, and local levels of government units. Furthermore, government policies are carried out in the U.S. by general government units and by public enterprises.

General Government Units

In the U.S., general government units consist of units, which in addition to fulfilling their political responsibilities and their role of regulation, produce goods and services for collective consumption or for individual consumption for free or at prices that are not economically significant. As summarized in section 3.3, U.S. government units also provide goods and services through financial support provided to non-profit institutions. However, financial support does not automatically imply control in cases where the financial support is unconditional.

General government units in the *SNA* also include social insurance schemes that cover the entire community or large sections of the community and are imposed and controlled by government. Social insurance schemes that are separately organized from the governments that fund them are referred to as social security funds and are treated in the *SNA* as separate institutional units. In the U.S., social insurance schemes include Old-Age, Survivors, and Disability Insurance (i.e., social security), hospital insurance, unemployment insurance, military medical insurance, workers' compensation, pension guaranties, railroad retirement, and veterans' life insurance.

Public Enterprises

In addition to the provision of goods and services through general government units, U.S. government units provide goods and services through public enterprises, which are referred to in the *SNA* as public corporations. To be classified as a public corporation, a unit must not only be controlled by a government but must also engage in market production and satisfy the *SNA* criteria for an institutional unit. Public corporations in the U.S. economy include legally constituted corporations that are subject to government control, government-sponsored enterprises (GSEs), and government quasi-corporations. GSEs are legally chartered units that are created by Congress and owned by shareholders for public policy purposes. GSEs exist only at the U.S. federal level of government.² Government quasi-corporations are market producers that are organized and operated as businesses. Government quasi-corporations exist at the U.S. federal, state, and local levels of government.

² According to the 2017 federal budget, GSEs currently include the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Federal Home Loan Banks, the Agricultural Credit Bank, the Farm Credit Banks, and the Federal Agricultural Mortgage Corporation.

3.3. Non-Profit Institutions

According to the U.S. Internal Revenue Service (IRS), U.S. non-profit institutions include, but are not limited to, social welfare organizations, educational organizations, chambers of commerce, charitable organizations, churches and religious organizations, political organizations, and private foundations. U.S. non-profit institutions have stakeholders rather than owners and stakeholder members may be required to pay a fee to participate. A governing body is generally responsible to operate the organization for the stakeholders, which may include either households or businesses. Since there are no owners, liability for the organization's debts and obligations are generally limited to the organization's assets. U.S. non-profit institutions are created for a variety of public purposes that generally include the provision of goods, services, or information for a fee or free of charge. Thus, U.S. non-profit institutions are generally financed through grants, government contracts, individual contributions, donations, and fees. Any surplus or profit generated by a U.S. non-profit institution is retained within the organization, which is a requirement under U.S. tax law to maintain a tax exempt status.³

A U.S. non-profit institution is generally organized legally as a corporation but may instead be legally organized as a limited liability company if all members are recognized as non-profits. The non-profit institution is then required to separately apply and obtain tax exempt status under the Internal Revenue Code (IRC), which recognizes approximately 40 types of organizations that are tax exempt.⁴ The IRC recognizes organizations that operate as market producers and organizations that operate as non-market producers.⁵

³ The information summarized in this paragraph is primarily gathered from descriptions published by the University of Wisconsin Center for Cooperatives at www.uwcc.wisc.edu.

⁴ According to Salamon (2012) and Roeger, Blackwood, and Pettijohn (2012), the IRC recognizes tax exempt organizations under the following sections: 220(e), 401(a), 408(e), 501(c)(1) – 501(c)(27), 501(c)(40), 501(c)(50), 501(c)(60), 501(d), 501(e), 501(f), 501(k), 501(n), 521, 527, and 529.

⁵ The information summarized in this paragraph is primarily gathered from descriptions published by the National Council of Nonprofits at www.councilofnonprofits.org.

Section 501(c) of the IRC recognizes organizations that operate under a network of government grants and contracts designed to provide public goods and services that may otherwise require provision directly by the government because they are too costly for private providers. Almost 100 percent of tax exempt organizations registered with the IRS are registered under section 501(c) as a percentage of both assets and expenses. In addition, section 501(c)(3), which includes public charities and private foundations, accounts for about 75 percent of tax exempt organizations as a percentage of number of organizations, assets, and expenses (Roeger, Blackwood, and Pettijohn 2012).⁶ Thus, the scope of interest in U.S. non-profit institutions is often limited to section 501(c)(3) organizations.

4. Unincorporated Enterprises and Current Institutional Sectors in the U.S. NIPAs

Institutional units in the U.S. NIPAs are currently classified one way for estimating their contribution to production and another way for estimating their contribution to income, outlays, and saving. For production, the U.S. accounts classify institutional units to the following three institutional sectors: 1) business, 2) households and institutions (i.e., NPISHs), and 3) general government. For income, outlays, and saving, the U.S. accounts classify institutional units to the following three institutional sectors: 1) corporate, 2) personal, and 3) government. Under this classification, unincorporated enterprises are featured in a NIPA subsector referred to as “non-corporate business”, which includes unincorporated enterprises that may qualify as quasi-corporations and includes unincorporated enterprises that may not qualify as quasi-corporations.⁷

⁶ Section 501(c)(3) of the Internal Revenue Code describes religious, scientific, literary, educational, and charitable organizations that serve the public. In addition to their own tax exemption, tax-deductible gifts to section 501(c)(3) organizations yield a tax benefit to donors (Salamon 2012). Under section 501(c)(3), an organization is deemed to be a private foundation unless it meets the IRS definition of a public charity under section 509(a). While public charities receive broad public financial support, private foundations receive most of their financial support from a small group of contributors.

⁷ While the non-corporate business sector is not treated as a separate institutional sector in the U.S. NIPAs, it is treated as a separate institutional sector in the U.S. Integrated Macroeconomic Accounts (IMAs) (Bond et al. 2007, Yamashita 2013), which is an effort to harmonize the U.S. NIPAs at BEA and the Financial Accounts of the United

In either case, unincorporated enterprises span different NIPA sectors across production and income measures.

The current NIPA business sector includes legally incorporated units and legally chartered units as corporate business and includes government unincorporated enterprises and household unincorporated enterprises as non-corporate business. Unincorporated enterprises owned by governments are defined in the NIPA handbook as “government agencies that cover a substantial proportion of their operating costs by selling goods and services to the public and that maintain their own separate accounts.” Thus, by definition, the enterprises may meet the *SNA* criteria for quasi-corporations. However, some unincorporated enterprises owned by governments may not meet the *SNA* criteria for quasi-corporations and presumably fit instead with the *SNA* general government sector. Likewise, NIPA unincorporated enterprises owned by households include sole proprietorships and partnerships, which may meet the *SNA* criteria for quasi-corporations or may not meet the *SNA* criteria for quasi-corporations and presumably fit instead with the *SNA* households sector.

In addition to household units and general government units, the current NIPA households and institutions sector and the current NIPA general government sector include non-profit institutions (NPIs). Some NPIs may operate as non-market producers and are thus consistent with the *SNA* recommendations on NPISHs and NPIs controlled by governments. However, some NPIs may operate as market producers and are instead consistent with the *SNA* recommendations on corporations.

The current NIPA corporate sector includes legally incorporated enterprises and legally chartered units. The current NIPA personal sector includes unincorporated enterprises owned by

States at the Federal Reserve Board. However, the non-corporate business sector in the U.S. IMAs is also affected by a treatment of unincorporated enterprises that is not fully consistent with the *SNA*.

households (i.e., sole proprietorships and partnerships) that may meet the *SNA* criteria for quasi-corporations or that may not meet the *SNA* criteria for quasi-corporations and presumably fit instead with the *SNA* households sector. The personal sector also includes market NPIs and non-market NPIs. Finally, the current NIPA government sector includes unincorporated enterprises owned governments that may meet the *SNA* criteria for quasi-corporations or that may not meet the *SNA* criteria for quasi-corporations and presumably fit instead with the *SNA* general government sector.

In addition to the inconsistent treatment of quasi-corporations and the resulting institutional sectors, the U.S. NIPAs do not separately classify corporations that are controlled by government (i.e., public corporations). Moreover, the U.S. accounts do not have a complete set of production and income measures for government unincorporated enterprises. In particular, there are no estimates of property income flows for the enterprises, and in most cases there are no estimates of transactions between the enterprises and their owners. Rather, the U.S. accounts provide a mixed treatment of transactions attributable to government unincorporated enterprises because components of the unincorporated enterprise accounts are not broken out from general government in source data. In particular, expenditures on final products produced by government unincorporated enterprises are recorded in the NIPA business sector, whereas investment by government unincorporated enterprises, their inventory changes, and their surpluses are recorded in the NIPA government sector.

Table 1 summarizes *SNA* institutional sectors and the current classification of specific units to institutional sectors in the U.S. NIPAs. In table 1, “C” corporations, “S” corporations, GSEs, and limited liability companies that elect to file a corporate tax return are classified to the NIPA business and corporate sectors, which can be interpreted as the *SNA* corporations sector.

In contrast, partnerships, sole proprietorships, cooperatives, and limited liability companies that elect to file an individual tax return are classified to the NIPA business sector for production measures but to the NIPA personal sector for income measures. As shown in table 1, there is no single *SNA* institutional sector that reflects both the NIPA business sector and the NIPA personal sector. Likewise, a similar sectoral disconnection exists for unincorporated enterprises owned by governments, which are classified to the NIPA business sector for production measures and to the NIPA government sector for income measures. The sectoral classification of general government units in the U.S. NIPAs is consistent with the *SNA*, but non-profit institutions engaged in market production are classified to NIPA sectors other than the business or corporate sectors.

Table 2 presents shares of income-based net domestic product by institutional sector based on series published in the U.S. NIPAs. As shown in table 2, the business sector accounts for just over 75 percent of the U.S. economy for the period 2010 to 2014. The households and institutions sector and the general government sector each account for just under 12 percent. Non-corporate business in table 2 primarily reflects the contribution of household unincorporated enterprises, which is relatively large at approximately 20 percent. However, non-corporate business also includes cooperatives, limited liability partnerships, and limited liability companies that elect to file individual income tax returns, which are not treated as unincorporated enterprises in the *SNA*. The contribution of government unincorporated enterprises is small at approximately 1 percent, and it consists mostly of compensation of employees rather than operating surplus.

5. Empirical Results for Units in the U.S. Economy

The objective of this paper is to summarize data on unincorporated enterprises owned by U.S. households or by U.S. federal, state, or local governments in order to inform the sectoral treatment of U.S. quasi-corporations under *SNA* recommendations. In this section, we present empirical results on specific groups of units in the U.S. economy. In particular, we focus on unincorporated enterprises owned by households and unincorporated enterprises owned by governments. In addition, we provide a preliminary look at data available on U.S. non-profit institutions, which are also not fully consistent in the U.S. NIPAs with *SNA* recommendations on institutional sectors. Thus, we divide the discussion into three subsections: unincorporated enterprises owned by households, unincorporated enterprises owned by governments, and non-profit institutions.

5.1. *Unincorporated Enterprises Owned by Households*

Recall from section 3.1 the six primary legal forms of business organization for private enterprise units in the U.S. economy: 1) sole proprietorships, 2) partnerships, 3) cooperatives, 4) “C” corporations, 5) “S” corporations, and 6) limited liability companies. Figures 2 and 3 present for 1980-2012 shares of business receipts and net income less deficit, respectively, based on federal income tax filings for all legal forms of business organization except cooperatives. The figures demonstrate a relative decline in “C” corporations, sole proprietorships, and general partnerships over the period. In contrast, shares for “S” corporations, limited partnerships, and limited liability companies have increased steadily as a result of owners’ limited liability and favorable tax treatment associated with their pass-through structure, which is documented in Cooper et al. (2015). Limited partnerships and limited liability companies show up in the tax-based data starting in the 1990s. By 2012, respective shares of tax-based business receipts for

“C” corporations, “S” corporations, general partnerships, limited partnerships, limited liability companies, and sole proprietorships are 61 percent, 20 percent, 1 percent, 4 percent, 10 percent, and 4 percent—respective shares of tax-based net income less deficit are 40 percent, 18 percent, 4 percent, 10 percent, 16 percent, and 12 percent.

Figures 2 and 3 give some perspective on the relative importance in overall business activity of the primary legal forms of business organization over time based on federal income tax data. Figures 8 and 9 provide additional perspective based on data from the U.S. NIPAs. Figure 8 presents shares of NIPA-based economic profits by type of income. Corporate profits include “C” corporations and “S” corporations, including limited liability companies that elect to file corporate income tax returns. Proprietors’ income includes sole proprietorships, general partnerships, limited liability partnerships, limited partnerships, and limited liability companies that file partnership income tax returns.⁸ Figure 9 presents shares of NIPA-based economic profits in income-based GDP by type of income. While shares of economic profits in figure 8 have remained relatively steady over time with some annual fluctuations, corporate profits and proprietors’ income as a share of income-based GDP in figure 9 demonstrate a slight steady increase over time. In 2012, corporate profits comprise about 10 percent of income-based GDP and proprietors’ income comprises about 8 percent of income-based GDP.

Both “C” corporations and “S” corporations are legally constituted corporations that belong to the *SNA* corporations sector, which is consistent with their current treatment in the U.S. NIPAs. In addition, since cooperatives and limited liability companies satisfy the *SNA* criterion for owners’ limited liability, they are legally separate from their owners and belong to the *SNA* corporations sector. Thus, limited liability companies that elect to file a federal corporate

⁸ The U.S. NIPAs do not split “C” corporations and “S” corporations and do not split sole proprietorships and partnerships.

income tax return are classified in the U.S. NIPAs consistently with *SNA* recommendations. However, limited liability companies that file a federal partnership income tax return are currently not classified in the U.S. NIPAs according to *SNA* recommendations—income measures would require reclassification from the NIPA personal sector to the NIPA corporate sector to achieve consistency with the *SNA*. Likewise, cooperatives are not classified according to *SNA* recommendations because their income measures are also currently classified to the NIPA personal sector.

Since household owners of sole proprietorships assume the risk of unlimited liability, sole proprietorships belong to the *SNA* households sector according to the *SNA* criterion for owners' limited liability. Thus, production measures on sole proprietorships would require reclassification from the NIPA business sector to the NIPA households sector to achieve consistency with the *SNA*.

While limited liability partnerships belong to the *SNA* corporations sector according to the *SNA* criterion for owners' limited liability, owners of general partnerships and general partners of limited partnerships assume the risk of unlimited liability and presumably belong to the *SNA* households sector. However, splitting general partnerships and splitting general partners of limited partnerships in U.S. data sources would impose considerable challenges. Thus, we focus here on considerations for general partnerships and limited partnerships based on further empirical results presented in figures 4, 5, 6, and 7.

