The Optimal Taxation of Capital Income: Insights from Economic Theory

Kevin Spiritus[1]

The Theory of Optimal Taxation

The field of optimal taxation is at the border between economics and philosophy. Economists cannot take society's place in determining the objectives of a "good" tax system. Economists cannot, for example, state "neutrally" that tax rates in general should increase. Nor can they assert that the government should become smaller or larger, or that inheritances should be taxed at a different level. These questions are inherently political: society has to decide how important it finds redistribution and how big a government it desires.[2]

There are a number of things that economists *can* do. Optimal tax economists use their understanding of the economy to find the optimal structure of the tax system, in order to raise the desired level of government revenue and to reach the desired level of redistribution, at minimal economic cost. Economists also attempt to measure the inequality of incomes and the economic costs of taxation, enabling them to give an indication of the optimal tax rates at different income levels, or the optimal mix between taxes on labour income and capital income.

Let us start with the economic costs of taxation. We see that a progressive tax system is in place in virtually all rich countries. Even the proposals of the most right-wing political parties, which propose a flat tax with some corrections at the bottom, are ultimately progressive. This indicates that societies find the distribution of incomes important: the optimal tax system needs to take into account the ability of households to pay taxes.

There exist some good proxies for ability to pay. We know for example that for given efforts, tall people obtain higher incomes than short people. Similarly, physical attractiveness, skin colour, gender and encouragement by one's parents are important determinants of how much effort a person needs to do in order to obtain a given income. If we would base tax liabilities merely on such characteristics, then, if anything, individuals would decide to work more in order to make up for the income lost. This approach to taxation is called "tagging".[3] The problem is that we cannot ask for such details in the tax declaration. Moreover, some characteristics are impossible to measure. In absence of tagging, the government has to rely on taxes that depend on incomes and consumption.

The problem with taxes on income and consumption is that they distort the economy. For example, suppose there is a proportional tax on labour income. Employees then receive a lower wage rate than

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[2] There is one exception to this rule. Economists can recommend a tax reform without referring to society's normative preferences, if the proposed reform unequivocally improves the situation of all households. We call such a reform a "Pareto-improvement".
[3] Mankiw and Weinzierl (2010)

what is paid by their employers. Employers would be willing to hire more workers if they only had to pay the wage rate received by their employees, and employees would be willing to supply more labour if they received the wage rate paid by their employers. Similarly, a tax on capital income causes the net return to savings for households to be lower than the interest rate paid by companies and individuals who borrow to fund their investments, even when correcting for risk. In each case, individuals and companies undertake less economic activity in presence of income taxes, then they would if the market were left to its own device. The economic costs caused by income-dependent taxes can be significant.

Optimal taxation is a balancing exercise between the economic costs of taxation and the benefits of redistribution. In order to measure the benefits of redistribution, we use "social welfare weights". The essence is that taking away an additional euro from a rich person, imposes a lower cost on social welfare than taking away an additional euro from a poor person. Traditionally social welfare weights were based on a weighted utilitarian social objective: the government maximizes a sum of individually attained levels of "wellbeing", giving more weight to the poor than to the rich. The current, more modern approach allows incorporating broader social objectives, such as libertarianism or different approaches to fairness. The implications of optimal tax theory for the optimal structure of the tax system, turn out to be remarkably robust to such changes in the social objective.

In order to illustrate the balancing exercise between equity and efficiency, and in order to give a feeling of what optimal tax economists do, I now show the only equation of my presentation, which gives the optimal marginal tax rate at the top of labour income distribution:

$$marginal\ tax\ rate = \frac{1-g}{1-g+a \cdot e}.$$

Here g is the average welfare weight of individuals at the top, e indicates the size of responses to taxation (the *labour income elasticity*) and a is a measure of equality at the top (the *Pareto parameter*). Suppose first that we do not care about redistribution at all. Then the social cost of taking an additional euro from an individual at the top would be exactly equal to one. It would follow that $1-g=0$, and the optimal marginal tax rate would be zero. The government would simply levy the same amount of taxes from all individuals. A government that cares about redistribution, on the contrary, will assign a welfare weight lower than one to individuals at the top. The optimal marginal tax rate will be positive. The optimal marginal tax rate will be lower if individuals respond more strongly to taxation (economic losses are larger), or when incomes at the top are more equally distributed (less scope for redistribution from rich households to poor households). The more the government cares about redistribution, the higher the optimal tax rate will be.

