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Essays in Public Economics

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Essays in Public Economics

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Essays in Public Economics

Essays over de economie van de publieke sector

Thesis

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Chapter 1

Introduction

The present dissertation consists of two distinct parts: Chapters 2 and 3 study how governments should set taxes in order to raise funds efficiently, while Chapter 4 analyzes how public funds are spent. Despite employing different methods and covering disparate topics, these two parts accurately reflect my research agenda: understanding how to make government finances more efficient. Through my own experience of growing up in a transition country, I have learned that how the government spends its funds is as important as how it obtains it: assuming taxes are set optimally, public funds can be squandered through corrupt or inefficient practices. Alternatively, inefficient taxation can lead to insufficient funds in the government coffers, decreasing its ability to provide essential services.

The first part consists of Chapters 2 and 3 and covers a question that is currently high on the research agenda of both academics and policymakers: whether and how to tax capital income.

Chapter 2 offers an intuitive explanation for the Chamley-Judd result, a well-known result stating capital income should not be taxed in the steady state (Chamley, 1986; Judd, 1985). In the steady state, consumption demands in each period become equally complementary to leisure. This makes taxes on capital income redundant: they cannot alleviate distortions from taxing labor income, but they do distort intertemporal consumption decisions.

The explanation is rooted in Corlett and Hague (1953): if goods that are stronger complements to leisure are taxed relatively more, individuals substitute away from leisure by working more. To use an example familiar to many readers, such an argument could be used to advocate for subsidizing lunchtime alcohol in France, as it is complementary to labor due to business lunches.¹ We show that the steady-state assumption makes present and future consumption equally complementary to labor, regardless of the type of utility function. Thus, a differentiated consumption tax (or a capital

¹A similar argument is used for childcare subsidies, which are arguably less contentious: if childcare is strongly complementary to labor (Jaumotte, 2003), it should be subsidized to increase labor supply and alleviate distortions caused by labor taxes.

income tax) would not bring any benefits on top of a labor income tax, while distorting consumption decisions.

The explanation presented in Chapter 2 bridges the macroeconomics and commodity tax literatures, showing how the intuition for the Chamley-Judd result is consistent with standard complementarity arguments in public economics. The Chapter also shows how two explanations previously offered by the literature can be misleading. The first argues that capital income taxes can never be optimal because they impose an ever-growing tax burden on future consumption (Judd, 1999; Banks and Diamond, 2010). This logic is only applicable when strong restrictions are made on the utility function, ensuring that the Ramsey tax smoothing intuition is equivalent to the more general Corlett-Hague logic. The second explanation argues that in the steady state, all taxes on capital income are shifted to labor due to general-equilibrium effects on factor prices, so labor taxes should be the instrument of choice (Auerbach and Kotlikoff, 1983; Correia, 1996; Mankiw, Weinzierl, and Yagan, 2011; Piketty and Zucman, 2013). The Chapter shows that this is not a necessary condition: it shuts off any general-equilibrium effects by studying a model with exogenous factor prices and still obtains that capital income taxes should be zero in the steady state. Thus, general equilibrium effects cannot be the explanation for the Chamley-Judd result, as they are absent in the partial-equilibrium model.

The Chamley-Judd result has been a cornerstone of public economics for more than 30 years, with economists strongly arguing against capital income taxation on its basis. However, the results in Chapter 2, together with the analysis of Straub and Werning (2020) about the existence of steady states, suggest that the case for zero taxation of capital incomes is not as clear-cut as previously thought. Since the result relies on the assumption of a steady-state or of a specific type of utility function, the Chamley-Judd result is merely a technical result occurring under very specific conditions, rather than a general result which should be informative for policy.

Chapter 3 aims to adapt optimal-tax models to fit the real world by exploring how capital incomes should be taxed when individuals have heterogeneous returns to capital. With mounting empirical evidence showing large differences in rates of return to capital across percentiles of the wealth distribution (Fagereng et al., 2020; Campbell, Ramadorai, and Ranish, 2018), this question becomes increasingly relevant from a policy perspective.