Figures 4 and 5 report shares of tax-based business receipts and net income less deficit, respectively, for partnerships—they are the counterparts to figures 2 and 3 on all legal forms of business organization. The series start in 1993, which is the year data show up on limited liability companies that file federal partnership income tax returns. Limited liability partnerships

are included with limited partnerships for 1993-1995 and 1998-2008. The figures demonstrate a significant decline for general partnerships as also demonstrated in figures 2 and 3. In contrast, shares of business receipts for limited partnerships have remained relatively steady, but shares of net income less deficit for limited partnerships have increased considerably. Likewise, shares of business receipts and net income less deficit for limited liability companies have increased considerably. By 2012, respective shares of partnership tax-based business receipts for general partnerships, limited partnerships, and limited liability companies are 9 percent, 27 percent and 64 percent—respective shares of partnership tax-based net income less deficit are 16 percent, 43 percent, and 41 percent.

Figure 6 shows for 1993-2012 shares of tax-based net income or loss allocated to partners for six types of partners (tax-based business receipts parsed by type of partner are unavailable): corporate general partners, corporate limited partners, partnership general partners, partnership limited partners, individual general partners, and individual limited partners. While the *SNA* recommendation to classify unincorporated partnerships to households for owners with unlimited liability may be relevant for individual general partners, we do not consider the recommendation to be relevant for corporate partners or partnership partners because the ownership involves another enterprise. Likewise, we do not consider the recommendation to be relevant for individual limited partners because they enjoy limited liability. As shown in figure 6, the shares of tax-based net income or loss allocated to individual partners have declined significantly from about 70 percent in 1993 to about 32 percent in 2012. In addition, the share of tax-based net income or loss allocated to individual general partners has declined dramatically from about 56 percent in 1993 to about 7 percent in 2012.

Figure 7 shows for 2003 and 2012 shares of tax-based measures by total asset size. The measures include number of partnerships, number of partners, total income, total deductions, and ordinary income (loss), which is an operating measure that excludes portfolio income (loss) and rental income (loss). Measures are shown for general partnerships, limited partnerships, and limited liability companies. The data do not provide a breakdown of partnerships by type of partner, but we assume partnerships with less than \$100,000 in assets are more likely to be formed among individuals than partnerships with at least \$100,000 in assets. Based on total asset size, the largest number of partnerships and the largest number of partners belong to partnerships with less than \$10 million in assets—many belong to partnerships with less than \$100,000 in assets. In contrast, the majority of business activity based on total income, total deductions, and ordinary income (loss) takes place in very large enterprises. In particular, partnerships with at least \$10 million in assets account for over 50 percent of total income, total deductions, and ordinary income (loss) for all types of partnerships and for each year shown. For general partnerships, over 65 percent of each measure is attributable to general partnerships with at least \$10 million in assets for 2012—less than 20 percent of each measure is attributable to general partnerships with less than \$100,000 in assets. For limited partnerships, over 70 percent of total income and total deductions and over 85 percent of ordinary income (loss) is attributable to limited partnerships with at least \$10 million in assets for 2012—less than 10 percent of each measure is attributable to limited partnerships with less than \$100,000 in assets. The result for limited partnerships is probably reflecting master limited partnerships, which are large limited partnerships that are publicly traded on a securities exchange and provide owners with a combination of tax benefits and liquidity.

The results in figures 3, 5, 6, and 7 demonstrate the declining importance of general partnerships and individual general partners in the U.S. economy. The majority of partnership activity included in source data is now taking place within limited liability companies and limited partnerships. Furthermore, a majority of limited partnerships are large enterprises with many partners and are likely to have similar objectives, functions, and behaviors as corporations. While a strict interpretation of the *SNA* implies classifying general partnerships and general partners of limited partnerships to the households sector because of unlimited liability, the practical difficulty of separating their activity does not support the *SNA* recommendation. In particular, source data on general partnerships and general partners of limited partnerships are not available without significant effort that does not seem justified given their declining importance in the U.S. economy. In addition, the *SNA* use of unlimited liability to determine the possibility of a complete set of financial accounts may not be adequate for U.S. partnerships because the federal income tax return for partnerships requires a complete financial accounting, including income and deductions as well as a balance sheet with assets and liabilities. Thus, the best sectoral treatment for general partnerships, limited partnerships, and limited liability partnerships appears to be the *SNA* corporations sector, which would require reclassification of income measures from the NIPA personal sector to the NIPA corporate sector.

5.2. Unincorporated Enterprises Owned by Governments

Government unincorporated enterprises exist at the U.S. federal, state, and local levels of government and the unincorporated enterprises that are currently recognized as quasi-corporations are featured in the U.S. NIPAs as federal enterprises separately and state and local enterprises combined. Since the *SNA* recommendations for identifying government quasi-

corporations emphasize the importance of economically significant prices and a complete set of financial accounts, we focus first on the former determinant using publicly available information.

Federal Unincorporated Enterprises

There are currently 15 unincorporated federal enterprises identified by BEA and treated as quasi-corporations in the U.S. NIPAs. Table 3 presents a list of the 15 units. We use the 2017 U.S. federal budget and three years of financial reports to evaluate enterprise activity of federal government units. Figure 10 includes ratios of service charges to operating expenditures (including finance charges and depreciation) from financial reports for eight of the 15 units. Based on the *SNA*'s practical guidance for economically significant prices (i.e., 50 percent), all reported units appear to be engaged in market production—all exceed 80 percent. Financial reports on the remaining seven units are not conveniently available, but preliminary proxies for economically significant prices based on ratios of offsetting collections to outlays from the federal budget are also greater than 50 percent, which provides a cursory look at the seven units.⁹

We are also using the 2017 federal budget to identify additional federal unincorporated enterprises that may qualify as quasi-corporations under the *SNA* but are not currently treated as quasi-corporations in the U.S. NIPAs. There are three categories of federal programs that may engage in enterprise activity: non-credit programs, direct loan programs such as student loans, and loan guarantee programs. A preliminary analysis demonstrates no evidence of market production for the largest direct loan programs, but there is evidence of market production for three loan guarantee programs—including the Federal Housing Administration, which as shown in table 3 is currently treated as a quasi-corporation in the U.S. NIPAs. In addition, the analysis yields 49 non-credit programs with ratios of offsetting collections to outlays greater than 50

⁹ Offsetting collections primarily include receipts on sales of goods and services that require effort by the government but may also include tax-like fees for licenses or other purposes. Outlays include operating outlays and capital outlays.

percent. Additional work is required to confirm market production and to determine the availability of complete sets of financial accounts for the loans guarantee programs and the non-credit programs. Moreover, we will develop a method to review units outside the federal budget that may be subject to government control and belong to an *SNA* public corporations sector.

State and Local Unincorporated Enterprises

Source data on state and local government units are mostly available from the U.S. Census Bureau.¹⁰ The Census Bureau recognizes individual state and local governments, each of which is made up of the parent government and all agencies, institutions, and authorities connected to it. Local government units are further defined into one of five categories: counties, townships, municipalities, school districts, and special districts. Special district units generally provide a single service or multiple related services that are not provided by other local government units. Units that provide a single service similar in nature to special districts but that are closely related to state, county, township, or municipal units may be classified as dependent agencies of those units rather than as independent special district units. Both special district units and dependent agencies include unincorporated enterprises. Thus, state and local government quasi-corporations may include state dependent agencies, local dependent agencies, and local special districts.¹¹

We use finance data from the U.S. Census Bureau's Census of Governments individual governments database to evaluate the unincorporated enterprises of state and local government units. We use the most recent years for which the Census of Governments is collected: 2002, 2007, and 2012. The data include a single individual record for each of the 50 state governments

¹⁰ Data on tribal governments are not available from the Census Bureau. Enterprise activity undertaken by tribal governments includes casinos and gaming activity. Thus, our analysis excludes this activity.

¹¹ See the 2006 version of the Census Bureau's *Government Finance and Employment Classification Manual* at www.census.gov/govs/classification for further information.

and for each of 90,261 local governments. The records are built from more detailed data collected on surveys or by electronic transfers of accounting records. The local governments include 3,031 counties, 16,351 townships, 19,513 municipalities, 37,760 special districts, and 13,606 school districts. For each state government and for local governments, the individual records include data on service charges and the related operating expenditures (except depreciation) distinguished by specific functions – e.g., hospitals or utilities – performed by the governments. Thus, some functions embody market production. There are 24 functions performed by state and local dependent agencies and 32 functions performed by special districts. Table 4 enumerates the functions of state and local dependent agencies and special districts as well the functions of state and local governments that are currently treated as quasi-corporations in the U.S. NIPAs.

In order to determine if any of the functions embody market production and, thus, yield economically significant prices, we calculate ratios of service charges to operating expenditures by function for all state governments and for each category of local governments except school districts, which we assume do not engage in market production. Operating expenditures exclude depreciation because the data include capital outlays but do not include depreciation—variation in capital outlays is not a good proxy for depreciation. The ratios are reported in figure 11. Based on the *SNA*'s practical guidance for economically significant prices (i.e., 50 percent), the following functions appear to embody market production for some governments during the sample period: hospitals, miscellaneous commercial activities, solid waste management, air transportation, parking facilities, toll highways, water transportation, and all utilities except mass transit. Even if we apply a more stringent threshold such as 75 percent or 100 percent, most of the same functions appear to embody market production.

While figure 11 provides information on one practical consideration recommended in the *SNA* for identifying government quasi-corporations – i.e., economically significant prices – the possibility of a complete set of financial accounts is yet to be determined. In particular, the Census of Governments data on individual governments do not include a balance sheet for dependent agencies and do not provide information on property income flows or on flows of income and capital between dependent agencies and their government owners. The only flows that are separately identified in the data for unincorporated enterprises are service charges and related operating expenditures (except depreciation). For these reasons, the determination of a complete set of financial accounts for unincorporated enterprises of state governments and for local governments except special districts will require a look at the more detailed data used to build the individual records database.

We also consider the importance of the market-based functions performed relative to the governments' non-market activities. Thus, we calculate ratios of service charges to total revenue by function. Total revenue includes taxes, intergovernmental revenue, service charges, insurance trust revenue, and miscellaneous revenue. The ratios are reported in figure 12. For states, service charges account for 10 percent of total revenue. For counties, townships, and municipalities, services charges account for 20 percent, 14 percent, and 32 percent of total revenue, respectively. However, for special districts, services charges account for 55 percent of total revenue. Of the functions performed by state governments and local governments except special districts that appear to embody market production in figure 11, only hospitals, electric utilities, and sewerage and water utilities account for more than 2 percent of total revenue. Thus, unincorporated enterprise functions performed by state governments and by local governments

except special districts appear to be relatively minor with the exception of hospitals, electric utilities, and sewerage and water utilities.

Figures 13 and 14 provide some additional perspective for local governments. Figure 13 presents shares of services charges by function, and figure 14 presents shares of total revenue and service charges. In figure 13, townships play a small role across all functions. Likewise, in figure 14, townships play a small role within the entire set of local government units. In figure 13, municipalities play the largest role followed by special districts and counties. In figure 14, municipalities play the largest role followed by special districts and counties as a share of service charges. Municipalities also play the largest role as a share of total revenue in figure 14, followed by school districts, counties, and special districts. School districts play a large role for the education function in figure 13 and as a share of total revenue in figure 14. Of the functions performed by local governments that appear to embody market production in figure 11, figure 13 demonstrates that municipalities collect most of the service charges for solid waste management, air transportation, parking facilities, toll highways, and all utilities. Likewise, counties collect most of the service charges for hospitals, while special districts collect most of the service charges for miscellaneous commercial activities and water transportation. Thus, municipalities and special districts appear to play the biggest role in the provisions of goods and services via unincorporated enterprises with a smaller role played by counties and almost no role played by townships.

While the Census of Governments data on individual governments do not provide a complete set of financial accounts for state governments or local governments, the data do provide a more complete financial picture for special districts than for other local government units. In particular, the data provide information on property income flows for special districts

and on flows between special districts and other government units. The data also provide information on debt obligations of special districts but do not provide complete information on assets. In addition, the data provide more functions performed by special districts than by other government units. As a result, treating unincorporated enterprises of special districts as quasi-corporations may be more feasible with the individual governments database than treating unincorporated enterprises of state governments and other local governments as quasi-corporations using the same data. Thus, figures 15, 16, and 17 include additional information on special districts.

We report shares of total revenue and total expenditures by function in figures 15 and 16. Consistent with figure 12, the majority of revenue received by special districts shown in figure 15 is from service charges. However, special districts also receive significant revenue from taxes and from other government units for a number of functions. In addition, special districts that perform industrial development and mortgage credit functions receive a significant amount of interest revenue on the provision of loans. In figure 16, the majority of total expenditures made by special districts for all functions are on operations, but capital outlays are also a significant share of total expenditures for a number of functions.

Figure 17 presents ratios of service charges to operating expenditures (excluding depreciation) for special districts by function. For industrial development and mortgage finance functions, we include interest revenue in the numerator. Similar to figure 11, very few functions have ratios around the 50 percent threshold. Thus, economically significant prices are relatively easy to discern. In particular, the following functions performed by special districts appear to embody market production: hospitals, other miscellaneous commercial activities, irrigation, industrial development, mortgage credit, public welfare institutions, solid waste management, air

transportation, parking facilities, toll highways, water transportation, and all utilities except mass transit.

Based on the Census of Governments individual governments database, the results yield five implications. First, the data do not allow for a unit-level analysis of state and local dependent agencies because they are aggregated with their parent governments. Second, while the data are useful to identify economically significant prices for enterprise functions performed by state governments and local governments, a lack of complete financial accounts for state and local dependent agencies implies the data only support the recognition of special districts performing enterprise functions as quasi-corporations. However, data that underlie the individual governments database may provide financial account information and support the recognition of dependent agencies as quasi-corporations. Third, identifying quasi-corporations among states, counties, townships, and municipalities may matter for hospitals, electric utilities, and sewerage and water utilities but appears minor for other functions based on the function-level ratios of service charges to total revenue. Fourth, identifying quasi-corporations among counties, townships, and municipalities would be most impactful for municipalities with very little effect for townships. Finally, the results suggest that special districts performing the following functions belong to the *SNA* corporations sector: hospitals, miscellaneous commercial activities, irrigation, industrial development, mortgage credit, public welfare institutions, solid waste management, air transportation, parking facilities, toll highways, water transportation, electric utilities, gas utilities, and water and sewerage utilities. Special districts performing all other functions shown in table 4 appear to belong to the *SNA* general government sector. Table 4 also demonstrates a number of differences between state and local functions that are currently

treated as quasi-corporations in the U.S. NIPAs and state and local functions that appear to embody market production in the Census of Governments data.