Suppose the government does not care at all about the welfare of individuals at the top, so it assigns to them a welfare weight of zero. In that case the optimal marginal tax rate at the top becomes:

$$marginal\ tax\ rate = \frac{1}{1+a \cdot e}.$$

It follows that even if the government does not care at all about the welfare of the rich, it will not want to levy a 100% tax rate at the top. The government should then instead maximize the tax revenues from the rich. If it levies a tax rate that is too high, so if it goes beyond the top of the Laffer curve, the rich will respond so strongly to taxation that the government will receive less revenue and it will have less

money available for redistribution to the poor. If tax rates at the top become too high, everybody will be worse off.

Empirically there is some uncertainty about the parameters that determine the optimal tax rates. For Belgium the Pareto parameter has been estimated to be approximately $a = 2$.[4] Assuming a labour income elasticity of $e = 0.2$, we would find an maximum optimal marginal tax rate at the top of $1/(1 + 0.4) = 71\%$. With a labour supply elasticity of $e = 0.25$, the maximum marginal tax rate at the top would drop to 66%.

Note that the behavioural responses to taxation (captured by the elasticity e) and the inequality at the top of the distribution (captured by the Pareto parameter a) are not constants of nature. The economic parameters in the optimal tax equations depend on the policies and institutions in place. Behavioural responses for example depend on the presence of legal possibilities to avoid taxes, and the presence of strong audits to detect illegal tax evasion. With the increasing use of information technology and the exchange of information between countries, behavioural responses to taxation are likely to decrease, making it possible to redistribute more efficiently through the tax system.[5] Similarly, the distribution of gross incomes depends on a number of factors, some of which are under control of the government (for example wage policies and the organized deliberation between social partners).[6]

Is It Optimal Not to Tax Capital Income?

Having explained the balancing exercise between equity and efficiency, let us move on to the optimal taxation of capital income. A first principle is that the tax on capital income should never be studied on its own. The tax system should rather be studied as a whole. We wish to find a mix of tax instruments that minimizes the economic cost of collecting a given government revenue and of reaching a given level of redistribution.

I should first note that by capital income, I mean the returns to the savings of household. I will not talk about inheritance taxes, as these are subject to entirely different arguments, and my time is limited. I will also not talk about the corporate income tax.

Let us start with some very strong assumptions. Assume that all individuals start out with nothing (so there are no inheritances), and all of their income originates from labour. Individuals decide how much of their labour incomes to consume immediately, and how much to save for future consumption. Assume also that individuals differ only in their labour earning abilities: some individuals need to do less effort to earn a given labour income than others, for example because they are born with different talents. Assume furthermore that all individuals have the same tendency to save, that there is no relation between their wealth and their labour supply, and that they obtain the same, risk-free interest rate on their savings. It follows that if individuals are given the same disposable incomes, they will save the same amounts, and obtain the same capital incomes. All differences in capital incomes thus originate from differences in net labour incomes. As a consequence, any redistribution which can be obtained by taxing capital incomes, can also be obtained by using a tax on labour income.

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[4] Lundberg (2017)
[5] Johannesen et al. (2018) indicate that this is indeed the case.
[6] See Atkinson (2015) for an overview.

Next, note that individuals supply labour because they want to fund their consumption (or the consumption of their heirs, but this does not change the argument). If individuals pay a tax on their labour income, their purchasing power decreases. If individuals instead pay the same amount through a tax on capital income, given that all income ultimately originates from labour, the purchasing power of their labour income decreases by the same amount. Given that both taxes decrease the additional purchasing power obtained from an additional hour of work by the same amount, both taxes will distort labour supply in the same way. It does not matter when individuals pay their taxes, be it when they earn their incomes or when they consume.