The Chapter generalises a two-period version of the Mirrlees (1971) model to include returns to capital that can vary both with individual ability and with savings. The model embeds multiple microfoundations for heterogeneity in capital returns and enables the study of their effects on optimal tax policy when the government has access to fully non-linear tax schedules. The focus is on two cases: the first features high-ability individuals having access to closely-held investments that gener-

ate excess returns, while the second features increasing scale returns due to rich individuals having stronger incentives to invest in financial knowledge and advice.

Chapter 3 demonstrates that it is optimal to positively tax capital incomes in both cases. When capital incomes are positively correlated with ability, they reveal information about ability over and above the labor income base. Since, in a second-best world, governments aim to spread distortions among all bases which reveal information about ability, capital income becomes a natural base for taxation. Conversely, even when capital incomes do not directly correlate with ability but are an increasing function of savings, it is optimal to tax capital incomes. In this case, thanks to increasing scale returns, rich individuals can obtain higher returns to capital than poorer ones. This makes it optimal for the government to redistribute later in life, once the rich individuals have realised large capital returns: rich individuals strongly prefer paying taxes later in life, while poor individuals have small capital returns, making them relatively indifferent between early and late redistribution.

In addition to showing that capital income taxes are positive in a wide range of cases, Chapter 3 also obtains simplified expressions for optimal taxes in terms of empirically-measurable elasticities and characteristics of the capital and labor income distributions. Furthermore, the numerical simulations calibrated to the US case show two important features of optimal capital income taxes when heterogeneity in returns to capital is due to closely-held assets:

- Marginal capital income taxes are economically significant in all cases.
- Marginal income taxes increase for most of the income distribution.

Chapter 4 forms the second part of the present thesis and studies possible instance of influence peddling and conflict of interest in Romanian public hospitals. I study the connections between pharmaceutical companies sponsoring doctors in public hospitals and the procurement contracts those hospitals sign with various pharmaceutical firms. Sponsoring a doctor with management responsibilities is more strongly correlated with the probability of a direct contract (i.e, without tender) occurring than sponsoring a regular doctor, but the difference is not economically significant for contracts awarded with tenders. I document a timing effect: within three months of a sponsorship, there is an increase in the probability of a procurement contract occurring between a sponsored hospital and a sponsoring firm. Furthermore, procurement contracts linked to sponsorships are larger than those not linked. Together with the institutional environment and evidence suggesting contracts linked to sponsorships are less transparent, this evidence can be interpreted more in line with sponsorships acting as kickbacks, rather than legitimate marketing means.

Thus, the main message of this Chapter is that there are reasons to believe the doctors who accept sponsorships from pharmaceutical companies are in a situation of conflict of interest. While an out-

right ban of the practice of pharmaceutical sponsorships would probably hurt the public healthcare system by canceling one of the few sources of financial support for doctors' continuous education, I believe that the current system needs to be reformed in order to cut the direct link between companies and doctors.

Nederlandse Samenvatting

(Summary in Dutch)

Dit proefschrift bestaat uit twee delen: hoofdstukken 2 en 3 bestuderen hoe de overheid belasting dient te heffen om op een doelmatige manier opbrengsten te genereren, terwijl hoofdstuk 4 analyseert hoe publiek geld daadwerkelijk besteed wordt in een sector waar overheidsingrijpen een belangrijke rol speelt: de gezondheidszorg. Deze vragen zijn twee zijden van dezelfde medaille, namelijk het begrijpen hoe overheidsbestedingen doelmatiger te maken. Hoe de overheid geld besteedt is net zo belangrijk als hoe zij geld verwerft. Enerzijds kan, zelfs als belastingen zijn geoptimaliseerd, publiek geld worden verspild door corruptie of ander inefficiënt beleid. Anderzijds kan ondoelmatige belastingheffing leiden tot een tekort aan publieke middelen, wat de overheid beperkt in haar mogelijkheid om essentiële diensten te verlenen.

