TAXING ENTREPRENEURIAL INCOME

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January 3, 2017

ABSTRACT

This paper applies the Schumpeterian view of entrepreneurship to estimate the tax rate on entrepreneurial income under alternative assumptions about the pattern of returns from innovations, the tax rules applied to different types of income (wages, interest, capital gains, dividends, corporate profits), and the effects of taxes on the market value of successful enterprises. We model the tax rate on entrepreneurial income as the tax burden on an individual who establishes a new firm and then sells her interest in the business once it becomes an established enterprise. The paper finds the effective tax rate on entrepreneurial income depends on both the tax rate imposed on the entrepreneur's income during the firm's growth phase and on the effects of the tax system on the price at which the entrepreneur can cash in her investment when the firm reaches maturity.

This paper discusses how the Federal income tax treats "entrepreneurial income." In contrast to some earlier reports (Rosenberg and Marron, 2015; Brown and Gale, 2013), we do not focus on the taxation of tangible capital assets of a new or small business. Instead, we focus on the taxation of the income earned by the creator of the business enterprise where, as an entrepreneur, her contribution includes both the labor effort in creating intangible capital and the accrual of returns on that "sweat equity" prior to the firm's generating net operating profits.

The meaning of the term "entrepreneur" is itself murky and has been subject to various interpretations. The Merriam Webster dictionary defines an entrepreneur as "a person who starts a business and is willing to assume risk in order to make money."[1] That definition would seem to include as an entrepreneur just about anyone who is self-employed or owns a small business. In fact, a number of economic studies that have investigated the effects of taxation on entrepreneurship have used a measure of entrepreneurship based on the prevalence of self-employment or small business ownership (Gentry and Hubbard, 2004; Bruce and Deskins, 2012; Schuetze and Bruce, 2004).

In contrast, Joseph Schumpeter (1947) stressed the transformative nature of entrepreneurship. To Schumpeter an entrepreneur is an innovator who brings together "existing productive resources in new ways or for new purposes." This innovation, or in his term "creative destruction," is a major contributor to economic growth. Similarly, Eisenmann (2013) defines entrepreneurship as "the pursuit of opportunity beyond resources controlled," again stressing the expansive nature of the entrepreneur's contribution.

As Bruce and Schuetze (2004), Brown and Gale (2013) and others note, self-employment is a very imperfect proxy for this definition of entrepreneurship, as it would include individuals like "chain store operators" or mom and pop businesses who are not innovative in the Schumpeterian sense. Other economists have experimented with alternative ways of measuring the level of entrepreneurial activity in cross-country studies of the determinants of entrepreneurial activity. Acs, Desai, and Hessels (2008) use a measure called the Complex Global Entrepreneurship Context Index (GEM), which uses 26 variables and measures entrepreneurial activity, strategy and attitudes for 54 counties. Henrekson and Sanandaji (2014) use the Forbes list of global billionaires by country as their proxy for entrepreneurship and find this measure is negatively related to the prevalence of small business activity.

In this paper, we adopt the Schumpeterian view of entrepreneurship. The successful entrepreneur is someone who creates an enterprise that generates economic rents or super-normal profits for a period of time. This gives the firm an economic value greater than the value of the physical capital assets it holds.

This income of the business founder, or entrepreneur, is a form of compensation for work effort with certain special characteristics that differentiate it from ordinary wage and salary income. First, the supplier of this work effort is the business owner herself, not an employee receiving a contractual wage payment in exchange for services. Second, the entrepreneur's effort typically produces a stream of net business profits that begins some years after the initial work is performed. The profits are derived from an innovation the business owner creates, which can take numerous forms and may or may not enjoy patent protection. It could be a new product or service, the establishment of a business in an under-served market, a new production method that lowers cost of producing an established good or service, or a superior form of business organization or governance that out-performs competitors. These innovations typically do not yield returns immediately, but only after a substantial period of product development, buildup of firm structure and supporting physical capital, development of marketing and sales tools to reach new markets, and accrual of consumer acceptance or brand name reputation.

The type of income received by entrepreneurs has been given different names. Some have termed it a return to "sweat equity", reflecting the entrepreneur's personal efforts in creating value for the firm. Professor Victor Fleischer (Fleischer, 2016) has coined the term "ALPHA income", to refer to a type of income, which in his view differs from standard forms of income from labor services or capital investments.

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[1] http://www.merriam-webster.com/dictionary/entrepreneur

In this author's view, the entrepreneur's income is not a separate form of income outside of standard economic categories, but instead consists of both a labor and a capital component. In standard economic models, income is derived from labor services, which is a direct return to work effort, and from capital services, which is the return to waiting – that is, the compensation investors receive for sacrificing current consumption in order to provide resources to produce assets, such as plant and equipment. These assets, in turn, will make possible higher future income and consumption. The return to capital itself consists of two elements - a "risk-free" return for waiting and a risk premium to compensate the investor for the uncertainty of returns to investments.[2]

The risk premium can be thought of as the expected premium in excess of the time value of money that investors require "ex-ante" to compensate them from the uncertainty of investment returns. Because some risky investments will fail, the "ex-post" return to those investments that are successful will be higher than the required return "ex-ante", which in turn will be higher than the expected return from that category of asset to compensate for the variability of returns. When discussing the risk premium and its effect on the pricing of assets, we are referring to the "ex-ante" risk premium.

In that framework, the entrepreneur initially develops an asset with a value at the time of creation equal to the present value of future returns her innovation will eventually produce. This initial asset value is the "labor income" of the entrepreneur. The capital income is the accrual of value of the firm at a rate of return, including the risk premium for investments in new firms, between the time the innovation is created and the date at which the firm will generate positive net profits.[3] In reality, of course, the entrepreneur contributes ideas and leadership throughout the development period and the accrual of value reflects returns on both her initial contribution and ongoing efforts. To simplify the analysis however, this paper develops a framework in which the initial contribution of effort by the entrepreneur occurs at one time and subsequently the value of the firm increases as it approaches the time when the initial contribution starts generating operating profits.

This paper estimates the effective tax rate on entrepreneurial income under alternative assumptions about the pattern of returns from innovations, the tax rules applied to different types of income (wages, interest, capital gains, dividends, corporate profits), and the effects of taxes on the market value of successful enterprises. We view entrepreneurial activity as the creation of new firms, although the same analysis can be applied to returns to "turnaround" activities to revive and reinvent existing firms, incubators sponsored by existing firms that reward the creators of intellectual property as if they were independent entrepreneurs, or even continuous innovations from existing firms. This is to be distinguished from the profits from operating established and stable business enterprises that invest only to replace existing capital as it depreciates or to increase the scale of existing operations. We therefore model the tax rate on entrepreneurial income as the tax burden on an individual who establishes a new firm and then sells her interest in the business once it becomes an established enterprise.