Compared to a tax on labour income though, a tax on capital income has the additional disadvantage that it also distorts the decision between immediate consumption and future consumption. A tax on capital income lowers the net return to savings, prompting households to save less.

Given our assumptions, we thus find that a tax on capital income causes the same distortions of labour supply as a tax on labour income, and that both taxes attain the same levels of redistribution, but that a tax on capital income distorts the savings decisions of households whereas a tax on labour income does not. It follows that a government that wishes to raise revenue and redistribute incomes at minimal economic cost, should not tax capital income. Given the assumptions that individuals differ only in their abilities to earn, and that their capital incomes, conditional on labour income, are equal and do not depend on the labour earning abilities or the number of hours worked by the individuals, the government should raise all of its revenue and perform all redistribution through the labour income tax.

The fact that capital income should not be taxed under the given assumptions was discovered by Atkinson and Stiglitz (1976).[7] This so-called Atkinson-Stiglitz theorem, despite its strong assumptions, firmly discards the statement by some political parties that incomes from labour and from capital should be taxed equally. The statement that "a euro is a euro" is an empty tautology. Some euros should definitely be taxed less than others. Normal capital incomes should be taxed at lower rates than labour incomes.

Reasons to Tax Capital Income

The Atkinson-Stiglitz theorem appears to give credence to the statement by some political parties that capital taxation constitutes double taxation, and should thus be avoided. Suppose though that the government increases taxes on capital income. Given that it wishes to collect a given amount of taxes, higher revenues from taxes on capital income imply that taxes on labour income can decrease. It follows that the double taxation argument is a ruse. The ultimate question is which mix of tax instruments minimizes the cost of collecting a given revenue and reaching the distributional aims of the government.

The assumptions of the Atkinson-Stiglitz theorem are very strong. Even its authors clearly state that its use as an argument against the taxation of capital income is a misrepresentation of their work. Yet the Atkinson-Stiglitz theorem is one of the most important results in the literature on optimal taxation. It serves as a benchmark: knowing when not to tax capital income, gives us a starting point to study when and how we should tax capital income.

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[7] There are other results in the literature which state that capital income should not be taxed, e.g. those of Chamley (1986) and Judd (1985). Jacobs and Rusu (2015) show that these results ultimately rely on the same arguments as Atkinson and Stiglitz (1976).

The book "De Prijs van Gelijkheid" by Bas Jacobs (2015) give a good overview of the reasons to tax capital income. The reasons to tax capital income can roughly be divided in two groups. The first group of reasons relies on efficiency arguments. There are several possible reasons why an introduction of a tax on capital income could diminish distortions in the economy, for example the distortions caused by the labour income tax. The second group of reasons to introduce a tax on capital incomes relies on distributional arguments. Under some circumstances, a tax on capital incomes can be used to redistribute resources from rich households to poorer households, in ways that cannot be attained using a tax on labour income.

Efficiency Reasons To Tax Capital Income

Let us start with the efficiency reasons to tax capital income. One way in which a tax on labour income distorts the decisions of individuals, is through the investments they make in their *human capital*. The presence of a progressive tax on labour income makes it less interesting to obtain a degree or to following additional training, and it diminishes the incentives for individuals to make additional efforts that would advance their careers. In absence of taxes on capital income, the distortions in the labour market make it more interesting to simply save a bit more in order to obtain a higher standard of living in the future. Research by Jacobs and Bovenberg (2010) shows that the best way to diminish the distortions induced by the labour income tax on human capital formation, is through a combination of education subsidies and a tax on capital income. As such, it becomes more interesting again to invest in one's skills rather than simply saving more for the future.

A tax on capital income can also reduce distortions in the labour market by inducing individuals to work more in the later stages of their lives, and by inducing them to retire at a later age.[8] Remember that one of the assumptions of the Atkinson-Stiglitz theorem was that the number of hours worked is independent of amount of savings. Research shows though that individuals with more wealth are inclined to work less[9] and retire earlier,[10] certainly if a progressive tax is levied on labour incomes. By increasing the tax on capital income and decreasing the tax on labour income, individuals are stimulated to work more.[11] Certainly in a country like Belgium, where the effective retirement age is a cause for concern, taxing capital income at a positive rate is a good idea.