5.3. Non-Profit Institutions

Recall from section 3.3 that there are approximately 40 types of organizations that are currently recognized by the IRS as tax exempt. While in this paper we do not use tax exemption as a criterion for recognizing a unit as a non-profit institution, the IRS criterion for tax exemption and the *SNA* criterion for non-profit institutions are the same—the unit may not be a source of income, profit, or other financial gain for the units that establish, control, or finance it. In order to understand the relative importance of the 40 types of tax exempt organizations, figure 18 presents shares of assets reported to the IRS under each section of the IRC. Units that exist under section 501(c)(3) comprise almost 75 percent of the total. Units under sections 501(c)(4) – 501(c)(9), 501(c)(12), 501(c)(14), and 501(c)(25) account for almost all of the remaining assets.

Figures 19 and 20 provide a look at the extent to which non-profit institutions may be engaged in market production. Figure 19 reports ratios of program service revenue to total expenses reported to the IRS under IRC sections 501(c)(3) – 501(c)(9), which account for 86.2 percent of assets in figure 18. As shown in figure 19, all ratios except 501(c)(7) are greater than 70 percent. Figure 20 reports ratios of receipts to gross output for NPISHs based on data from the U.S. NIPAs. Gross output for NPISHs is determined as a sum of tax-exempt operating expenses related to the provision of goods or services, which we use as a proxy for operating expenditures. The NIPA estimates are based on industry-level survey data collected by the U.S. Census Bureau, which include taxable and tax-exempt revenue and tax-exempt expenses. In contrast to ratios in figure 19, ratios in figure 20 are greater than 50 percent for only four out of

the nine products—health services, education services, civil and social organizations, and professional advocacy organizations.

Figure 20 implies that some non-profit institutions currently classified as NPISHs in the NIPAs may instead belong to the *SNA* corporations sector because they are market producers rather than non-market producers. In addition, figure 19 implies that most non-profit institutions in the U.S. economy belong to the *SNA* corporations sector because they are market producers rather than non-market producers. Thus, the results in figure 20 are corroborated by the results in figure 19, but we are working to reconcile differences between the two data sources – i.e., tax-based and survey-based – before we draw broader conclusions regarding the reclassification of non-profit institutions from the NIPA institutions and personal sectors to the NIPA business and corporate sectors to achieve consistency with the *SNA*. In addition, the data do not indicate control by government, but a number of non-profit institutions that are established and controlled by government may also require reclassification from the NIPA institutions and personal sectors to the NIPA general government and government sectors.

6. Conclusions and Future Work

In this paper, we summarize data on unincorporated enterprises owned by U.S. households or by U.S. federal, state, or local governments in order to inform the sectoral treatment of U.S. quasi-corporations under *SNA* recommendations. In addition, we provide a preliminary look at data available on U.S. non-profit institutions, which are also not fully consistent in the U.S. NIPAs with *SNA* recommendations on institutional sectors.

The data on unincorporated enterprises owned by households suggest three primary differences between the sectoral treatment of units under *SNA* recommendations and the current treatment of units in the U.S. NIPAs. First, sole proprietorships belong to the *SNA* households

sector, which implies their production measures would require reclassification from the NIPA business sector to the NIPA households sector to achieve consistency with the *SNA*. Second, cooperatives and limited liability companies belong to the *SNA* corporations sector, which implies their income measures would require reclassification from the NIPA personal sector to the NIPA corporate sector. Third, the best sectoral treatment of all partnerships – general partnerships, limited partnership, and limited liability partnerships – appears to be the *SNA* corporations sector, which implies their income measures would also require reclassification from the NIPA personal sector to the NIPA corporate sector.

The data on unincorporated enterprises owned by state and local governments indicate that a number of the functions performed by state and local governments embody market production based on economically significant prices. However, the data do not provide a complete set of financial accounts that are necessary on state and local dependent agencies to support their recognition as quasi-corporations. In contrast, the data appear to support the recognition of quasi-corporations for special districts performing enterprise functions. Moreover, there are a number of differences between state and local functions that are currently treated as quasi-corporations in the U.S. NIPAs and state and local functions that appear to embody market production in the Census of Governments data on individual governments.

There are four areas of future work that are born from our initial research. First, separate income measures need to be estimated for sole proprietorships and partnerships. Second, sectoral classification for current federal enterprises needs to be confirmed and other federal unincorporated enterprises that may require treatment as quasi-corporations need to be identified. In addition, legally incorporated enterprises that may be subject to federal government control need to be identified. Third, a fully articulated set of economic accounts needs to be estimated

for special districts and data that underlie the Census of Governments database need to be surveyed to determine their usefulness for recognizing dependent agencies as quasi-corporations. Fourth, for non-profit institutions, different results across data sources need to be reconciled, further delineation is required for market and non-market units as well as the institutions being served (i.e., households or business), and units controlled by government need to be identified.

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Table 1: SNA Institutional Sectors and Current Institutional Sectors in the U.S. NIPAs

<i>SNA Institutional Sectors</i>	<i>Current NIPA Institutional Sectors</i>	
	<i>Production Measures</i>	<i>Income Measures</i>
Corporations Legally constituted corporations Quasi-corporations	Business "C" corporations "S" corporations Partnerships Sole proprietorships Cooperatives Limited liability companies Government enterprises GSEs	Corporate "C" corporations "S" corporations Limited liability companies GSEs
General Government	General Government Market NPIs Non-market NPIs	Government Government enterprises Market NPIs Non-market NPIs
Households	Households and Institutions Market NPIs Non-market NPIs	Personal Partnerships Sole proprietorships Cooperatives Limited liability companies Market NPIs Non-market NPIs
NPISHs		

Table 2: Shares of U.S. Income-Based Net Domestic Product by Institutional Sector

<i>Line</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>
1 Business Sector	75.3%	75.9%	76.7%	77.0%	77.3%
2 Corporate Business	55.6%	55.8%	56.4%	56.7%	56.9%
3 Non-Corporate Business	19.6%	20.1%	20.3%	20.3%	20.4%
4 Sole Proprietorships and Partnerships	16.8%	17.3%	17.5%	17.6%	17.7%
5 Other Private Business	1.8%	1.8%	1.9%	1.8%	1.8%
6 Government Unincorporated Enterprises	1.0%	1.0%	1.0%	0.9%	0.9%
7 Households and Institutions Sector	12.2%	12.0%	11.8%	11.7%	11.6%
8 Households	6.5%	6.4%	6.2%	6.1%	6.1%
9 NPISHs	5.7%	5.6%	5.6%	5.6%	5.5%
10 General Government	12.5%	12.1%	11.5%	11.3%	11.1%

Source: Authors' calculations based on BEA NIPA table 1.13.

Table 3: Current Federal Enterprises in the U.S. NIPAs

Bonneville Power Administration (Department of Energy)
Colorado River Basin (Department of Energy)
Colorado River Basin (Department of the Interior)
Federal Crop Insurance Corporation (Department of Agriculture)
Federal Housing Administration (Department of Housing and Urban Development)
Government Printing Office Sales Fund (Government Printing Office)
Military Post Exchanges and Restaurants (Department of Defense or Department of Homeland Security)
National Flood Insurance Program (Federal Emergency Management Agency)
Overseas Private Investment Corporation (Department of State)
Southeastern Power Administration (Department of Energy)
Southwestern Power Administration (Department of Energy)
Tennessee Valley Authority (Independent)
Upper Colorado River Basin (Department of the Interior)
U.S. Postal Service (Independent)
Veterans Canteen Service (Department of Veterans Affairs)

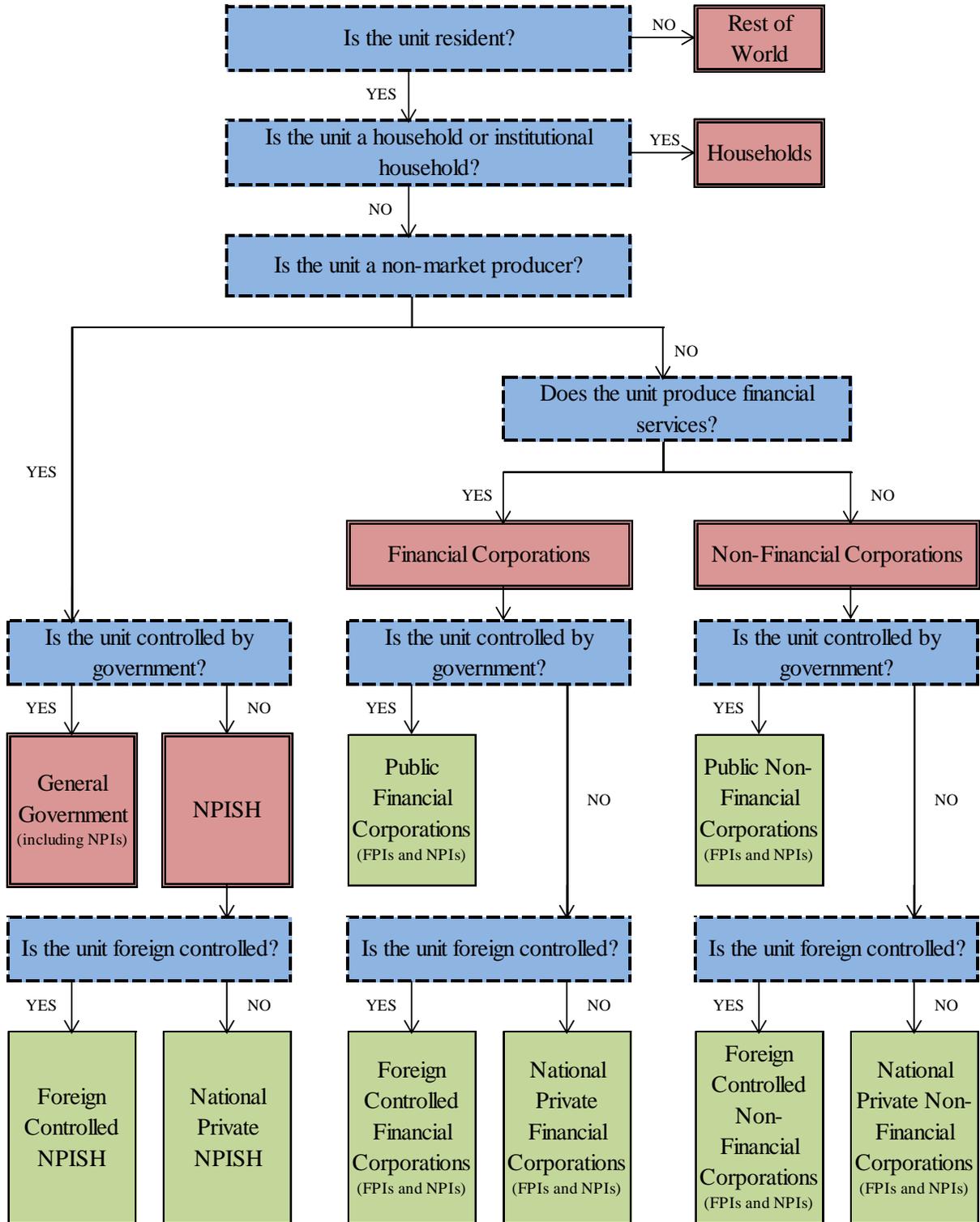
Table 4: Functions of State and Local Governments

<i>State and Local Dependent Agencies</i>	<i>Special Districts</i>	<i>U.S. NIPAs</i>
Education	Education - School Bldg. Authority	
Hospitals*	Hospitals*	
Housing and Community Develop.	Housing and Community Develop.	Housing and Urban Renewal
Misc. Commercial – Other*	Misc. Commercial – Cemeteries	
	Misc. Commercial – Other*	Misc. Commercial
	Natural Resources – Drainage	
	Natural Resources – Flood Control	
	Natural Resources – Irrigation*	
Natural Resources – Other	Natural Resources – Other	
	Natural Resources – Reclamation	
	Natural Resources – Soil and Water Conservation	
Other – Correctional Institutions	Other – Correctional Institutions	
Other – Fire Protection	Other – Fire Protection	
Other – Health	Other – Health	
	Other – Industrial Develop.*	
Other – Libraries	Other – Libraries	
	Other – Mortgage Credit*	
Other – Police Protection	Other – Police Protection	
Other – Public Welfare Institutions	Other – Public Welfare Institutions*	
Other – Public Welfare Programs	Other – Public Welfare Programs	
Other – Single Function District	Other – Single Function District	
Parks and Recreation	Parks and Recreation	
Solid Waste Management*	Solid Waste Management*	
Transportation – Air*	Transportation – Air*	Air and Water Terminals
Transportation – Mass Transit	Transportation – Mass Transit	Public Transit
Transportation – Parking Facilities*	Transportation – Parking Facilities*	Local Parking
Transportation – Regular Highways	Transportation – Regular Highways	
Transportation – Toll Highways*	Transportation – Toll Highways*	Toll Facilities
Transportation – Water*	Transportation – Water*	
Utility – Electric*	Utility – Electric*	Gas and Electricity
Utility – Gas*	Utility – Gas*	
Utility – Sewerage and Water*	Utility – Sewerage and Water*	Water and Sewerage
		Liquor Stores
		Lotteries
		Indian Tribal Gaming
		Off-Track Betting

Sources: Functions of state and local dependent agencies and special districts are provided in the Census Bureau’s 2006 *Government Finance and Employment Classification Manual*. Functions in the U.S. NIPAs are provided in NIPA table 3.8.

