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Department of Economics
Msc in Applied Economics and Finance
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Course: Economic Policy with an Emphasis on Tax Policy

Course website: http://eclass.uoa.gr/courses/ECON208/

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Course Content

The subject of economic policy covers a vast field of research, both theoretical and empirical. The course aspires to cover a range of topics in both fields, primarily from a microeconomic perspective. The first part deals with the basic notions of welfare economics and explores the reasons why a market economy may fail to lead to socially desirable outcomes, even under the assumption of perfectly competitive markets. It aims to introduce students to some of the important concepts and techniques required to identify the limits of what markets can achieve, to review some sources of market failure (public goods, externalities, asymmetric information etc.) and to evaluate the potential for benevolent government intervention to achieve better outcomes.

The role of government intervention and various facets of economic policy are thus studied as (sometimes imperfect) reactions to a range of market failures. The rationale is given as to why a set of government policies discussed in this and other courses of the Master's programme (e.g. tax policy, competition policy, industrial and regional policy, financial policies) arise as a means of ensuring the existence and efficient operation of markets, as well as of promoting an equitable distribution of resources. In the same framework, the course also explains the limitations of government intervention and ways to measure its cost in a partial-equilibrium setting. In this aspect, the course aims at providing an understanding of the motivations for and process of policy making, from an economic perspective.

Emphasis will be given to the basic tools of economic analysis and in particular to the principles underlying the construction and the types of social welfare functions put forward by moral philosophers. The course will additionally highlight the notion of equity as a potential objective of government policy and the theories of social justice that provide the moral basis for redistribution. It will also present the basic analytical tools for addressing issues of inequality measurement.

The second part of the course focuses on tax policy, an area of particular importance especially in the current conjunction where the pressure for increase in public spending is growing and most governments become aware of the problems relating to the aging of the population. As

a famous American jurist, Wendell Holmes, said, "Taxes are what we pay for civilized society." The price of civilized society depends not only on the amount of revenue raised, but on the way it is done. A series of critical policy questions arise: How progressive should the tax system be? Should we tax the amount people earn or the amount people spend? Should we tax companies in face of tax competition? What is the scope of using "green taxes"? How much complexity can people tolerate in furtherance of social or other tax policy objectives? Should the tax system reward good behaviour and punish bad?

The course analyses in a systematic way the central concepts and basic models of optimal taxation theory, based on second best welfare theory. It first covers the theory of optimal commodity taxation, optimal income taxation, the optimal tax mix and the theory of marginal tax reform. It addresses issues like the optimality of the tax structure depending on the tax instruments available to the government, the trade-off between equity and efficiency in the design of taxes, the scope for a progressive income tax structure taking into account behavioural responses and the potential for welfare improving reform of an existing tax structure. The course then deals with aspects of corrective taxation and other facets of environmental policy. More specifically, it discusses the use of taxation of commodities which generate pollution and other external costs, it discusses the economic principles for environmental taxation and reviews the arguments for using taxes and other market mechanisms in environmental policy design. The course finally analyses the basic elements in company taxation, the incidence of taxes and discusses aspects of forms of non-compliance and tax evasion.

In all the issues covered, prominence is given in the interplay between tax theory and tax policy, in exploring how optimal taxation theory can act as a guide to tax policy and in discussing the extent to which the insights gained by theoretical results are indeed reflected in real tax policies. Tax revenues represent about 40% of GDP in most OECD countries (including Greece), therefore the way these revenues are raised has tremendous implications both for income redistribution and the creation of various types of incentives influencing the behaviour of economic agents. The objective of this part of the course is therefore for students to understand the major tax policy issues that policymakers face and that drive the current political debate in an international context and to understand the implications of alternative tax policy choices.

Part I: Introduction to Economic Policy and Welfare Economics

1-2. Markets and Economic Efficiency
This lecture will initiate a discussion on the operation of the market and the possible role of the government. After an introduction to the basic tools of neoclassical economic analysis, and the basic concepts of behavioural economics, will analyse the notion of economic efficiency and Pareto optimality. It will describe competitive economies and demonstrate the two fundamental Theorems of Welfare Economics in a microeconomic framework.

