

Taxes and the Tax Rate Effect on the Capital/Labor Decision: An International Comparison

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While there is recognition that tax laws affect business growth, it is unclear whether the full ramifications of changes in tax codes are understood. This paper considers the effect of taxes on business decision making. It considers **both** income taxes and social insurance employment taxes. It develops a model to give after tax returns to the owner/managers of businesses under various tax rates. The actual effect of tax rates is then considered in comparing Hungary and the U.S. as representative countries with high and low social insurance taxes respectively. While the US and Hungarian overall tax levels are quite similar for profitable firms, different incentives emerge in firm's minimizing their overall taxes. In Hungary, the tax minimization strategy finds dividends preferred to high wages for owner/managers. In the U.S., the opposite exists. Further the after tax cost to the firm of paying workers in the U.S. is substantially less than their nominal wage as the firm's taxes are reduced for the wage expense. In Hungary the after tax costs are almost equal from the high social insurance taxes. The tax deduction encourages US firms to comply with tax laws while the Hungarian firm has the opposite incentive. When comparing the after tax cost of inputs to their before tax outlays, the rates create a higher after tax cost of labor to employers in Hungary when compared to their after tax capital costs. In the U.S., the costs are almost equal.

I. INTRODUCTION

Different countries assess different taxes and collect them at different rates. Most countries tax both firm and individual income as well as imposing social insurance taxes such as FICA in the USA. This paper will show that these tax rates have an effect on the relative after tax costs of capital and labor and influence the degree to which firms voluntarily

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comply with tax laws. This occurs because regardless of how the law is presented; taxpayers, both individuals and businesses, will structure themselves to minimize their **total** tax burden for a given income level.

In most countries, tax laws are in a constant state of flux. For example, in the U.S., there have been at least three major modifications to the tax code within the past 10 years. In a parliamentary system, the tax law can change several times each year as the party in power merely changes the tax laws. However, one thing is for certain; no one likes to pay taxes. This paper analyzes the effect of tax codes on incentives facing a firm attempting to maximize after tax value.

Several specific decisions are affected by tax laws. Among those decisions are selecting the mix of labor and capital inputs to minimize costs for various production levels, the extent that firms comply with tax laws, optimal business size, and whether the owner should receive cash in the form of wages or dividends. Thus, the structure of taxes or their relative levels determine how efficiently taxes are imposed, the relative cost of production inputs, and finally how firms are organized and pay out funds to their owners. These aspects are particularly important for new businesses.

Specifically we consider the tax laws of two countries: Hungary and the United States. We model how an owner/manager of a firm can receive the maximum after tax disposable income. We find that when all taxes, including social insurance, are included, in the U.S. the owner is better off receiving income in the form of wages rather than dividends. The Hungarian counterpart will maximize after tax income by paying maximum dividends and a minimal wage. This analysis demonstrates the effect of tax laws on tax compliance and how tax rates must be set to create the incentive for firms to expand and hire workers, which expand the economy. Under the Hungarian tax law, it is more difficult to justify hiring legal employees since the after tax cost to the firm for each employee exceeds the cost of the stated wages for that employee. Hence, businesses either remain small or they hire workers "off the books." In either case, economic growth is stymied. In the U.S., the net after tax cost to the firm is substantially less than the employee's wage. Not surprisingly, the U. S. has one of the highest levels of voluntary tax compliance in the world.

The final result is the effect of taxes on the relative cost of labor between the two tax systems. When this study was started, Hungary

had a socialist government and its after tax cost of capital was ironically cheaper than the after tax cost of labor. In the USA, the after tax costs of both production input factors are almost identical.

Our approach in considering the total tax burden is not entirely original. With returns to investors, Lewellen (1969) analyzed the returns to shareholders after both business and personal taxes in determining the cost of equity capital. Miller's "Debt and Taxes" (1976) developed an equilibrium model of after tax returns to investors that incorporated both corporate and personal taxes on debt and equity. Hite and Long (1982) and Miller and Scholes (1982) developed a similar joint tax strategy to view executive compensation.