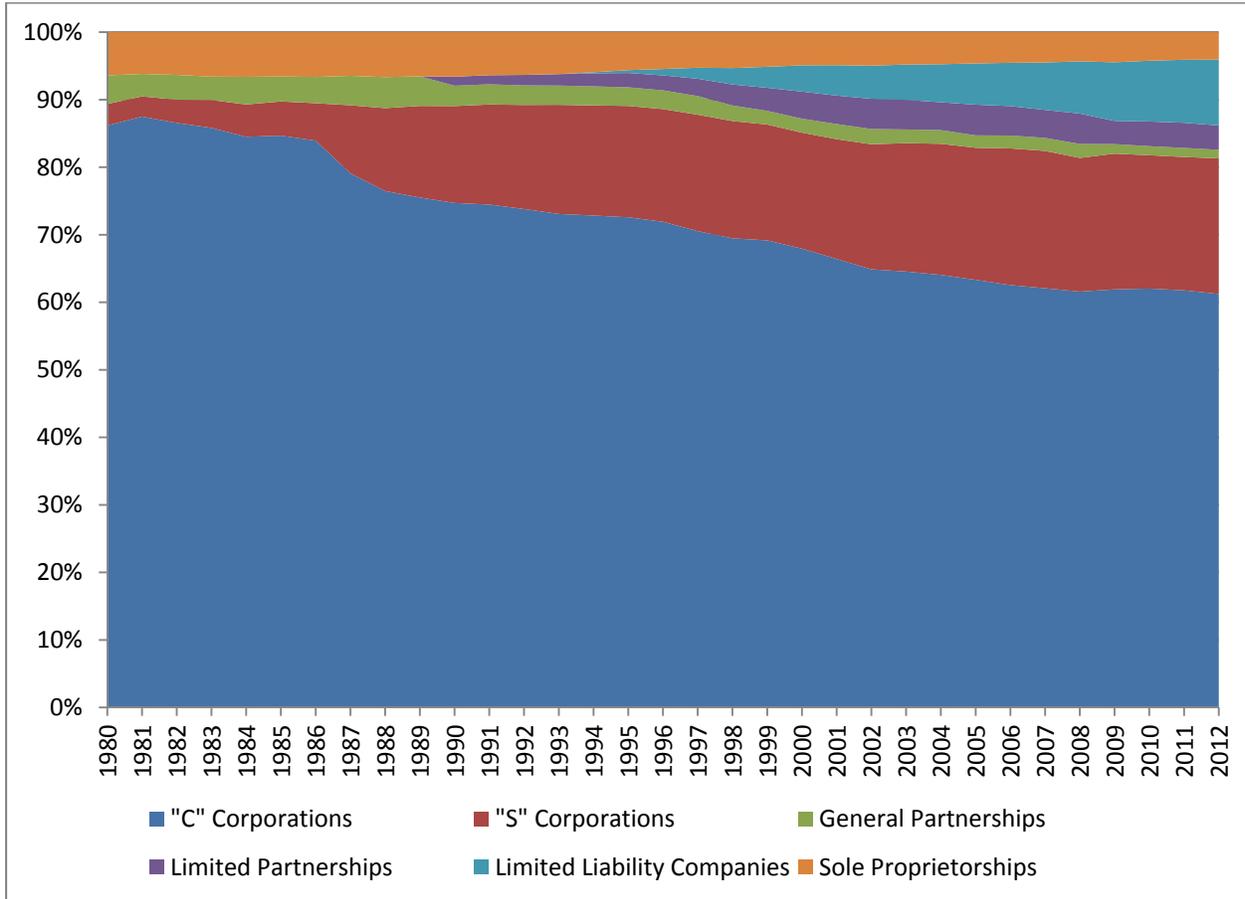
Note: Asterisks (*) denote dependent agencies and special districts engaged in market production according to the ratios of service charges to operating expenditures reported in figures 11 and 17, respectively.

Figure 1
Modified SNA Illustrative Allocation of Units to Institutional Sectors



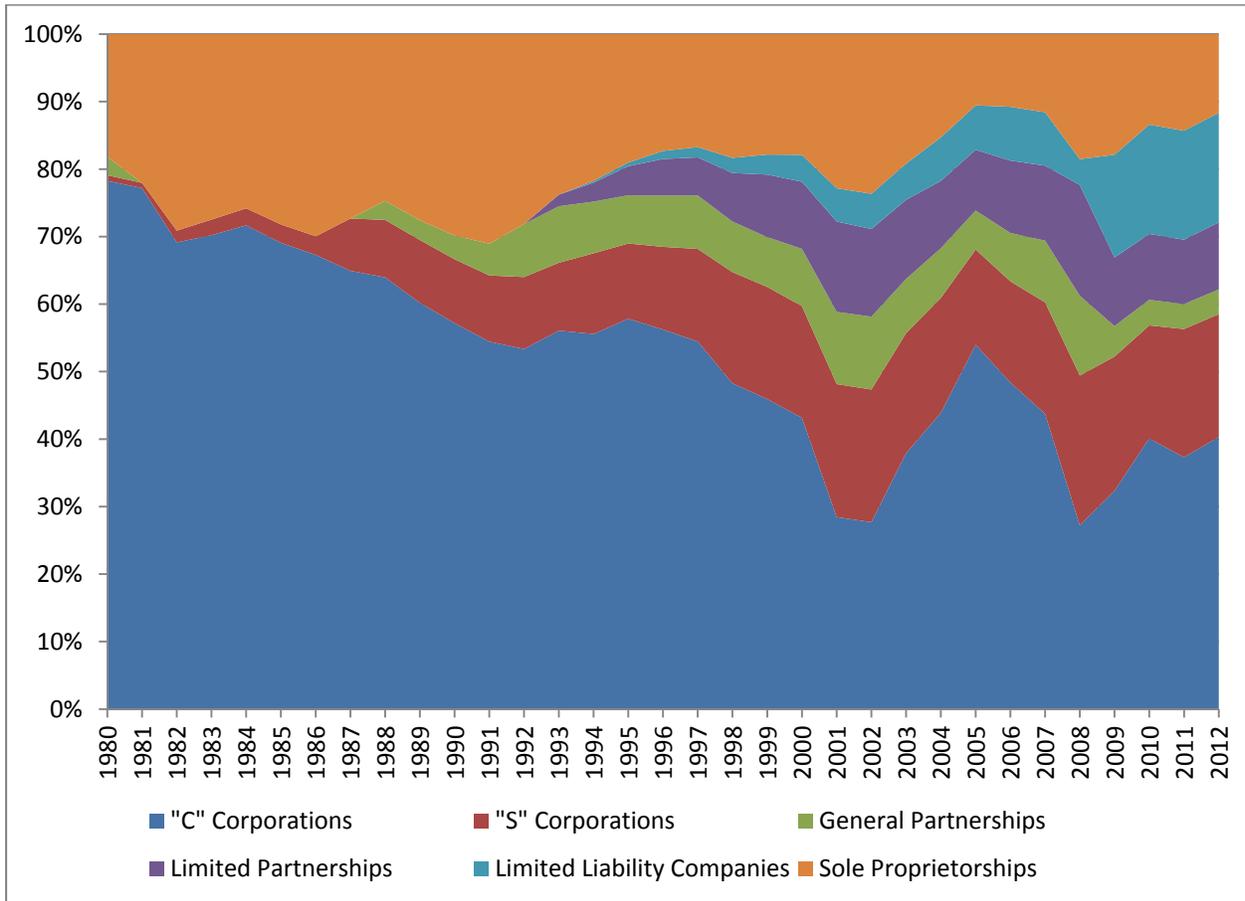
Note: The figure is based on figure 4.1 of the SNA. Decision points are colored blue, institutional sectors are colored red, and institutional subsectors are colored green.

Figure 2
Shares of Tax-Based Business Receipts for all Legal Forms of Business Organization



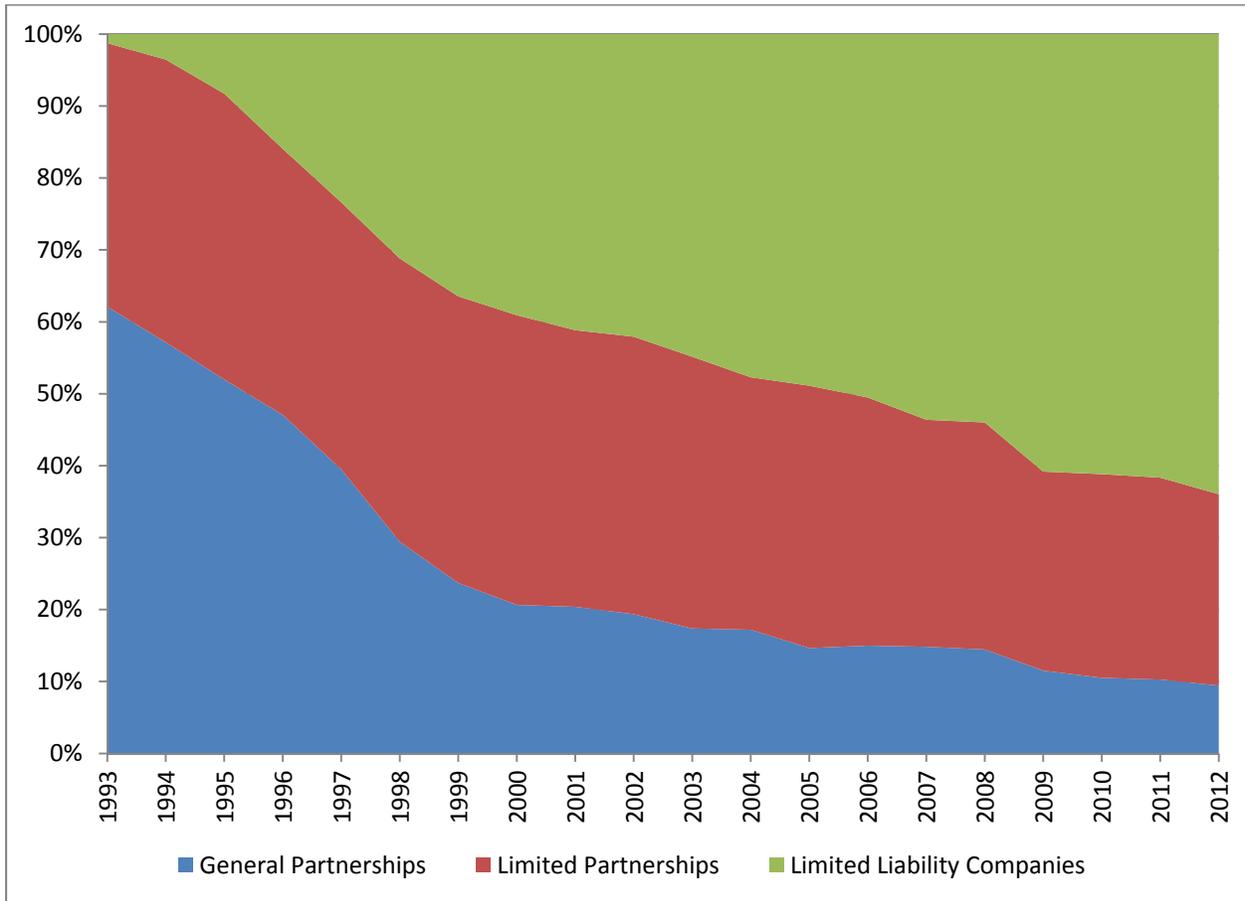
Source: Authors' calculations based on IRS Statistics of Income table on Selected Financial Data on Businesses.
 Note: Regulated Investment Companies and Real Estate Investment Trusts are excluded. According to IRS documentation, limited partnerships include only limited partnerships for 1980-1992, 1996-1997, and 2009-2012 and include limited partnerships and limited liability partnerships for the remaining years.

Figure 3
Shares of Tax-Based Net Income less Deficit for all Legal Forms of Business Organization



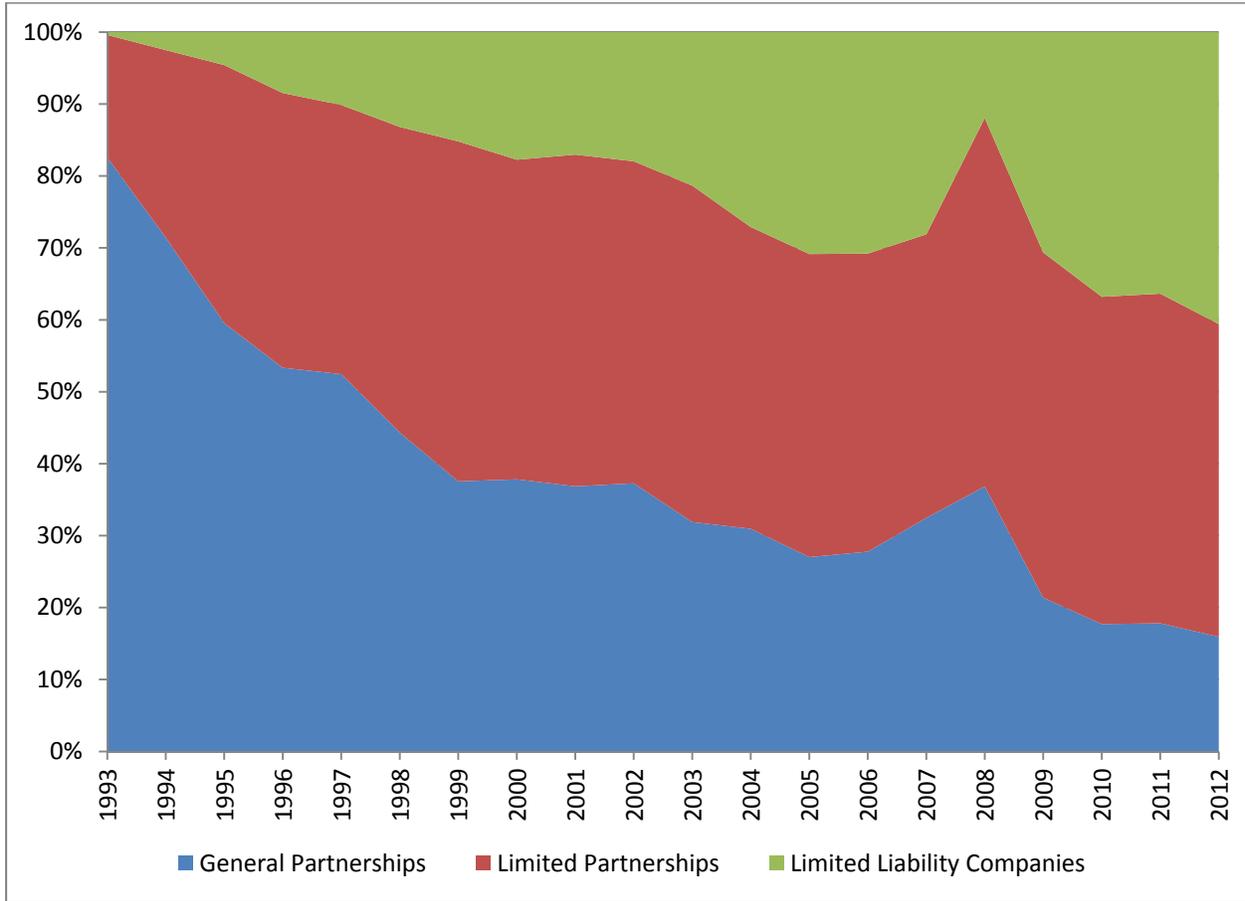
Source: Authors' calculations based on IRS Statistics of Income table on Selected Financial Data on Businesses.
 Note: Regulated Investment Companies and Real Estate Investment Trusts are excluded. Net income less deficit reflects business operating income (loss), portfolio income (loss), and rental income (loss). According to IRS documentation, limited partnerships include only limited partnerships for 1980-1992, 1996-1997, and 2009-2012 and include limited partnerships and limited liability partnerships for the remaining years.

