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Value-Added Taxes and Small Business

Policy Brief

William G. Gale, Hilary Gelfond, Aaron Krupkin

All three authors are affiliated with the Brookings Institution and the Urban-Brookings Tax Policy Center.

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Introduction

The possibility of introducing a value-added tax (VAT) in the United States has been discussed on a sporadic basis for several decades. In recent years, efforts to implement a VAT have been spurred by a desire to replace the revenue lost from reducing and simplifying the income tax (for example, Graetz 2010; Toder, Nunns, and Rosenberg 2012) and/or a desire to shore up the nation's long-term fiscal situation (Debt Reduction Task Force 2010; Gale and Harris 2011).

As explained below, the VAT is, in effect, a consumption tax. Although it would be new to the United States, the VAT is a workhorse of tax systems around the world. Approximately 160 countries around the world – including every OECD member except the United States—administer a VAT. VATs provide the third largest revenue source in OECD countries, behind income and payroll taxes. Across all levels of government, in 2012, VAT revenue averaged 5.5 percent of GDP and almost 17 percent of overall revenues in OECD countries (OECD 2015).

One of the critical questions in designing a VAT is whether to exempt small businesses and, if so, at what threshold. Including all businesses may seem, a priori, like a natural policy choice, but the government's administrative and private compliance costs associated with collecting tax from small businesses often prove to be high relative to the revenue generated. As a result, most countries with VATs exempt some small businesses.

In this policy brief, which is based off of Gale, Gelfond, and Krupkin (2015), we examine issues related to small business and entrepreneurship under a VAT. We also discuss the basic mechanics of a VAT, including the important distinction between goods or businesses that are zero-rated compared to those that are exempt.

We then discuss the treatment of small business under a VAT. Most OECD countries provide VAT exemptions to businesses with total sales below a given threshold. Applying the tax to very small businesses often creates significant compliance costs for these firms with little or no revenue gain to the government. The optimal threshold balances the revenue collected and the administrative and compliance costs. Brashares et al. (2014) find that the optimal threshold for a VAT in the United States would fall as the VAT rate rises. Despite this seemingly clear relationship in theory and simulations, in practice, there appears to be no correlation between an OECD country's standard VAT rate and its business exemption threshold, which is plausibly due to the role of political factors in determining the threshold.

The creation of a VAT in the United States would raise taxes on business sales to other businesses and consumers. While it is impossible to directly estimate the effects of a VAT in the U.S. since one has never existed, it is nevertheless possible to shed light on a variety of related subjects that bear on the question of how a VAT would affect small businesses. Toward this end, the previous literature examining the effects on sales and income taxes on firm behavior and overall economic activity reaches fragile and uncertain conclusions.

In Gale, Gelfond, and Krupkin (2015), we also present estimates of the effects of income and sales taxes on the number of small firms and on employment by those firms. Notably, although the VATs around the world define small businesses in terms of total sales, our classification of small firms is based on employment. We show that increases in state sales tax rates, given their impact on revenues, do not have statistically or economically significant effects on the number of firms or the employment within firms.

The Value-Added Tax

A VAT is applied to the difference between a business's sale of goods and services (to businesses or consumers) and its purchase of inputs from other businesses. It is thus a tax on the value added to a good or service at each stage of the production process. In the credit-invoice method used by most developed countries, businesses levy a tax on their sales and claim a credit on the taxes they paid on the inputs from other businesses.[1] Each firm remits the difference between the VAT collected from its sales and the credit received on its input purchases. In the usual case, the sum of remittances by different firms for a given good is the total value of the tax levied on consumers at the retail sale stage. Hence, a value-added tax in principle replicates the effect of a retail sales tax.

Note that the final price to the consumer is the same under a retail sales tax or a VAT of the same rate. But businesses collect a VAT at each stage of production, with cross-reporting (e.g., when bread is produced, both the farmer and the miller report their transaction to the government), whereas all revenue from the retail sales tax is collected at the retail level, with no cross-reporting. As a result, the VAT is less subject to evasion than is a retail sales tax.

VATs typically have a "standard rate" that is applied to all goods and services unless an exception is made. Exceptions come in two main varieties: goods that are "zero-rated;" and goods that are exempt. If a good is zero-rated, the retail sale of the good is untaxed and credits are allowed for the VAT paid on inputs. If a good or business is exempt, the retail sale of the good is untaxed. Producers, however, cannot claim a credit for the VAT paid on inputs used to produce exempt goods. Zero-rating a retail sale has the same effect for the

[1] For an example of the credit-invoice process, see Toder and Rosenberg (2010) or Gale, Gelfond, and Krupkin (2015).

consumer and government as eliminating the overall tax. Zero-rated goods are commonly used to lower the burden of taxes on low-income households and help offset the regressivity of a VAT. For example, food and utilities often face reduced or zero rates. This makes the tax more progressive than otherwise since these items represent a greater share of the budget of low-income families than of high-income families. Still, zero-rating is an inefficient way to generate progressivity, since high-income families also consume food and utilities. A more cost-effective way to offset the regressivity of the VAT would be to provide a per-person or per-family allowance (Gale and Harris 2011).