The tax rate on entrepreneurial income so defined consists of two parts. The first part is the tax rate on the entrepreneur's work effort in creating the asset plus the increase in the value of the firm between its founding and the time she sells it at a given price to an unrelated purchaser. The second part is the effect on the price the entrepreneur receives from selling the business due to rules for taxing both the return to equity in established businesses and the return to alternative assets, such as debt.

As noted above, our analysis differs from earlier work by the Tax Policy Center (Rosenberg and Marron, 2015; Brown and Gale, 2013) that examined differences in the taxation of returns to identifiable assets used in the businesses (machinery, buildings, and intellectual property assets, such as software) between emerging and mature firms. This paper treats the firm itself – its knowhow, patents, brand name reputation, corporate governance – as the asset, which produces value over and above the returns produced by the workers and specific assets that the firm

[2] Note that the return to the entrepreneur's labor services may be significantly larger than the wage she could command by working as an employee in another firm. The return that a worker or a capital asset receives in excess of its return in its best alternative use is often referred to as an "economic rent" and reflects the unique or superior contribution of the individual or superior attributes of the asset.

[3] The assumption of a single moment of creation, followed by a gestation period before the idea becomes operational, is a simplifying assumption for purposes of exposition. In reality, the generation and refinement of innovations occurs throughout the life of a firm and especially in its formative stage.

employs. The focus here is on the creation of the "intangible" value of the firm and how the tax rules affect the net income of the entrepreneur who creates it.

The next section of this paper presents illustrative examples of how the effective tax rates on entrepreneurial income depend on the rate of return that investors in new businesses require and the gestation period before the net profits begin to be realized. The following sections illustrate how the income received by the entrepreneur is taxed under current law and how it would be taxed under idealized income and consumption taxes. They discuss how entrepreneurial income is taxed in the firm's initial growth phase and how the future taxes applied to mature enterprises affect the return that the entrepreneur receives.

The final two sections discuss the effects of recently proposed tax reform plans by Presidential candidates and Congressional leaders on the tax rates applied to entrepreneurial income and offer some concluding observations.

EXAMPLE: ENTREPRENEURIAL INCOME IN THE GROWTH PHASE

We start with a simple example of the build-up of wealth for a new company. Suppose an entrepreneur gets an idea for a business and forms a company in year 0. She raises funds from external investors, who require a normal return including a risk premium, which we call the discount rate, for supplying capital to a new venture. This discount rate for start-up firms is higher than the discount rate investors would require for stable and ongoing businesses.

Structure of Example

The company generates no net profit for the first n years of its life and then begins to receive a steady stream of profits in year n. The entrepreneur sells the company in year n when it begins to generate net operating income. The value of the company at the time of sale is the present discounted value of the firm's future stream of after-tax profits.

Start-up firms, of course, do experience some costs in their early years. These consist of salaries paid to the entrepreneur, her active partners, and employees, foregone earnings of the entrepreneur who may be sacrificing an opportunity to earn higher pay in alternative employment or incurring personal costs by working extraordinarily long hours, and outlays for capital equipment. We assume the funding for salaries and equipment is supplied by external investors, who add those costs to the tax basis of their investment in the firm. The entrepreneur herself pays income tax on any salary she draws and any forgone earnings are implicitly deductible. Therefore, in the example, the entrepreneur has for tax purposes no assets invested in the firm. In reality, entrepreneurs often invest cash in their enterprises, but in this example we are effectively separating out the creative work from the financial contribution of the entrepreneur; we are treating only the return to the former as "entrepreneurial income".

The entrepreneur pays no tax on the firm's value at the time the innovation is created and during the period when the firm's wealth is increasing as the date at which net operating profits begin becomes closer. In year n, when she sells the firm, she receives cash and reports taxable capital gains equal to the value of the firm, less the share of the firm's equity held by outside investors. For simplicity, we assume the entrepreneur's tax basis in the company is zero because external investors supply all of the start-up funds. If, in fact, the entrepreneur supplies some of her own funds, we can think of her capital gains as consisting of two pieces – the return to the original idea and the effort in building and executing that idea that formed the basis of the company and the return to the funds she invests, which should be the same as the return to any other investor. We are only concerned with the portion of the return that represents the return to the effort generated in conceptualizing and starting the business.

We also assume that the entrepreneur is a"start-up" expert and is not interested in managing an ongoing firm. Of course, many entrepreneurs continue to manage their companies throughout its growth phase or perhaps throughout their own productive lives. And entrepreneurs within many successful companies are continually innovating and taking risks. Again, however, we are separating out the start-up and initial development, or entrepreneurial functions, from the long-term management function by illustrating the taxation of a new firm and analyzing the taxation of its returns in the initial phase before it is generating operating profits.

Parameters

Two key parameters determine the effective tax rate on entrepreneurial income that a given set of tax rules produce. The first of these is the length of time (n) between the start-up date and the year in which the business begins to generate net operating profits. The second is the discount rate (d), or the risk-adjusted return required by external investors. This reflects the expected return that investors would receive from alternative new ventures with similar risk.

The value of the firm at the time of startup is simply, $V_0 = \mathbf{E}(V_n)/(1+d)^n$, where V_0 = the value of the firm at start-up, $\mathbf{E}(V_n)$ = the expected value at the time of sale, d = the risk-adjusted discount rate, and n is the number of years between start-up and sale. As the time of sale becomes closer, the value of the firm rises each year by the discount rate multiplied by the previous year's value. One can think of the entrepreneur's income as consisting of a labor component, V_0, reflecting the present value of the firm she created, and a risky capital component $V_n - V_o$, reflecting the return from deferring an uncertain stream of future income until the firm begins generating net operating profits.

The value of d represents an "ex-ante" return demanded by investors in the highly risky set of activities that might be classified as new ventures (including those by established firms). In an ex-post sense, the most successful ventures will earn a rate of return much higher than d on their invested funds, while many new ventures will fail.

The discount rate consists of two components – a normal return (i) reflecting the time value of money and a risk premium (p*), reflecting the uncertainty attached to the payoff from the activity. The assumption of a constant p* implies that the uncertainty of the payoff declines over time as the date when the firms begins to produce operating profits becomes closer.