A related point follows from the fact that when capital markets fail, individuals tend to save too much. There are a number of ways in which capital markets fail. Individuals who have low incomes cannot always borrow money to bridge difficult periods, or they can only borrow at high interest rates. The reason for this is that banks do not have perfect information about the future incomes of the individuals. The presence of liquidity constraints makes that individuals will tend to save more for future mishaps.[12] While this is rational from an individual perspective, liquidity constraints impose an implicit subsidy on savings, and the level of savings becomes too high from a social perspective. Moreover, the high levels of savings again make that individuals on average will work less in the later phases of their

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[8] Jacobs and Boadway (2014)
[9] Pirtillä and Suoniemi (2014), Gordon and Kopczuk (2014)
[10] Gruber and Wise (1999)
[11] Erosa and Gervais (2002), Conesa et al. (2009), Jacobs and Schindler (2012)
[12] Attanasio and Weber (2010)

careers, and that they will retire earlier. Introducing a tax on capital income reduces these distortions, by redistributing incomes towards individuals with borrowing constraints.[13]

Another way in which capital markets fail, is that individuals cannot fully insure themselves against future misfortunes, again because of incomplete information. Insurance companies do not know for example the true health risks of individuals, and they cannot observe when individuals are truly unable to work. This imperfect information makes that insurance premiums become prohibitively high, or even that insurance markets seize to exist. The government makes up for such failures by introducing a social security system. The government too though suffers from incomplete information: because it cannot observe who is truly unable to work, it cannot fully insure all risks of the individuals. The absence of full insurance again makes that individuals tend to save too much from a social perspective, and that individuals on average will work less and retire earlier. [14] A tax on capital income again helps reduce distortions from precautionary savings.[15]

A tax on capital income also increases efficiency by maintaining the integrity of the tax system.[16] Suppose that only labour income were taxed, and capital income would remain untaxed. There would then exist a strong incentive for CEO's and employees to start a one-man corporation and have their salaries paid to this corporation.[17] They would then grant themselves dividends through this company, rather than a salary, and thus avoid taxes. The only way to ensure the integrity of the tax system is by making sure that capital incomes are not taxed at much lower rates than labour incomes.[18] Note that this is a strong argument against a dual income tax system with much lower tax rates on capital income than on labour income.

Next, not all returns to capital are rewards for the patience of savers, or for the risks taken by investors. Economic rents are types of income which are "undeserved". One important example are monopoly rents, which follow from the abuse of market power by firms. Recent research shows that the importance of market power and economic rents has increased sharply in recent decades, at the expense of the labour share of national income.[19] Ideally the government would tax such unearned incomes at 100%, as this allows it to raise income without hurting the economy. The problem though is that it is impossible for the government to distinguish unearned rents from other types of income. The best the government can do, besides limiting market power using different policy instruments, is to tax corporate incomes and returns to savings at a positive rate.[20] Another example of an unearned income, which gives rise to a positive optimal tax on capital income, is the increase in the value of houses following to the construction of a park nearby.

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[13] Aiyagari (1994, 1995)

[14] One reasons why interest rates are currently so low, is the inflow of precautionary savings from the rising middle class in countries like china, where an effective social security does not yet exist.

[15] Diamond and Mirrlees (1978, 1986), Jacobs and Schindler (2012), Golosov et al. (2006)

[16] Diamond and Saez (2011)

[17] De Mooij and Nicodème (2008)

[18] Christiansen and Tuomala (2008)

[19] Autor et al. (2017), De Loecker and Eeckhout (2017)

[20] Correia (1996)

Equity Reasons To Tax Capital Income

Besides the numerous efficiency reasons to tax capital income, taxes on capital income also allow redistributing incomes in ways that cannot be attained using a tax on labour incomes. There are a number of reasons why individuals with similar labour incomes can still have different capital incomes.