None of these papers, nor the many other studies addressing the effect of taxes on the firm, included social insurance taxes. Social insurance taxes vary widely among countries. For example, in the United States, they represent a relatively small percentage of wages (7.65%) for both the employer and employee. In most European countries, they are both the major tax on workers and the tax provides major benefits such as health care. While these taxes have been recognized as a major burden, their effect on the firm's micro decision process and the resulting macro implications for the economy have not been developed previously. This paper integrates these taxes into the firm's decision process. While governments recognize that tax laws influence business growth, it is unclear whether they fully understand the ramifications of changes in tax codes to be particularly important for small firms. In the total cost framework presented, the effect of tax changes can be seen particularly on small firms.

The paper is organized as follows. In Section II, we analyze the effect of taxes on the firms and individual workers cash flow. Section III addresses how and why tax laws affect tax compliance, and ultimately, economic growth. Section IV examines the effect of taxes on the choice of labor and capital. In Section V, we first provide a commentary on how to stimulate compliance and growth in countries with high social insurance taxes such as Hungary and follow with a brief summary and conclusion.

II. TAXES AND PAYOUT

In this section, we analyze the effect of taxes on the owner's choice of paying dividends to all shareholders or greater wages to owner/managers. The objective is to get the maximum after tax payoff to the owner/managers for a given cost to the firm. The optimal choice is found to depend heavily on the level of social insurance taxes, as well as on regular corporate and business taxes. This in turn affects the amount of social insurance taxes collected as well as overall tax revenues.

A. Net Cash with Social Insurance, Corporate and Personal Taxes

We begin by developing a general model of the choice of payout form. For a given level of profits before taxes and the owner/managers' wages, the goal is to structure payouts to maximize her/his after tax income¹. The owner can receive cash from the firm in the form of wages or dividends. While the firm pays corporate taxes on profits, that amount is a percentage of profits after paying wages and the corresponding social insurance taxes. Dividends can also be paid by the firm, but they are not tax deductible. Further, in Hungary dividends paid are also subject to an additional tax, which is paid by the issuing firm. The individual must also consider personal tax obligations. Both wages and dividends received are taxed though possibly at different rates. Further the individual pays a non-deductible social insurance tax on wages, but not on dividends.

We algebraically view the after tax amount to see which payment strategy gives the largest net amount under various tax rates. M is the amount left after all expenses except those related to the owner's wages, their resulting social security taxes and profit taxes. The owner can retain the cash in the firm, or pay it out to him or herself. If it is paid out, it can be in the form of a dividend or a wage. The individual owner/manager pays income taxes and social insurance taxes on wages but only income taxes on dividends received.

We define the following variables:

t_{FS}	=	Social insurance tax paid by the firm
t_{FP}	=	Profit tax paid by the firm
t_{FD}	=	Extra dividend tax paid by the firm

t_{IS}	=	Social insurance tax paid by the individual
t_{IP}	=	Personal income tax paid by the individual
t_{ID}	=	Dividend tax paid by the individual
M	=	Margin or profit after all expenses except owner's wages, taxes, dividends and increases in retained earnings or PBT + owner's wages & social tax
W	=	Wage of owner/manager
S	=	Social tax on wages paid = $t_{FS} \times W$
PBT	=	Profit before tax
tax	=	$PBT \times t_{FP}$
NI	=	Net income or PBT - tax
Div	=	Gross dividend paid to the owner
D	=	Net after tax dividend cost to the firm = $Div \times (1 + t_{FD})$
RE	=	Increase in Retained Earnings

The owner pays personal taxes on wages of Wt_{IP} , social insurance taxes on wages of Wt_{IS} , and personal taxes on dividends of $Divt_{ID}$. Therefore, the individual's goal is to maximize the following after tax income.

$$\text{After tax income} = W(1 - t_{IP} - t_{IS}) + Div(1 - t_{ID}) \quad (1)$$

This leaves the following cash as additions to retained earnings, available for zero net present value investments:

$$\text{Increased Retained Earnings} = [M - (1 + t_{FS})W](1 - t_{FP}) - Div(1 + t_{FD}) \quad (2)$$

The major contribution of this model is the inclusion of the social insurance taxes, which are paid on both wages paid by the firm and on wages received by the worker, but not paid on dividend income.

B. An Example of Two Extremes: USA and Hungary

In this section, we use the model developed above to show how firms operate to maximize after tax cash flows. We address this by considering the tax situation in two countries, the U.S. and Hungary.

We consider two extreme scenarios: a firm that retains all cash for reinvestment and a firm that pays out all available cash.

We use actual tax rates prevailing in the U.S. and Hungary. Since these are taxes paid by business owners, the maximum rates are assumed². Hence the marginal rate in Hungary is 48% while in the USA the top tax rate is the 39.6%. Both countries' tax schedules have graduated rates that increase with taxable income.

