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Twenty years of tax autonomy across levels of government: measurement and applications

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Abstract

Twenty years of tax autonomy across levels of government: measurement and applications

The Network on Fiscal Relations has been assessing the degree of sub-central government tax autonomy in OECD countries for almost two decades. This paper provides an in-depth description of the methodology used to characterise tax autonomy. After summarizing the wide-spread use of the tax autonomy results by researchers addressing a range of policy issues, the paper highlights recent trends in sub-central government revenues and presents the results of the latest survey of tax autonomy, completed in 2017. Using the OECD's tax autonomy methodology, the paper for the first time assesses local government tax autonomy in the 50 US states. The analysis reveals that US local governments have somewhat more tax autonomy than local governments in the average OECD country. The paper includes suggestions for further refinements of the tax autonomy methodology.

Keywords: Tax autonomy, fiscal decentralisation, sub-national governments, local taxation, property tax design

JEL classification: H20, H71

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Résumé

Autonomie fiscale des différents niveaux d'administration : mesure et cas d'application au cours des 20 dernières années

Le Réseau de l'OCDE sur les relations budgétaires entre les différents niveaux d'administration examine depuis près de vingt ans le degré d'autonomie fiscale des administrations infranationales des pays membres de l'OCDE. On trouvera dans la présente étude une description détaillée de la méthodologie utilisée pour définir l'autonomie fiscale. Les auteurs commencent par expliquer brièvement de quelles manières les données sur l'autonomie fiscale sont largement utilisées par les chercheurs pour étudier toute une série d'enjeux d'intérêt public. Ils mettent ensuite en lumière les tendances récentes des recettes fiscales des administrations infranationales et présentent les conclusions de la dernière étude consacrée à l'autonomie fiscale, achevée en 2017. L'autonomie fiscale des 50 États américains est évaluée pour la première fois en se servant de la méthodologie de l'OCDE sur l'autonomie fiscale. Il ressort de l'analyse que les autorités locales aux États-Unis jouissent en moyenne d'une autonomie fiscale plus large que dans les pays de la zone OCDE. Le document contient aussi des propositions visant à améliorer la méthodologie relative à l'autonomie fiscale.

Mots-clés : Autonomie fiscale, décentralisation budgétaire, administrations infranationales, fiscalité locale, structure de la fiscalité immobilière

Classement JEL : H20, H71

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Twenty years of tax autonomy across levels of government: measurement and applications

By Sean Dougherty, Michelle Harding and Andrew Reschovsky[1]

1. Introduction and main findings

1.   Much of the economic and political benefit of decentralised public finance comes from the ability of subnational or sub-central governments (SCGs) to make their own decisions about taxation. A local or regional government that is able to define its own tax bases, tax rates, and other characteristics of a tax has a high degree of *tax autonomy* or *taxing power*. To provide accurate cross-national comparisons of the importance of state and local governments in countries' fiscal systems, it is important to be able to characterise state and local tax systems by their degree of tax autonomy.

2.   Starting in 1995, the OECD began to assess the tax autonomy of state or regional and local governments in OECD member countries. A taxonomy was developed to assess the degree of tax autonomy in each country. Each tax instrument used by state or local governments in a country is assigned one of eleven possible policy-based codes to indicate the extent of tax autonomy for the instrument. The results of this exercise are summarised by calculating the share of total government revenue by level of government assigned to each tax autonomy code. From the inception of the OECD Network on Fiscal Relations in 2003, the OECD has completed the tax autonomy study once every three years, with the latest analysis carried out in 2017, based on data for 2014, the most recent final data available at the time. The results of these tax autonomy studies are disseminated in the OECD's Fiscal Decentralisation database.

3.   These tax autonomy indicators provide the following major insights:

- A composite measure of tax autonomy shows that local governments in the OECD have significantly less tax autonomy than is suggested by simple expenditure or revenue-based measures of decentralisation. The largest degree of SCG discretion over taxes relates to that for the recurrent taxation of immovable property.
- While the profile of SCG tax autonomy differs markedly between federal and unitary countries (Figure 1), cross-country differences are most marked for unitary countries. There has been a gradual increase in tax autonomy of SCGs over time.
- In a unique application of the methodology to all 50 US states, local governments are found to have somewhat more tax autonomy than in the average OECD country, and rely much more heavily on property taxation.

Figure 1. Tax autonomy for federal and unitary countries, 2014 (share of revenues)
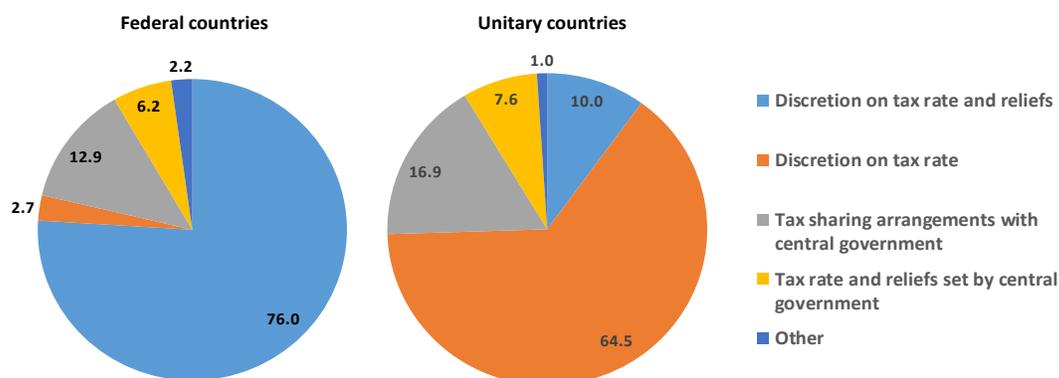
Source: OECD Fiscal Decentralisation database (OECD, 2019).

- A substantial number of studies have made use of the OECD tax autonomy indicators to examine the effects of increased SCG decentralisation on outcomes such as long-term economic growth, for which the effects are mixed.
- Potential methodological tweaks to address measurement challenges are proposed, along with ways to enhance the timeliness and country coverage of the indicator.

4.   The paper provides an in-depth description of the methodology used by the OECD to characterise tax autonomy. The second section documents various ways in which the tax autonomy results have been used by researchers to explore how tax autonomy affects a range of policy outcomes. The third section presents the main results of the most recently completed tax autonomy study. The fourth section documents the extension of the methodology to measure local government tax autonomy in the United States. In the final section, possible changes to the current taxonomy are explored.

2. The importance of tax autonomy for sub-central governments

5.   Starting with the seminal work of Wallace Oates (1972), economists have highlighted a number of benefits accruing from a fiscal organisation that provides local governments with a substantial amount of freedom to make their own decisions about spending and taxation. Oates argued that unless there were substantial spatial externalities or economies of scale, public goods would be provided more efficiently if they were provided by the lowest level of government possible. This argument, referred to as the *subsidiarity* principle, is an important reason why countries around the world, whether organised as federal or unitary systems, have been pursuing fiscal decentralisation. In addition to economic arguments, proponents of fiscal decentralisation have argued that in a democracy, the accountability of governments to voters is strongest at the local level, and hence when decisions about spending and taxation are made locally, they result in more transparent and responsive governments. On the other hand, there is also the subsequent literature that identified difficulties with mobile factors of production, equity concerns and capacity constraints. These arguments suggest that some types of revenues are better collected at the local level as a result of less mobile tax bases than others.

6.   The problems of measuring fiscal decentralisation and comparing the degree of decentralisation across countries are complex and widely discussed. The most frequently utilised measure of fiscal decentralisation is the share of a country's total tax revenue raised

by its SCGs, or the share of total public expenditure attributable to SCGs. There exists, however, a substantial literature that has argued that these fiscal share measures provide very imperfect measures of fiscal decentralisation (Owens and Panella, 1991; Stegarescu, 2005; Bird, 2011; Ebel and Yilmaz, 2013; Baskaran and Feld, 2013; Blöchliger and Nettley, 2015; OECD, 2019). The basic problem is that true fiscal decentralisation requires that SCGs are fiscally autonomous. This means that they are free to decide how much revenue to raise and how to spend their available revenues. Without these capabilities, the efficiency and accountability benefits of decentralisation would be dimminished.

7.   Revenue statistics, whether from the OECD's databases or from country-specific budget documents, indicate the level of government to which revenues are attributed, but provide no indication of whether those governments have the power to define the tax base, the tax rates, or any tax reliefs. Without these taxing powers, the tax revenues, whether from shared taxes or own-source taxes, are *functionally* equivalent to intergovernmental transfers from a higher-level government (Blöchliger and King, 2006).

8.   One of the primary goals of the OECD's measure of tax autonomy is to supplement existing revenue statistics by allowing analysts to assess SCG revenues in terms of the tax autonomy of the governments raising that revenue. Within the OECD, there is a great deal of variation in the share of total tax revenue raised by local governments. For example, the share of tax revenues raised by local governments is 36.9 percent of total government tax revenues in Sweden, but only 1.7 percent in Mexico. Combining data on tax autonomy with statistics on the share of tax revenue raised by local government provides a comprehensive picture of the overall taxing power of local governments. By repeating the analysis of tax autonomy on a regular basis, it is possible to explore trends in the taxing power of SCGs, and to identify countries that are enhancing fiscal decentralisation by removing restrictions on subnational taxing power.

9.   A complete picture of the fiscal autonomy of sub-central governments also requires an assessment of expenditure assignments among levels of government and an evaluation of the spending autonomy of sub-central governments. Over the past decade the OECD has initiated both conceptual and empirical research on the spending power of sub-central governments (Bach et al., 2009; OECD/KIPF, 2016; Dougherty and Phillips, 2019; Kantorowicz et al., 2020). This line of research is ongoing within the Fiscal Network.

3. Measuring tax autonomy

10.   The first effort by the OECD to measure the tax autonomy of SCGs used data for the year 1995 from a survey of 19 OECD countries (OECD, 1999). The taxonomy that the OECD developed to assess the degree of tax autonomy was modified when the analysis was updated using data from 2002 and the sample became larger (Blöchliger and King, 2006). The modified taxonomy (discussed below in Section 4) has been used in all the updates since then.[2]

11.   The OECD taxonomy is displayed in Table 1. The characterisation of tax systems in terms of tax autonomy is inherently complex. Within any given country, there are many tax attributes, and numerous institutional and administrative details that help define the taxing power of SCGs. In developing the taxing power taxonomy, the OECD has tried to capture the essence of tax autonomy in a handful of indicator codes.

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2. For the 2014 survey, three "c" codes were combined into a single "c" code.

12.   The codes listed in Table 1 are arranged in decreasing order of tax autonomy. The "a" codes characterise taxes for which SCGs can determine tax revenue by setting tax rates and defining other attributes of the tax, such as exemptions and credits that influence the amount of tax revenue generated by the tax. The "b" codes are assigned in cases where higher level governments control tax attributes, such as the definition of tax bases and tax credits, but state and local governments have complete, or partial freedom to set tax rates. If SCGs can set tax rates for any given tax but have no control over various tax reliefs associated with that tax, code "b1" is utilized. The code "b2" is used in cases where state and local governments can set rates within a range determined by a higher level of government. The "c" code applies when SCGs have no control over tax bases or rates, but are given freedom to set tax credits, exemptions, or abatements, collectively referred to as tax reliefs. The c code is infrequently used.