If, for example, the expected value of a firm that starts yielding steady profits in year n is X and there is no risk associated with the future return, then the value of the investment in year t is equal to $X/(1+r)^{(n-t)}$. If investors in the firm have a constant discount rate of d, reflecting both the time value r and a risk premium, then the certainty-equivalent value in years 0 through n is $X/(1+d)^{(n-t)}$. For years 0<t<n, the ratio of the certainty-equivalent value to the expected value of the firm is then $(1+r)^{(n-t)}/(1+d)^{(n-t)}$, which increases as t approaches n. For example, if r=4%, d=20%, and n=8, the ratio of the certainty-equivalent value to the expected value of the firm is 0.318 in year 0, 0.367 in year 1, 0.751 in year 6, and 0.867 in year 7. This implies that as investors gain more knowledge of the firm's prospects as it approaches the date when net receipts begin they reduce the percentage amount by which they discount future expected revenues.

The taxation of entrepreneurial income during the wealth build-up phase under current law and under ideal alternative tax bases depends on the marginal tax rates applied to ordinary income and capital gains of the owner-entrepreneur, the timing of tax liabilities, the numbers of years between the time of founding and the time the firms starts generating income and the time the entrepreneur sells her interest, and the discount rate or rate of return external investors must earn during the build-up period.

Tax Rules under Current Law and Ideal Tax Bases

Under current law, there is no income tax paid during the build-up phase before the firm is earning net operating profits. At the time of sale, the owner pays tax at capital gains rates on the value of sale less basis (which we assume is zero).

Economic income in any year is the sum of an individual's consumption plus the change in the value of the assets she owns. Therefore, under an idealized income tax, the owner would pay tax every year on the accrued value of her holdings in the firm at ordinary income tax rates. In reality, such a tax would be difficult to assess accurately because, in the absence of a market for the shares of the firm, there is no good way to measure the firm's value. In theory, however, such an assessment would be required to place the treatment of this type of asset on an equal footing with the taxation of assets such as bonds or shares in stable firms that generate income in the form of annual cash returns instead of expected appreciation.

Accrued income in the year of founding would be the present value of the future net profits from the firm, discounted to the founding year. Accrued income in each subsequent year would be the discount rate multiplied by the previous year's value. The sum of accrued income the entrepreneur receives would equal the value of the firm at the time of sale. However, at the time of founding, the present value of future accrued income would be larger than the present value of the sale price because some of the income would be accrued in the form of asset appreciation before the time of sale.

For example, suppose an entrepreneur starts a company in year 0 and sells her interest in it at the end of 8 years for $1 million (Table 1). At a 20 percent discount rate, the value of the company at founding is $233,000. This is the present value of the firm at the beginning of year 1, calculated by discounting at a 20 percent annual rate the sale value of $1 million at the end of year 8. The value of the company increases by 20 percent per year as the date at which it begins to generate net profits approaches. The entrepreneur's income in year 1 is $279,000, reflecting the value of her initial idea plus the accrued return during the first year. Annual accrued income declines in year 2 because it only includes the capital appreciation and not the founder's initial labor contribution and increases gradually every year as the 20 percent return is applied to a larger capital base. The sum of income after 8 years is $1 million, the value of the firm at the end of year 8. (The sale itself does not generate income; it is just a conversion from holding the firms' shares to holding cash.) The present discounted value of future income at the time of founding is $504,000, reflecting the fact that much of the income is accrued in the form of asset appreciation in years following the entrepreneur's initial labor contribution.

Under a comprehensive income tax, a business owner in the top bracket would pay 44.6 percent of income in federal taxes every year.[4] (The 44.6 percent figure is the sum of the 39.6 percent top marginal income tax rate, the 3.8 percent Medicare surtax on the investment income of high-income taxpayers, and the 1.2 percentage point increase in the marginal rate resulting from the limitation on itemized deductions.[5]) This is the same rate she would pay if she invested in a bond or earned income from working. The sum of income taxes over the life of her investment is $446,000 and the present value of income taxes is $225,000--44.6 percent of total income and the present value of income, respectively.

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[4]In reality, this type of tax would be very difficult to administer, as there would be no good measures of the value of the firm in its early years, which will depend on how the venture pans out. We use this as a benchmark to illustrate what taxes would be collected if an omnipotent taxing authority were able to estimate correctly the market value of a new firm whose shares are not traded on an organized marketplace, based on an assessment of the firm's future profitability.

[5] Under the limitation of itemized deductions in current law, the taxpayer loses $3 of itemized deductions for everyone $100 of additional income, which raises her marginal tax by .03*.396, or by about 1.2 percentage points.

Example of Effective Tax Rate on Accrued Income of Entrepreneur
All values in thousands of dollars

Year	Market value	Income	Tax		
			Current law	Income tax	Consumption tax
0	233				
1	279	279	0	124	0
2	335	56	0	25	0
3	402	67	0	30	0
4	482	80	0	36	0
5	579	96	0	43	0
6	694	116	0	52	0
7	833	139	0	62	0
8	1000	167	250	74	446
SUM		1000	250	446	446
NPV at 20%		504	58	225	104
Effective tax rate (%)			11.50%	44.60%	20.60%

Assumptions: Entrepreneur's innovative effort all occurs at the time of founding of the firm. The entrepreneur supplies no financial capital to the venture, but retains a share of ownership. The risk-adjusted discount rate for investing in new ventures is 20 percent. The firm earns no net income for its first 8 years and then begins to earn positive net profits after year 8. The entrepreneur sells her share in the business at the end of year 8 for $1 million.

An alternative tax base that many economists view as ideal is consumption, or income excluding the return to saving. Under a consumption base, the owner would pay tax at ordinary rates on the proceeds of the sale of the firm, less any amount of those proceeds that were reinvested. Reinvesting the proceeds to generate future consumption would not change the present value of tax owed as long as the investor remained in the same marginal tax rate bracket. If the proceeds of the sale were used for consumption the owner would pay a tax of $446,000 in year 8, or 44.6 percent of the sale value. The sum of taxes over the life of her investment would be the same under a consumption tax as under an income tax, but the present value of taxes under a consumption tax would be lower ($104) because the entire tax would be deferred until the time of sale instead of being paid as income accrued.

The present value of taxes the entrepreneur pays during the buildup phase is even lower under current law than it would be under either an idealized income or consumption tax. It is lower than under an idealized income tax because of both the deferral of tax until sale and the favorable rates applied to capital gains compared with ordinary income. It is lower than under an idealized consumption tax because of the special capital gains rates. As shown in this example, the effective tax rate is 44.6 percent under a comprehensive income tax, 20.6 percent under a consumption tax, and only 11.5 percent under current law.