There are two major differences in the tax rates. First, the USA taxes corporate profits and then taxes dividends again at the ordinary income tax rate for individuals³. Hungary has a special dividend tax for the issuing firms and a lower rate on the individuals who receive the dividends. The second difference is the extremely high social insurance taxes paid by Hungarian employers to hire workers.

Table 1
Tax rates in Hungary and the United States for the top income bracket

Tax	Tax rates:	
	<u>Hungary</u>	<u>USA</u>
Firm paid taxes:		
t_{FS} social insurance tax	46.7%	7.65% ⁴
t_{FP} profit tax	18%	35%
t_{FD} extra dividend tax ⁵	23%	0
Individual paid taxes:		
t_{IS} social insurance tax	11.5% ⁶	7.65%
t_{IP} personal income tax	48%	39.6%
t_{ID} dividend tax	10%	39.6%

We will consider two extreme cases. First we view the reinvestment extreme where the owner/manager requires a given after tax income (ATI) to live on and then will reinvest the entire remainder in the business⁷. Since in these examples, the average rates equal the marginal rates, only the corner solutions of maximum retention or maximum payout need be considered. Table 2 shows the difference in after tax cost to the firm of paying cash as wages or dividends in Hungary and the United States. The terms in brackets represent the amount the firm pays to the owner/manager. The remaining terms (those outside the brackets) represent the adjustments to the firm's profits to give the required after tax money [ATI] to the owner/manager. The smallest amount that the firm must forego to get the required after corporate and personal taxes paid out is the optimal strategy.

Table 2
Wages versus dividends: Hungary and the United States

	<u>Hungary</u>	<u>United States</u>
Pay 0 wages and all dividends: [ATI/(1-t _{ID})]/(1-t _{FD})	1.443ATI	1.656ATI
Pay all in wages and 0 dividends: [ATI/(1-t _{IP} -t _{IS})]x(1-t _{FP})x(1+t _{FS})	2.970ATI	1.326ATI

The minimum cost to the firm is similar in both countries. However, the strategy is opposite since both are computed from after tax corporate profits as a reference point. In Hungary, dividends are favored while in the U.S. wages dominate⁸.

Now consider the other extreme with a firm having no investment opportunities and will hence retain nothing. Again we compare the

effect of all wages versus all dividends after both corporate and personal taxes. Therefore the reference point is to set wages so there is no profit or to pay the entire after tax profits as dividends.

First, consider compensation all in wages where M is the profit before owner's compensation and taxes. The firm's net income, NI , wages, W , and after tax income, ATI are

$$NI = [M - (1+t_{FS})W](1-t_{FP}) = 0 \quad (3)$$

$$W = M/(1+t_{FS}) \quad (4)$$

$$ATI = [M/(1+t_{FS})](1-t_{IP}-t_{IS}) \quad (5)$$

Now consider all cash paid as dividends. Here we calculate dividends and after tax income as follows:

$$\text{Dividends} = [M](1-t_{FP})x(1-t_{FD}) \quad (6)$$

$$ATI = \text{Div} (1-t_{ID}). \quad (7)$$

Putting the tax rates into equation (5) for wages and equations (6) and (7) for dividends gives the relative payout in Table 3 below. Again, the Hungarian tax strategy is to maximize dividends while the American prefers wage income⁹.

Table 3
Relative Payout in Hungary and the United States

	<u>Hungary</u>	<u>USA</u>
Wages	0.276M	0.490M
Dividends	0.568M	0.393M

Several years ago Hungary lowered their taxes on corporate income and dividends. Tax receipts from these items increased as our analysis would expect. Did this increase result from greater tax compliance? Possibly, but it more likely resulted from owner/managers lowering their wages which increased profits and paying dividends. Similarly in 1986, the United States changed their tax laws resulting in lower individual tax rates than corporate tax rates. Small firms changed their tax paying status to minimize their total tax obligation (See, Long and Malitz (1993)). These are important considerations that must be understood by owner/managers of firms in maximizing their wealth.