Table 1. OECD Taxonomy of Taxing Power

a1	- The recipient SCG sets the tax rate and any tax reliefs without needing to consult a higher-level government.
a2	- The recipient SCG sets the rate and any reliefs after consulting a higher-level government.
b1	- The recipient SCG sets the tax rate, and a higher-level government does not set upper or lower limits on the rate chosen.
b2	- The recipient SCG sets the tax rate, and a higher-level government does sets upper and/or lower limits on the rate chosen.
c	- The recipient SCG sets tax reliefs
d1	- There is a tax-sharing arrangement in which the SCGs determine the revenue split.
d2	- There is a tax-sharing arrangement in which the revenue split can be changed only with the consent of SCGs.
d3	- There is a tax-sharing arrangement in which the revenue split is determined in legislation, and where it may be changed unilaterally by a higher-level government, but less frequently than once a year.
d4	- There is a tax-sharing arrangement in which the revenue split is determined annually by a higher-level government.
e	- Other cases in which the central government sets the rate and base of the SCG tax.
f	- None of the above categories a, b, c, d or e applies.

Note: SCG refers to sub-central government. The taxonomy is applied separately to state/regional and local governments.
Source: Blöchliger and King (2006).

13.   The "d" codes are used for various types of *tax sharing* schemes. Under a tax-sharing scheme, tax revenue is levied and collected by a higher-level government, and a specified share of the revenue collected is shared with SCGs. Blöchliger and Petzold (2009) suggest that a strict definition of tax sharing requires "individual proportionality", by which they mean that shared revenues are allocated to the SCGs from where the revenues were generated. However, under the definition of tax sharing used as part of the OECD tax autonomy taxonomy, tax sharing systems can be explicitly equalising. With an equalising tax sharing system, the share of total shared tax revenues allocated to SCGs with a low level of resources is increased, while the share going to SCGs with a high level of resources is reduced.

14.   The four "d" sub-codes indicate different arrangements for determining which government sets the sharing parameters, e.g. 50 percent of revenue to the central government, 30 percent to state governments and 20 percent to local governments. The

code "d1" is used when SCGs determine the revenue split. However, in the latest tax autonomy survey, no country used the "d1" code. Code "d2" is used in cases where SCGs must approve changes to the revenue split. Codes "d3" and "d4" are used when revenue splits are determined unilaterally by a higher-level government, either annually or less frequently. The "e" code is for taxes over which SCGs have no autonomy. The "f" code is only used when none of the other codes are appropriate. Fortunately, the f code is rarely used.

15.   Representatives of each OECD member country are sent an Excel spreadsheet containing the most recent available tax revenue data for their country from the OECD's *Revenue Statistics* series, in the framework provided by that publication and the OECD *Interpretative Guide*. Tax revenues are provided separately for state/regional and local governments for each type of tax as defined by the OECD tax revenue classification scheme. Representatives of each country are then asked to fill in the appropriate tax autonomy code for each tax for which revenue data are provided.

16.   Once the codes have been assigned and the Excel files returned to the OECD, the information for each country is summarized by calculating the share of total tax revenue by level of government (state or local) that is assigned to each tax autonomy code. For example, in 2014, 28.1 percent of Italy's local government tax revenue was assigned code "a1", 71 percent code "b2", and 0.9 percent code e.

4. The use of the OECD's tax autonomy analysis

17.   The motivation of the OECD tax autonomy indicators is fundamentally very broad, with its essential purpose to provide a means for countries to assess their own tax policy reforms over time in a rigorous and standardised way, as well as to compare themselves with other countries. Since 1999, scholars have used the results of the OECD tax autonomy analysis in analytic studies of various aspects of SCG finance. A central focus of several of these papers is the impact of fiscal decentralisation on economic growth, or efficiency. The basic argument made by these papers is that in assessing fiscal decentralisation, it is very important to consider the extent to which SCGs have control over their own tax instruments. Several papers use the results of OECD analyses of taxing power to re-examine the relationship between fiscal decentralisation and economic growth.

18.   Ebel and Yilmaz (2003) criticise the literature that purports to measure the impact of fiscal decentralisation on economic stability, economic growth, and the size of the public sector. They argue that commonly-used measures of fiscal decentralisation, such as the share of revenue raised by sub-national governments, are imperfect because they fail to account for the discretion, or lack of it, that sub-national governments have over the rates and other characteristics of sub-national revenue sources. They employ results from the 1999 OECD study of tax autonomy to demonstrate that conclusions about the macroeconomic impacts of fiscal decentralisation are highly sensitive to the way decentralisation is measured.

19.   Meloche, Vaillancourt, and Yilmaz (2004) use data on tax autonomy collected as part of fiscal surveys conducted by the OECD of several Central and Eastern European countries (see OECD, 2002). They conclude that fiscal decentralisation, as measured by the degree of revenue autonomy of subnational governments, is positively related to the rate of economic growth. In a similar vein, Stegarescu (2005) uses revenue data for 23 OECD member countries and data from the OECD's 1999 tax autonomy study to show that most previous studies overestimated the extent of fiscal decentralisation. He also provides

evidence that accounting for tax autonomy, fiscal decentralisation increased in the majority of OECD countries between 1965 and 2001. Further discussions of tax autonomy in several OECD countries can be found in Kim, Lotz, and Mau (2015).

20.   The OECD's 1999 tax autonomy results also provide the basis for a paper by Thornton (2007). He points out that fiscal decentralisation in OECD countries was overstated in studies of the macroeconomic effects of decentralisation because no account was taken of the taxing power of sub-national governments. When fiscal decentralisation is measured using only revenues over which sub-national governments have full autonomy, Thornton finds no statistically significant relationship between decentralisation and the rate of economic growth. Baskaran and Feld (2013) build on the work of Stegarescu and Thornton, developing a panel data set of OECD countries over the period 1975 to 2008. They find that in regression analysis that takes account of tax autonomy, fiscal decentralisation has a negative impact on economic growth. However, once they account for endogeneity, they find that the apparent negative relationship is unlikely to be robust.

21.   Country-specific studies have also found mixed effects of tax autonomy measures, perhaps partially because reform outcomes may feed back into the decentralisation process. Empirical studies carried out by the OECD that take account of potential endogeneity issues (OECD/KIPF, 2018) have found more robust positive results for revenue decentralisation, although the marginal effect of further decentralisation is estimated to vary by country to a large degree, reflecting the degree of *de facto* decentralisation of revenue responsiblilities. Moreover, in a study of drivers of public investment, Blöchliger et al. (2013) find evidence of threshold effects, with larger effects on public investment from more tax autonomy.

22.   More consistent results have been found for the effects of tax autonomy on within-country interregional convergence, with Bartolini et al. (2016) and Blöchliger et al. (2016) finding that devolving tax autonomy helps to reduce regional inequities, particularly when combined with a reduced vertical fiscal imbalance. Looking at effects across the income distributuion, Stossberg and Blöchliger (2017) find that tax autonomy disproportionately benefits the middle class. And in a study on the financing of education, Vermeulen (2018) uses the results of the OECD tax autonomy analysis to analyse the role of local taxation in the funding of public education, while Dougherty et al. (2019) find that more sub-national tax autonomy has a positive effect on educational outcomes.

23.   Other fiscal outcomes have also been examined. Baskaran (2012) and Van Rompuy (2016) use the OECD tax autonomy data to investigate the relationship between tax autonomy, fiscal decentralisation, and the magnitude of general government deficits. Baskaran's results are based on a panel regression study of 23 OECD countries over the 1975-2000 period. His results indicate a non-linear relationship between sub-national tax autonomy and the size of deficits. In countries with low levels of tax autonomy, an increase in autonomy results in smaller deficits. However, above some level of tax autonomy, additional autonomy leads to larger deficits. Using data for 27 OECD countries covering the period from 1995 to 2008, Van Rompuy finds that sub-national tax autonomy enhances the fiscal sustainability of sub-national governments. Finally, papers by Blöchliger and Petzold (2009), Bodman and Hodge (2010) and Bodman (2011) use the OECD tax autonomy results to address a range of other fiscal issues.[3]

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3. Martinez-Vazquez et al. (2017) survey additional studies that examine the effects of tax autonomy on fiscal discipline and/or macroeconomic stability, finding mixed results.

5. Tax autonomy in OECD member countries: latest update

Trends in sub-central government tax revenues

24.   Sub-central governments raise a significant share of total tax revenues in OECD countries, in both unitary and federal systems and have also been relatively stable across time as a share of GDP (Figure 2), in contrast with central government revenues, which show greater fluctuation across time.

25.   In OECD countries with a federal structure,[4] approximately one-quarter of total tax revenues were received by subnational governments between 1995 and 2016. Approximately two-thirds of these were received by state governments and one-third by local governments. Another quarter of revenues were received by social security funds, with the remaining half of total revenues was received by central governments. Across the period, local revenues have remained steady at between 2.3 and 2.5% of GDP, while state revenues have increased from 4.5% of GDP to 5.5% of GDP (Figure 2, left-hand panel).

26.   The share of subnational revenue in OECD countries with a unitary structure is smaller, on average, than in federal countries: local government revenues amount to between 10.7% and 12.2% of total tax revenues across the period (3.6% and 4.2% of GDP), showing a slow and relatively steady increase across the period. Federal taxes accounted for 65% of total tax revenues (around 22% of GDP).

Figure 2. Average shares of tax revenue by government sector in OECD countries (% of GDP)

■State/Regional   ■Local government   ■Federal or Central government   ■Social Security Funds   ■Supranational
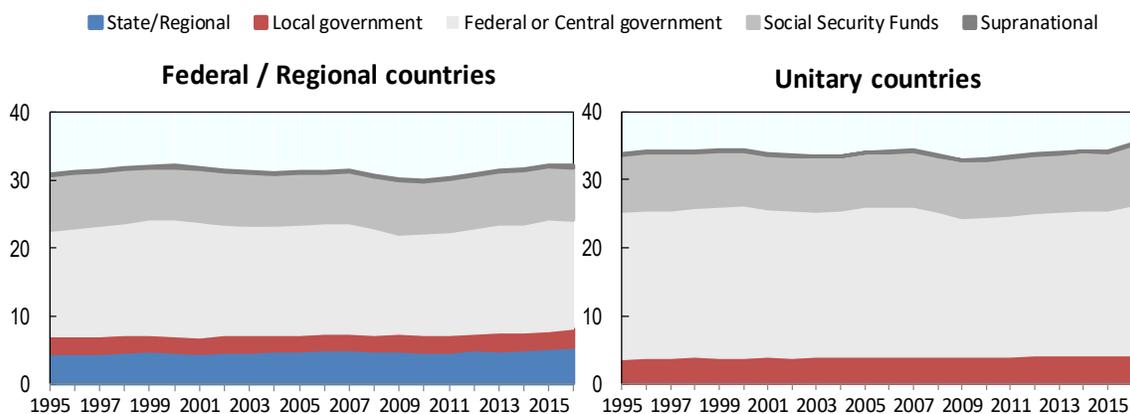
Source: OECD Revenue Statistics (OECD, 2018).

27.   These averages conceal much inter-country variation within each group. Among OECD countries with a federal structure, subnational governments received between 0.9% and 16.4% of GDP (Mexico and Canada, respectively) in 2016 and between 5% and 50% of total tax revenues (Austria and Canada, respectively) (Figure 3). Among unitary countries, local governments received revenues ranging from less than 1% of GDP in

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4. Nine OECD countries have a federal structure: Australia, Austria, Belgium, Canada, Germany, Mexico, Spain, Switzerland and the United States. All other OECD countries are treated as unitary: Chile, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Sweden, Turkey and the United Kingdom.

Estonia, the Czech Republic, Ireland, the Slovak Republic and Greece to over 10% of GDP in three Nordic countries. Among unitary countries, Sweden and Denmark raise the highest amount of revenue from sub-national governments (15.6% and 12.2% of GDP, respectively). The distribution of subnational revenues among unitary countries is skewed: in 2016, nine countries had higher levels of local government revenue as a share of GDP than the unitary average, whereas 18 countries had a lower share.