One reason why individuals with similar labour incomes still have different capital incomes, is that some individuals are more skilled at earning capital incomes. There is evidence that there are strong differences in financial literacy between people and that households make investment mistakes.[21] Furthermore, there is evidence that the skills of a CEO affect the profitability of a company.[22] It is shown that private companies have earned higher returns on investment than public companies since the turn of the 21st century.[23] There is a growing body of literature that shows differences in rates of return among households can be explained by differences in investment skills.[24] In my own research with Gerritsen, Jacobs and Rusu (2015), we show that when rates of return depend on skill, the government can redistribute more effectively and that it can lower distortions of labour supply, if it also taxes capital incomes.

Another reason why individuals with similar labour incomes have different capital incomes, is luck. Some people are just luckier in the capital market than others. In principle it suffices for investors to balance their portfolios in order to reduce risk. In reality though this does not always happen. One important reason is the existence of privately owned companies, such as family businesses. There is a worldwide decline in publicly listed businesses.[25] Research by FBNet Belgium shows that 75% of Belgian companies are controlled by families, generating 33% of the Belgian GDP.[26] The income risk related to privately owned companies usually falls on their owners. Because insurance companies lack information about the efforts undertaken by investors, no insurance policies exists for averse outcomes of investments or entrepreneurial effort. A tax on capital income attenuates the investment risks: tax liabilities are lower in bad times, and higher in good times.[27]

Empirical evidence shows that individuals with higher earning abilities are also inclined to save more out of a given disposable income.[28] The fact that some individuals are more patient than others may not in itself be a reason to tax capital incomes, but the fact that individuals with higher earning abilities are on average also more patient, gives the government additional information, which it can use to redistribute resources more effectively.[29]

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[21] Choi et al. (2009), Benartzi and Thaler (2001), Calvet et al. (2007, 2009), von Gaudecker (2015)
[22] Chang et al. (2010), Nguyen et al. (2013)
[23] Kartashova (2014)
[24] Fagereng et al. (2016a, 2016b) show that richer individuals earn higher rates of return on their capital, and that these difference cannot be explained by risk premiums alone. Also Benhabib et al. (2016) find that differences in returns to wealth cannot be explained by risk premiums alone. Gabaix et al. (2016) show that difference in investment skills go a long way in explaining the observed wealth distribution.
[25] The Economist (2017) reports a decline in the US from 7,322 publicly listed firms in 1996, to 3,671 in 2017.
[26] Lambrecht and Molly (2011)
[27] Banks and Diamond (2010)
[28] Banks an Diamond (2010), Pirttilä and Suoniemi (2014), Gordon and Kopzuck (2014)
[29] Mirrlees (1976), Saez (2002), Diamond and Spinnewijn (2009)

A related fact is that individuals with higher earning abilities on average also receive higher inheritances.[30] Given that inheritances are not fully taxed, capital incomes again give information to the government about the earnings abilities of the individuals. Using a capital income tax, the government uses this information to redistribute more effectively.[31]

Some of the theoretical reasons to tax capital income are firmly rooted in empirical evidence. For other reasons, while they are empirically plausible, further research is needed to determine their quantitative relevance. We certainly need more empirical research for Belgium. Taken together though, the optimal tax literature strongly indicates that significant taxes on capital income would be optimal.

How To Tax Capital Income

We saw that the results in the literature, that indicate that we should not tax capital income, are benchmark results. We saw that there exists a vast body of research that introduces more realistic assumptions, providing ample reasons to impose a positive tax on capital income. These reasons fall in two categories: either they show that capital income taxes increase the efficiency of the tax system, or they show that capital income taxes can be used to redistribute resources more effectively then what is possible using only the labour income tax. In each case, the advantages of shifting the tax burden to capital income should be weighed against the distortions that are introduced in the capital markets. The question now is how we should structure the tax mix on labour income and capital income in order minimize economic losses.

First we should note that an intelligently designed tax system can collect significant amounts of revenue and attain significant redistribution of incomes with limited damage to the economy. For example, in a recent survey of public policies in Scandinavia, Hendrik Kleven (2014) explores how Scandinavian countries can combine high tax rates with strong economic outcomes. He points to the presence of far-reaching information trails which make it possible to detect tax evasion, and the presence of broad tax bases which make it difficult to avoid taxes. Moreover, he points to the presence of policies that are complementary to working, such as child care, elderly care and transportation. Furthermore, large education subsidies exist which are complementary to long-run labour supply and which diminish the distortions from the labour tax. Let us see what these lessons teach us about the optimal tax on capital income.