However, as we explain below, the amount of gain the entrepreneur receives may itself be reduced by the effect of the corporate income taxes on equity prices. So it is necessary to look at the effects of both taxation during the buildup phase and subsequent taxation of the income of investor in mature corporations to estimate the total tax burden on entrepreneurs.

How Different Assumptions Affect Estimated Effective Tax Rates on Entrepreneurs in the Build-up Phase

The present value of entrepreneurial income from an asset that is sold for $V in year n, with a discount rate of d, is the sum of the present values in each year. Assuming the idea is developed at the beginning of year 1 (time 0) and the firm is sold at the end of year n, income of the owner in year 1 is the present value of the firm at the end of year 1, or:

$$PV(1) = V/(1+d)^{(n-1)},$$

where V = the future sale price of the firm, d= the risk-adjusted discount rate, and n is the year of sale.

In each year t after founding, the firm increases in value by dV_{t-1}. The present value of the sum of incomes over the buildup period of the firm can be expressed as:

$$PV(Y) = (V/(1+d)^n)(1+((d/(1+d))(n-1))$$

The present value of taxes under a comprehensive income tax is simply $T*PV(Y)$, where T = the marginal tax rate of the owner.

Under a consumption tax, the present value of the tax base (C) equals the present value of the sale price in year n, or $PV(C) = V_n/(1+d)^n$. Therefore, the effective income tax rate on entrepreneurial income under a consumption tax is equal to $T*PV(C)/PV(Y)$, or

$$ETR_c = T/((1+((d/(1+d))*(n-1))$$

Note that the effective tax rate on entrepreneurial income under a consumption tax is positive, even though the effective tax rate on capital income under a consumption tax is zero in the sense that the pretax return and after-tax return to saving are equal. The positive rate on entrepreneurial income reflects the fact that a portion of entrepreneurial income is a return to the entrepreneur's labor services, which is taxable under a consumption tax. The ratio of the effective tax rate under a consumption tax to the effective tax rate under a comprehensive income is equal to the ratio of labor income to total income (labor plus capital returns) from the entrepreneurial activity.

The effective income tax rate under current law is simply equal to $(T_g/T)*ETR_c$, where T_g = the marginal tax rate on capital gains. Entrepreneurial income under current law benefits from the same deferral of income realizations as under a consumption tax, but in addition benefits from the lower effective tax rate on capital gains.

The effective tax rates under current law and a consumption tax vary with changes in n and d. For a given d, the effective tax rates are lower as n increases. For a given n, they are lower as d increases (Table 2). For example, if the discount rate is 20 percent, the effective tax rate under current law on a new venture that takes 4 years to mature is 16.7 percent, while the effective tax rate with a 12 year gestation period is only 8.8 percent. If the time to maturity is 8 years, the effective tax rate under current law is 15.3 percent with a 10 percent discount rate and 9.8 percent with a 30 percent discount rate. The share of entrepreneurial income that represents a return to labor services declines as the holding period and discount rates increase.

Effective Income Tax Rates on Build-up of Entrepreneurial Income Under Different Tax Rules, Time To Maturity and Discount Rates

Years to maturity (n)	Discount rate (r)	Effective income tax rate			Labor share of entrepreneurial income
		Current law	Ideal income tax	Ideal consumption tax	
4	0.2	16.70%	44.60%	29.70%	66.70%
6	0.2	13.60%	44.60%	24.30%	54.50%
8	0.2	11.50%	44.60%	20.60%	46.20%
10	0.2	10.00%	44.60%	17.80%	40.00%
12	0.2	8.80%	44.60%	15.70%	35.30%
8	0.1	15.30%	44.60%	27.30%	61.10%
8	0.15	13.10%	44.60%	23.30%	52.30%
8	0.2	11.50%	44.60%	20.60%	46.20%
8	0.25	10.40%	44.60%	18.60%	41.70%
8	0.3	9.80%	44.60%	17.10%	38.20%

Assumptions: Entrepreneur is in top marginal tax bracket.
Maximum marginal individual income tax rate = 44.6 percent = sum of top marginal rate on ordinary income (39.6 percent, the HI tax on earnings of top earners (3.8 percent), and the additional tax due to the limitation on itemized deductions (1.2 percent).
Maximum marginal capital gains tax rate = 25.0 percent = the sum of the maximum rate on capital gains (20 percent), the HI tax on investment income of high-income individuals (3.8 percent) and the additional tax due to the limitation on itemized deductions (1.2 percent).

The results shown in Table 2, however, are only part of the story because they assume the tax system does not affect the price at which the entrepreneur can sell her interests when the firm reaches maturity. This price will itself be affected by corporate and individual income taxes applied to the firm's future income and by how the tax system affects returns on alternative assets. We turn to these questions in the next section.

EFFECTS OF CAPITAL INCOME TAX RULES ON THE VALUE OF FIRMS THAT ENTREPRENEURS CREATE

Taxes on income from investments affect the value of firms that entrepreneurs create in two ways. First, they lower the value of these firms by raising the pretax return that is required to generate any given after-tax return. Second, they increase the value of these firms by reducing the discount rate, or the after-tax rate of return that investors receive from alternative investments.

In the absence of taxes, the value of a firm with a permanent stream of future net earnings of R can be expressed as V = R/d*, where V = the value of the firm and d is the discount rate, or the return that must be paid to suppliers of funds to mature firms. If the market interest rate on firm debt is i and equity investors require an equity risk premium of p percent, then the discount rate can be expressed as:

d* = iD + e(1-D), where D = the share of capital financed by debt, i = the interest rate on corporate bonds, p = the equity premium and e = i + p = the required return on equity.

Under current law, recipients of interest income are taxable at ordinary income rates. Recipients of income from equity claims are taxable at the special rates applied to qualified dividends and realized capital gains. In addition, the returns individuals receive in the form of appreciation from retained corporate earnings benefit from the deferral of tax on capital gains until realization and the exemption of capital gains on assets that are transferred

at death ("step-up" in basis) or donated to charity. The tax rate applied to the income (net of corporate tax) received by equity investors in corporations can be expressed as:

$$T_e = PT_d + (1-P)GT_g,$$

where T_e = the marginal tax rate on equity income of shareholders, P = the share of after-tax corporate profits paid out as dividends, T_d = the marginal tax rate on qualified dividend income, G = the long-term ratio of capital gains realizations to total capital gains attributable to accrued corporate profits, and T_g = the marginal tax rate on realized capital gains.