Figure 3. Revenue shares by government sector in OECD countries, 2016 (% of GDP)
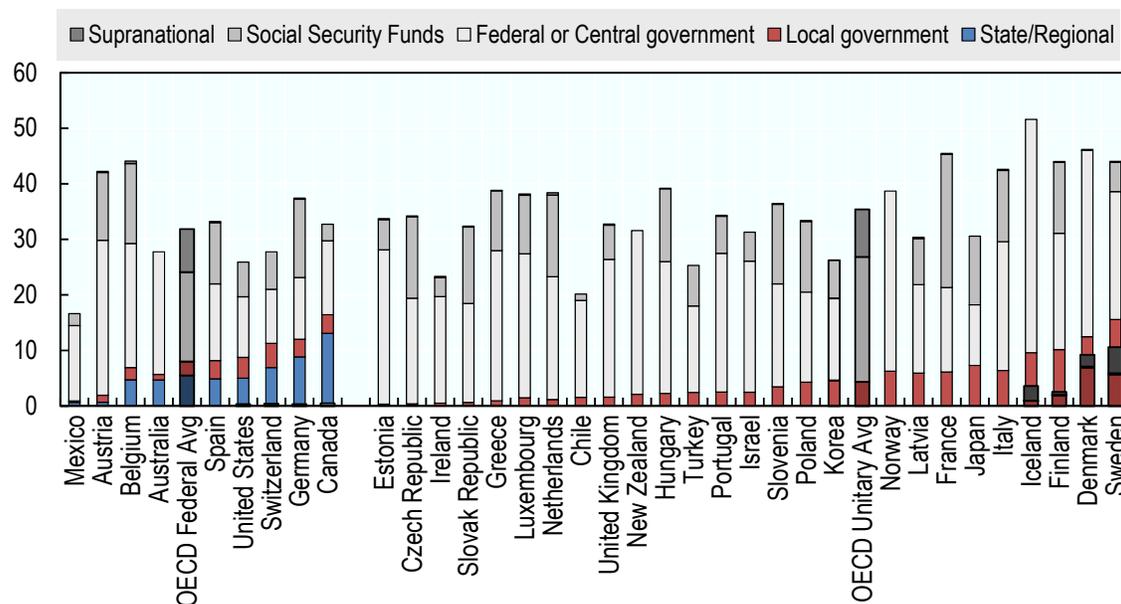
Note: The OECD averages used in Figure 3 are unweighted averages. Countries grouped on the left are Federal or Regional, while those grouped on the right are Unitary.
Source: OECD Revenue Statistics (OECD, 2018).

28.   Predominant sources of subnational revenues in OECD countries include income taxation (both personal and corporate), payroll taxes, property taxes, and taxes on goods and services, as shown in Figure 4. In 2016, subnational governments in federal countries raised the largest share of their revenues from income taxes (2.3% of GDP for state governments and 0.8% for local governments, on average), with another significant share derived from taxes on goods and service taxes (1.6% of GDP at state level and 0.3% for local level) (Figure 4, left-hand panel). In 2016, taxes on property formed the largest source of local government revenues in federal countries; and subnational property tax revenue was considerably higher than at the federal level.

29.   In unitary countries, local governments received the greatest share of their revenues from income taxes (2.5% of GDP in 2016, on average), with smaller shares derived from property taxes and taxes on goods and services. In neither group of countries do subnational governments receive social security contributions, which are almost exclusively collected by social security funds.

Figure 4. Shares of revenue by government sector and tax category, 2016 (% of GDP)
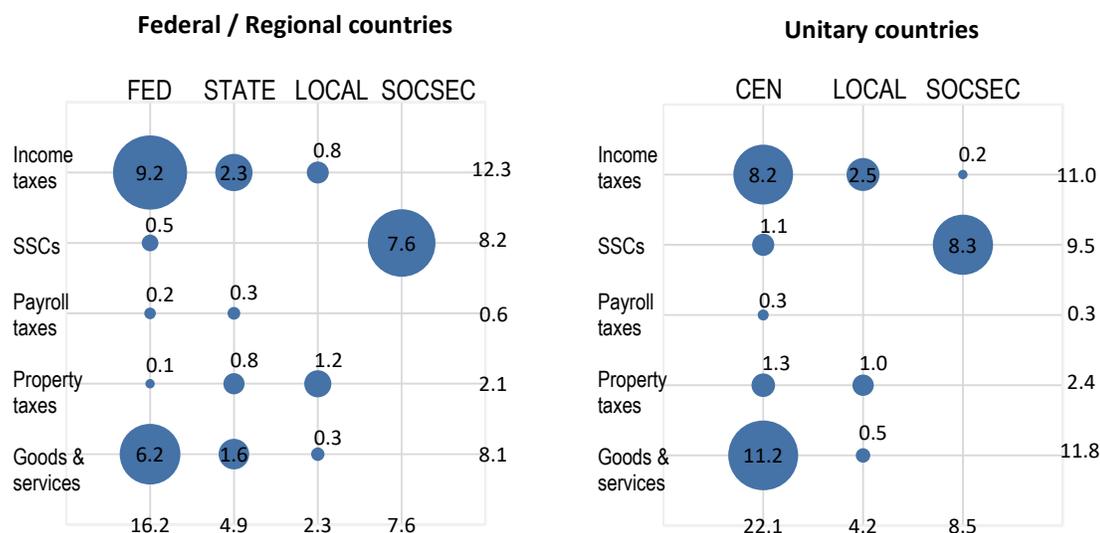
Notes: CEN/FED = Central or Federal government; STATE = State or regional government (TL2 level); LOCAL = Municipal level; SOCSEC = Social Security funds.
Source: OECD Revenue Statistics (OECD, 2018).

30.   Figure 5 shows a breakdown of subnational tax revenues for each country in 2016, divided into revenues received by state governments (upper panel, federal countries only) and local governments (lower panel). Taxes on income, profits and capital gains were the most significant source of state revenues in Austria, Belgium, Canada, Germany, Spain, and Switzerland; also other sources of tax revenues can be considerable (notably, property taxes in Belgium and taxes on goods and services in Canada and Germany).

31.   At the local level, taxes on property formed the largest share of subnational revenues in half of the OECD in 2016 and represented more than 90% in Australia, the United Kingdom, Canada, Israel and Ireland.[5] Income taxes were the predominant source of local government revenues in 12 countries (and over 75% of subnational revenues in Denmark, Finland, Germany, Iceland, Latvia, Luxembourg, Norway, Slovenia, Sweden, Switzerland). Payroll taxes form the largest share of revenues in Austria, whereas taxes on goods and services provide the biggest revenue share in Chile, Hungary, Italy and Turkey.

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5. Although local governments in most unitary countries rely on property tax revenues, the share of income tax revenues (Figure 4, right panel) was still higher on average. This is due to the comparatively high level of income taxes in the countries in which they are used and the fact that countries with a high share of income tax revenue tend to have higher overall levels of subnational revenues, whereas countries with high shares of property tax revenues tend to have low levels of subnational revenues (Figure 3).

Figure 5. Shares of revenue by tax category, 2016 (% of subnational revenues)

State governments (federal countries only)

Local governments (federal & unitary countries) – by income, SSC, property and G&S taxes
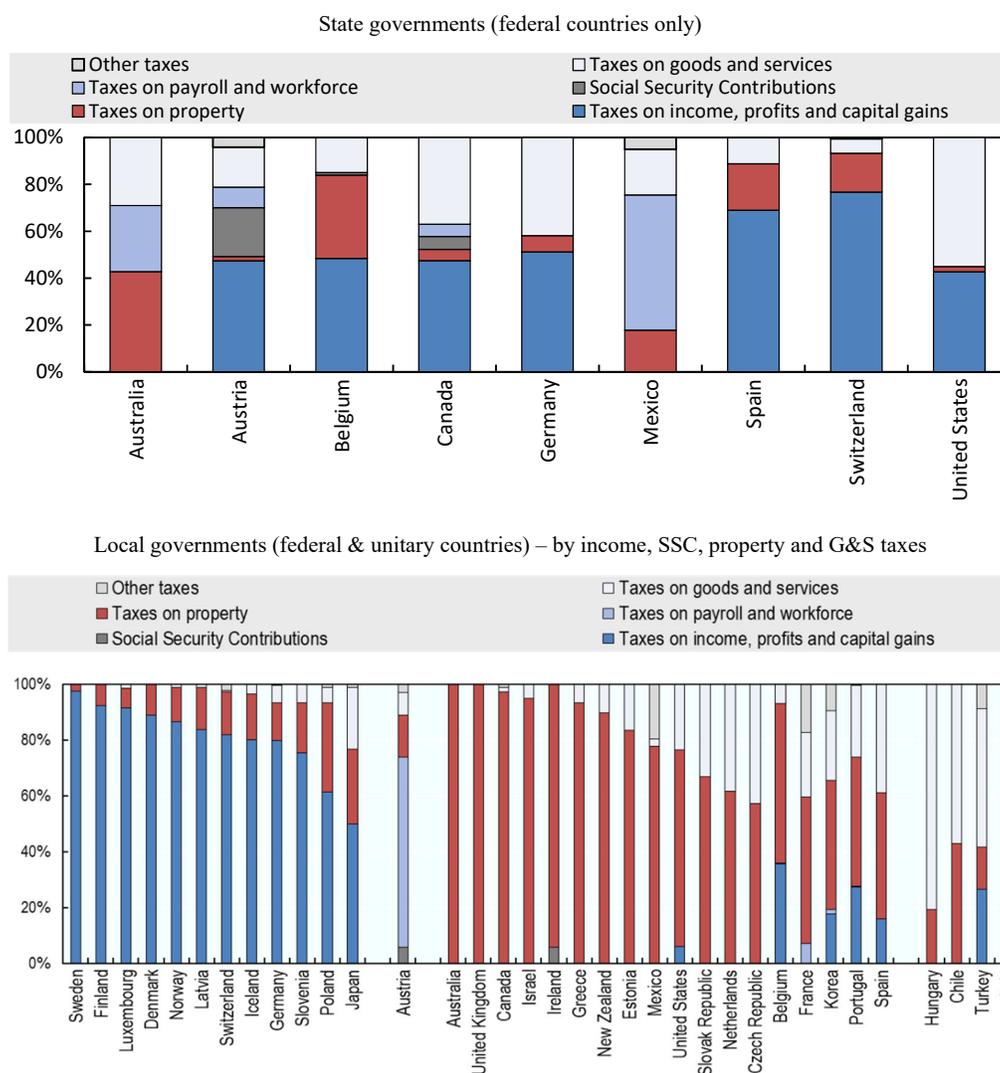
Source: OECD Revenue Statistics (OECD, 2018)

Taxing power of state and local governments in the 2017 exercise

32.   The most recent tax autonomy survey was conducted in 2017. The results of the survey are presented in Table 2 and are based on final revenue data for 2014.[6] The first two columns provide data on state and local government revenue as a percentage of GDP and as a percentage of total government tax revenue, respectively.

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6. Summary tables reporting the results of the six tax autonomy analyses conducted between 1995 and 2014 are included in the OECD's fiscal decentralization database. They can be accessed through OECD.Stat at https://stats.oecd.org/Index.aspx?DataSetCode=TAXAUTO.

33.   On average, state or regional governments have a higher degree of tax autonomy than local governments. State/regional governments on average have full discretion (a1) over 70 percent of their tax revenue. Another 15 percent of their revenues come from shared taxes, where state governments' consent to the sharing ratio is required (d2). In contrast, local governments, on average, have full or close to full autonomy over only 13 percent of their revenue (a1 or a2). Nevertheless, local governments retain on average discretion, subject to some limitations, over an additional 62 percent of tax revenues (b1 or b2).