Figure 4
Shares of Tax-Based Business Receipts for Partnerships



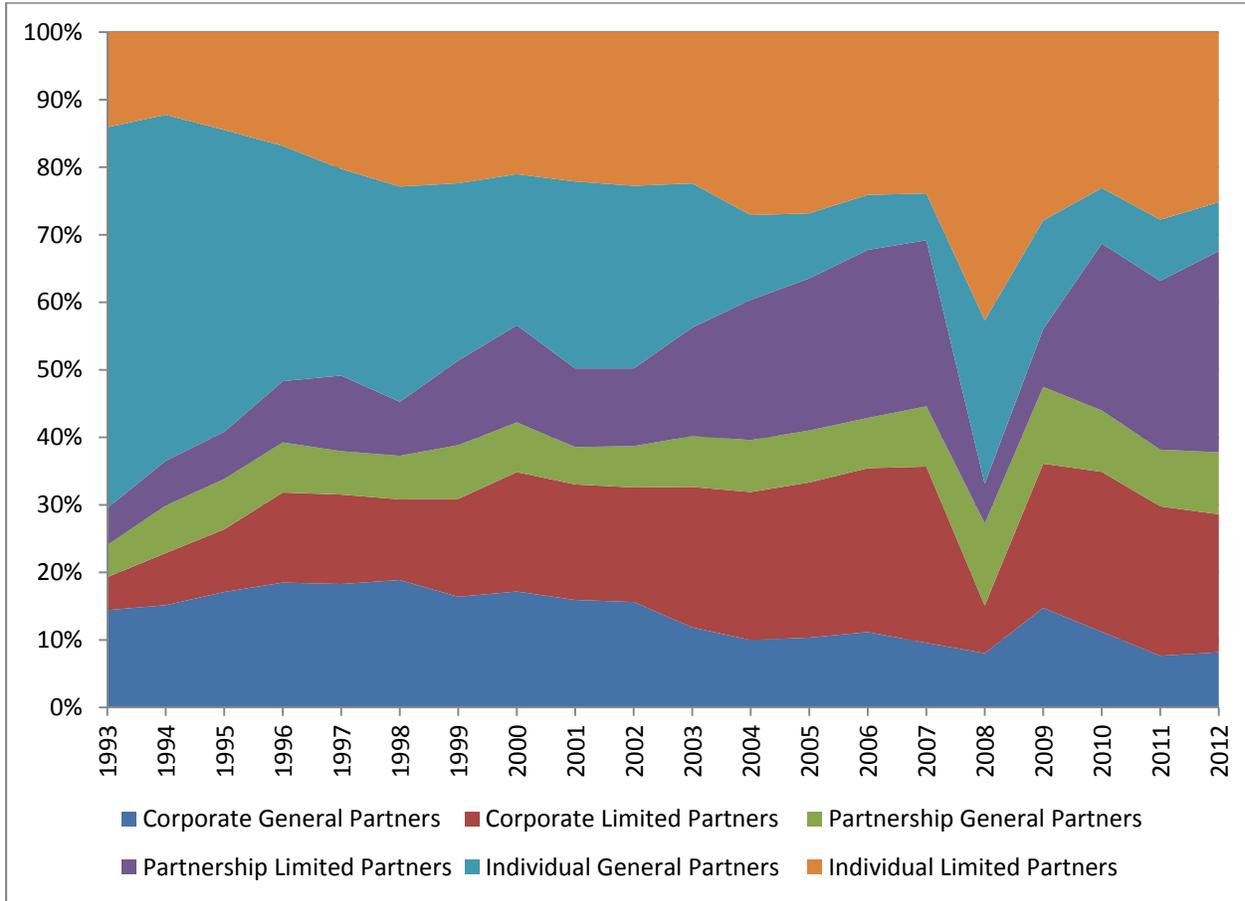
Source: Authors' calculations based on IRS Statistics of Income table on Selected Financial Data on Businesses.
 Note: According to IRS documentation, limited partnerships include only limited partnerships for 1996-1997 and 2009-2012 and include limited partnerships and limited liability partnerships for the remaining years.

Figure 5
Shares of Tax-Based Net Income less Deficit for Partnerships



Source: Authors' calculations based on IRS Statistics of Income table on Selected Financial Data on Businesses.
 Note: Net income less deficit reflects business operating income (loss), portfolio income (loss), and rental income (loss). According to IRS documentation, limited partnerships include only limited partnerships for 1996-1997 and 2009-2012 and include limited partnerships and limited liability partnerships for the remaining years.

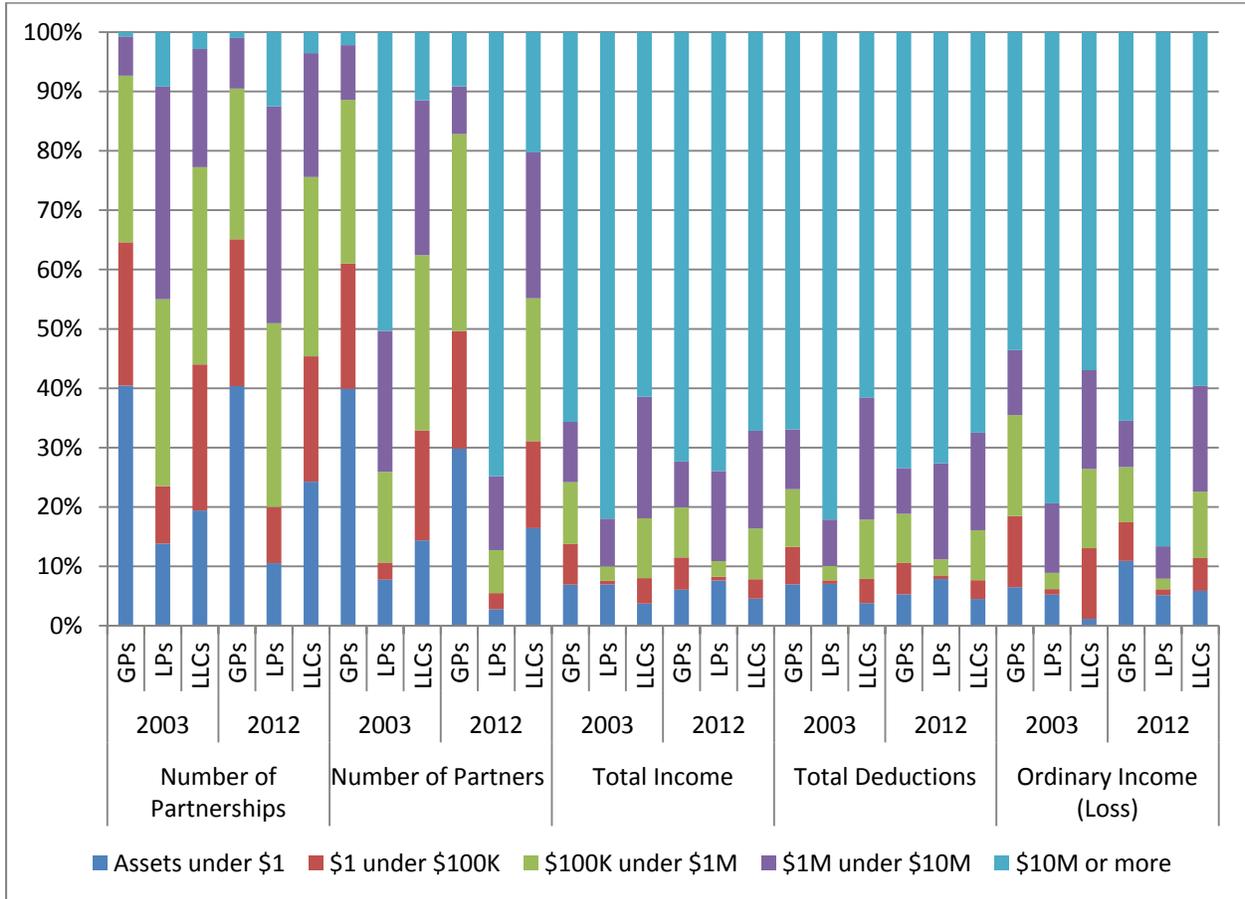
Figure 6
Shares of Tax-Based Net Income or Loss Allocated to Partners



Source: Authors' calculations based on IRS Statistics of Income table on Partnerships with Income (or Loss) Allocated to Partners.

Note: Tax-exempt organization partners and nominee partners are excluded. Net income or loss reflects business operating income (loss), portfolio income (loss), and rental income (loss).

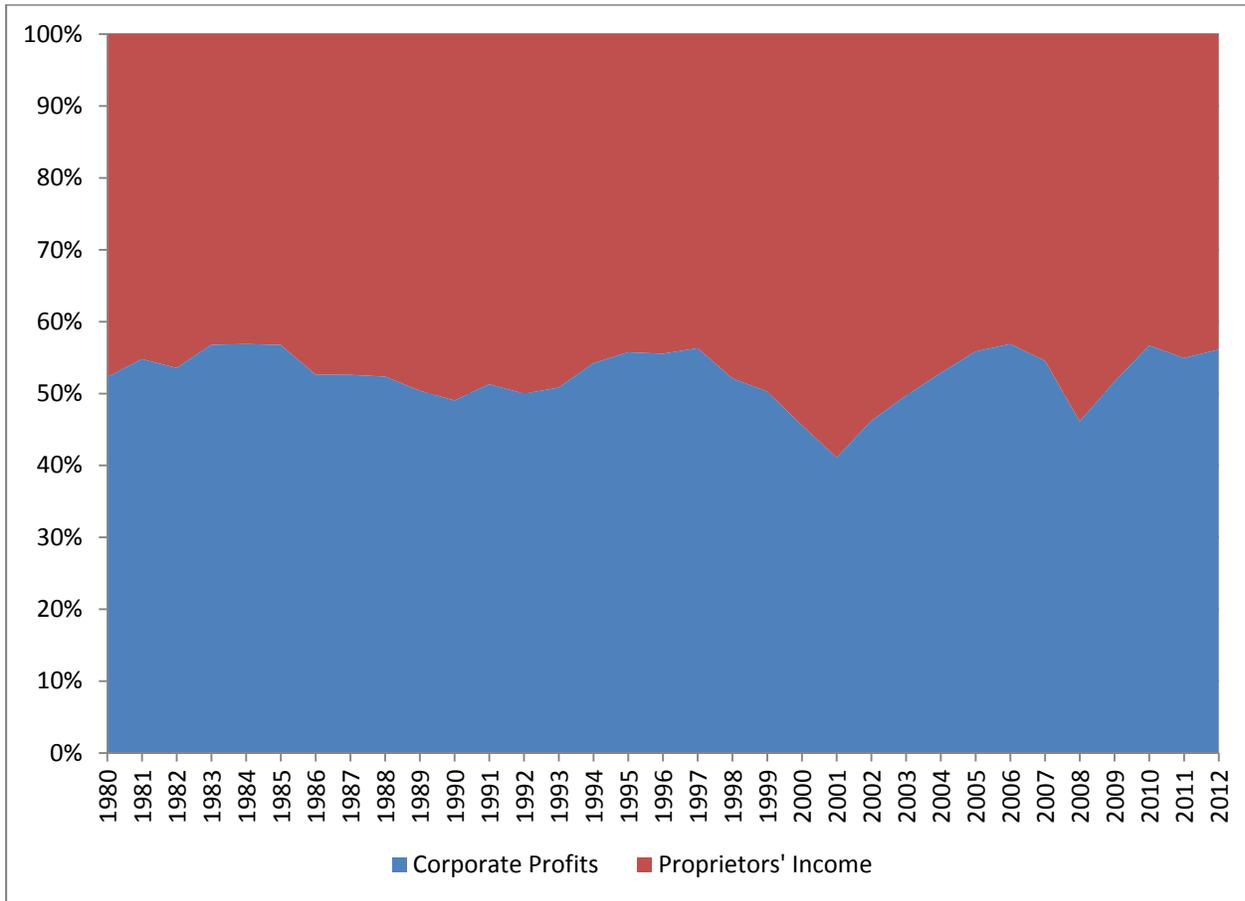
Figure 7
Shares of Tax-Based Measures by Total Asset Size



Source: Authors' calculations based on IRS Statistics of Income tables on Partnerships Data by Size of Total Assets.

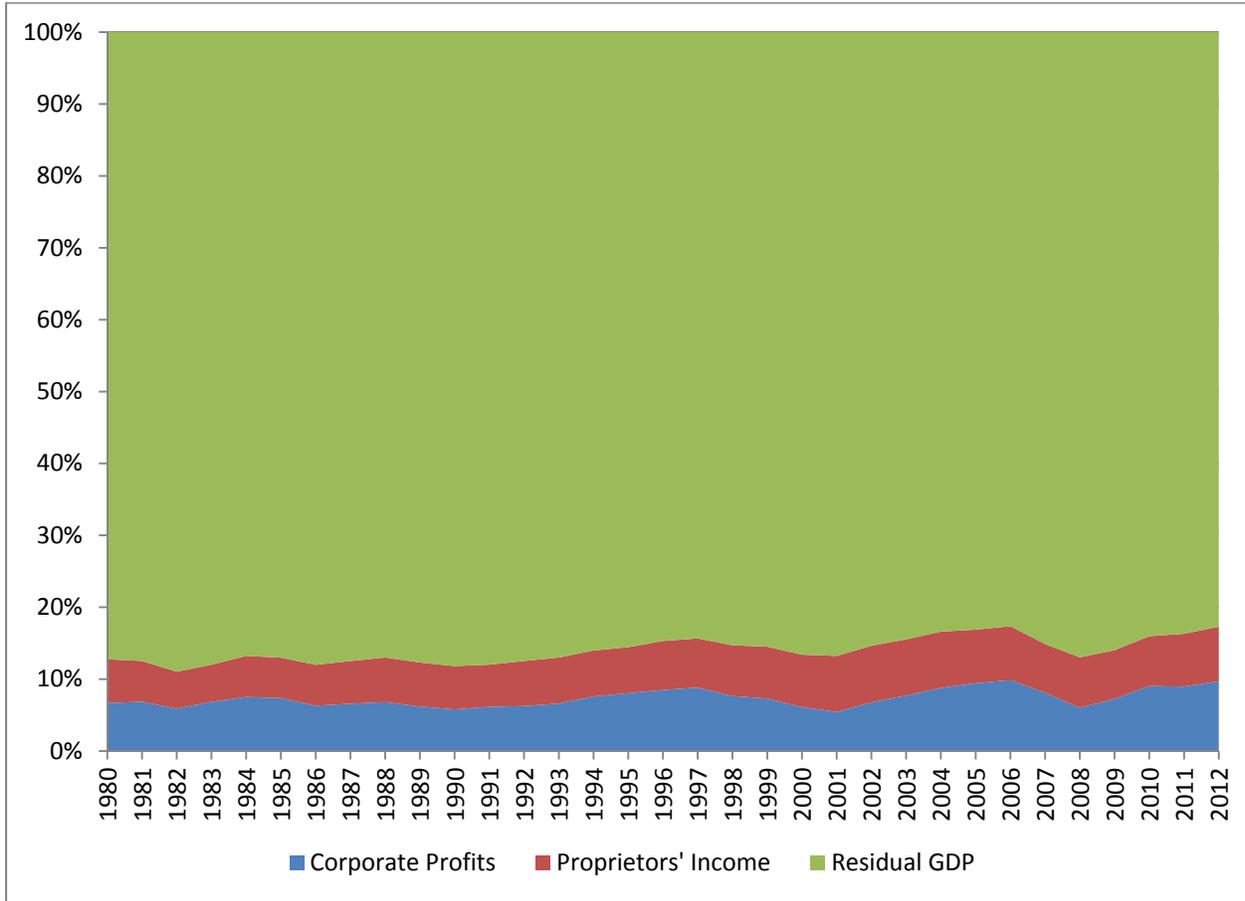
Note: Ordinary income (loss) reflects business operating income (loss) before portfolio income (loss) and rental income (loss).