If we assume the market interest rate, i, is fixed on global markets, the required return to equity investors, net of corporate income taxes, can be expressed as:

$$e^* = (i(1-T)+p)/(1-t_e^*),$$

where T = the marginal tax rate on interest income, and t_e^* = the marginal tax rate on equity income paid by those "marginal" investors who are equilibrating the risk-adjusted after-tax returns to debt and equity.

Net revenues earned by corporations must be sufficient to pay returns required by bondholders and shareholders (net of corporate, but before individual income taxes) and to pay corporate income taxes they owe to the government. The required corporate return, R^*, can be expressed as

$$R^* = (1/(1-w))^*((iD(1-u)+e(1-D)),$$

where w= the effective tax rate on corporate profits, i = the corporate bond rate, D = the share of corporate capital financed by debt, u = the statutory corporate tax rate, and e = the net of corporate but gross of individual tax return on equity income. The effective corporate tax rate, w, can be thought of as the statutory tax rate on corporate taxable income multiplied by the long-term steady state share of corporate economic income included in the corporate tax base.[6] If there are no exclusions and credits and tax depreciation rules exactly track the rate at which assets decline in value, then w = u. If capital investments are expensed, w = 0.[7]

The first term of the expression for R^*, $1/(1-w)$, reflects the fact that pretax returns must be increased to cover corporate taxes actually paid. The terms iD(1-u) and e(1-D) reflect the required returns that must be paid to bondholders (net of corporate interest deductions) and shareholders.

The value of the firm with taxes is simply $V^*=1/R^*$. The effective tax rate on the sale of the firm by the entrepreneur can then be expressed as:

$$ETR_v = (V-V^*)/V,$$

where V^* = the sale price received by the entrepreneur and V = the price that would have been received in the absence of corporate and individual income taxes.

Thus, the sale price that the entrepreneur receives relative to the price in the absence of taxes depends on many factors, including the global interest rate, the equity premium in the absence of taxes, marginal tax rates on interest income, capital gains and dividends, the share of the corporation's assets that are debt financed, the share of equity returns paid out as dividends, the average annual ratio of realized capital gains to after-tax corporate retained earnings, and the statutory and effective corporate tax rates.

For example, if the global interest rate is 4 percent, the after-tax equity premium is 6 percent, the corporation is financed 40 percent by debt and 60 percent by equity, the dividend payout rate is 50 percent, the ratio of realized to accrued capital gains is 50 percent, the marginal tax rate on interest income is 44.6 percent, the

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[6] This share will depend on depreciation rules and various exclusions and credits.
[7] The combination of expensing and the research and experimentation credit make the effective tax rate on some research investments negative.

marginal tax rates on capital gains and dividends are 25.0 percent, the statutory corporate tax rate is 35 percent, and the marginal effective tax rate on equity-financed corporate investments is 25 percent, then we compute that the value of the firm would be just over 80 percent of its value absent taxes or, in other words, the effective tax rate on the sale price the entrepreneur receives would be just under 20 percent. This levy is in addition to the capital gains tax the entrepreneur pays on the sale of her shares in the firm.

The tax on the asset sale price of the firm varies substantially depending on the assumed parameters we use in the calculation (Table 3). With the other assumed values remaining as in the above example, the effective tax rate on firm values rises with increases in the equity premium, from -12.1 percent with an equity premium of zero to 25.5 percent with an equity premium of 10 percent. It declines with an increase in the corporate debt to capital ratio, from 23.3 percent with a debt to capital ratio of 20 percent to 14.4 percent with a debt to capital ratio of 60 percent. It declines with an increase in the market interest rate from 27.2 percent with an interest rate of 2 percent to 14.7 percent with an interest rate of 6 percent. It increases with an increase in the effective tax rate on corporate income from 9.1 percent with an effective corporate rate of 15 percent to 30.5 percent with an effective corporate rate of 35 percent. It increases with an increase in the marginal tax rate on capital gains and dividends of the equilibrating investor from 4.5 percent with a tax rate of zero (i.e., assuming that tax-exempts, retirement funds, and foreign shareholders are the equilibrating investors) to 19.8 percent with a tax rate of 25.0 percent (assuming that U.S. shareholders in the top bracket are the equilibrating investors).

Thus, under a range of plausible assumptions, the tax system could reduce the price at which the entrepreneur sells a firm when it reaches maturity by as much as 30 percent. It could also, however, increase the price at which the firm is sold if interest costs are high relevant to payments to equity owners of mature firms, the corporate effective tax rate is very low due to legislated tax preferences or international tax avoidance by firms with intangible capital, or the firm's cost of equity capital depends primarily on how much return it must supply to tax-indifferent investors instead of taxable investors.

OVERALL TAX RATE ON ENTREPRENEURIAL INCOME – COMBINING ACCRUAL TAX AND ASSET VALUE TAX

Combining the results of the previous two sections, we can express the effective tax rate on entrepreneurial income as:

$$ETR_e = ETR_v + (1-ETR_v)*ETR_a,$$

where ETR_e = the effective tax rate on entrepreneurial income, ETR_v = the effective tax rate on the value of the firm resulting from individual and corporate income taxes on the future income of the mature firm and ETR_a is the effective tax rate on the entrepreneur's accrued income during the firm's buildup of phase.

TABLE 3
Effects of Tax System on Value of Firms Under Alternative Assumptions

I	P	D	$t_d = t_g$	w	ETRv	V*/V
4%	0%	40%	25.00%	25%	-12%	1.121
4%	2%	40%	25.00%	25%	6%	0.939
4%	6%	40%	25.00%	25%	20%	0.802
4%	10%	40%	25.00%	25%	26%	0.745
4%	6%	20%	25.00%	25%	23%	0.767
4%	6%	40%	25.00%	25%	20%	0.802
4%	6%	60%	25.00%	25%	14%	0.856
2%	6%	40%	25.00%	25%	27%	0.728
4%	6%	40%	25.00%	25%	20%	0.802
6%	6%	40%	25.00%	25%	15%	0.853
4%	6%	40%	23.80%	15%	9%	0.909
4%	6%	40%	23.80%	25%	20%	0.802
4%	6%	40%	23.80%	35%	31%	0.695
4%	6%	40%	0.00%	25%	5%	0.955
4%	6%	40%	6.30%	25%	8%	0.919
4%	6%	40%	15.00%	25%	14%	0.864
4%	6%	40%	25.00%	25%	20%	0.802

Variable Definitions: I = market interest rate, p = net of tax equity premium, D = corporate debt/capital ratio, $t_d = t_g$ = tax rates on dividends and capital gains for marginal investor, w = effective corporate tax rate on economic income, ETRv = effective tax rate on firm value, and V*/V = ratio of firm value with taxes to firm value with no taxes.
Other Assumptions: Statutory corporate tax rate = 35 percent, maximum tax rate on ordinary income = 44.6 percent.