34.   A quick glance at Table 2 and Figure 6 shows that tax autonomy varies substantially across OECD countries and by level of government. Of the nine OECD countries with state or regional governments, seven have a very high degree of tax autonomy. In three federal countries – Australia, Switzerland, and the United States – state governments have full autonomy over 100 percent of their tax revenue. In another three countries, over 90 percent of revenue is classified as fully autonomous, and in one additional country the share that is fully autonomous is over 80 percent. In Austria, state governments have full autonomy over only a third of their tax revenue, while they have no autonomy (e) over nearly half of their revenue. In Germany, nearly all of the revenue of the *Länder* come from shared taxes allocated with the approval of the *Länder* (d2). Finally, in Italy, regional governments' revenue is split evenly between revenues raised with some restrictions (b2) and shared revenues (d2).

Table 2. Taxing power of sub-central governments in OECD member countries, 2014

	Sub-central tax revenue		As share of sub-central tax revenues											
	As % of GDP	As % of total tax revenue	Discretion on rates and reliefs		Discretion on rates		Discretion on reliefs	Tax sharing arrangements				Rates and reliefs set by CG	Other	Total
			Full	Restricted	Full	Restricted		Revenue split set by SCG	Revenue split set with SCG consent	Revenue split set by CG, pluriannual	Revenue split set by CG, annual			
			(a1)	(a2)	(b1)	(b2)	(c)	(d1)	(d2)	(d3)	(d4)	(e)	(f)	
Australia	**5.6**	**20.1**												
States	4.6	16.6	100.0	-	-	-	-	-	-	-	-	-	-	100.0
Local	1.0	3.5	100.0	-	-	-	-	-	-	-	-	-	-	100.0
Austria	**2.0**	**4.6**												
Länder	0.7	1.6	33.4	-	-	-	-	-	-	5.8	-	46.4	14.3	100.0
Local	1.3	3.1	9.7	-	-	15.1	-	-	-	-	-	64.7	10.4	100.0
Belgium	**4.5**	**9.9**												
States	2.4	5.3	95.4	-	-	-	-	-	1.5	-	-	3.1	-	100.0
Local	2.1	4.6	8.2	-	91.5	-	-	-	-	-	-	0.3	-	100.0
Canada	**15.4**	**49.5**												
Provinces	12.2	39.1	96.7	-	-	-	-	-	3.3	-	-	-	-	100.0
Local	3.2	10.4	1.6	-	95.6	-	-	-	-	-	-	1.1	1.7	100.0
Chile	**1.5**	**7.6**												
Local	1.5	7.6	-	-	15.7	26.3	-	-	-	57.9	-	-	0.1	100.0
Czech Republic	**0.4**	**1.2**												
Local	0.4	1.2	-	-	-	100.0	-	-	-	-	-	-	-	100.0
Denmark	**12.2**	**25.1**												
Local	12.2	25.1	-	-	88.7	11.3	-	-	-	-	-	-	-	100.0

			(a1)	(a2)	(b1)	(b2)	(c)	(d1)	(d2)	(d3)	(d4)	(e)	(f)	
Estonia	**0.4**	**1.1**												
Local	0.4	1.1	8.0	-	-	85.1	-	-	-	6.9	-	-	-	100.0
Finland	**10.3**	**23.5**												
Local	10.3	23.5	-	-	86.1	7.1	-	-	-	-	6.7	0.1	0.0	100.0
France	**5.9**	**13.0**												
Local	5.9	13.0	45.6	-	15.9	3.2	0.2	0.0	-	-	14.2	19.2	1.7	100.0
Germany	**11.3**	**30.8**												
Länder	8.3	22.6	-	-	3.9	-	-	-	92.7	-	-	-	3.4	100.0
Local	3.0	8.2	-	-	14.4	41.6	-	-	42.5	-	-	-	1.4	100.0
Greece	**0.9**	**2.5**												
Local	0.9	2.5	-	-	-	92.8	-	-	-	-	-	7.2	-	100.0
Hungary	**2.2**	**5.6**												
Local	2.2	5.6	-	-	-	95.7	-	-	-	-	4.1	0.2	0.1	100.0
Iceland	**9.5**	**24.5**												
Local	9.5	24.5	-	-	-	99.2	-	-	-	-	-	-	0.8	100.0
Ireland	**0.8**	**2.8**												
Local	0.8	2.8	-	-	-	91.5	-	-	-	-	-	-	8.5	100.0
Israel¹	**2.5**	**8.2**												
Local	2.5	8.2	-	-	-	-	-	-	-	-	-	95.1	4.9	100.0
Italy	**7.2**	**16.5**												
Regions	4.6	10.6	-	-	-	50.2	-	-	47.2	2.6	-	-	-	100.0
Local	2.6	5.9	28.1	-	-	71.0	-	-	-	-	-	0.9	-	100.0
Japan	**7.1**	**23.4**												
Local	7.1	23.4	-	0.1	58.4	26.2	-	-	-	-	-	15.2	-	100.0
Korea	**4.2**	**16.9**												
Local	4.2	16.9	-	-	-	83.1	-	-	-	-	-	16.0	1.0	100.0
Latvia	**5.6**	**19.5**												
Local	5.6	19.5	0.0	-	-	14.4	-	-	-	85.6	-	0.0	0.0	100.0
Luxembourg	**1.2**	**3.3**												
Local	1.2	3.3	6.3	-	-	89.3	-	-	-	-	-	0.9	3.5	100.0
Mexico	**0.9**	**6.4**												
States	0.7	4.7	82.3	-	17.7	-	-	-	-	-	-	-	-	100.0

			(a1)	(a2)	(b1)	(b2)	(c)	(d1)	(d2)	(d3)	(d4)	(e)	(f)	
Local	0.2	1.7	-	100.0	-	-	-	-	-	-	-	-	-	100.0
Netherlands	**1.4**	**3.8**												
Local	1.4	3.8	-	-	67.6	32.4	-	-	-	-	-	-	-	100.0
New Zealand	**2.2**	**6.7**												
Local	2.2	6.7	99.3	-	-	-	-	-	-	-	-	0.7	-	100.0
Norway	**5.4**	**13.9**												
Local	5.4	13.9	-	-	-	98.7	-	-	-	-	-	1.3	-	100.0
Poland	**4.1**	**12.9**												
Local	4.1	12.9	-	-	-	30.1	-	-	-	59.0	-	3.6	7.3	100.0
Portugal	**2.5**	**7.2**												
Local	2.5	7.2	-	-	-	76.3	-	-	-	8.1	-	15.5	0.1	100.0
Slovak Republic	**0.8**	**2.7**												
Local	0.8	2.7	4.0	-	-	95.7	0.2	-	-	-	-	-	-	100.0
Slovenia	**3.9**	**10.6**												
Local	3.9	10.6	15.0	-	-	-	-	-	-	-	77.2	7.6	0.3	100.0
Spain	**8.0**	**23.6**												
Regions	4.6	13.6	92.1	-	-	4.5	-	-	3.0	-	-	0.4	-	100.0
Local	3.4	10.0	30.0	-	-	51.0	-	-	18.0	-	-	0.8	0.2	100.0
Sweden	**15.7**	**36.9**												
Local	15.7	36.9	-	-	97.5	-	-	-	-	-	-	2.5	-	100.0
Switzerland	**10.8**	**39.9**												
States	6.7	24.7	100.0	-	-	-	-	-	-	-	-	-	-	100.0
Local	4.1	15.3	2.5	-	-	97.5	-	-	-	-	-	-	-	100.0
Turkey	**2.3**	**9.4**												
Local	2.3	9.4	-	-	-	-	-	-	-	80.4	-	19.6	-	100.0
United Kingdom	**1.6**	**4.9**												
Local [2]	1.6	4.9	-	-	96.3	1.1	-	-	-	-	2.6	-	-	100.0
United States	**8.7**	**33.7**												
States	5.1	19.7	100.0	-	-	-	-	-	-	-	-	-	-	100.0
Local [3]	3.6	14.1	-	-	-	-	-	-	-	-	-	-	100.0	100.0

			(a1)	(a2)	(b1)	(b2)	(c)	(d1)	(d2)	(d3)	(d4)	(e)	(f)	
Unweighted averages															
Sub-central governments [4]	5.1	14.7													
States [5]	5.0	15.8	70.0	-	2.2	5.5	-	-	14.8	0.8	-	5.0	1.8	100.0
Local	3.7	10.4	10.2	2.9	20.8	41.0	0.0	0.0	1.7	8.5	3.0	7.8	4.1	100.0

Note: 1) The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

2) According to SNA definitions, sub-central regions in the United Kingdom are not considered as one of the two official levels of subnational government.

3) Local governments in the United States have a wide variety of taxing powers but it has not been possible to identify the share of each, in the current database.

4) This unweighted average applies to the sub-central revenue shares in the 35 OECD countries.

5) This unweighted average applies only to the 10 countries reporting state or regional data. Italy and Spain are considered as regional countries for the purpose of the tax autonomy indicators.

Note: This is the classification used in the data collection exercise but there may be a need for clarification in the future. For example, the sub-division of the "c" category cannot be applied to sales taxes (including VAT) where the concepts of allowances and credits (in the sense that they are used in income taxes) do not exist. Also, it may be more appropriate to qualify the definition of the "d.3" category to say that the change is normally less frequent than once a year, as specific legal restrictions on frequency may not exist.

Source: OECD Fiscal Decentralisation database (OECD, 2019).

Figure 6. Tax autonomy in OECD countries

(subnational taxes as % of total taxation)

Federal & regional countries on the left; unitary countries on the right
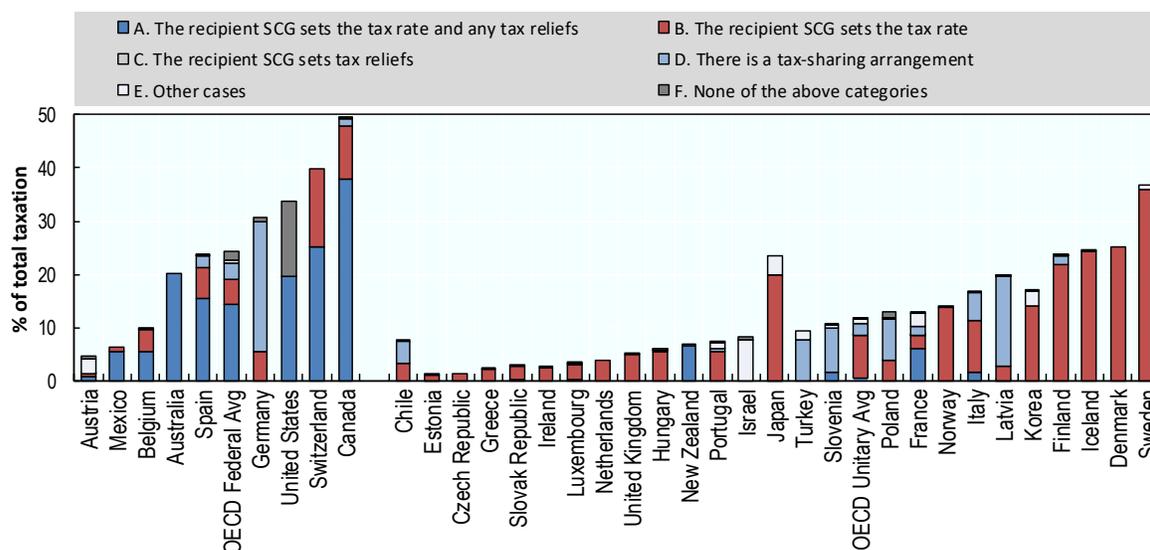
Source: OECD Fiscal Decentralisation database (OECD, 2019).

35.   Of the 35 OECD countries listed in Table 2, only local governments in Australia, Mexico and New Zealand have full tax autonomy (100 percent of tax revenue classified as a1 or a2). However, local governments in an additional 16 countries have a substantial amount of tax autonomy, with at least 85 percent of their tax revenue classified as either b1 or b2. In contrast, local governments in both Austria and Israel have very limited tax autonomy. In Austria, local governments have no discretion (e) over nearly two-thirds of their tax revenue. In Israel, local governments have very limited discretion over 95 percent of their tax revenue. Local governments in five other countries (Chile, Latvia, Poland, Slovenia, and Turkey), rely on shared tax revenue over which they have no control (d3 or d4) for over half of their local tax revenue.