The Two Theorems characterize the efficiency properties of the competitive economy and show how a selected Pareto-efficient allocation can be decentralized. We will show the central role of prices in coordinating the choices of consumers and producers thus leading to the achievement of efficiency. We clarify the assumptions on which the Two Theorems rely and also highlight the role of lump-sum transfers or taxes in supporting the Second Theorem. We will also explain why the market economy can lead to undesirable outcomes even when these assumptions

hold, and highlight the role of equity as a possible objective, an idea to be more thoroughly taken up in the next two lectures. We will finally present the main elements of the theory of the second best, i.e. the formulation of policy problems when various forms of constraints prevent the government from attaining the first-best solution. In the same framework, we will explain the ways to measure the cost of government intervention in a partial-equilibrium setting (consumer surplus, equivalent and compensating variation, etc.).

The strong implications of the Two Theorems regarding the efficiency of the market economy are the starting point for any discussion on the possible role of government intervention. An understanding of the welfare theorems, and of their limitations, is fundamental in appreciating many facets of economic policy.

For an excellent introduction to the institutional framework of the capitalist economies and the role of institutions on economic prosperity, see the book of Acemoglu and Robinson "***Why Nations Fail: The Origins of Power, Prosperity, and Poverty***".

Main references

Hal Varian (2014), Intermediate Microeconomic Analysis: A Modern Approach,* Ninth Edition, W.W. Norton & Company, New York, London

*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapter 2.

Gruber, J. (2016), *Public Finance and Public Policy,* Worth Publishers, New York, NY. Chapters 2 &3.

Lipsey, R. and K. Lancaster, (1956-57), "The General Theory of Second Best", *Review of Economic Studies*, Vol. 24, pp.11-32.

Rosen, H.S. and T. Gayer, (2008), *Public Finance*, 8th edition, Mc Graw-Hill, Chapter 3.

Baddeley, M. (2017), *Behavioural Economics: A Very Short Introduction*, Oxford University Press.

Teraji, S. (2022), *Behavioral Public Economics: Social Incentives and Social Preferences,* New York, NY: Routledge, 2022.

3-4. Theories of Justice, Social Welfare Functions and the Social Optimum

Most economic policy models, including optimal tax policy models, usually address the issues at stake as the attainment of a constrained social optimum, that is they try to maximize a social welfare function under certain constraints (e.g. in the case of optimal tax models the constraint is that a certain amount of tax revenues has to be raised in order to finance an exogenous level of public expenditure). The question naturally arises how to evaluate the social desirability of alternative economic states and more precisely how to construct a social welfare function.

The underlying issues relate to theories of justice. These two lectures will discuss how different strands of moral philosophy give rise to different forms of social welfare functions, such as the utilitarian, the Rawlsian and the isoelastic social welfare functions. The inherent limitations of such functions will also be discussed. We will also examine what these forms of social welfare functions imply about the desired level of income redistribution and the moral basis for such redistribution.

Finally, we will also briefly examine how inequality is measured empirically and the basic axioms underlying the most widely used inequality measures. Students will get acquainted with

both graphical and numerical tools used by economists to measure inequality, derived from statistics as well as from the social welfare functions literature. Such tools include the Lorenz curve, the Parade distribution, the Gini coefficient, the coefficient of variation, the mean logarithmic deviation, the General Entropy measures (including the Atkinson and Dalton indices) and so on. A critical evaluation and the limitations of such measures will also be offered.

Main references

* Atkinson, AB (2015), "Can we reduce income inequality in OECD countries?", Empirica, Vol. 42, pp. 211-23.

*Atkinson, AB. (2009), "Economics as a moral science", *Economica*, Vol. 76, pp. 791-804.

*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapters 13-14 and section 8.7 (on the theory of the second best).

Acocella, N. (1998), *The Foundations of Economic Policy: Values and Techniques*, Cambridge University Press, Chapter 4.

Alfani, G. (2020), Pandemics and Inequality: a Historical Overview, VOXEU (https://voxeu.org/article/pandemics-and-inequality-historical-overview)

Amiel, Y. and Cowell, F. A. (1999) *Thinking about Inequality*, Cambridge University Press, Cambridge.

Atkinson, AB. (2015), *Inequality: What Can Be Done?,* Harvard University Press.

Atkinson, A.B. (1971), "On the Measurement of Inequality", *Journal of Economic Theory*, Vol. 2, pp. 244-263.

Barr, N. (2004), *Economics of the Welfare State*, 4th edition, Oxford University Press, Chapters 3 and 6.

Chancel, L., Piketty, T., Saez, E., Zucman, G. et al, World Inequality Report 2022, World Inequality Lab, wir2022.wid.world.