Under both a comprehensive income tax and a comprehensive consumption tax, the effective tax rate on the value of the mature firm is zero. In the case of a consumption tax, the tax system leaves value unchanged because a consumption tax imposes a zero effective tax rate on investment income; the present value of deductions for purchases of capital exactly offsets the present value of taxes on returns from the investments. In the case of a comprehensive income tax, the effective tax rate on the firm's profits is exactly equal to the tax rate on alternative investments, so that the discount rate falls in proportion to the decline in the after-tax rate of return on the firm's investment, leaving the value of the firm unchanged. As shown in the previous section, however, the double taxation of corporate income under current law can result in a decline in the value of corporate assets except in those cases where a combination of leverage and corporate preferences allows the effects of interest deductions, preferential taxation of equity income of individuals and corporate preferences to outweigh the effects of the two layers of taxation of corporate equity income.

From this discussion, it is clear that how one computes the effective tax rate on entrepreneurial income depends on numerous combinations of assumptions about characteristics of both new ventures and mature firms. For illustration, we display calculations below using a small subset of assumptions that encompass a reasonable range of potential results. First, we summarize the range of potential tax rates on the sale of the firm by entrepreneurs, based on a range of plausible assumptions. These "asset" tax rates range from -4.3 percent under the low tax rate assumptions to 41.5 percent under the high tax rate assumptions (Table 4).

In row 1 of the table, we choose assumptions that yield a low asset tax rate – a high interest rate (6 percent) and debt-capital ratio (60 percent), a low equity premium of 2 percent, a low effective corporate tax rate (15 percent), and an assumption that yields on corporate equity and debt and equilibrated by tax-indifferent investors (marginal tax rates on capital gains, dividends and interest = 0). These assumptions yield an asset tax rate of -4.3 percent.

In row 2, we illustrate a set of mid-range assumptions – an interest rate of 4 percent, an equity premium of 6 percent, a debt-capital ratio of 40 percent, equilibrating tax rates of 6.3 percent for capital gains and dividends and

11.2 percent for ordinary income, and an effective corporate tax rate of 25 percent. The equilibrating tax rates reflect assumptions that the average investor determines equilibrium yields on financial assets, that 25 percent of shares are held by investors in the top marginal rate bracket, and that 75 percent of shares are held by tax-indifferent investors (Rosenthal and Austin, 2016). With these assumptions, the asset tax rate is 17.2 percent. In row 3, we display alternative mid-range assumptions, which are the same as the assumptions in row 2 except that equilibrating tax rates reflect the marginal tax rate of top bracket taxpayers. With these assumptions, the asset tax rate is 19.8 percent.

Finally, row 4 displays assumptions that yield a high asset tax rate – a low interest rate (2 percent) and debt-capital ratio (20 percent), a high equity premium (10 percent), a high effective corporate rate (35 percent), and the assumption that returns between equity and debt are equilibrated by taxpayers in the top individual tax brackets for capital gains, dividends, and ordinary income. In this case, the entrepreneur sells her firm for a price that is 41.7 percent below the price in the absence of taxes on corporate income, shareholder income, and net interest income.

We combine these results with the calculations of the effective tax rates imposed on entrepreneurial income during the firm's growth phase (Table 5) and compare these to effective tax rates the entrepreneur in the top bracket would face under a pure consumption tax and a pure income tax. The effective rates range from 4.9 percent with the low accrual tax and low asset tax assumptions to 51.1 percent with the high accrual and asset tax assumptions. Using our mid-range assumption (medium asset tax rate 2 and medium accrual tax), we estimate a tax rate on income of the entrepreneur of 29.1 percent – over 15 percentage points below the rate that would be applied to a top bracket entrepreneur under a comprehensive income tax and about 5 percentage points above the rate under a comprehensive consumption tax. We conclude that the tax system provides a modest preference for entrepreneurial ventures, but the calculated rates range from a substantial preference to a moderate disadvantage.

TABLE 4
Asset Tax Rates Under Alternative Assumptions

Case	I	P	D	td/tg	ty	w	tv
Low	6%	2%	60.00%	0	0	15%	-4.30%
Medium 1	4%	6%	40.00%	6.30%	11.20%	25%	17.20%
Medium 2	4%	6%	40.00%	25%	44.60%	25%	19.80%
High	2%	10%	20.00%	25%	44.60%	35%	41.50%

Variable Definitions: i = the interest rate on corporate debt, p = the net of tax equity premium, D = the corporate debt to capital ratio, td/tg = the marginal tax rates on dividends and capital gains at which investors equilibrate debt and equity returns , ty = the top marginal tax rate on ordinary income at which investors equilibrate debt and equity returns, w= the corporate effective tax rate, tv = the percentage reduction in the pretax value of firms due to federal taxes on corporate and individual income. In Table 3, the corporate statutory tax rate = 35 percent, the top individual marginal tax rate = 39.6 percent, the maximum rates on capital gains and dividends = 23.8 percent, the dividend payout ratio of corporations = 50 percent, and the ratio of realized to accrued capital gains = 50 percent.

What is driving these results is that the double taxation of corporate income, by reducing the value of mature firms, lowers the return the entrepreneur receives and offsets either a fraction of the benefit or more than the 100 percent of the benefit that the entrepreneur receives from the deferral of tax on her accrued income and the taxation of that income, when realized, at preferential capital gains instead of ordinary income tax rates. The double taxation of corporate income, however, is reduced both by preferences at the corporate level (including the shifting of profits to low-tax foreign jurisdictions) and under some assumptions by the reduction of the effects of the double tax at the individual level due to the importance of tax-indifferent investors. To the extent these latter factors matter, the effects of corporate taxation on the value of assets developed by entrepreneurs will be too small to offset the effects of preferential treatment of income accrued in the development phase.