36.   As mentioned above, the share of total tax revenue that is raised by SCGs has been criticised as a measure of fiscal decentralisation because it takes no account of the tax autonomy of SCGs. Blöchliger and King (2006) propose as a "composite indicator of fiscal autonomy" the product of the share of SCG revenue that is considered as autonomous and the SCG share of total tax revenue.

37.   In their paper, Blöchliger and King define autonomous taxes as those over which SCGs have "discretion over rates and reliefs." They operationalise this definition as tax revenue coded as a1, a2, b1, or b2. Because tax revenues coded as b2 are subject to some restrictions imposed by higher-level governments, we refer to the Blöchliger-King definition as *partial tax autonomy*.

38.   Figure 7 shows a scatter plot of Blöchliger and King's composite indicator of fiscal autonomy applied to local governments using the 2014 tax autonomy data presented in Table 2. Countries are ordered on the horizontal axis according to their share of total tax revenue raised by local governments. The vertical axis represents the value of each country's partial tax autonomy composite index. For countries, in which 100 percent of

local government tax revenue is coded as a1, a2, b1 or b2, the composite index is identical to the country's share of total tax revenue raised by its local governments and it is represented on the diagonal axis of Figure 7 (diagonal line not shown). Countries that are displayed below the diagonal axis have limited tax autonomy. For example, while 8.2 percent of total tax revenue in Israel is collected by local governments, local governments have no discretion over rates, and thus Israel's composite tax autonomy index is equal to zero. In Latvia, where 19.4 percent of total tax revenue is raised by local governments, but only 14.4 percent of that amount is considered partially autonomous, the composite index has a value of 2.8 percent (14.4% of 19.4%). As a final example, 13 percent of tax revenue in France is raised by local governments, and 64.7 percent of local tax revenue is raised from taxes over which local governments have at least partial autonomy. As a result, France's composite index equals 8.4.

Figure 7. Partially autonomous local taxes and total local taxes as a % of total taxes, 2014
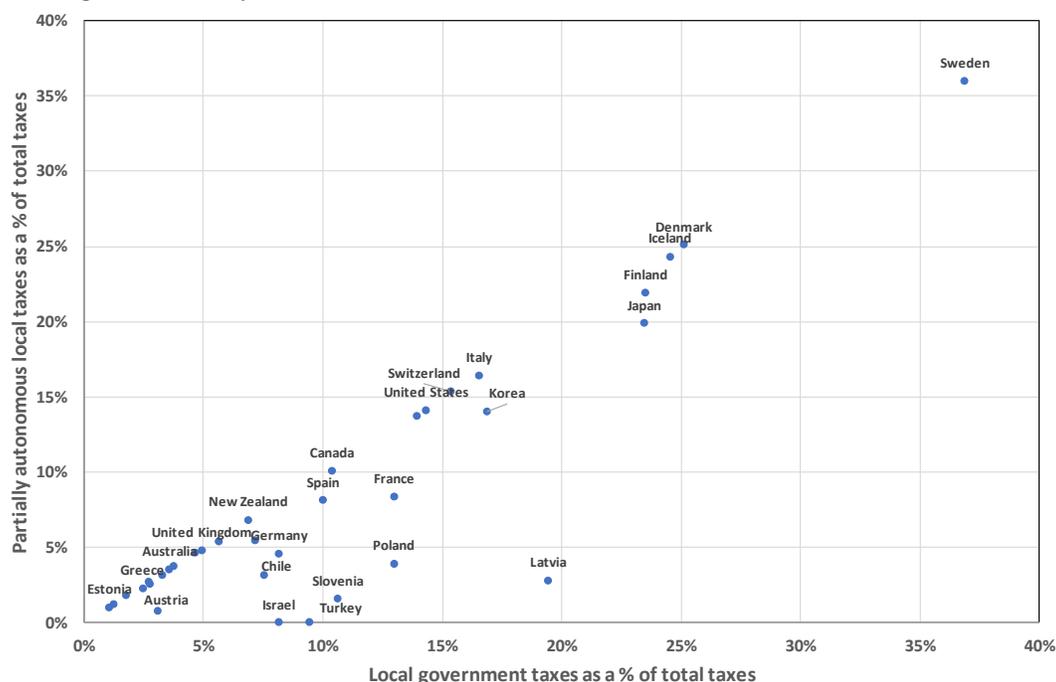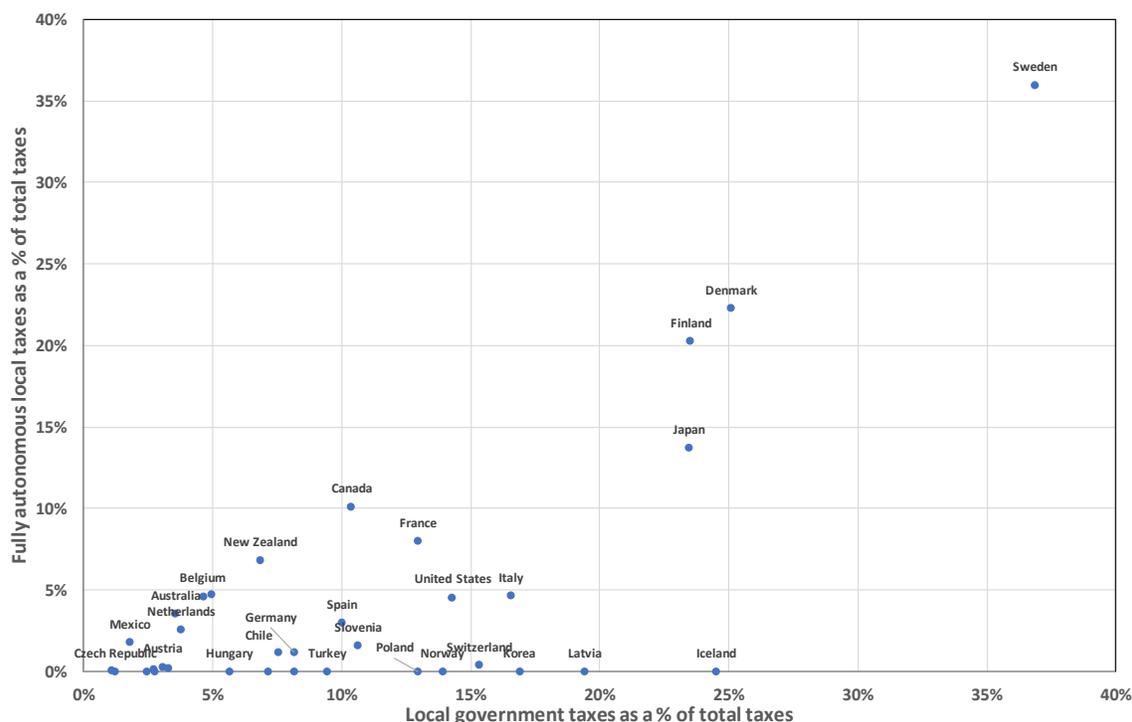

Note: Local taxes that are coded a1, a2, b1, or b2 are considered partially autonomous (see Table 2). For legibility, some country labels have been suppressed.
Source: Authors' calculations.

39.   The number of countries that appear below the diagonal obviously depends on the definition of tax autonomy. Figure 8 is based on *fully autonomous* local government taxes, which are defined as taxes coded as a1, a2, or b1. These three codes represent the highest amount of tax discretion for subnational governments. As on average, 41 percent of local government taxes in OECD countries are classified as b2, the exclusion of b2 from the definition of tax autonomy will have a large impact on the composite measure of tax autonomy. The results shown in Figure 8 are striking. Many fewer countries are on or close to the diagonal and many more countries have a composite index of tax autonomy equal to zero. Note also that three Nordic countries, Denmark, Finland and Sweden, raise a very high proportion of total taxes through local government taxation and at the same time retain full autonomy over their local tax systems.

Figure 8. Fully autonomous local taxes and total local taxes as a % of total taxes, 2014
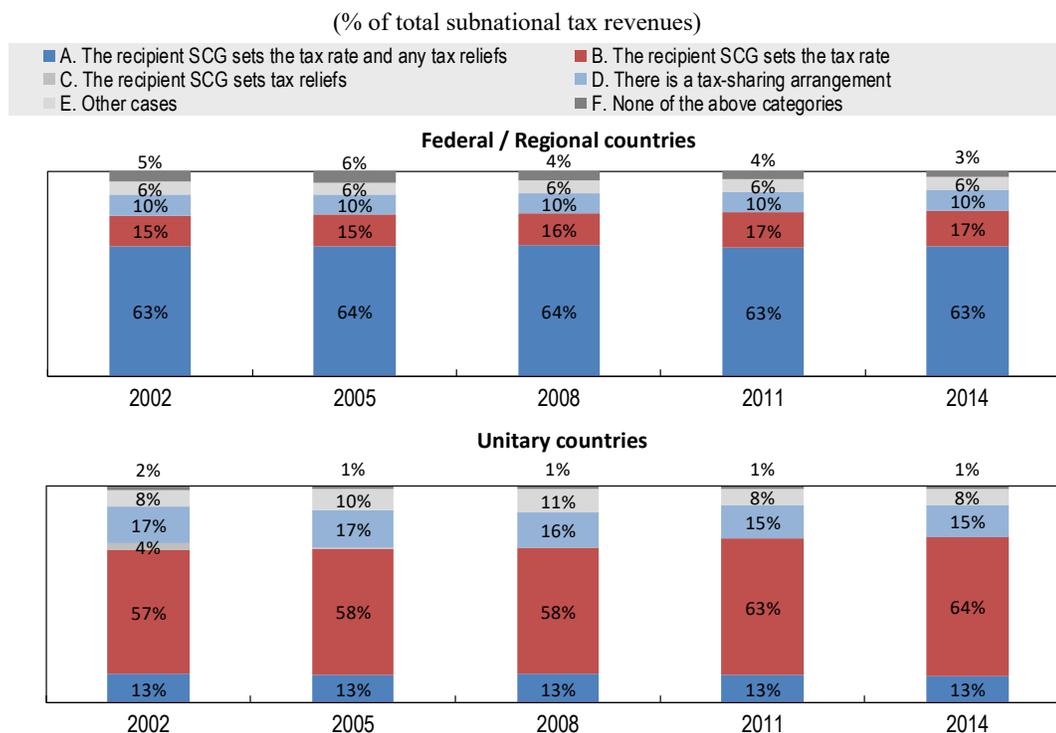

Note: Local taxes that are coded a1, a2, or b1 are considered fully autonomous (see Table 2). For legibility, some country labels have been suppressed.
Source: Authors' calculations.

Changes in tax autonomy 2002 to 2014

40.   Changes in the tax autonomy of SCGs in OECD countries can occur for two reasons. Because some taxes are much more sensitive to economic activity than other taxes, over the course of a business cycle the mix of SCG taxes is likely to change. Income tax revenues tend to vary substantially between periods of economic strength and economic weakness, while property tax revenues tend to be much more stable over the course of a business cycle. If, for example, SCGs have more discretion (taxing power) over their income taxes than their property taxes, an increase in the ratio of income tax to property tax revenues that is likely to occur during an economic boom, would be reflected in a move towards increased tax autonomy. Policy changes and decentralisation reforms can also affect tax autonomy. SCG tax autonomy can change over time if higher-level governments impose new limitations on the ability of lower-level governments to change rates or relief, or if higher-level governments choose to remove existing limits.

41.   Information on the tax autonomy of SCGs in OECD countries is available on a consistent basis from 2002 onwards. Figure 9 summarises the results of the five OECD tax autonomy analyses conducted between 2002 and 2014. The data are presented separately for federal and unitary countries.