A first, fundamental rule is that all assets should be treated equally. One reason is that it is easy to create financial instruments that convert one type of asset into another. For example, exempting registered securities ("effecten op naam") from taxation, really is a bad idea. Another reason to treat all assets the same for tax purposes, is that not doing so distorts the investment decisions in the economy. For example, if we subsidize housing and tax other forms of capital, households will overinvest in their houses, living in larger houses than they otherwise would. Such distortions cause housing market bubbles, they divert resources from other investments and they impair the stability of the financial sector. Moreover, housing subsidies redistribute incomes to the rich, making the tax system less effective. We should thus treat all assets the same, whether they are bank deposits, shares in privately owned or publicly traded business, bonds, housing wealth, and so on.

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[30] Piketty (2014)

[31] Cremer et al. (2001), Piketty and Saez (2013)

Similarly, all kinds of capital income should be treated equally. For example, there is no reason to treat capital gains differently from interests or dividends. Again, exempting capital gains distorts investment decisions away from assets that yield interests or dividends, and again it is possible to create financial instruments that disguise capital incomes as capital gains. Ideally, also housing rents and the imputed rents from the own house would be included in the capital income tax base. Capital costs, such as interests paid on loans, should be subtracted from the capital income tax base.

Having established the neutrality principle between types of assets and between types of capital income, how should we then design our capital tax? My proposal is based on the "Rate of Return Allowance". The RRA was first introduced in the Mirrlees Review (2011), a review of the optimal tax literature, with recommendations for the British tax system. Several Nobel laureates participated in this review. I formally investigate this proposal in a paper with Robin Boadway (2017).[32] The Rate of Return Allowance is already in effect for privately owned businesses in a number of Scandinavian countries.[33]

The principle of the Rate of Return Allowance is as follows. First, a risk-free return is determined on the total value of the assets of the tax payer. This risk-free return is equal to a "safe" rate of return, for example the rate of return on short-term government bonds, multiplied by the total value of the assets. Next, the total capital income is determined as the sum of the incomes from all assets owned by the tax payer. The difference between the total capital income and the risk-free capital income is labelled the "excess" return to capital. These excess returns contain risk premiums, realizations of this risk, and economic rents, which, as I explained earlier, are undeserved types of capital income.[34]

The proposal of the Mirrlees Review is not to tax the risk-free return to capital, and to only tax the excess returns to capital. This proposal probably goes too far: we saw that for reasons of efficiency, it would still be optimal to tax risk-free returns to capital. Yet, it would be optimal to tax the normal return to capital at a lower rate. The Mirrlees Review then proposes to just add the excess capital incomes to the tax base for labour income. Labour income and excess capital incomes would thus be taxed together. Negative excess returns would be subtracted from the labour income tax base. For dividends, the government should make an allowance for corporate income taxes that have already been paid.

This proposal has a number of advantages. First, it respects the neutrality principle between types of assets and between types of capital income. As such, it removes distortions of portfolio allocations over different types of assets, and it removes possibilities to avoid taxes. Next, by taxing excess returns at a higher rate, it redistributes the "undeserved" part of capital income, and it realizes the forms of redistribution which can be attained through a tax on capital income only.

Note furthermore that if an individual has bad luck, his capital income could turn out to be lower than the risk-free return. His excess return would then be negative. By allowing tax payers to subtract negative excess returns from the labour income tax base, the government participates in the capital risk of the individuals. Rather than discouraging investment, the Rate of Return Allowance increases the incentives to invest by diminishing the risk for the investor: the government as it were becomes a silent

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[32] Schindler (2008) did a similar theoretical study assuming a representative agent, disregarding distributional motives for taxation.

[33] See also Sørensen (2005) for more information about the Rate of Return Allowance.