III. TAX COMPLIANCE: INCENTIVES TO REPORT INCOME HONESTLY

The idea of firms' organizing themselves and paying out funds to minimize taxes, we will argue, has macro economic effects as well. Consider the broad area of tax compliance. The United States is routinely cited as having one of the highest voluntary tax compliance rates in the world. Are Americans that much more honest? Most likely not, but the U.S. government has structured taxes to insure a high level of voluntary compliance. The rates charged on various payroll taxes and firm profit taxes encourage the firm to report all wages. This does not hold true in countries with extremely high payroll taxes such as Hungary.

Using the analysis from the last section, the strategy to minimize taxes can be related to the macro tax position in the economy. Assume one worker who will be paid either 100 US dollars or 100 Hungarian forints. U.S. employment taxes are 7.65% and Hungary's are 46.7% as we saw earlier. The corporate income tax is 18% in Hungary when profits are retained and 35% in the United States. Now what is the net after tax cost to the firms? In equation (8), the net cost to the firm is given.

$$\text{Net cost} = W(1.0 + T_{FS})(1.0 - T_{FP}). \quad (8)$$

Applying equation (8) to Hungary and the United States gives the following net costs.

$$\text{Net Cost in Hungary} = 100 (1.0 + 0.467) (1.0 - .18) = 120.3\text{Ft}$$

$$\text{Net Cost in USA} = 100 (1.0 + 0.0765) (1.0 - 0.35) = \$70.0$$

The net cost to the Hungarian firm is greater than the amount paid the worker. If you hire a "day laborer," it is substantially cheaper to just hand the wages out unreported. Employees cause additional taxes, which are better off avoided. The USA firm, on the other hand, has a "sharing" relationship with the government. Its after tax cost is only 70% of the cost paid. It has a real incentive to pay the worker "on-the-books" since the government pays 30% of the wages. Even with small closely held firms in the U.S. which are not subject to corporate income taxes, the firm owner is most always in a higher tax bracket than the worker. This cost sharing still exists creating the incentive to legally report all wage income.

How much difference in after tax amounts does it take to create an incentive to cheat? Or conversely, how much must the rates change by to get compliance? The actual amounts are difficult to determine, but we would expect that a lower after tax cost to the firm from operating on the books would be a good approximation. What we are really trying to bring out is the conceptual problems that have been previously overlooked and should be considered when specific tax rates are set¹⁰.

In this analysis we did not consider taxes owed by the workers. In both countries, workers must pay both a social insurance tax and an income tax. This means that workers have a real incentive to operate "off-the-books" when it is their choice. In both countries, between 1/4 and 1/3 of reported income goes to the various tax collectors. Most workers would rather be paid a smaller wage "off-the-books" rather than a higher reported income. However, in the U.S., since the employer has little incentive to avoid reporting wages, they seldom do so which means the worker must report the wages. In contrast, in Hungary, where it is costly for the firm to report wages, the firm owners have a strong incentive to pay employees "off-the-books".

The problem can have severe long run consequences affecting the potential growth of an economy. For example, consider the vast majority of small firms operating in Hungary have no reported employees¹¹. These firms can never really grow because beyond some level, legal employees must be hired. With the current tax structure,

owner/managers find it better to stay small rather than becoming middle-sized firms by hiring more workers that must be reported.

IV. TAXES AND ECONOMIC INPUTS: THE LABOR CAPITAL DECISION

The tax structure is used quite often as an example to show that taxes make "capital" more expensive than "labor." The argument hinges on the fact that labor can be expensed immediately for tax purposes while capital must be depreciated over time. This argument is correct if an amount being spent on capital is being compared with an equal amount being spent on labor. However, let us change the comparison slightly. Assume both the supplier of capital and the workers are being paid an equal amount¹². The cost of the asset is then expensed over time by a formula set by the taxing authorities. The after tax net cost of capital (NCC) for an amount (A) purchased with the firm's profit tax rate of t_{FP} is given by equation (9).

$$NCC = A - t_{FP} (\text{Present Value of Tax Depreciation}) \quad (9)$$

What about labor costs? Here the firm must pay the worker's wages and the corresponding social insurance tax. Though both are tax deductible, the total after tax wage amount is greater. The after tax net cost of labor (NCL) for an equal amount hired (A) and a firm's social insurance tax on labor of T_{FS} is given by equation (10).

$$NCL = A (1.0 + t_{FS}) (1.0 - t_{FP}) \quad (10)$$

If capital could be expensed immediately and there were no social insurance taxes, obviously $NCC = NCL$. But what happens in a situation where assets are depreciated over time for taxes and firms must pay social insurance tax on labor hired as is obviously the real world situation?