Hoofdstuk 2 beoogt een intuïtieve verklaring te geven voor het Chamley-Judd resultaat, een bekend theoretisch resultaat dat stelt dat inkomsten uit kapitaal in het lange termijn evenwicht (in de 'steady state') niet moet worden belast (Chamley, 1986; Judd, 1985). De verklaring volgt uit Corlett and Hague (1953): als goederen die sterk complementair zijn aan vrije tijd zwaarder worden belast, besluiten individuen om minder vrije tijd te genieten en meer te werken. In de steady state zijn huidige en toekomstige consumptie even complementair aan arbeid, onafhankelijk van welke nutsfunctie wordt verondersteld. Hieruit volgt dat een gedifferentieerde belasting op consumptie (ofwel een kapitaalinkomenbelasting) geen baten genereert bovenop een belasting op arbeidsinkomsten, maar wel leidt tot verstoringen in consumptiebeslissingen.

Hoofdstuk 3 beoogt de modellen van optimale belastingheffing dichterbij de werkelijkheid te brengen. Het hoofdstuk onderzoekt hoe inkomen uit kapitaal worden belast zou moeten worden als individuen verschillende rendementen behalen op hun kapitaal. Door overvloedig empirisch bewijs dat grote verschillen in behaalde rendementen langs de vermogensverdeling laat zien (Fagereng et al., 2016; Campbell, Ramadorai, and Ranish, 2018), wordt deze vraag steeds beleidsrelevanter. Dit

hoofdstuk laat zowel theoretisch als numeriek zien dat in deze omstandigheid de optimale belasting op kapitaalinkomen positief en economisch significant is.

Hoofdstuk 4 vormt het tweede deel van dit proefschrift en onderzoekt mogelijke gevallen van beïnvloeding en belangenverstrengeling in Roemeense publieke ziekenhuizen. In het bijzonder kijkt dit hoofdstuk naar de link tussen farmaceutische bedrijven die doktoren in publieke ziekenhuizen sponsoren en de aanbestedingen die deze ziekenhuizen toekennen aan diverse farmaceutische bedrijven. Het sponsoren van een dokter met managementtaken is geassocieerd met een hogere kans op een direct contract (zonder aanbesteding) dan het sponsoren van een reguliere dokter, maar dit verschil is niet economisch significant voor contracten met aanbesteding. Het hoofdstuk documenteert ook een timingseffect: binnen drie maanden na een sponsoring is er een verhoogde kans dat er een contract wordt getekend tussen het gesponsorde ziekenhuis en het bedrijf dat sponsort. Bovendien zijn met contracten die worden gelinkt aan een sponsoring grotere bedragen gemoeid dan met contracten die niet zijn gelinkt. Gezien de institutionele setting en verder bewijs dat suggereert dat contracten die zijn gelinkt aan een sponsoring minder transparant zijn, lijkt het erop dat sponsoring meer dient als een verzoek om een wederdienst dan als legitiem marketingmiddel.

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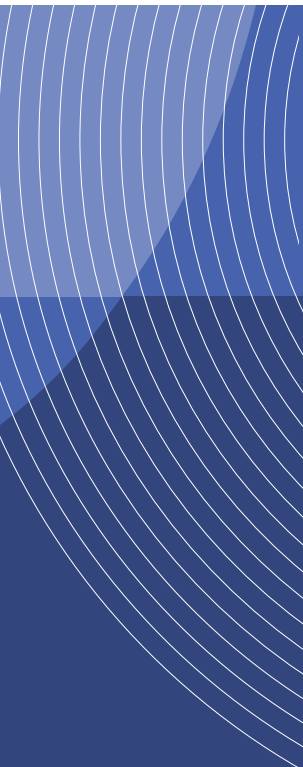
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The first part of this thesis covers a question currently high on the public agenda: whether and how to tax capital income. By reinterpreting the Chamley-Judd result, a well-known result in public finance which argues against taxing capital income, it shows that the steady-state assumption is more important than previously thought. Then, it studies how capital income should be taxed when returns to capital differ across individuals, for instance because capital income is positively correlated with ability, or because of returns to scale in investment. Using numerical simulations and economic theory, it concludes that the optimal tax rate on capital income is positive and economically significant. The second part of the thesis studies how public funds are actually spent, investigating possible instances of conflict of interest in the pharmaceutical procurement market. It documents a timing effect between sponsorships offered by pharmaceutical companies to doctors in public hospitals and the procurement contracts received by the companies.

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