Figure 9. Change in tax autonomy for federal and unitary countries, 2002-2014

(% of total subnational tax revenues)

■ A. The recipient SCG sets the tax rate and any tax reliefs   ■ B. The recipient SCG sets the tax rate
■ C. The recipient SCG sets tax reliefs   ■ D. There is a tax-sharing arrangement
■ E. Other cases   ■ F. None of the above categories

Federal / Regional countries

	2002	2005	2008	2011	2014
(top)	5%	6%	4%	4%	3%
	6%	6%	6%	6%	6%
	10%	10%	10%	10%	10%
	15%	15%	16%	17%	17%
	63%	64%	64%	63%	63%

Unitary countries

	2002	2005	2008	2011	2014
(top)	2%	1%	1%	1%	1%
	8%	10%	11%	8%	8%
	17%	17%	16%	15%	15%
	4%				
	57%	58%	58%	63%	64%
	13%	13%	13%	13%	13%

Source: OECD Fiscal Decentralisation database (OECD, 2019).

42.   There has been little change in the tax autonomy of federal countries between 2002 and 2014. There has been a slight decrease in the percentage of tax revenues over which subnational governments in federal countries have the ability to change both the rates and the reliefs (code a) and a corresponding increase in the share over which they have the ability to change the rates, but not reliefs (code b). For unitary governments, on average, there has been more change over time. In 2002, local governments in unitary countries had on average the ability to set the rates (but not reliefs) for 57% of subnational tax revenues. By 2014, this share had risen to 64% of subnational revenues. This increase is attributable in part to a decline in tax-sharing arrangements over this period.[7]

6. US local government tax autonomy

43.   Local governments have a long history in the United States. Prior to the American Revolution, they operated quite independently of the British government. The tenth amendment of the US Constitution, adopted in 1791, affirmed that the establishment and regulation of local governments was a matter of state rather than federal law. As a result, the structure, financing, and responsibilities of local governments differs across states.

44.   Because of the heterogeneity that characterises the US fiscal system, assessing local government tax autonomy requires a separate analysis of each state's tax system. Given the complexity of the task, all previous OECD studies of tax autonomy did not include local

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7. This observed decline in tax-sharing reflects in part changes implemented in 2014 in the system of National Accounts, which resulted in shared taxes being reclassified as grants in some OECD countries.

governments in the United States. This section reports on the results of a recent analysis of US local government tax autonomy. Additional methodological details and results can be found in Reschovsky (2019).

45.   The only detailed and comprehensive source of data on the tax revenue of local governments is the annual *State and Local Government Finances* series.[8] Those data, however, are provided on a fiscal year rather than the calendar year basis used for the OECD revenue statistics. Conversion from fiscal to calendar year is complicated by the fact that there exists no consistent definition of local government fiscal years. According to data provided by the Census Bureau, in 2012, some local governments used fiscal years ending in *every* month of the year. In reporting fiscal data for any given fiscal year, the Bureau includes the fiscal data for all local governments using fiscal years that end between July 31st of one year and June 30th of the following year. Thus, the tax revenue data reported for fiscal year 2014 includes data for local governments using fiscal years that end anywhere between July 2013 and June 2014. Consequently, each fiscal year data set can include revenues and expenditures that occurred during a 23-month reporting period.

46.   To construct the calendar year 2014 dataset used in this paper, requires the use of Census Bureau data from fiscal years 2014, 2015, and 2016. The conversion requires three steps. First, for each tax in each state, the share of tax revenue collected using each definition of fiscal year found in that state is calculated. The second step involves combining revenue data from different Census fiscal years, with the way these data are combined depending upon the definitions of fiscal years used by local governments. For example, for local government fiscal years ending in June 2015, 6 months (0.5) of FY2015 data representing July through December 2014 are combined with 6 months of FY2014 data representing January to June 2014. For local government fiscal years ending in March 2015, 9 months (0.75) of FY2015 data, representing April to December 2014, are combined with 3 months of FY2014 data, representing January to March 2014. For local government fiscal years ending in October 2015, 2 months (0.167) of FY 2016 data, representing November and December 2014, are combined with 10 months (0.833) of FY2015 data, representing January to October 2014. A graphical representation of this process can be found in Appendix A of Reschovsky (2019). The final step involves taking a weighted average of the local fiscal year-specific revenue estimates calculated in step two using as weights the revenue shares calculated in step 1. The result is a calendar year 2014 tax revenue estimate for each local government tax used in each state.[9]

47.   As shown in Table 3, in calendar year 2014 the tax revenue of US local governments totaled USD 645 billion.[10] The table lists each tax used, its OECD tax classification code, and the amount of revenue from each tax and the number of states in which local governments used each tax.

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8. These data are available for downloading at www.census.gov/programs-surveys/gov-finances.html. The dataset provides detailed local government revenue and expenditure data for the sum of all local governments in each state and for the District of Columbia.

9. These revenue estimates are not perfect, as there is no way to account for uneven patterns of revenue within a fiscal year.

10. On average, revenue from taxes account for 65 percent of the total revenue local governments raise from their own sources, i.e. excluding intergovernmental grants. However, the share of own-source revenues from taxes varies from 44% to 87% across the 50 states and the District of Columbia (US Census Bureau, 2019).

Table 3. Local government tax revenue in the United States, calendar year 2014

OECD tax classification codes	Type of tax	Local government tax revenue (in thousands of US dollars	Number of States utilizing tax
1000	Taxes on income, profits and capital gains	$39,430,561	14
1100	of individuals	$31,057,746	14
1210	of corporation profits	$8,372,815	8
4000	Taxes on Property	$470,717,457	51
4100	Recurrent taxes on immovable property	$464,241,017	51
4300	Estate, inheritance and gift taxes	$168,669	5
4400	Taxes on financial and capital transactions	$6,307,771	35
5000	Taxes on goods and services	$130,004,392	51
5100	Taxes on production, sale, transfer, etc	$112,122,747	50
5112	General sales taxes	$81,001,350	35
5120	Taxes on specific goods and services	$31,121,397	49
5121	Excise taxes	$16,882,874	45
5121, 10	Alcoholic beverage	$605,328	16
5121, 11	Tobacco products	$435,605	10
5121, 12	Public utilities	$14,500,425	45
5121, 13	Motor fuel	$1,341,516	10
5126	Taxes on specific services	$1,608,345	28
5126, L1	Amusements	$680,446	22
5126, L7	Insurance premiums	$901,101	6
5126, L2	Pari-mutuals	$26,798	11
5128	Other taxes on specific services	$12,630,178	47
5200	Taxes on use of goods and perform activities	$17,881,645	51
5210	Recurrent taxes	$17,803,820	51
5211 & 5212	Motor vehicle licenses	$1,909,781	36
5213, L6	Corporation licenses	$48,306	3
5213, L7	Alcoholic beverage license	$193,470	36
5213, L9	Amusements license	$113,584	32
5213, L8	Public utility licenses	$479,209	32
5213, L10	Occupation and business license NEC	$6,708,486	50
5213, L12	Other license taxes	$8,350,984	51
5220	Severance taxes (non-recurrent)	$77,825	11
6000	Other taxes, not elsewhere classified	$4,529,483	50
	Total taxes	$644,681,893	51

Source: Calculations using data from the US Census Bureau, Annual State and Local Government Finances, fiscal years, 2014, 2015, and 2016.

48.   The property tax is used in all 50 states plus the District of Columbia. At least some selective sales taxes (sometimes referred to as excise taxes) and license taxes are used by local governments in most states. The use of other taxes is less widespread, with general sales tax used in 35 states, the individual income tax in 14 states, and the corporate income tax in only 8 states. Figure 10 uses 2014 national totals to illustrate the share of local government tax revenue coming from each tax. The figure clearly shows the dominant role played by the property tax.

Figure 10. Local government tax revenue by type of tax, 2014
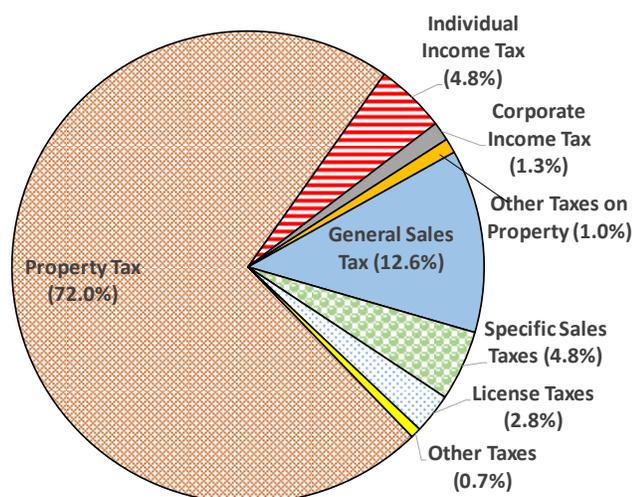
Source: Calculations from U.S. Census Bureau, Annual State and Local Government Finances, Fiscal years 2014, 2015, and 2016.

Measuring local government tax autonomy

49.   To account for a feature of the property tax found only in the United States, it was necessary to add one additional tax autonomy code to the OECD taxonomy shown in Table 1. Over the past several decades, some states have imposed annual limits on the rate of increase in the property taxes levied by some or all their local governments. To account for the reduction of tax autonomy implied by the imposition of levy limits, code "b3" has been added to the OECD taxonomy.

50.   The central task in determining US local government tax autonomy is to apply the appropriate tax autonomy code to each local government tax utilised in each state. One complication in assigning the tax autonomy codes is that within a single state, local government autonomy with regards to any given tax may differ among local governments. In some states, large cities may be granted more autonomy than smaller governments, or taxing power may be restricted when a tax is used by one type of local government, for example, independent school districts, but not when used by another type of local government, such as county governments. Our approach to this within-state heterogeneity was to assign the tax autonomy code that reflected the dominant situation (in terms of revenue). For example, if a state imposes property tax rate limitations on school districts, but not on county governments, and the school district property tax revenues exceeded that

of the county government, we assign to the property tax the code that reflected the presence of tax rate limitation.

51.   A further complication arises with respect to the treatment of local government consumptions taxes, specifically, general and specific sales taxes. With a few exceptions, when used by local governments these taxes are "local option" taxes. This means that a state legislature authorises (provides permission) for local governments to levy a tax. Although the definition of the tax base is generally specified by the legislature, only in rare cases are local governments completely free to set their own tax rates. In some states, where legislatures authorise local sales or excise taxes, they set a maximum tax rate, while in other states, any government choosing to levy a local sales tax must apply a state-specified rate.

52.   In states that authorise local government consumption taxes, these taxes are generally classified as being highly autonomous (either code "a1" or "a2") because local governments are free to decide whether to use the tax or not. The question arises about how to classify a local consumption tax that while formally a local option tax is in fact utilized by all, or nearly all, local governments within a state. For the study of US local government tax autonomy, the decision was made to classify a local tax that is levied by 90 percent or more of local governments within a state at a state-mandated rate as an "e", meaning that local governments lack autonomy with regard to that tax.[11] In cases where all or nearly all local governments levy a local option tax, but at various rates, the tax was classified as "b1" or "b2" to reflect their limited tax autonomy.

53.   The detailed information on individual taxes that provided the basis for assigning the tax autonomy codes came from a multitude of sources. For the property tax, most of the required information came from *Significant Features of the Property Tax*, a website constructed and maintained by the Lincoln Institute of Land Policy (2018). Information that described the features of other taxes had to be compiled on a state-by-state basis. The most frequent source of this information came from state government websites associated with state departments of revenue, or other state government agencies.

54.   After each tax in each state has been assigned a tax autonomy code, the share of tax revenue in each state associated with each code is tabulated, and then the state-specific results are summed over the 50 states and the District of Columbia. The results of these calculations are shown in the column labeled *United States* in Table 4. The codes are arranged from the highest degree of tax autonomy to the lowest level of autonomy. The right-hand column of the table shows the 2014 unweighted average among all OECD member countries other than the United States of the shares of local government tax revenue assigned to each tax autonomy code.

