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Special tax regimes and the choice of organizational form: Evidence from the European Tonnage Taxes

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A B S T R A C T

Tax systems often discriminate among the various organizational forms of doing business and may therefore affect the choice of organizational form. This paper studies how special tax regimes shape the organizational form choice. Although the full effects depend on the way that firm-level special tax regimes are designed, special regimes generally tend to favor pass-through firms over non-pass-through firms. The tonnage tax, a tax incentive for international shipping firms available in many countries worldwide, is examined to understand these effects. Employing European firm- and country-level data, the impact of the tonnage tax on organizational form choice is studied empirically. The results are consistent with the theoretical model. Shipping firms are less likely to incorporate if the tonnage tax is also available for firms that have adopted pass-through organizational forms.

1. Introduction

The taxation of a firm depends on the organizational form under which it operates. Typically, profit generated within a sole proprietorship or a partnership is passed through and subject to tax at the owner's level on a pro-rata basis. Corporations are subject to a separate corporate income tax and shareholders of corporations are not taxed until they receive dividends or realize capital gains by selling their shares.[1] The coexistence of these two taxation systems, each with their respective tax rates, implies that firms face different tax burdens under different organizational forms. Other things being equal, a firm owner will choose the organizational form with the lowest tax burden. A number of studies exist on tax rate differentials and how they affect the choice of organizational forms, but other aspects of the tax system have received little attention until now. This paper explores the elasticity of organizational form with respect to the relative tax advantages resulting from firm-level special tax regimes.

Whether, and how, a special tax regime affects organizational form decisions depends on the amount of tax relief relative to the overall tax burden and on the availability of the tax relief for different organizational forms. Even if a special tax regime offers identical tax advantages for all firms, it may nevertheless result in a distortion due to the double taxation of corporations. The special tax regime relieves just one layer of tax. The single layer is all there is in the case of pass-through firms, but it is only a fraction of the total in the case of corporations. When the firm-level tax saving is distributed to the shareholders of a corporation, it is subject to general taxation. Therefore, a portion of the corporate tax saving is lost by the shareholder taxes, i.e., by dividend and capital gains taxes.

The form of the special tax regime (i.e., whether it occurs as a reduction of the tax rate, as tax credit, or as a reduced tax base) can also have an impact on organizational form choice. Rate reductions are usually available only for selected organizational forms. Because of the double taxation of corporations, tax credits, if given to all firms, favor pass-through firms. The effect of tax base reductions depends on the reductions in combination with the applicable tax rates.

Consider a special tax regime for business start-ups allowing the entire profit to be exempt from taxation in the first year. If this incentive is only available for corporations, it increases the likelihood that businesses will adopt a corporate form because profits are fully tax exempt until they are distributed and taxed at the shareholder level. If the incentive is available for all organizational forms, then both corporations and pass-through firms are exempt from tax at the level of the organization, which in the case of a pass-through firm means that the profits are entirely exempt from tax. In the case of a corporation, however, the exemption does not apply to shareholder taxes, so firm profits will

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[1] Note that the terms 'firms under corporate income tax', 'incorporated firms', and 'corporations' are used interchangeably for all firms that are subject to corporate income tax.

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still be taxed at the shareholder level; and shareholder taxes represent a significant fraction of the total tax on corporate income. In this scenario, the likelihood that the business will not incorporate should be quite high. If, however, the exemption were only a smaller amount (e.g., 50%) and if the corporate tax rate exceeded the individual income tax, then the tax saving within a corporation would be higher. This scenario might make it more likely that the business would incorporate.

When addressing the question of the impact of taxes on organizational form choice, empirical studies typically follow the model presented in MacKie-Mason and Gordon (1997), which compares the tax rate on sole proprietorships with the tax rate on corporations and their shareholders. This paper extends that framework by taking into account the effects of tax base modifications and non-income taxes. The extended model is applied to a special tax regime for the maritime sector, the 'tonnage tax'. Tonnage taxes are employed worldwide to attract ship owners and ship owners' capital.[2] Technically, the general (corporate or individual) income tax rate is based on the ship's size (i.e., the tonnage), instead of the firm's profit.[3] The tonnage tax is a useful vehicle to illustrate and study the effects of a special tax regime on the organizational form decision because applying the tonnage tax results in high tax savings and thus high incentives for making a tax-efficient organizational form choice. Moreover, the tonnage tax is similar in structure throughout the world and differs only with respect to the favored organizational forms and applicable tax rates, so it makes it possible to examine the effects of the tonnage tax regardless of national tax laws.

Employing European firm-level data, the impact of the tonnage tax on organizational form choice is studied empirically in two steps. First, comparing firms in the maritime sector and other transport industries in 26 European countries, a cross-sectional analysis investigates the likelihood that a firm is incorporated depending on whether, and how, a tonnage tax regime is applied at a firm's location. The results provide a first piece of evidence that the design of a tonnage tax regime has a strong impact on organizational form choice. In particular, the likelihood that a business will incorporate is significantly lower in jurisdictions where a tonnage tax regime for all organizational forms is available than it is in countries without a special tax regime. In the second step, a panel analysis studies the share of incorporated firms out of all shipping firms in a country over time. This approach makes it possible to identify the change of organizational form patterns in the shipping industry when countries introduce the tonnage tax. The results of the panel analysis confirm the findings from the cross-sectional analysis, thereby demonstrating the impact of a tonnage tax on organizational form choice.