TABLE 5

Combined Effective Tax Rates on Entrepreneurial Income Under Alternative Assumptions About Patterns of New Firm Growth and Characteristics of Mature Firms

	Low accrual tax = 8.8%	Medium accrual tax = 11.5%	High accrual tax = 16.7%
Low Asset Tax Rate =4.30%	4.90%	7.70%	13.10%
Medium 1 Asset Tax Rate = 17.2%	24.50%	26.70%	31.00%
Medium 2 Asset Tax Rate = 19.8%	26.90%	29.10%	33.20%
High Asset Tax Rate = 41.5%	46.70%	48.30%	51.10%
Consumption tax	12.40%	24.20%	29.70%
Income tax	44.60%	44.60%	44.60%

EFFECTS OF PROPOSED TAX REFORMS ON TAXATION OF ENTREPRENEURIAL INCOME

Using the framework of analysis in this paper, proposed tax reforms affect both the accrual value and asset value components of the tax rate on entrepreneurial income:

- Increases (decreases) in the marginal tax rate on individual interest income reduce (increase) the asset value tax rate by lowering (raising) the discount rate applied to income of mature firms.
- Increases (decreases) in the capital gains tax rate raise (lower) the accrual tax rate by increasing (reducing) the tax paid upon sale of the firm and raise (lower) the asset value tax rate by increasing (reducing) the required pretax return to corporate equity.
- Increases (decreases) in the statutory corporate tax rate at which interest costs may be deducted lower (raise) the asset value tax rate by reducing (increasing) the required pretax return to corporate capital.
- Increases (decreases) in the effective corporate tax rate raise (lower) the asset value tax rate by increasing (reducing) the required pretax return to corporate capital.

Applying our mid-range estimate from the previous section (row labeled "Current Law" in Table 6), we provide stylized and rough illustrations of how selected major components of proposed tax reforms would affect the tax rate on entrepreneurial income by itself and in comparison to tax rates on labor income (Labinc tax) and capital income (Capinc tax) from equity investments. We represent the tax rate on capital income, as Capinctax = $w + ((1-w)*.75t_g)$, where w = the effective corporate tax rate, t_g = the tax rate on capital gains and dividends and the .75 figure represents an assumption that 50 percent of after-tax profits are paid out as dividends and capital gains realizations are about 50 percent on retained earnings.

The House Republican plan (Nunns et. al, 2016b) would reduce the top rate on earnings to 33 percent and the top rates on interest income, capital gains, and dividends to 16.5 percent. By providing for expensing of capital, it would make the effective tax rate on corporate investment returns equal to zero, but it would also eliminate corporate interest deductions, making the statutory rate applied to corporate interest paid also equal to zero. The result would be to reduce the accrual tax rate to 7.6 percent, reduce the asset value to 4.9 percent, and reduce the overall tax rate on entrepreneurial income to 12.2 percent. It would make entrepreneurial income much more heavily favored compared with earnings, but less heavily favored than under current law compared with capital income, which also benefits from a substantial tax reduction.

The latest campaign proposal of President-elect Donald Trump (Nunns et. al, 2016a), as far as we can determine from his public statements, is similar to the House Republican Plan, except that it would continue to allow

interest deductibility for firms that choose not to expense investments, albeit at the reduced statutory corporate rate (in Trump's plan) of 15 percent, would tax interest income at the ordinary income tax rate of 33 percent, and would tax capital gains and qualified dividends at 20 percent. The result is to lower the accrual tax rate to 9.2 percent, the asset value tax rate to 13.7 percent, and the overall tax rate on entrepreneurial income to 21.7 percent.

The 4 percent surtax on high income in Secretary Clinton's tax plan (Auxier et al., 2016) would have raised the top marginal tax rates to 48.6 percent on ordinary income and 29.0 percent on capital gains. We represent her various measures to reduce corporate preferences as raising the effective corporate tax rate from 25 percent to 28 percent. We estimate her proposals overall would have raised the effective tax rate on accrued income in the build-up phase from 11.5 to 13.4 percent, raised the effective tax rate on asset value from 19.8 to 24.2 percent and increased the total tax rate on entrepreneurial income from 29.1 to 34.3 percent. Clinton also would have raised the top marginal rate on earnings and capital income, so she would have roughly maintained the current differential favoring entrepreneurial income.

Finally, we examine for comparison two stylized broad-based reform options. The first would apply a flat 20 percent rate to all corporate and individual income and eliminate all corporate preferences and the preferential treatment of capital gains and dividends. This option would reduce the accrual tax rates only to 9.2 percent and raise the asset value tax rate to 21.8 percent by increasing the after-tax discount rate. The overall entrepreneurial tax rate would be virtually unchanged at 29.0 percent, about 9 percentage points higher than the tax rate on labor income, but 3 percentage points lower than the tax rate on capital income.

Alternatively, a flat rate consumption tax of 25 percent would leave the accrual tax rate unchanged at 11.5 percent, but eliminate the asset value tax. The overall tax rate on entrepreneurial income would fall to 11.5 percent, 13.5 percentage points below the tax rate on labor income, but 11.5 percentage points above the tax rate on capital income, which would be zero.

TABLE 6
Effects of Proposed Tax Reforms on Taxation of Entrepreneurial Income

Tax Plan	Ty	tg	ETRa	U	w	ETRv	ETR	Labinc tax	Capinc tax
Current Law	44.60%	25.00%	11.50%	35.00%	25.00%	19.80%	29.10%	44.60%	39.10%
Clinton	48.60%	29.00%	13.40%	35.00%	28.00%	24.20%	34.30%	48.60%	43.70%
House Republicans	16.50%	16.50%	7.60%	0.0%*	0.00%	4.90%	12.20%	33.00%	12.40%
Trump	33.00%	20.00%	9.20%	15.00%	15.00%	13.70%	21.70%	33.00%	27.80%
Flat income, t = 20%	20.00%	20.00%	9.20%	20.00%	20.00%	21.80%	29.00%	20.00%	32.00%
Flat consumption, t = 25%	0.00%	0.00%	11.50%	0.0%*	0.00%	0.00%	11.50%	25.00%	0.00%

Assumptions: Interest rate = 4 percent, equity premium = 6%, corporate debt to capital ratio = 40 percent, corporate effective rate = 25 percent under current law, 28 percent under current law, and 15 percent under Trump plan (assuming companies maintain interest deducibility, but with no expensing).

TREATMENT OF LOSSES

The discussion in this paper thus far has illustrated the tax treatment under alternative assumptions of entrepreneurial income from successful ventures. Yet, most new start-ups fail and the tax treatment of unsuccessful ventures will affect the expected return *ex-ante* from start-ups.

There are two aspects of this question – the treatment of losses from financial investments and the treatment of losses to the entrepreneur from investing her time in a failed venture. If we treat the financing and entrepreneurial functions as separate, then one can think of financiers diversifying their portfolios by investing in a number of promising start-ups. Capital losses from the failures can be used to offset capital gains from the start-up. Under certain assumptions, a classic result of economic theory finds that taxation of capital gains with full loss offsets can increase the incentive to undertake risk because the tax reduces the after-tax variance associated with any outcomes (Musgrave and Domar, 1944). There may, however, be incomplete loss offsets if the failures come before the successes, so that the investor does not have current gains against which to deduct any losses. The losses can be carried forward and used to offset future gains, but the effective deduction rate is reduced by the delay in claiming a loss.