Local government tax autonomy: the United States compared with the OECD average

55.   The results in Table 4 indicate that US local governments have somewhat more tax autonomy than local governments in the average OECD country. Eighteen percent of local government tax revenue in the United States comes from taxes with the highest level of tax autonomy (codes a1 and a2). The corresponding figure in the average OECD country is 13 percent. Comparing the US results to the results from individual OECD countries (see Table 2) shows that several countries have a higher degree of local government tax

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11. Similarly, in states that set a maximum rate and where all or nearly all local governments utilise that maximum rate, the local tax is classified as "e" indicating no local government autonomy.

autonomy than the United States. These countries include Australia, France, Mexico, New Zealand and Spain. On the other hand, only one percent of tax revenue in the United States is derived from taxes over which local governments have no control. In the average OECD country limits to taxing power are much more common, with 11.5 percent of revenue coming through tax sharing arrangements imposed by central governments, and 7.8 percent from taxes imposed on local governments.

Table 4. Taxing power of US local governments and other OECD countries (2014)

			Percent of local gov't tax revenue	
Taxonomy of taxing power		**OECD codes**	**United States**	**Other OECD countries**
Discretion on rates and reliefs	Full	a1	7.1%	10.2%
	Restricted	a2	11.5%	2.9%
Discretion on rates	Full	b1	13.3%	20.8%
	Restricted	b2	28.4%	41.0%
	Revenue restrictions	b3	38.1%	-
Discretion on reliefs		C	0.4%	0.0%
Tax sharing arrangements	Revenue split set by local gov'ts	d1	0.0%	0.0%
	Revenue split set with local gov't consent	d2	0.0%	1.7%
	Revenue split set by states, pluriannual	d3	0.3%	8.5%
	Revenue split set by states, annually	d4	0.0%	3.0%
Rates and reliefs set by states governments		E	0.5%	7.8%
Other		F	0.0%	4.1%
Total			100.0%	100.0%

Source: For the United States: authors' calculations (see text). For other OECD countries: OECD Fiscal Decentralisation database, Table 1: Taxing Power of Sub-Central Governments, 2014.

Tax autonomy by type of tax

56.   To better understand the US results, Table 5 displays the tax autonomy results separately for each tax. The taxes are organised using the OECD tax classification scheme. Because nearly three-quarters of total local government tax revenue in the United States is raised through the property tax, the taxing power associated with the property tax dominates the overall taxing power results. The data indicate that over 90 percent of property tax revenues are subject to some type of state government-imposed tax rate or tax revenue restriction. This in turn explains why the largest share of overall local government tax revenue is classified as b2 or b3, representing restrictions on rates or revenues. However, local governments have a considerable degree of taxing power with respect to several other taxes, such as license taxes (5200) and specific sales taxes (5100).

Table 5. Taxing power of local governments in the United States by type of tax, 2014

As % of local government tax revenues from each tax

		Tax revenue as a % of total local government tax revenue	Discretion on rates and reliefs		Discretion on rates			Discretion on reliefs	Tax sharing arrangements				Rates and reliefs set by States	Other	Total
			Full	Restricted	Full	Restricted	Revenue Restrictions		Revenue split set by local gov'ts	Revenue split set with local gov't consent	Revenue split set by states, pluriannual	Revenue split set by states, annually			
			a1	a2	b1	b2	b3	c	d1	d2	d3	d4	e	f	
1000	Taxes on income, profits and capital gains	6.1%	6.0%	89.7%	-	4.3%	-	-	-	-	-	-	-	-	100.0%
1100	of individuals	4.8%	6.0%	88.5%	-	5.5%	-	-	-	-	-	-	-	-	100.0%
1210	of corporation profits	1.3%	5.7%	94.3%	-	-	-	-	-	-	-	-	-	-	100.0%
2000	Social security contributions	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	100.0%
3000	Taxes on payroll and workforce	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	100.0%
4000	Taxes on Property	73.0%	6.6%	0.7%	17.8%	22.1%	52.1%	0.5%	0.00	0.00	0.0%	-	0.0%	-	100.0%
4100	Recurrent taxes on immovable property	72.0%	6.5%	-	18.0%	22.1%	52.9%	0.5%	-	-	-	-	-	-	100.0%
4300	Estate, inheritance and gift taxes	0.0%	29.5%	1.1%	-	-	-	-	-	-	38.5%	-	31.0%	-	100.0%

4400	Taxes on financial and capital transactions	1.0%	11.5%	55.0%	6.7%	18.7%	-	-	-	-	0.5%	-	7.6%	-	100.0%
5000	Taxes on goods and services	20.2%	9.2%	25.4%	1.4%	59.7%	-	0.4%	0.02	0.02	0.0%	-	0.0%	-	100.0%
5100	Taxes on production, sale, transfer, etc	17.4%	10.7%	13.5%	1.6%	69.2%	-	0.5%	0.02	0.03	0.0%	-	0.0%	-	100.0%
5112	General sales taxes	12.6%	11.3%	2.1%	-	82.6%	-	0.6%	-	-	2.5%	-	0.9%	-	100.0%
5120	Taxes on specific goods and services	4.8%	9.1%	43.2%	5.8%	34.3%	-	0.2%	-	-	0.1%	-	7.3%	-	100.0%
5121	Excises	2.6%	10.9%	39.5%	0.7%	37.3%	-	-	0.2%	11.4%	0.0%	-	0.0%	-	100.0%
5126	Taxes on specific services	0.2%	1.8%	60.1%	-	37.1%	-	-	0.9%	0.0%	0.0%	-	-	-	100.0%
5128	Other taxes on specific services	2.0%	0.0%	99.7%	0.0%	0.0%	-	0.0%	0.1%	0.1%	-	-	0.0%	-	100.0%
5200	Taxes on use of goods and perform activities	2.8%	0.00	99.7%	-	-	-	-	0.1%	0.1%	0.0%	-	0.0%	-	100.0%
5210	Recurrent taxes	2.8%	0.0%	100.0%	-	-	-	-	-	-	0.0%	-	0.0%	-	100.0%
5220	Non-recurrent taxes	0.0%	6.380%	40.1%	-	-	-	-	-	-	23.3%	-	30.2%	-	100.0%
6000	Other taxes	0.7%	-	100.0%	-	-	-	-	-	-	-	-	-	-	100.0%
Total		100.0%	6.8%	11.4%	13.6%	28.2%	38.6%	0.4%	-	-	0.4%	-	0.6%	-	100.0%

Source: Authors' calculations (see text).

57.   By recalculating tax autonomy under the assumption that the United States used the same mix of taxes as the average OECD country, one can see how US local government tax autonomy is influenced by its heavy reliance on the property tax. The results of this exercise are shown in Table 6. They indicate that if US local governments raised tax revenue using the same mix of taxes as used by the average OECD country, local governments in the United States would have a substantially higher degree of tax autonomy than the average OECD country, with nearly half of local government tax revenue now characterised as having the highest degree of tax autonomy (codes a1 or a2). Clearly, the main factor that reduces US tax autonomy is the widespread presence of limitations placed on the property tax, and the much heavier than average reliance on property taxation (73.9 per cent in the US compared to the OECD average of 44.7 per cent).

Table 6. Taxing power of US local governments, if the United States used the same mix of taxes as the average OECD country

Taxonomy of taxing power		OECD codes	Percent of local gov't tax revenue	
			United States	Other OECD countries
Discretion on rates and reliefs	Full	a1	6.5%	10.2%
	Restricted	a2	39.9%	2.9%
Discretion on rates	Full	b1	8.0%	20.8%
	Restricted	b2	21.9%	41.0%
	Revenue Restrictions	b3	22.7%	-
Discretion on reliefs		c	0.3%	0.0%
Tax sharing arrangements	Revenue split set by local gov'ts	d1	0.3%	0.0%
	Revenue split set with local gov't consent	d2	0.5%	1.7%
	Revenue split set by states, pluriannual	d3	0.0%	8.5%
	Revenue split set by states, annually	d4	0.0%	3.0%
Rates and reliefs set by states governments		e	0.0%	7.8%
Other		f	0.0%	4.1%
Total			100.0%	100.0%

Source: For the United States: authors' calculations (see text). For OECD member countries: OECD, Fiscal Decentralisation database, Table 1: Taxing Power of Sub-Central Governments, 2014.

Tax autonomy by state

58.   With a few exceptions, US local governments cannot use taxes that have not been explicitly authorised through state legislation.[12] Generally, once a tax has been authorised, individual local governments are free to decide whether to levy the tax. Some taxes are authorised only for certain types of local governments, for example, for regional governments, such as counties, but not for municipal governments. In other cases, taxes can be authorised only for local governments that meet some criteria, usually defined by minimum population size. The only local government tax that is utilised by almost all local

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12. Most states adhere to *Dillon's Rule*, a legal principle that limits the authority of local governments. Even in non-Dillon's Rule states, the authority of local governments to establish new taxes is usually quite limited.

governments is the property tax. Given the tax-specific results shown in Table 6, the degree of local government tax autonomy in each state will depend in part on the mix of taxes used in each state.

59.   Figure 11 presents a map of the United States, with states divided into four categories indicating the type of major taxes general purpose municipal governments are authorised to use. Among the three broad-based taxes – property, individual income and general sales – municipal governments in the 14 states shown in red are only allowed to use the property tax.[13] Municipal governments in the five states shown in green are authorized to use both the property and the income tax, and governments in the 25 states shown in yellow can use the property and the general sales tax. Finally, municipal governments in the six states and the District of Columbia (shown in blue) are authorised to use all three taxes.

**Figure 11. Major taxes used by municipal governments in the United States**
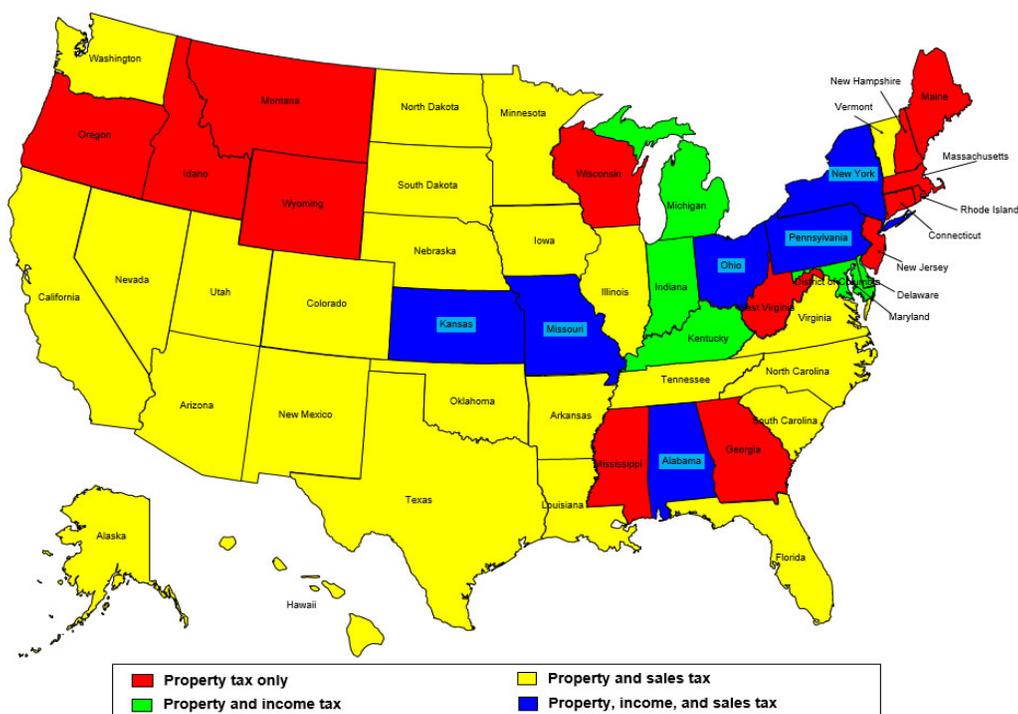
60.   For states in which local governments are authorised to use multiple taxes, the reliance on property tax revenue depends both on the number of local governments actually using alternative taxes, and on the revenue raised from each of those taxes. Based on calendar year 2014 data, Figure 12 illustrates the percentage of local government tax revenue in each state and the District of Columbia coming from the property tax. It is evident that the importance of the property tax varies tremendously among states. Only 32 percent of the tax revenue raised by the District of Columbia comes from the property tax.