Cowell, F. (2009), *Measuring Inequality*, LSE Perspectives in Economic Analysis, Oxford University Press.

Mankiw, G. (2010), "Spreading the Wealth Around: Reflections Inspired by Joe the Plumber", *Eastern Economic Journal*, Vol. 36, pp. 285-298.

Mazzucato, M. (2018), "Yes, government creates wealth", Democracy Journal, https://democracyjournal.org/magazine/50/yes-government-creates-wealth/

Keeley, B. (2015), *Income Inequality: The Gap between Rich and Poor*, OECD Insights, OECD, Paris.

Pigou, A. C. (1912) *Wealth and Welfare*, Macmillan, London.

Roemer, J. E., (2006), "Review Essay: the 2006 World Development Report: Equity and Development", *Journal of Economic Inequality*, Vol. 4, pp. 233-244.

Sandel, M (2020) The Tyranny of Merit: What's Become of the Common Good? London: Allen Lane.

Sen, A. (1973), *On Economic Inequality*, Oxford: Phillip Allan.

Sen, A. (2000), "Social Justice and the distribution of income", in Atkinson, A.B. and F. Bourguignon, *Handbook of Income Distribution*, North Holland.

Shorrocks, A. F. (1983) "Ranking Income Distributions," *Economica*, Vol. 50, pp. 3-17.

Stiglitz, J. (2020), Conquering the Great Divide, IMF Finance and Development, September 2020.

5-6. Market failures and government intervention: microeconomic aspects

These two lectures will critically debate the assumptions on which the two fundamental theorems of welfare economics rely and explain why government intervention is necessary in a market economy, as a reaction to a range of market failures. The failures to be briefly examined are incomplete markets, externalities, the existence of public goods, asymmetric information, merit goods, and the lack of perfect competition.

Particular emphasis will be given to the problem of asymmetric information, which arises when buyers and sellers have different information about the goods and services being traded. We will also discuss the problems of regulatory policies followed by many countries to effectively deal with market failures in product and services markets, because of monopoly or oligopolistic structures. We will also examine how such inefficiencies can be partially overcome through policy intervention and the circumstances under which appropriate government intervention can make everyone better off. Finally, we will examine some of the regulatory indicators that have been developed by OECD.

The lectures will also discuss certain welfare measures of the cost of state intervention, like the consumer surplus, compensating and equivalent variation, etc. Finally, the rationale will be given as to why a range of government policies which are going to be extensively discussed in this and other courses of the Master's programme (e.g. tax policy, competition policy, industrial and regional policy, corporate governance) arise as a means of ensuring the existence and efficient operation of markets, as well as of promoting an equitable distribution of resources.

Main references

*Gruber, J. (2016), *Public Finance and Public Policy*, Worth Publishers, New York, NY. Chapters 5, 6 & 7.

Akerlof, G. (1971), "The Market for `Lemons': Qualitative Uncertainty and the Market Mechanism", *Quarterly Journal of Economics*, Vol. 84, pp.488-500.

*Tirole, J. (2015), "Market Failures and Public Policy", *American Economic Review*, vol. 105, n. 6, pp. 1665–1682.

*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapter 10.

*Casullo, L', A. Durand, and F. Cavassini (2019), "The 2018 Indicators on the Governance of Sector Regulators, OECD, Economics Department Working Papers No. 1564.

Égert, B. and I. Wanner (2016), "Regulations in services sectors and their impact on downstream industries: The OECD 2013 Regimpact Indicator", OECD Economics Department Working Papers, No. 1303.

Koske, I. F. Naru, P. Beiter, and I. Wanner (2016), "Regulatory management practices in OECD countries", OECD Economics Department Working Papers, No. 1296, OECD Publishing, Paris.

*Mazzucato, M. (2013), "The Entrepreneurial State – Debunking Public vs. Private Sector Myths", Anthem Press.

Mazzucato, M. (2014), "The Innovative State: Governments should make markets, not just fix them", *Foreign Affairs*, December 16.

Acocella, N. (2005), *Economic Policy in the Age of Globalisation*, Cambridge University Press, Chapters 2 and 6-8.

Arndt, C. et al. (2015), "2015 Indicators of Regulatory Policy and Governance: Design, Methodology and Key Results", OECD Regulatory Policy Working Papers, No. 1, OECD Publishing, Paris.