The entrepreneur sacrifices forgone earnings in alternative employment. Those earnings would be taxable as ordinary income, so the opportunity cost of working in an entrepreneurial activity is the after-tax wage in other employment. In other words, the cost of the investment of "sweat equity" (or loss if the effort yields no return) is effectively deductible. And, as discussed above, tax rate on positive entrepreneurial income is probably less than the statutory marginal tax rate on earnings. Effectively, this arrangement provides a subsidy to risk taking because losses can be deducted at a higher rate than the rate applied to gains.

This assumes the entrepreneur is in the same tax bracket when she starts the firm as she would be when she cashes in by selling shares. This may be true when the entrepreneur is a successful executive or engineer considering whether to leave a high paying job to start a new venture. If, instead, the entrepreneur is at the beginning of her career, she may face a lower marginal tax rate on foregone earnings when starting the firm than the marginal tax rate she would face if she realized a large gain, even with the preferential treatment of entrepreneurial income. In that case, she would confront an imperfect loss offset, with losses deducted at a lower rate than the rate applied to gains.

Of course, the entrepreneur herself is often investing her own financial resources instead of just relying on external financing. And she may invest a substantial share or all of her wealth in her enterprise, in contrast to the more diversified portfolios held by external investors. In that case, she would not receive a full loss offset for unsuccessful investments and the expected tax rate she would face *ex ante* would be higher than the rate applied to safe investments.

CONCLUSIONS

This paper develops a framework for analyzing the tax rate applied to entrepreneurial income, which we define as the return from starting a new firm and growing it until it becomes a mature enterprise earning ongoing profits. We isolate the return from this entrepreneurial activity from the returns earned by financiers of new enterprises and returns earned by owners of mature firms with stable and ongoing net operating profits. The entrepreneurial income so defined is a combination of labor and capital income, with the labor component representing the return to the entrepreneur's efforts, skills, and new insights and the capital component representing the return from waiting until the new firm is generating a stream of net operating profits plus a premium for risk.

The effective tax rate on entrepreneurial income depends on both the tax rate imposed on the entrepreneur's income during the firm's growth phase and on the effects of the tax system on the price at which the entrepreneur can cash in her investment when the firm reaches maturity. We illustrate that this tax rate depends on a variety of factors, including the discount rate during the growth phase, the number of years between start-up and maturity, the market interest rate and the equity premium demanded by investors in corporate stock, the statutory and effective tax rates on corporate income, the tax rates on capital gains, dividends, and interest income, and the assumed tax rate of the "marginal" investor who equilibrates the returns between corporate debt and corporate equity.

Depending on assumed parameters, we illustrate a substantial range for the calculated tax rate on entrepreneurial income. Our mid-range estimate of this tax rate is about 29 percent or slightly more than 15 percentage points lower than the maximum tax rate on ordinary income. But this estimate is preliminary and others might differ depending on assumed parameter values.

We do not assess in this paper whether this modest preferences for entrepreneurial activity in comparison to employment in established firms is too small or too large an incentives. Our main purpose is to illustrate the determinants of the tax rate on entrepreneurial activity in relationship to competing uses of labor and capital and to provide a framework for analyzing how tax reforms would affect this comparison. Our main conclusion is that to make this determination one needs to examine both the tax rules that directly affect after-tax returns to startups and the tax rules applied at both the corporate and individual taxpayer level to investment returns from mature firms.

Acs, Zoltan J., Sameeksha Desai and Jolanda Hessels. 2008. "Entrepreneurship, Economic Development and Institutions." *Small Business Economics* 31-3: 219-234.

Auxier, Richard C., Leonard E. Burman, James R. Nunns, and Jeffrey Rohaly. 2016. "An Updated Analyses of Hillary Clinton's Tax Proposals. Research Report. Urban-Brookings Tax Policy Center. October 18.

Brown, Samuel, and William G. Gale. 2013. "Small Business, Innovation, and Tax Policy: A Review." Research Report. Urban-Brookings Tax Policy Center. April 7.

Bruce, Donald and John Deskins. 2012. "Can State Tax Policies be used to Promote Entrepreneurial Activity?" *Small Business Economics* 38:375-397.

Domar, Evsey D. and Richard A. Musgrave. 1944. "Proportional Income Taxation and Risk-Taking." *Quarterly Journal of Economics* 58: 388-422.

Eisenmann, Thomas R. 2013. "Entrepreneurship: A Working Definition." *Harvard Business Review*. January 10.

Fleischer, Victor. 2016. "Taxing Alpha: Labor is the New Capital Gains." Unpublished manuscript on file with the author.

Gentry, William M. and R. Glenn Hubbard. 2004. "'Success Taxes,' Entrepreneurial Entry, and Innovation." National Bureau of Economic Research. Working Paper 10551.

Henrekson, Magnus and Tino Sanandaji. 2014. "Small Business Activity Does Not Measure Entrepreneurship." *Research Institute of Industrial Economics* 111-5: 1760-65. Stockholm, Sweden.

Merriam-Webster Dictionary. "Entrepreneur." At http://www.merriam-webster.com/dictionary/entrepreneur

Nunns, James R., Leonard E. Burman, Jeffrey Rohaly, and Joseph Rosenberg. 2016a. "An Analysis of Donald Trump's Revised Tax Plan. " Research Report. Urban-Brookings Tax Policy Center. October 18.

Nunns, James R., Leonard E. Burman, Jeffrey Rohaly, Joseph Rosenberg, and Benjamin Page. 2016b. "An Analysis of the House GOP Tax Plan. Research Report. Urban-Brookings Tax Policy Center. September 16.

Rosenberg, Joseph and Donald Marron. 2015. "Tax Policy and Investments by Startups and Innovative Firms." Research Report. Urban-Brookings Tax Policy Center. February 9.

Rosenthal, Steven M. and Lydia S. Austin. 2016. "The Dwindling Taxable Share of U.S. Corporate Stock." *Tax Notes*. May 16.

Schuetze, Herbert J. and Donald Bruce. 2004. "Tax Policy and Entrepreneurship." *Swedish Economic Policy Review* 11: 233-265.

Schumpeter, Joseph A. 1947. "The Creative Response in Economic History." *The Journal of Economic History* 7-2: 149-159.

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