Figure 8
Shares of NIPA-Based Economic Profits by Type of Income



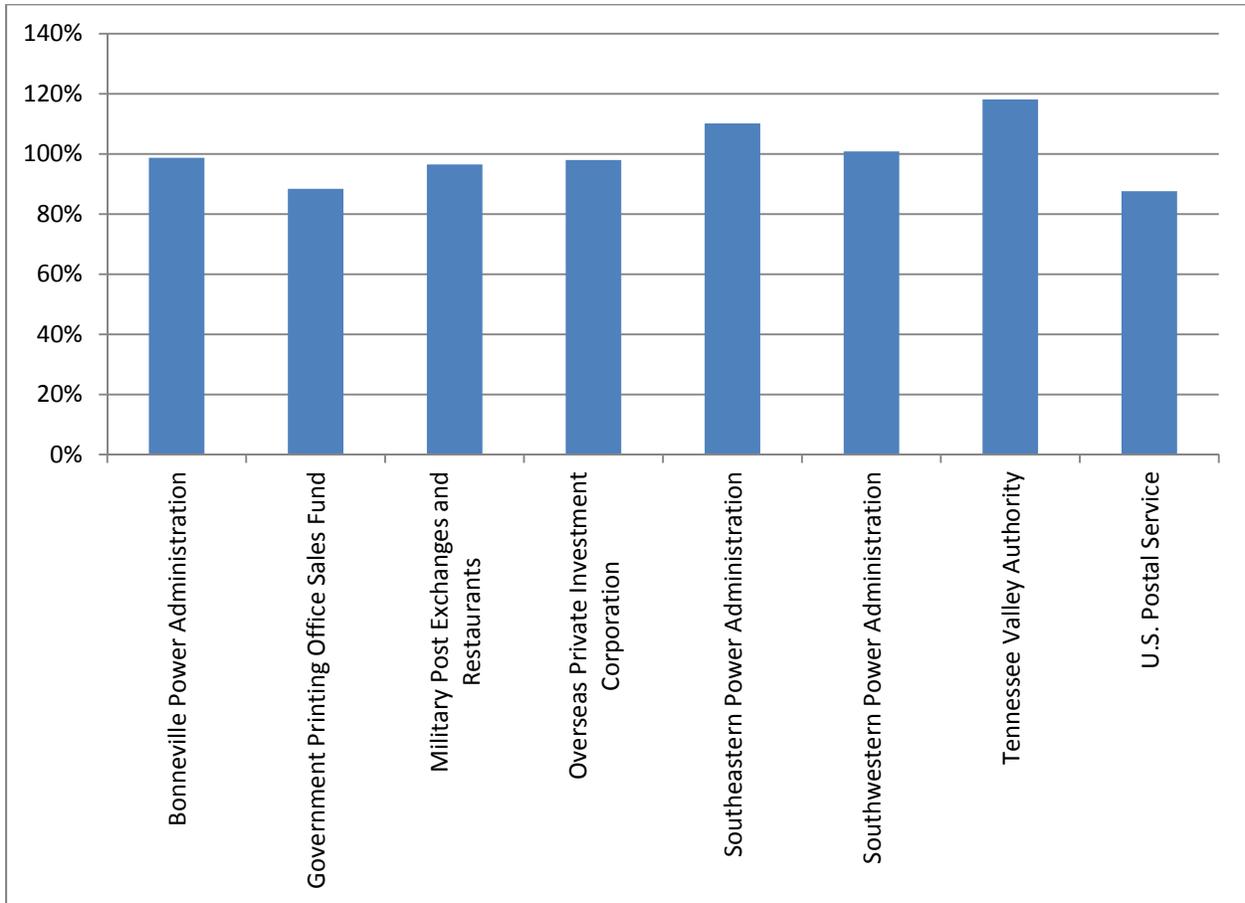
Source: Authors' calculations based on BEA NIPA table 1.10 – Gross Domestic Income by Type of Income.
 Note: Corporate profits include “C” corporations and “S” corporations. Proprietors' income includes sole proprietors and partnerships.

Figure 9
Shares of NIPA-Based Economic Profits in Income-Based GDP by Type of Income



Source: Authors' calculations based on BEA NIPA table 1.10 – Gross Domestic Income by Type of Income.
 Note: Corporate profits include “C” corporations and “S” corporations. Proprietors' income includes sole proprietors and partnerships.

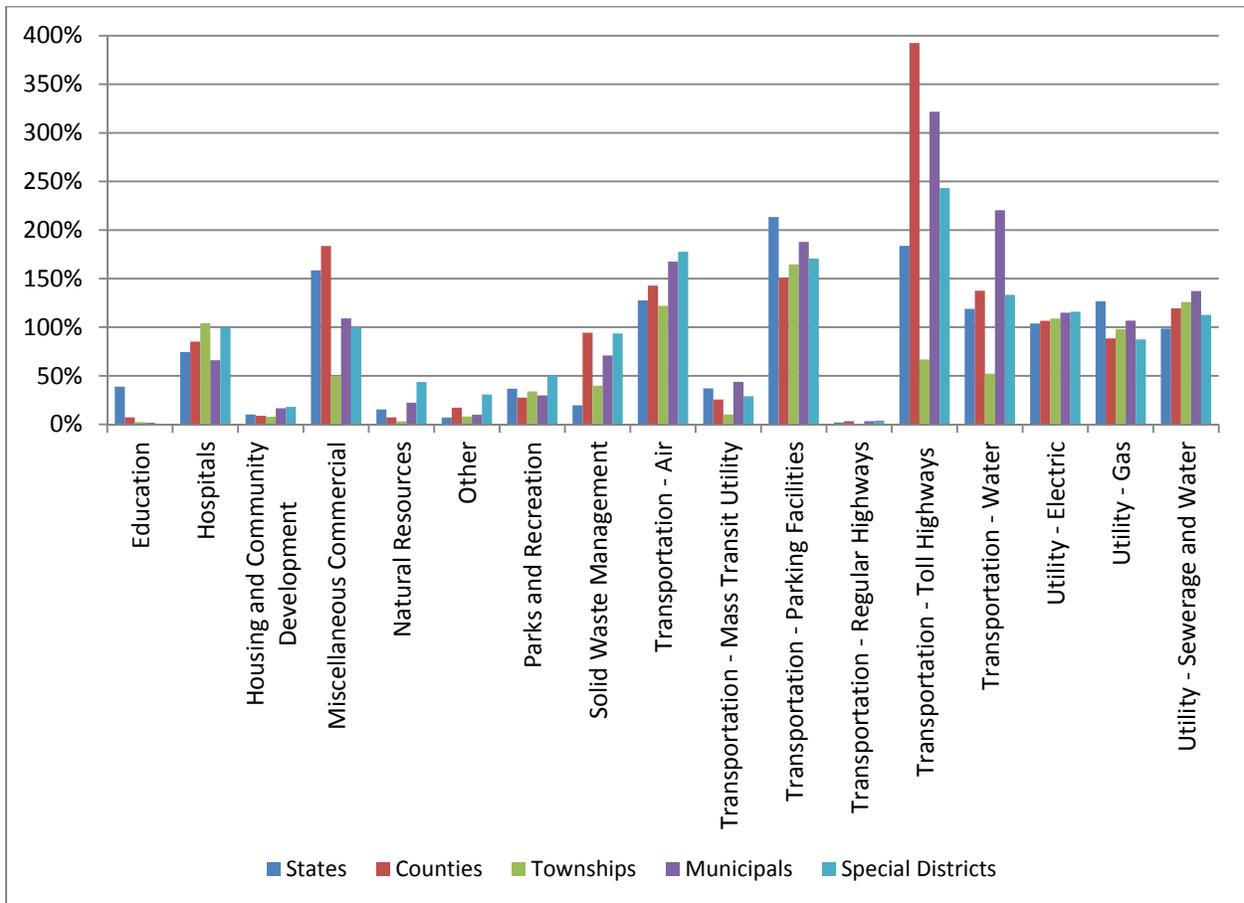
Figure 10
Ratios of Service Charges to Operating Expenditures for Current Federal Enterprises in the U.S. NIPAs



Source: Authors' calculations based on publicly available annual reports for 2013-2015.

Note: Ratios reported are simple averages for the period 2013-2015.

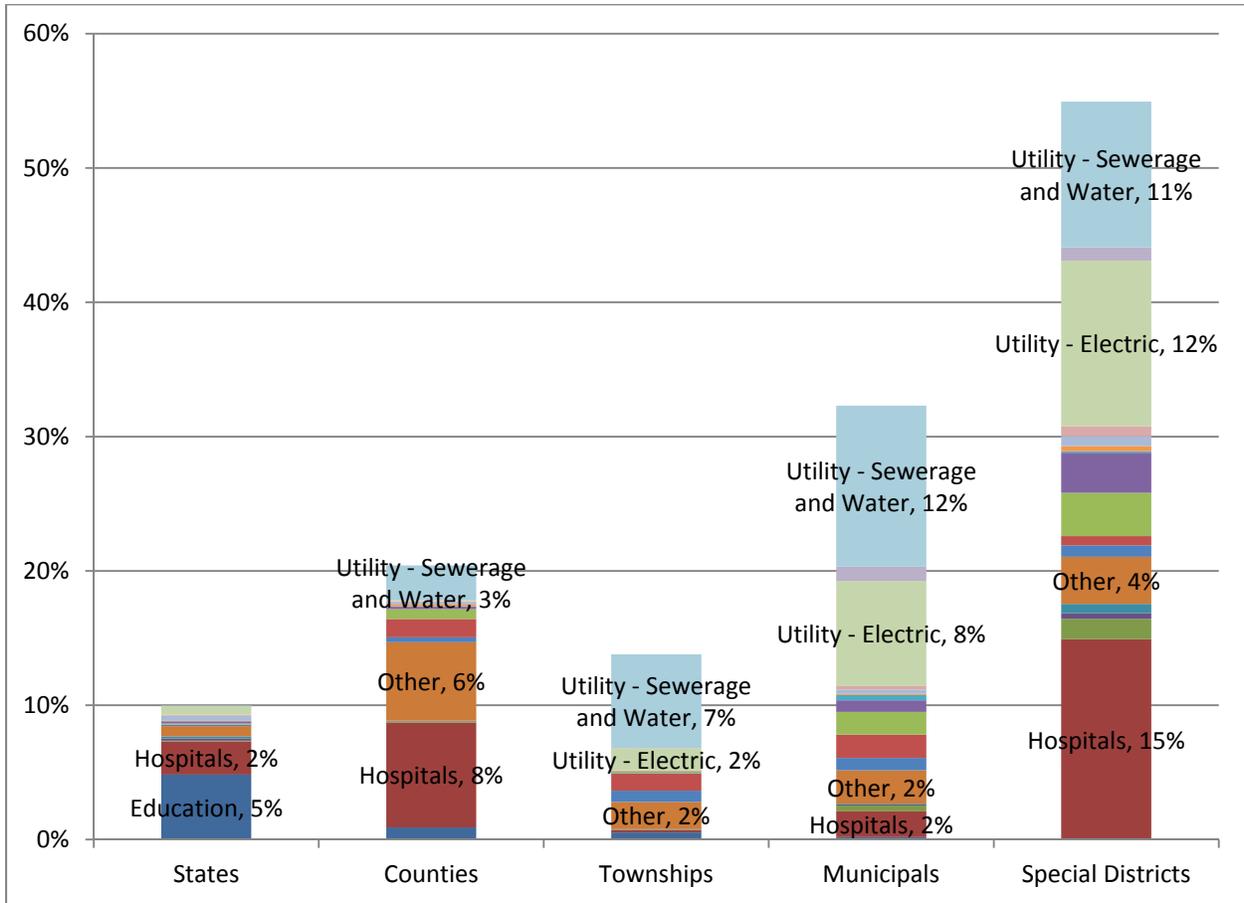
Figure 11
Function-Level Ratios of Service Charges to Operating Expenditures for State and Local Governments



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

Note: Ratios reported are simple averages for the years 2002, 2007, and 2012.