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13. Local governments in all states also rely on other taxes. However, in the typical state, the three main taxes—property, general sales, and individual income—account for over 90 percent of total local government tax revenues.

Three states, Alabama, Arkansas, and Louisiana generate less than half of their tax revenue from the property tax. At the other extreme, in 13 states, local governments raise more than 90 percent of their tax revenue from the property tax. These include all six New England states, but also states from most regions of the country.

Figure 12. Percentage of US local government tax revenue from the property tax, 2014
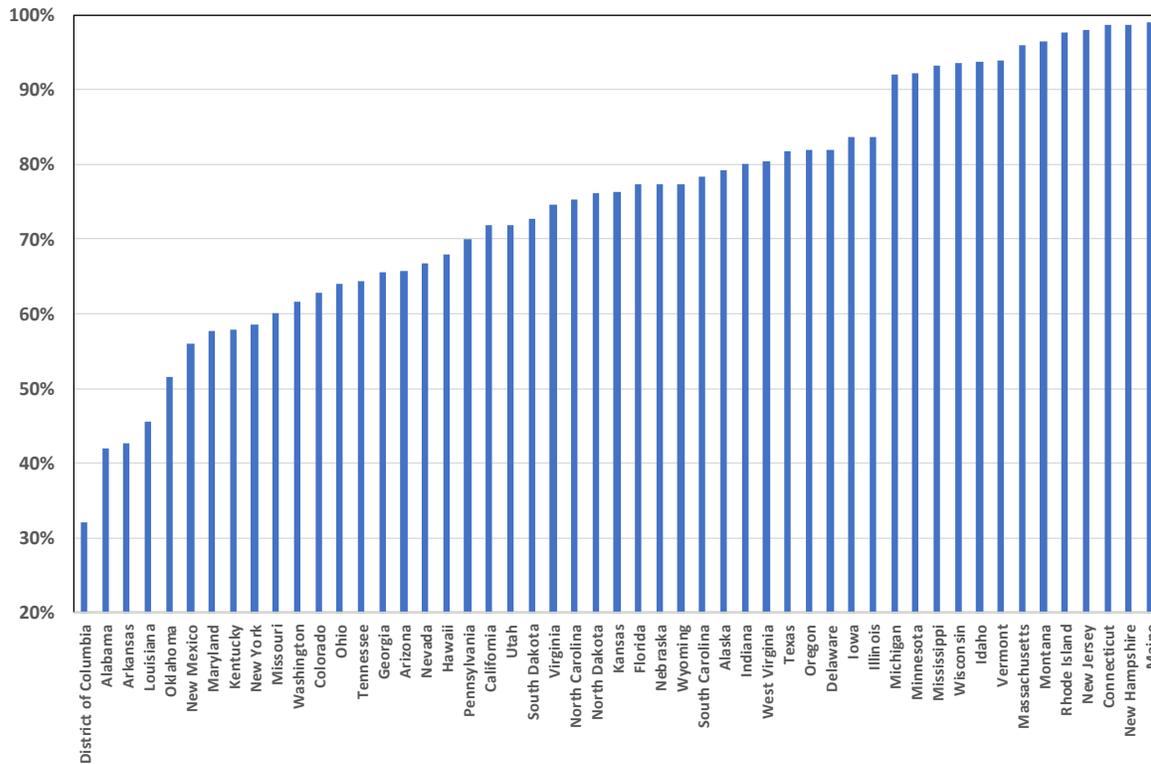
Source: Authors' calculations using data from U.S. Census Bureau, Annual Survey of State and Local Government Finances, fiscal years 2014, 2015, and 2016

61.   Although differences across states in the mix of local taxes and the degree of reliance on the property tax are important in explaining differences in tax autonomy across states, a myriad of state-specific policies that explicitly limit taxing power of their local governments also plays a substantial role in explaining across-state variations in taxing power. Table 7 illustrates these differences in tax autonomy in the 50 states and the District of Columbia.

62.   The first column of data in Table 7 shows, for each state, local government tax revenue as a percentage of state and local tax revenue combined. The wide differences across states in the role of local governments is best illustrated by comparing the physically adjacent states of Vermont and New Hampshire. In Vermont, where the state government plays a major role in the financing of public education, local governments' share of state and local tax revenues is only 15.7 percent. In New Hampshire, the only state with neither a state general sales or individual income tax, local governments play the dominant role in

providing public services as reflected by the fact that they collect 60.2 perceent of total state and local tax revenue.

63.   The remaining columns of Table 7 illustrate the wide variation in local government tax autonomy among US states. In some states, such as Vermont, New Hampshire, Hawaii, and Virginia, local governments have a high degree of tax autonomy, while in other states such as California, Florida, Colorado, and Idaho, local governments' taxing power is quite limited. While local governments in all six New England states – Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Maine – rely on the property tax for more than 90 percent of their tax revenue, they vary tremendously on the restrictions they place on local government autonomy, with New Hampshire, Rhode Island, and Vermont placing no limits on their local governments' taxing power, while local governments in Massachusetts are subject to both rate and tax relief restrictions. Overall, no clear regional pattern emerges, although Southern states tend to restrict the taxing power of their local governments more than many other states.

Table 7. Taxing power of local governments by state, 2014

As % of total local government tax revenue in each state

	Local tax revenue as % of state & local tax revenue	Discretion on rates and reliefs		Discretion on rates			Discretion on reliefs	Tax sharing arrangements	Rates and reliefs set by States	Total
		Full	Restricted	Full	Restricted	Revenue Restrictions		Revenue split set by states, pluriannual		
		a1	a2	b1	b2	b3	c	d3	e	
Alabama	36.0%	6.3%	14.3%	-	38.1%	-	41.3%	-	0.1%	100.0%
Alaska	33.2%	16.0%	2.5%	78.3%	-	-	3.2%	-	0.0%	100.0%
Arizona	40.5%	29.4%	4.1%	-	2.0%	63.6%	-	-	0.9%	100.0%
Arkansas	19.8%	7.1%	3.6%	-	89.3%	-	-	-	-	100.0%
California	34.7%	0.00	13.1%	-	86.9%	-	-	-	-	100.0%
Colorado	49.6%	30.5%	7.4%	-	0.1%	61.8%	-	-	0.1%	100.0%
Connecticut	38.8%	98.5%	1.1%	-	0.4%	-	-	-	-	100.0%
Delaware	23.0%	1.2%	10.2%	81.8%	6.9%	-	-	-	-	100.0%
District of Columbia	100.0%	72.0%	28.0%	-	-	-	-	-	-	100.0%
Florida	45.6%	-	5.9%	-	17.8%	76.0%	-	-	0.2%	100.0%
Georgia	45.4%	-	6.6%	-	93.4%	-	-	-	-	100.0%
Hawaii	25.5%	68.1%	10.8%	3.5%	10.3%	-	-	-	7.4%	100.0%
Idaho	30.4%	2.6%	3.8%	-	-	93.6%	-	-	-	100.0%
Illinois	43.3%	7.9%	3.5%	3.7%	-	80.8%	-	-	4.1%	100.0%
Indiana	31.5%	-	1.9%	-	98.1%	-	-	-	-	100.0%
Iowa	39.0%	-	3.5%	86.4%	5.6%	-	-	0.00	4.6%	100.0%
Kansas	42.2%	4.4%	1.6%	73.0%	19.3%	-	-	-	1.6%	100.0%
Kentucky	30.3%	-	30.6%	-	69.2%	-	-	-	0.2%	100.0%
Louisiana	46.5%	-	6.3%	-	93.7%	-	-	-	-	100.0%
Maine	39.9%	0.2%	0.8%	99.0%	-	-	-	-	-	100.0%
Maryland	43.3%	-	40.1%	59.6%	0.4%	-	-	-	-	100.0%
Massachusetts	37.9%	-	4.3%	-	0.0%	95.6%	-	-	0.1%	100.0%
Michigan	32.9%	-	5.8%	-	1.6%	91.7%	-	-	0.9%	100.0%

Minnesota	24.2%	2.5%	3.4%	92.1%	1.9%	-	-	-	0.1%	100.0%
Mississippi	27.7%	-	5.8%	-	0.8%	93.5%	-	-	-	100.0%
Missouri	46.5%	3.9%	7.5%	1.7%	28.3%	58.3%	-	0.2%	0.1%	100.0%
Montana	32.4%	-	3.2%	-	96.8%	-	-	-	-	100.0%
Nebraska	46.3%	-	9.0%	-	89.8%	-	-	0.00	1.2%	100.0%
Nevada	36.6%	-	22.9%	-	77.1%	-	-	-	0.0%	100.0%
New Hampshire	60.2%	99.1%	0.9%	-	-	-	-	-	-	100.0%
New Jersey	48.4%	-	1.3%	-	0.4%	97.9%	-	-	0.3%	100.0%
New Mexico	30.4%	-	2.1%	2.0%	95.8%	-	-	-	-	100.0%
New York	53.6%	-	24.0%	-	19.4%	56.7%	-	-	-	100.0%
North Carolina	34.9%	-	3.4%	76.5%	19.2%	-	-	-	0.9%	100.0%
North Dakota	15.0%	0.8%	4.4%	74.1%	20.6%	-	-	0.1%	-	100.0%
Ohio	44.6%	0.0%	26.1%	63.4%	10.1%	-	-	0.4%	0.00	100.0%
Oklahoma	34.3%	-	3.2%	51.7%	45.0%	-	-	-	0.0%	100.0%
Oregon	40.5%	0.2%	15.2%	-	84.5%	-	-	-	-	100.0%
Pennsylvania	43.0%	-	28.1%	69.3%	-	-	-	-	2.7%	100.0%
Rhode Island	45.6$	-	1.4%	97.6%	-	-	-	-	1.1%	100.0%
South Carolina	42.6%	-	15.9%	-	77.2%	-	6.6%	0.3%	0.00	100.0%
South Dakota	48.5%	-	4.3%	72.8%	22.9%	-	-	-	0.00	100.0%
Tennessee	41.9%	0.1%	4.1%	64.4%	31.4%	-	-	-	-	100.0%
Texas	49.4%	-	5.4%	-	12.7%	81.9%	-	-	-	100.0%
Utah	39.0%	-	3.6%	-	70.9%	-	-	18.1%	7.4%	100.0%
Vermont	15.7%	94.6%	5.4%	-	-	-	-	0.00	-	100.0%
Virginia	46.0%	83.6%	8.0%	-	-	-	-	8.0%	0.4%	100.0%
Washington	39.6%	1.8%	4.4%	-	33.9%	59.8%	-	0.1%	-	100.0%
West Virginia	26.3%	-	17.0%	-	82.6%	-	-	-	0.4%	100.0%
Wisconsin	38.0%	-	7.0%	-	-	92.8%	-	0.1%	-	100.0%
Wyoming	37.9%	-	3.9%	-	96.1%	-	-	-	-	100.0%
Total	41.7%	7.1%	11.8%	13.3%	28.4%	38.1%	0.4%	0.3%	0.5%	100.0%

Source: Authors' calculations (see text).

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