This paper contributes to three strands of research. A broad body of literature deals with the issue of taxes and organizational form choice in general. Gravelle and Kotlikoff (1989, 1993), MacKie-Mason and Gordon (1997) and Goolsbee (1998) all analyze organizational form choice and taxes with respect to deadweight losses. With a focus on closely held firms, Gordon and Slemrod (2000), Romanov (2006), and Thoresen and Alstadsæter (2010) investigate income shifting from the corporate to the personal tax base.

Several empirical studies use the standard model presented by MacKie-Mason and Gordon. MacKie-Mason and Gordon (1994, 1997) test the impact of taxes on the corporate share of business in the US over time. They find evidence that the taxation system has an impact on the choice of legal form. Goolsbee (2004) addresses the same question by analyzing US state-level data for the retail sector. His cross-sectional analysis shows a stronger impact than what previous studies had found by analyzing panel data. De Mooij and Nicodème (2008) apply the standard model to European country-level data. Egger et al. (2009) present an alternative theory and test it with European firm-level data. In the context of firms operating across national borders, Desai and Hines (1999) provide evidence of the impact of the US foreign tax credit rules on the participation of US firms in international joint ventures.

Only a few studies deal with special tax regimes in the context of organizational form choice. For instance, Wolfson (1985) analyzes special tax regimes for oil and gas firms. Gentry (1994) studied publicly traded partnerships that were taxable as pass-through firms in the US. He finds evidence that these partnerships have had a different payout policy and financial structure than their incorporated counterparts. Goolsbee and Maydew (2002) consider REIT spin-offs in the US. Finally, because of the examination of the shipping sector in this paper, several contributions of the existing maritime economics literature are noted. Gardner et al. (1984) and Mayr and McGrath (1997) discuss the relative importance of taxes in this highly globalized sector. Marlow (2002) provides an overview on the development of tonnage taxes.

The remainder of the paper is structured as follows: Section 2 extends the standard model on organizational form choice by taking tax base adjustments and non-income taxes into account. Section 3 provides an overview on tonnage tax regimes and applies the theoretical model to the tonnage tax. Section 4 presents the cross-sectional analysis, and Section 5 presents the panel analysis. Finally, Section 6 concludes.

2. Theoretical framework

This section extends the model presented in MacKie-Mason and Gordon (1997) by considering modifications in the tax base and non-income taxes in studying the impact of firm-level special tax regimes on organizational form choice. The standard model concentrates on the interdependence of a profit Y, the relevant income tax rates t and an income effect G, which mainly stems from legal differences between incorporated and un-incorporated firms. The presentation of the extended model follows the notation in Goolsbee (2004).

An un-incorporated firm generates a profit Y before business taxes T_b. Taxes comprise income taxes and non-income taxes that arise in the context of the firm's activities. The firm's profit is subject to personal income tax and is taxed as business income at the owner's personal income tax rate t_b. The tax rate, however, is not automatically applied on the profit as it appears in the firm's books. Special tax regimes might reduce the tax base (e.g., tax exemptions or accelerated depreciation) or non-deductible expenses might increase the taxable profit. The tax base on which the personal tax rate is applied can, thus, be split into the pure profit Y plus a tax base adjustment A_b.[4] A_b is negative if higher deductions are allowed for tax purposes or if tax-exempt income arises; it is positive if the tax law precludes certain deductions. Therefore, the effective income tax is $(Y+A_b)t_b$. Furthermore, firms might be subject to other forms of taxation in addition to income taxes (e.g., taxes on real estate), denoted by T_b^n. In most tax systems, non-income taxes can be deducted from income taxes. Therefore, the non-income tax effectively amounts to $T_b^n(1-t_b)$ for an un-incorporated firm.

In sum, the firm's owner earns a post-tax income of

$$Y-(Y+A_b)t_b-T_b^n(1-t_b)=Y(1-t_b)-A_bt_b-T_b^n(1-t_b). \tag{1}$$

Compared to the standard MacKie-Mason and Gordon model, the tax base adjustment A_b and the non-income tax T_b^n enter the formula.

[2] In the US, for instance, the tonnage tax regime has been in place since 2004. In the European Union, 18 member states currently apply a tonnage tax.

[3] The tonnage tax can be characterized as a presumptive tax. Tonnage taxes were introduced in the 15th century because of difficulties in measuring the profits of ship owners (Grapperhaus, 2009). At the present time, all countries use this kind of tax regime as an incentive to attract shipping firms (Leggate and McConville, 2005; Marlow, 2002).

[4] Note that a profit before all taxes, and before the deduction of non-income taxes, is assumed.