Let us consider the net capital cost (NCC) first. For our comparison, we assume a 7-year depreciable asset¹³. Both countries currently use a similar double declining balance method of depreciation for taxes. The U.S. uses the half-year life convention that assumes all assets are purchased in the middle of the year. Hence the year of

purchase depreciation expense is discounted for 1/2 year, the first full year in service is discounted for 1 1/2 years, and so forth. In Hungary, depreciation starts when the asset is put into service. Therefore depreciation is figured for the full 7 years and is discounted back for whole periods. The different depreciation schedules make only a slight difference in the relative costs of after tax capital. The tax rate of 35% for the U.S. is almost identical to the 36.9% tax rate for Hungary's dividend paying firm.

The major difference in cost is the nominal discount rate. Medium term industrial bonds in U.S. were selling to yield 7% in early May 1996. In Hungary, the two year government bond rate was approximately 25%. For comparability, we added a 3% additional yield for the maturity and default premium in Hungary. Thus discount rates are 7% and 28% for the U.S. and Hungary respectively. The resulting net capital costs for one dollar or forint in the two countries are

$$\begin{aligned} \text{NCC} &= 1 - t_{FP} (\text{Present Value of Tax Depreciation}) \\ \text{NCC}_{USA} &= 1 - 0.35 (0.8174) = 0.714 \\ \text{NCC}_{HUN} &= 1 - 0.369 (0.5268) = 0.806 \end{aligned}$$

We next calculate the net cost of labor for the two countries for a nominal unit, using the appropriate social insurance and corporate tax rates from our earlier examples.

$$\begin{aligned} \text{NLC} &= (1.0 + T_{FS})(1.0 - T_{FP}) \\ \text{NLC}_{USA} &= (1 + 0.0765) (1 - 0.35) = 0.700 \\ \text{NLC}_{HUN} &= (1 + 0.467) (1 - 0.369) = 0.926 \end{aligned}$$

Initially, it appears as if Hungary's capital costs are slightly higher than those in the U.S., while its net labor costs are substantially higher for a unit expenditure of each. However, the correct comparison is not between countries but between the relative costs of the two inputs in each country. This determines the production function selected. To

determine the favored input, the ratios of net labor costs over net capital costs are calculated.

$$RLC_{USA} = 0.700/0.714 = 0.980$$

$$RLC_{HUN} = 0.926/0.806 = 1.148$$

In the United States, the after tax cost of labor and capital are almost equal. Hence the tax laws do not favor one over the other resulting in a capital/labor tradeoff similar to a no tax situation. In Hungary a different pattern emerges. Labor costs are substantially greater than capital costs. The Hungarian firm will favor capital over labor because of the tax situation.

The Hungarian tax laws amplify an already existing macro problem. Hungary has much cheaper labor relative to the USA and also a greater unemployment rate because labor markets are geographically segmented. It also has more expensive capital as the government must use most savings to serve its international debts¹⁴.

Hungary's current tax laws are a major factor in creating or at least exacerbating the problem. They do not need to look at differences in nominal wage levels or in capital costs, but their after tax costs. If tax laws were more neutral, as they are in the U.S., the labor to capital ratio would be much lower and more labor would be used. This would allow Hungary to use more of its plentiful labor and less of its currently dear capital.

V. COMMENTARY AND CONCLUSIONS

In this section, we suggest how tax systems might be changed to increase both tax compliance and to bring the costs of labor and capital in line. Our suggestion is presented as a general idea. The actual tax rates must be determined so as to keep revenues unaffected. Also, additional changes in incentives resulting from new rates would need to be addressed.

The major recommendation is to reduce the social insurance tax on private employers while increasing their corporate income tax. Initially, this might cause a disruption in the system. However, if making the change results in better compliance and a more efficient

allocation of resources, it would be well worth the change. Since it is the total revenue collected that matters and not whether it is collected via social insurance or income tax, the ability of the Hungarian government to fund necessary programs should not be impaired. The change could be accomplished by shifting some of the programs currently funded by social insurance to the general revenue accounts.

We illustrate the effect on compliance and inputs by assuming a change to a straight corporate income tax of 40% and a social insurance tax of 25%, compared to the current 18% with retained earnings and 36.9% on dividends paid and 46.7% respectively. We first compare the incentives to pay workers on the books. Using our early equations, the current system costs 120.3Ft while the proposed system costs the firm 75Ft to pay 100Ft in wages. Now employers have the incentive to pay workers on the books.