Exemptions are generally used when output is either hard to define, is a public good or is subject to other specific taxes, or when policymakers aim to achieve other social and economic policy goals. Financial and insurance services, health and education, postal services, and property sales are commonly exempt. Exemptions—as opposed to zero-rating—can raise, lower, or leave unaffected the final consumer price and the amount of tax revenue collected.

The Treatment of Small Business

Most countries exempt some small businesses from the VAT, for any of several reasons. The net revenue that would be collected from including very small businesses is often quite meager and could well be negative. The government's costs of collecting and enforcing the tax at every small business may be excessive. Additionally, compliance costs are relatively high for small businesses (as a share of revenue) due to the high fixed costs of tax preparation.

Of the 33 OECD countries with a VAT, 28 have set a threshold under which small businesses do not have to register for the tax. In some cases, the threshold varies by industry. In 2014, the UK had the highest threshold at about $103,000 (US dollars), followed by France, and Japan. Overall, nine countries have thresholds over $60,000, ten countries have thresholds between $60,000 and $20,000, two countries have thresholds between $20,000 and $10,000, seven countries have thresholds below $10,000 and five countries—Chile, Mexico, Turkey, Spain, and Sweden—do not have an exemption threshold.

Virtually all countries with thresholds allow small businesses to register for the VAT if they choose to. [2] Unregistered small businesses do not have to collect or remit VAT on their sales, but they cannot use the tax credits generated by their purchases. Businesses that do register owe VAT on their sales, but they can deduct the VAT paid on inputs.

While being exempt from the tax may sound attractive, the choice is not always obvious, as there can be benefits of VAT registration. For example, in Australia, during the 2010-11 tax year, 37 percent of businesses had sales below the VAT threshold, but 92 percent of all businesses registered. Registration increases demand from other producers seeking to purchase goods from VAT-registered businesses to obtain tax credits (Bain et al. 2015).

Keen and Mintz (2004) model the optimal small business threshold as representing a trade-off between the revenues collected and the collection costs of the tax. The collection costs include both the compliance burden imposed on businesses and the administrative costs faced by the government. A higher threshold reduces collection costs, but also reduces revenues. In their basic model, holding firm size constant, they develop a formula showing that the optimal threshold depends on collection costs, the VAT rate, the ratio of value-added to total sales, and the marginal social cost of raising revenues. They also note that firms just above the threshold may want to reduce sales in order to avoid the tax and develop a model extension that incorporates this insight. In model simulations, they find that the optimal threshold varies considerably – from about $22,000 to about $280,000 – depending on the tax rate and assumptions about the ability of firms to adjust to the tax and the distribution of firm sizes.

Brashares et al. (2014) apply the Keen-Mintz model to examine the optimal threshold in a hypothetical United States VAT. They find that, with a 10 percent VAT rate, the optimal US threshold based on sales would be $200,000 and would exempt about 43 million businesses. Compared to having no threshold, the $200,000 cut-off would reduce the number of businesses required to register by 89 percent, reduce annual administrative and compliance costs by $2.6 billion and $25.5 billion respectively, and increase VAT revenues by 4 percent, to a total of $353 billion. The authors also find that the optimal threshold would vary dramatically with the actual VAT rate. For example, at a rate of 5 or 20 percent, the optimal threshold – based on a firm's total annual sales – would be $600,000 or $90,000, respectively.

Evidence from other countries suggests that firms adjust to the threshold to receive favorable tax treatment. Onji (2009) finds that the 1989 Japanese introduction of a VAT and creation of a small business threshold caused an increase in the number of firms with sales below the threshold and a decline in firms with sales above the threshold. Harju, Matikka, and Rauhanen (2015) find evidence of firms actively bunching below the VAT threshold in Finland. Liu and Lockwood (2015) find that U.K. firms are more likely to register voluntarily for the VAT when the cost of inputs relative to sales is high (i.e.,

[2] Some countries have a threshold above which a firm is required to register for the VAT. This threshold can differ from the threshold for having to pay VAT. In addition, in some countries, firms that choose to register must do for a specified period that ranges from one to five years. This deters firms who would strategically choose to register only in years where they have negative value-added.

when the firms have low value-added) or if the proportion of sales to registered businesses is high (because the VAT paid on the sale is not a net burden to the purchaser).