[34] For the government it is impossible to distinguish the constituents of the excess return for a given individual (risk premium, realization or rent).

partner in each investment. The bad luck of one investor is compensated by the good luck of another: on average the government is able to obtain a positive income from taxes on capital income, because it taxes the risk premiums and the economic rents.

Note that the RRA proposal requires the existence of a wealth register. The existence of such a register increases the information trail in the tax system, and as such makes it more difficult to illegally evade capital income taxes and inheritance taxes. Some politicians in Belgium would argue that such a register constitutes a violation of privacy. This of course is a political consideration, against which I cannot argue as an economist. I can only remark that no such diligence is given to home owners and to those who earn labour income, and that other countries such as the Netherlands already have a wealth register. Moreover, with the increased exchange of data between countries, with the introduction of a tax on securities in Belgium, and with the imminent introduction of a database detailing all financial transactions in Belgium, the existence of a wealth register is closer than ever.

One disadvantage of the Rate of Return Allowance is that, as risk is transferred from the private sector to the government, government finances may become more volatile. This is not necessarily a problem. Because tax liabilities decrease in bad economic times, this policy is counter-cyclical: it attenuates the consequences of an economic crisis. This becomes a problem though if the government is unable or unwilling to smooth its income volatility over time. The government should then weigh the benefits of smoothing private risk against the increase of its income risk.

Then there is the problem of illiquid assets. For liquid assets it is easy to assess the market value. When taxes on capital incomes are due, households can sell some of their liquid assets. For illiquid assets things are different. Not only does a market value for those assets often not exist. If taxes were due immediately, the owners of illiquid assets might run into financial troubles if they do not have the money owed at hand. For this reason taxes on income from illiquid assets should be levied only when capital gains are realized. Some might argue that doing so would cause lock-in effects, where realization of capital gains would be postponed indefinitely to avoid taxation. This is not correct though. The government should levy interests on any postponed tax payments. Doing so, the government removes distortions of the timing of financial decisions. If the exact timing of the capital incomes is unknown, the government should assume that capital incomes have accrued linearly over time since the date of purchase of the asset, and it should levy interests on postponed tax payments accordingly.

Finally, the fact that individuals can subtract negative excess returns from their labour income tax base, could lead to negative total taxable incomes. In order to avoid abuses, the government could forbid the declaration of negative incomes, possibly allowing to offset negative incomes against positive incomes in the following years.

So what would be the optimal tax rate on excess returns? There is large uncertainty about the empirical parameters that determine the optimal tax rate. Most simulations show that a tax of 30-35% on total capital income would probably be optimal. Given that the risk-free return on average constitutes less than a third of total capital income,[35] it is probably a good guess to tax excess returns at the same rate as labour income. One major advantage of doing so is that it removes any incentives to disguise capital income as labour income.

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[35] Jordà (2017)

Conclusion

Regardless of how much revenue the government wishes to collect, or how much it cares about redistribution, the basic principles of optimal taxation turn out to be remarkably robust. The main objective of optimal tax theory is to find out how the government can attain its aims with minimal economic distortions. We find that, both for reasons of efficiency and for reasons of equity, it is optimal to tax capital incomes at a positive rate. The best proposal that we have, given our current state of knowledge, would then be to tax risk-free returns at a lower rate, possibly with an exemption for the lowest incomes, and to tax excess returns at the same rate as labour income. In order to counter tax evasion and to diminish distortions of investment decisions, the tax system should be neutral with respect to the types of assets, and it should be neutral with respect to types of capital income.

I did not treat the taxation of retirement savings. The Mirrlees Review shows that subtracting inlays into a pension account from the tax base, only taxing normal returns as they accrue, and adding withdrawals to the income tax base, is equivalent to an RRA. The fact that individuals are usually in a lower income bracket after they retire than when they are working, provides an incentive to save for retirement. If the government judges that individuals still save too little for their retirement, it is less distortive and less costly to increase the obligatory level of retirement savings, rather than to subsidize them. Furthermore, subsidies of retirement savings are often regressive, which harms the redistributive capacity of the tax system. I leave inheritances, robots, innovation and corporations for the discussion.

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I benefited greatly, both in my research and while preparing this presentation, from the following overviews of the literature on optimal taxation:

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