Next, we analyze the relative net labor and capital costs. The net capital cost is computed as before, except for using the higher income tax rate to give an after tax cost of 0.789 for a nominal 1.00 investment. Similarly the net labor costs are recalculated using the original formulas and new rates for a net after tax cost of 0.750 for a nominal 1.00 in wages. These net costs are just 5% apart with labor relatively cheaper. Thus with more equal costs of labor and capital, there is more incentive to use labor as well as a greater degree of tax compliance. Overall, total tax revenues could increase, and inputs would be in line with sound economic theory.

In conclusion, this paper developed a model showing how a country's tax code affects various decisions made by firms in particular small closely held ones. Specifically, we showed that tax revenues from dividends and wages, social insurance taxes collected, tax compliance, and the choice of economic inputs are all influenced by taxes. All of these factors impact the overall potential for economic growth in various countries.

The paper suggesting a tax law change could reduce the incentives of owners to cheat on taxes. It also brings the relative costs of labor and capital together. This eliminates the influence of taxes on the choice of inputs. We believe this paper has far reaching public policy consequences for any country seeking to promote economic development.

NOTES

1. We assume that investment policy is fixed and that the firm has enough after tax income to undertake all positive net present value projects. This assumption is to avoid the consideration of going to the capital markets to raise funds while paying out funds to the owner/manager. Any additional cash retained is assumed to be reinvested in zero net present valued projects.
2. In the USA, taxpayers pay at the top marginal rate on taxable incomes of over \$250,000. In Hungary, taxpayers pay the top marginal tax rate on taxable income over 500,000Ft (approximately 3,300USD).
3. The USA has a complex corporate tax rate system where a surtax is added to eliminate the benefit of graduated tax rates at lower levels. Ignoring the surtax, the tax rates are 15% on the first \$50,000 of taxable income and then 25% on the next \$25,000. The rate is 34% on income up to \$10,000,000 taxable income and finally 35% on income over \$10,000,000. As we are considering closely held firms, we could have used the 34% rate. However for our overall results it makes no difference between 34% and the 35% rate which we used.
4. In the USA, social insurance taxes are in two parts. FICA that is for retirement is 6.2% and is paid by both the worker and employer only on incomes currently just over \$70,000. 1.45% is for retired persons medical insurance and is paid now on all income. Our analysis will assume all income is subject to these taxes though the top 25% of workers earn over the maximum amount for the 6.2% tax.
5. Hungary taxes corporate profits at 18% and then adds an additional 23% tax on dividends paid. This gives an effective tax rate of 36.9% on earnings if all earnings are paid out as dividends.
6. Social insurance totals 11 1/2% and actually consists of several taxes. The employee pays a health tax of 10% on only the first 900,000HUF of income. The employer must pay taxes on the entire wages paid.
7. The money being retained is after tax profits. We will ignore issues related to the tax basis in selling the business in the future. As the 35% corporate rate is less than the 39.6% personal tax rate,

retentions are obviously maximized leaving the money in the business.

8. The Hungarian tax collectors are aware of this and require that owner/managers pay themselves a minimum wage which is set each year.
9. If the 1.45% social insurance tax rate had been used instead of the 7.65% as owner/manager is assumed to have an income well over \$70,000 to be in a 39.6% tax bracket, then the after tax income is 0.581M which is even closer to the Hungarian after tax dividends of 0.568M.
10. We would like to thank George Graham for pointing out this problem on an earlier version.
11. Note the term "reported employees" is used as many probably do hire workers who are paid directly.
12. When buying capital, the firm is exempt from sales or value-added taxes although it may be required to pay customs taxes on imported equipment. For our example assume no import taxes.
13. In both countries, the 7-year class of assets includes machinery making our comparison realistic. Similarly, the 5-year class could be used which includes vehicles in both countries. In this class, the relative after tax cost for both countries is slightly less since the present value of the depreciation tax shield is greater.
14. One could argue that in today's world economy, capital is freely portable meaning that it should earn the same risk adjusted real rate of return regardless of where it is invested. Rene Stulz (1995) in a recent speech pointed this out. However, he did elaborate that some countries face higher agency costs and hence could be expected to have higher capital costs. For these reasons, one would expect that the USA would have somewhat cheaper capital costs versus Hungary.

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