Related Research

The literature on state taxes and related economic activity is reviewed by Gale, Krupkin, and Rueben (2015); Mazerov (2013); and McBride (2012), and features widely varying methodologies and results. Major recent studies reach almost every conceivable finding relating state tax policy to economic growth: tax cuts raise, reduce, do not affect, or have no clear effect on growth. The effects of different taxes – income, corporate, property, and sales – vary dramatically within and across studies. Several factors complicate interpretation of the findings: the studies use different dependent variables, analyze different time periods, employ alternative measures of tax revenues and/or rates, include different measures of government spending, control for different independent variables, and use different control groups and identification methods. Additionally, state balanced budget requirements imply that revenues and spending should co-vary closely, making it more difficult to study independent influences of taxes or spending. Pjesky (2006); Alm and Rogers (2011); and Gale, Krupkin, and Rueben (2015) conduct extensive sensitivity analyses and find the results to be extremely fragile to specification. Giroud and Rauh (2015), however, find strong and robust effects, using a credible methodology.

New Results

In Gale, Gelfond, and Krupkin (2015), we estimate the effect of state taxes on firm formation and employment based on an adapted formulation from Reed (2008) and Gale, Krupkin, and Rueben (2015).

Our first specification examines the change in the natural log of firms per capita from t-4 to t for each state. Specifically, to look at the effect of sales taxes on small businesses, we look at firms within certain employment size thresholds. As noted earlier, this is a different way of classifying small businesses than used by countries in defining VAT thresholds. These separate dependent variable categories include firms with less than five employees, 5-49 employees, or all firms with less than 50 employees. For comparison purposes, we also include a category that includes firms with 50 or more employees and a category that contains every firm in a state.

Since the small business thresholds above encompass the vast majority of all firms, we limit our scope by examining the total number of employees from firms within the size groups (for example, the number of employees in Alabama who work in firms with less than five employees). According to Brashares et al. (2014), 90 percent of firms have annual receipts below $200,000.

Our principal explanatory variable is the standard sales tax rate for a given state and year. We also include sales tax revenue for each state and year, calculated as total state and local general sales tax revenue as a share of personal income. We use sales tax data because they represent consumption taxes similar to a VAT. However, because of the state-by-state nature of a sales tax, consumers close to a state border have the option to adapt purchasing or residence behavior across states based on differences in sales tax rates in order to reduce taxes. Under a nationwide VAT, this strategy would not reduce tax burdens. As a result, findings using state sales tax data probably overstate the response to a national VAT.

Our results for firm formation regarding non-sales tax revenue compare to those in the literature described above, most of which focuses on the effects of tax revenue, rather than rates, and much of which generates fragile results. On the other hand, in most cases, the change in sales tax revenue has a positive, significant effect. When sales tax rates are added to the analyses, we consistently show that the change in sales tax rates, holding sales tax revenues constant, have negative effects on firm formation in almost all employment-size categories.

However, in reality, an increase in a sales tax rate will most naturally lead to an increase in revenues. As a result, we calculate the net impact of an increase in the sales tax rate, assuming that revenues rise as well. In general, a rise in the sales tax rate, coupled with the implied revenue increase, has no significant effect on the total number of firms, the number of small firms with less than 50 employees, or the number of firms with 50 or more employees.

For the most part, the results regarding employment are qualitatively similar to those for firm formation. Some non-sales revenue variables exert negative, significant effects on the employment figures, but the change in sales tax revenue is associated with positive, significant effects on employment. The regressions that include tax rate variables show that the change in sales tax rates, holding revenues constant, negatively affects employment. However, when they are coupled with the implied change in revenue, the effects of a change in the sales tax rate are small and insignificant.

Conclusion

At some point, the United States will likely need to compensate for long-term revenue shortfalls. Consideration of a VAT is a logical and reasonable direction for such a policy (Gale and Harris 2011). One of the principal concerns with a VAT, however, is how it would affect small business. We shed light on this issue

by estimating of the effects of income and sales taxes on the number of small firms and on the employment within those firms. We find that increases in state sales tax rates, given their impact on revenues, do not have statistically or economically significant effects on the number of firms or the employment within firms.

In countries with a VAT, these small businesses account for only a small share of potential VAT revenue, but they would create significant collection and administrative costs if they were brought into the VAT system. Most countries deal with this issue by exempting a large share of businesses. It is reasonable to believe that a VAT in the United States would treat small businesses in a similar manner. As a result, the implementation of a VAT should not prove to be a major hurdle for small business.

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