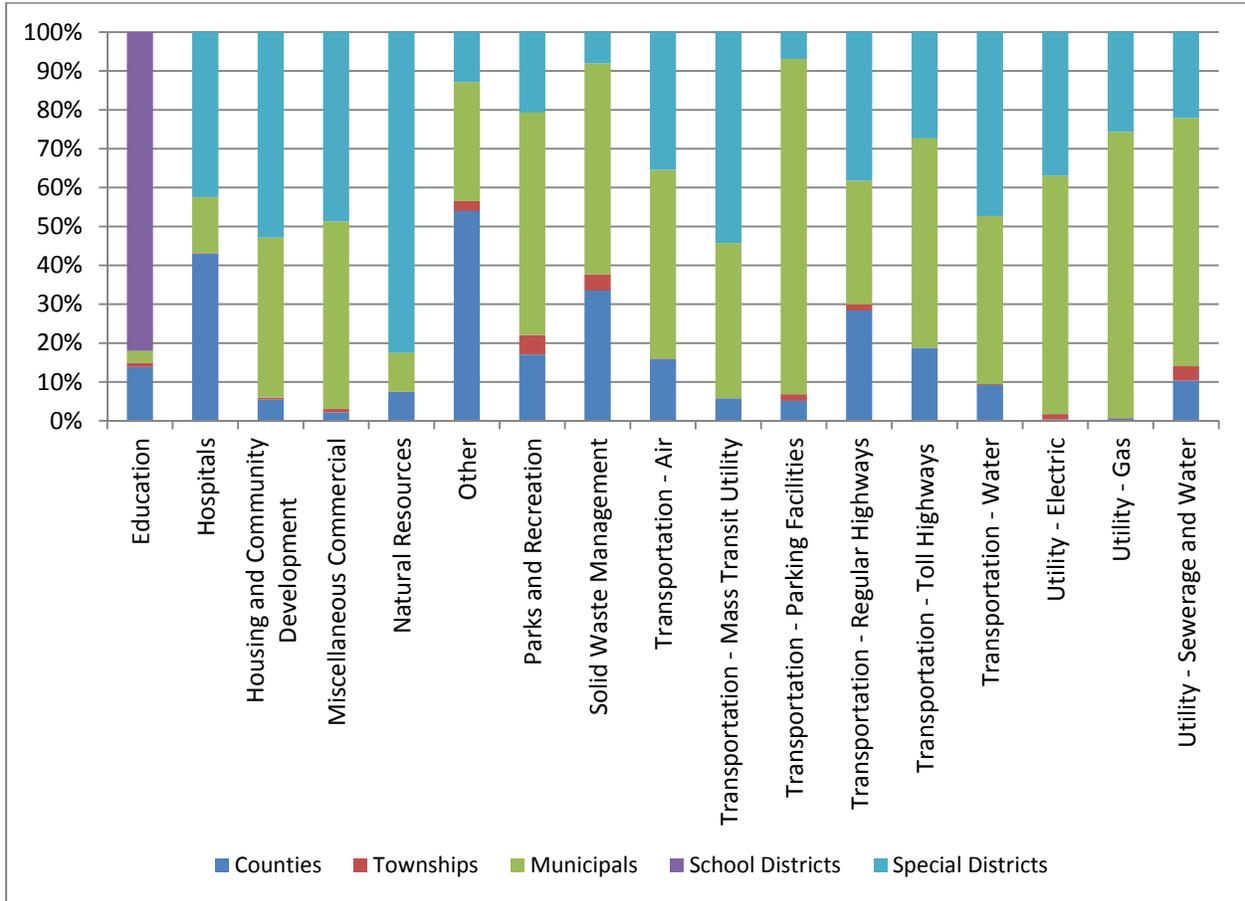
Figure 12
Function-Level Ratios of Service Charges to Total Revenue for State and Local Governments



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

Note: Ratios reported are simple averages for the years 2002, 2007, and 2012.

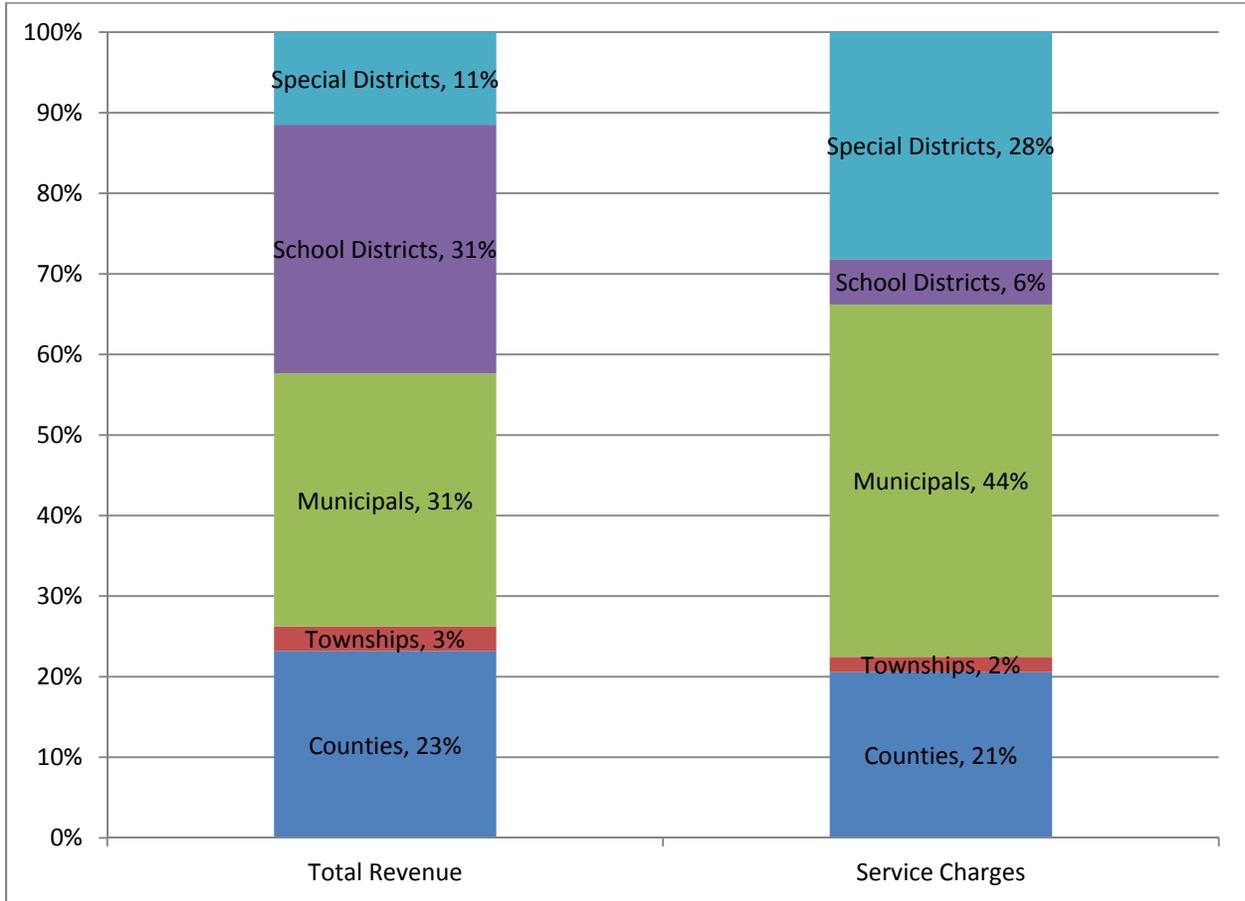
Figure 13
Function-Level Shares of Service Charges for Local Governments



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

Note: Shares reported are simple averages for the years 2002, 2007, and 2012.

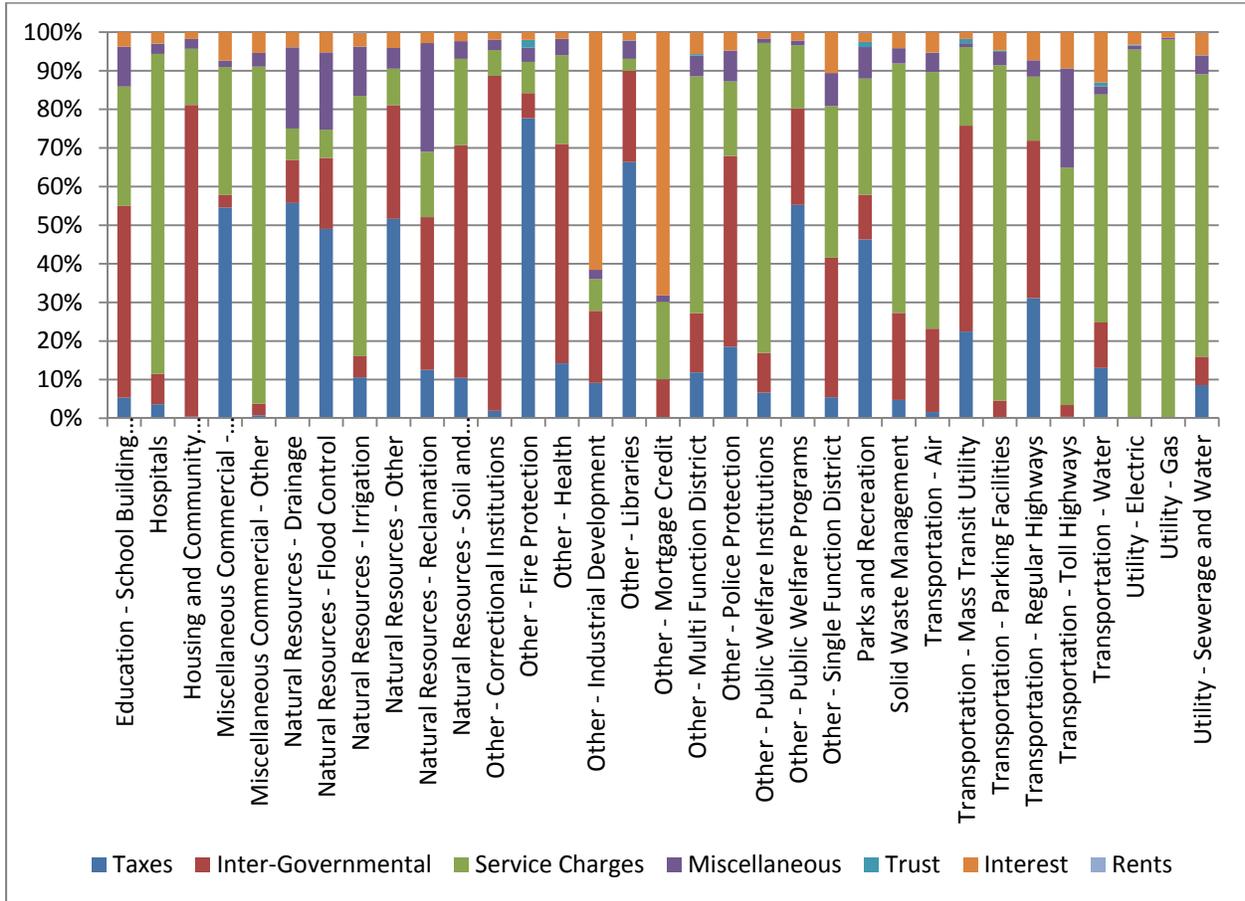
Figure 14
Shares of Total Revenue and Service Charges for Local Governments



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

Note: Shares reported are simple averages for the years 2002, 2007, and 2012.

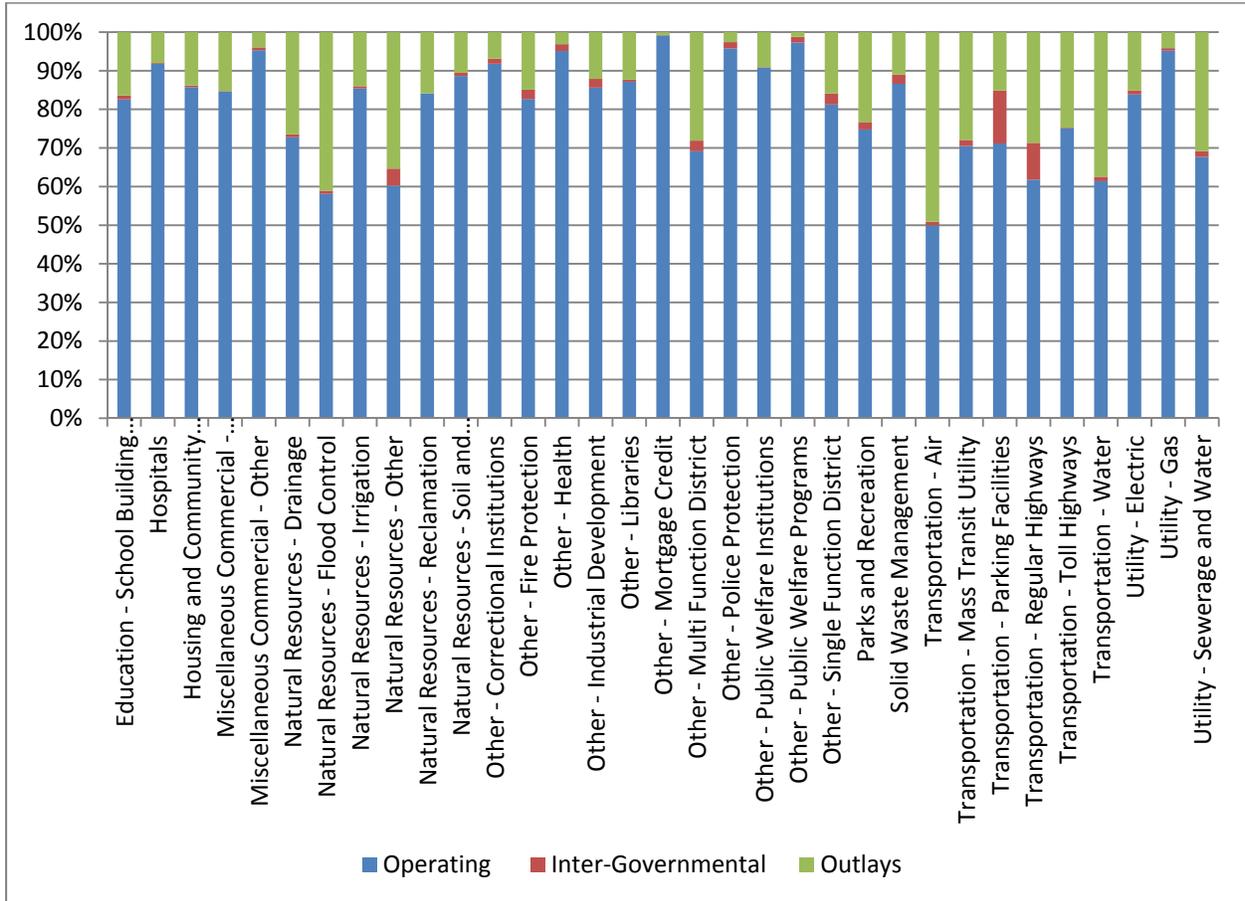
Figure 15
Function-Level Shares of Total Revenue for Special Districts



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

Note: Shares reported are simple averages for the years 2002, 2007, and 2012.

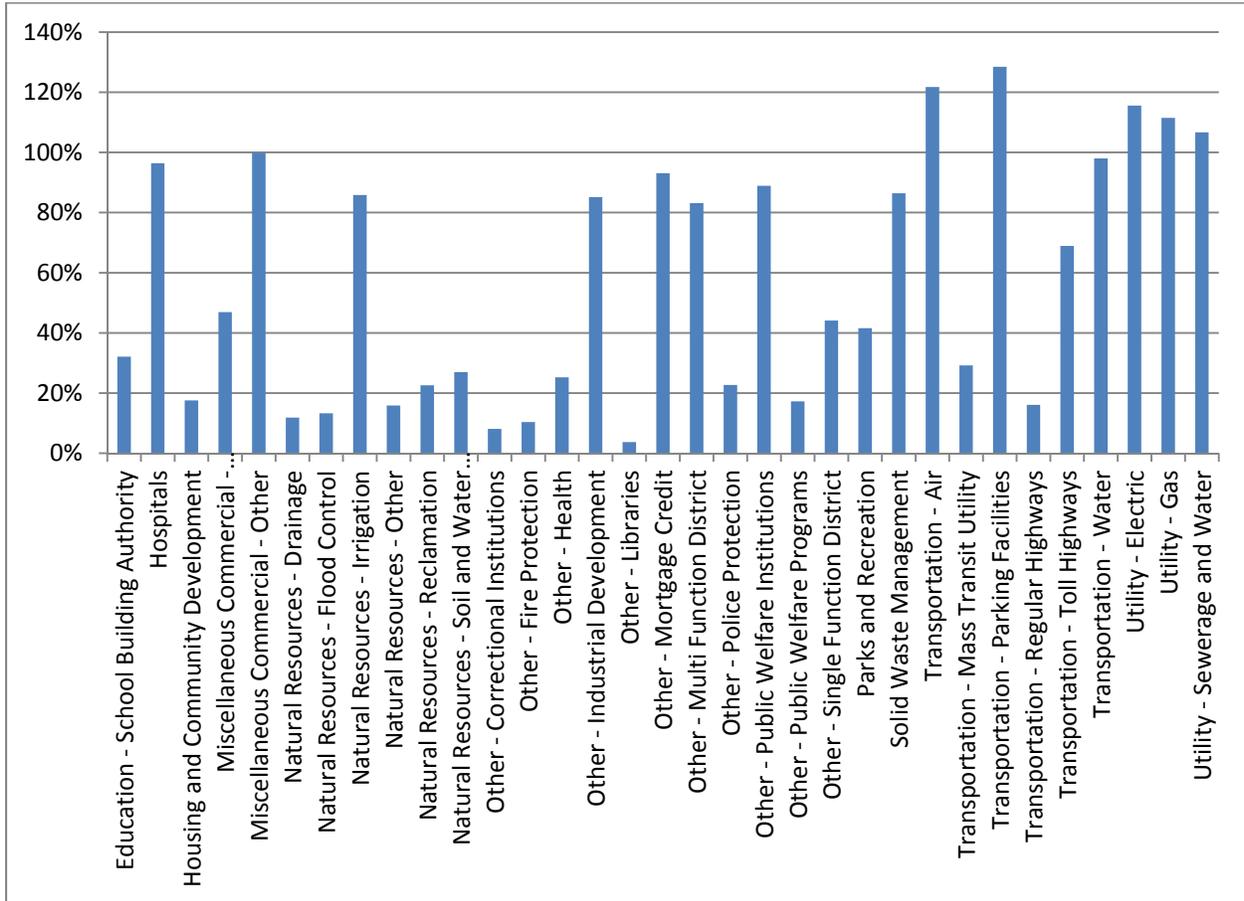
Figure 16
Function-Level Shares of Total Expenditures for Special Districts



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

Note: Shares reported are simple averages for the years 2002, 2007, and 2012.

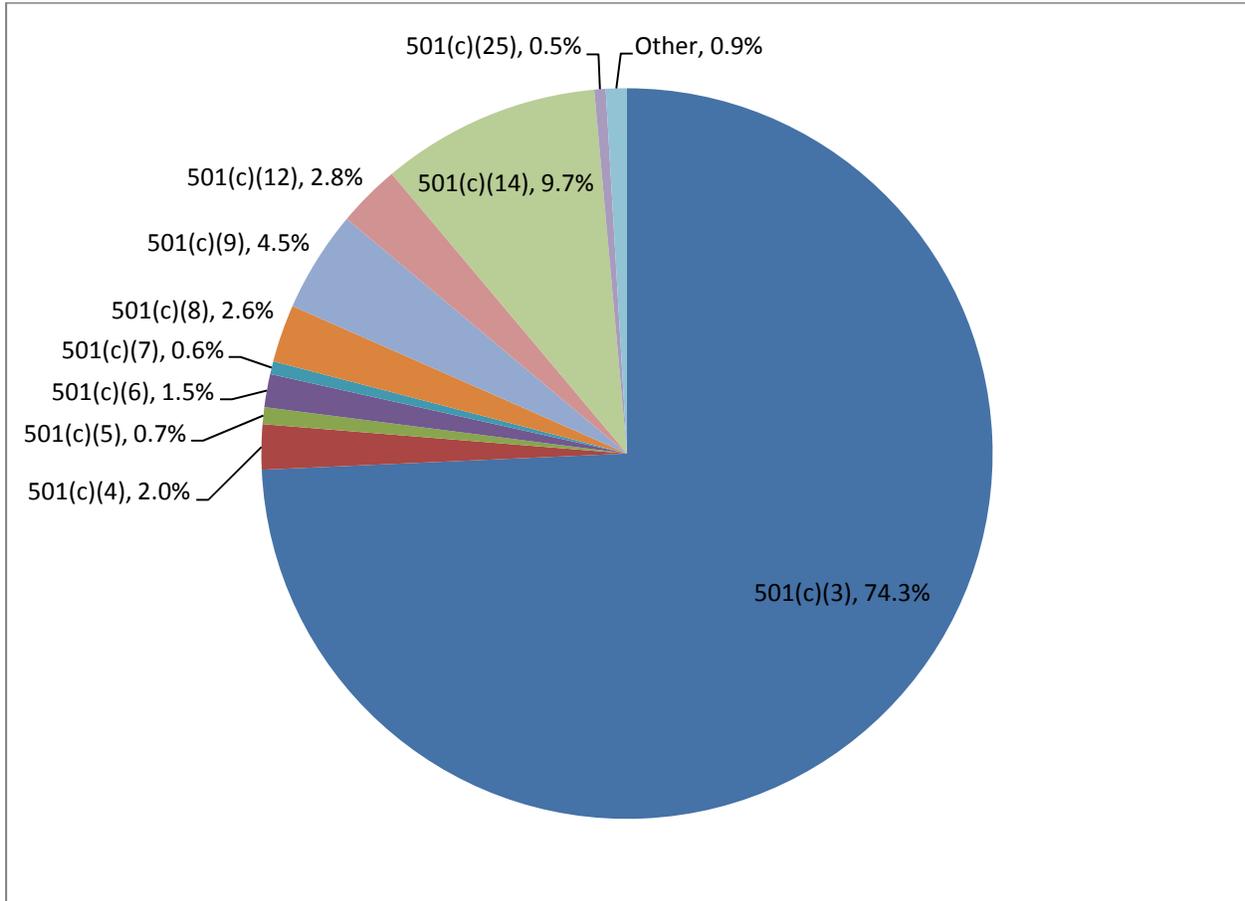
Figure 17
Function-Level Ratios of Service Charges to Operating Expenditures for Special Districts



Source: Authors' calculations based on Census Bureau's Census of Governments individual local government finances data.

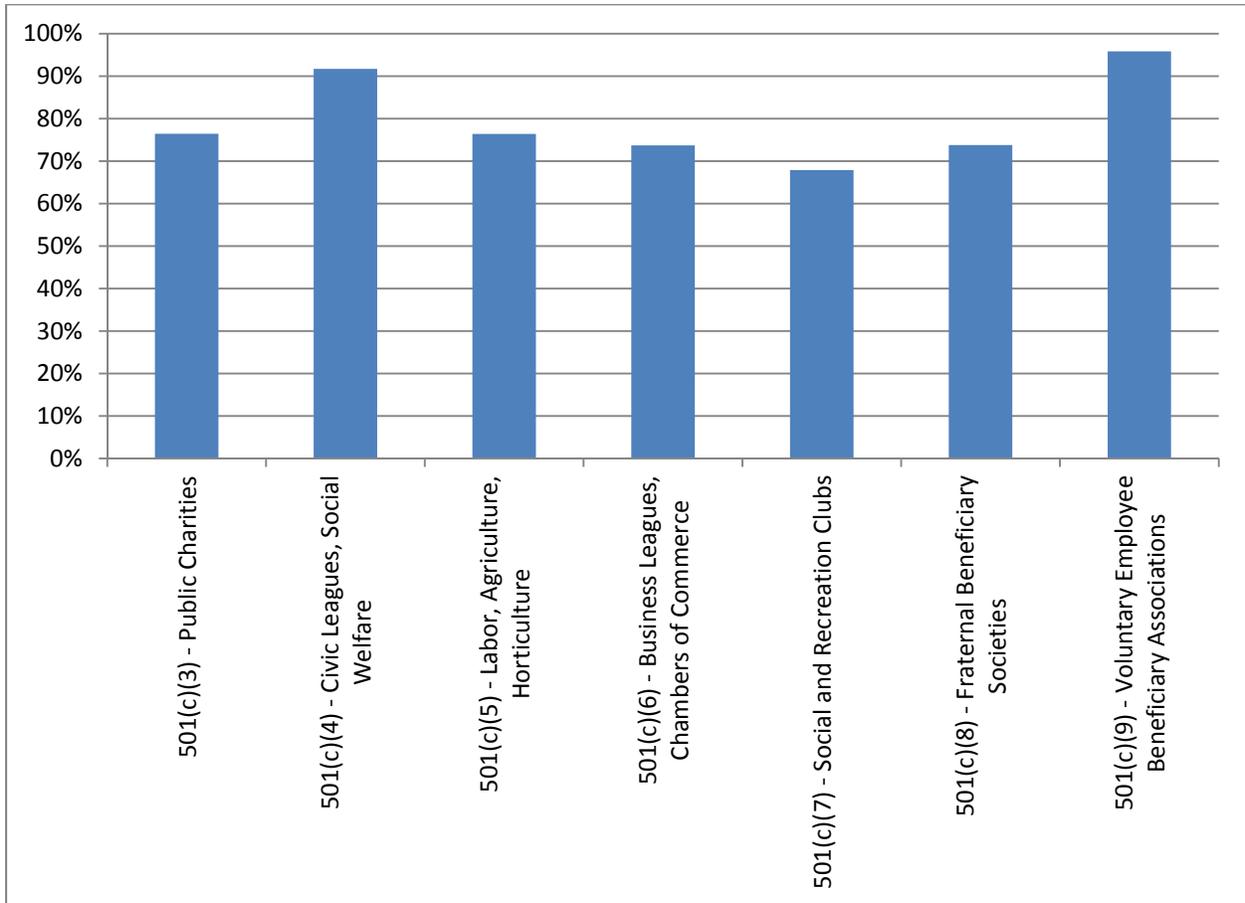
Note: Ratios reported are simple averages for the years 2002, 2007, and 2012.

Figure 18
Shares of Assets as Reported to the IRS for Tax Exempt Organizations



Source: Authors' calculations based on Roeger, Blackwood, and Pettijohn's (2012) compilation of the IRS Statistics of Income data on tax exempt organizations.

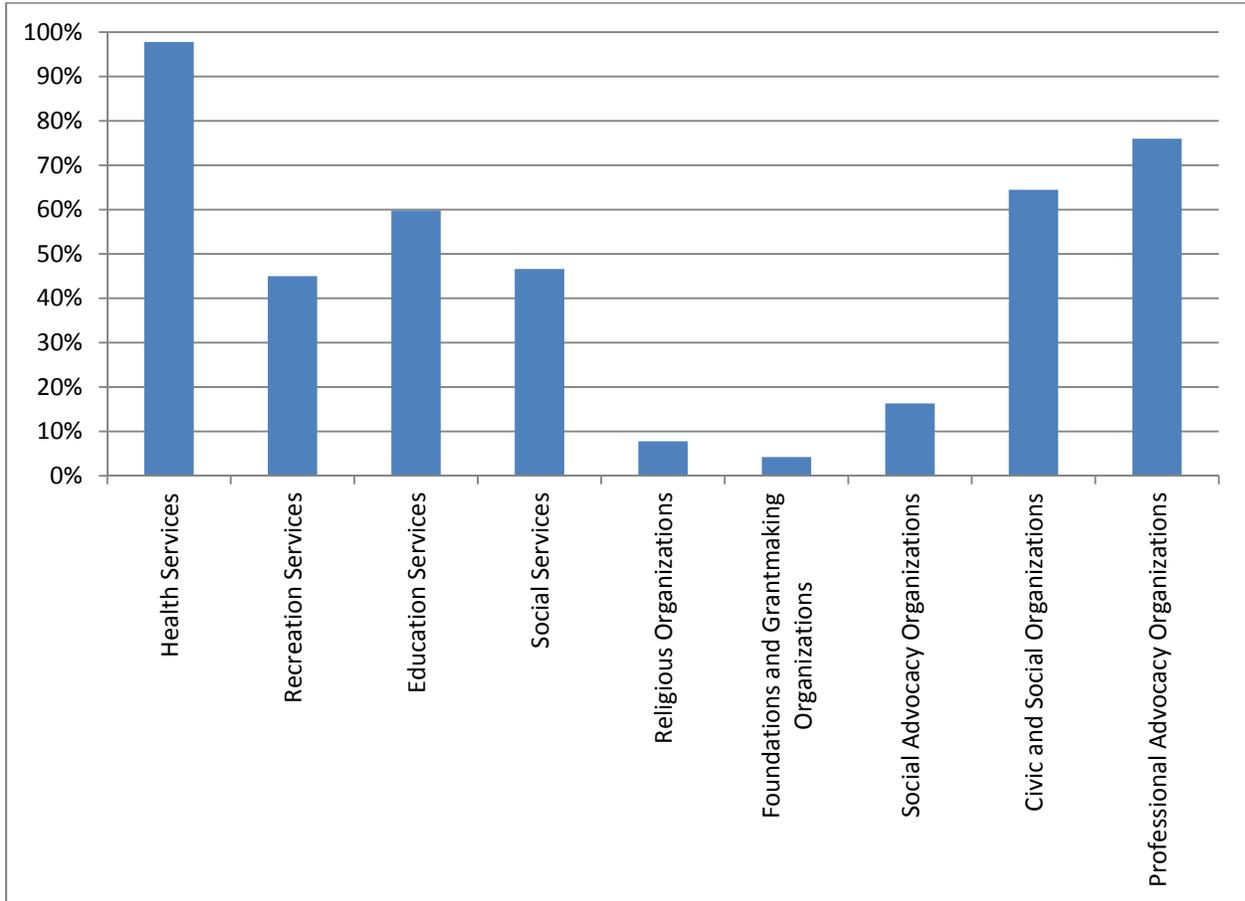
Figure 19
Ratios of Program Service Revenue to Total Expenses as Reported to the IRS for Tax Exempt Organizations



Source: Authors' calculations based on IRS Statistics of Income tables on Charities and Other Tax Exempt Organizations.

Note: Ratios reported are simple averages for the period 2008-2012.

Figure 20
Ratios of NIPA-Based Receipts to Gross Output for NPISHs



Source: Authors' calculations based on BEA NIPA Table 2.4.5U – Personal Consumption Expenditures by Type of Product.

Note: Ratios reported are simple averages for the period 2008-2012. Gross output is determined as a sum of tax-exempt operating expenses related to the provision of goods or services.