Crafts, N. (2006), "Regulation and Productivity Performance", *Oxford Review of Economic Policy*, vol. 22, no. 2, pp. 186-202. Cornes, R. and T. Sandler, (1996), *The Theory of Externalities, Public Goods and Club goods,* Cambridge University Press.

Hahn. F. (1982), "Reflections on the Invisible Hand", *Lloyds Bank Review,* Vol. 144, pp. 1-21.

Lindahl, E., (1959), "Just Taxation: A Positive Solution", in *Classics in the Theory of Public Finance,* (eds.) Musgrave, R.A. and A.T. Peacock, New York, Saint Martin Press.

Rosen, H.S. and T. Gayer, (2008), *Public Finance*, 8th edition, Mc Graw-Hill, Chapters 4-5.

Samuelson, P. (1955), "Diagrammatic Exposition of a Theory of Public Expenditure", *Review of Economics and Statistics*, Vol. 37, pp. 350-356.

Tideman, N.T. and G. Tullock, (1976), "A New and Superior Process for Making Social Choices", *Journal of Political Economy,* Vol. 84, pp. 1145-60.

F. J. Delgado, J. Freire-González, and M.J. Presno (2022), "Environmental taxation in the European Union: Are there common trends?", *Economic Analysis and Policy*, Vol.73, pp. 670-682.

Part II: Tax policy

7. Tax incidence

The theory of tax incidence examines the effect of a change in taxes on economic equilibrium. A change in taxes affects prices, either of commodities or factors of production. A first answer to the question "who pays the taxes" is the agent stipulated in law as responsible for paying the tax. In reality, however, the changes in prices change the behaviour of economic changes and the economic equilibrium that existed before the change in taxes. As a result the "legal" incidence may be different from the economic incidence.

This section studies the real incidence of taxes both in partial equilibrium and in general equilibrium. The incidence of taxes in partial equilibrium attracted the interest of economists as early as the seventeenth century. Both Adam Smith and David Ricardo discussed tax incidence in detail, but their whole analysis was based on supply, since they lacked an adequate concept of demand. The modern analysis of partial equilibrium incidence arrived with the marginalists; however the theory of tax incidence in general equilibrium only emerged with Harberger (1962), which we will study in this lecture.

Main references

*Gruber, J. (2016), Public Finance and Public Policy, Worth Publishers, New York, NY. Chapters 19, & 20.

*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapter 9.

*A. Harberger. "The Incidence of the Corporation Income Tax," *Journal of Political Economy*, 1962, 215-240.

Kotlikoff, L., and L. Summers, (1987), "The Theory of Tax Incidence", In: Auerbach, A., Feldstein, M. (Eds.), *Handbook of Public Economics*. North Holland, Amsterdam.

Fullerton, D. Metcalf, G.E, (2002), "*Tax incidence*", In: Auerbach, A., Feldstein, M. (Eds.), *Handbook of Public Economics*. North Holland, Amsterdam.

Rapanos, V., ((1986), "Variable returns to scale and tax incidence", *Journal of Economics*, 46, 397-406.

Rapanos, V., (1995), "The effects of environmental taxes on income distribution", *European Journal of Political Economy*, 11(3):487-501, DOI: 10.1016/0176-2680(95)00007-K

B. Salanie. The Economics of Taxation, Cambridge: MIT Press, 2003, Chapter 1.

G. Kaplanoglou (2015), "Who Pays Indirect Taxes in Greece? From EU Entry to the Fiscal Crisis", *Public Finance Review*, Vol. 43(4), pp. 529-556.

8. Optimal Commodity Taxation

This lecture attempts to give an introductory survey to the literature on optimal taxation. It covers the basic theorems of optimal commodity taxation and discusses the insights that the theory provides into the structure of optimal taxation.

The point of departure is the impossibility of the government to finance its activities through lump-sum taxation, which as indicated in previous lectures is the optimal form of taxation since it can achieve any redistributive objectives at zero social cost. In the absence of lump-sum taxes, the optimal taxation problem can then be stated in simple-terms: given the amount of tax revenue the government has decided to collect, how should it choose the rates of the various taxes to maximize social welfare? Apparently the answer to this question depends on the kinds of taxes available to the government.

In this lecture we will study the basic theory of optimal commodity taxation, where the only available tax instruments are linear, possibly differentiated taxes on goods and a linear tax on wages. We will analyze the question of the possible uniformity of the optimal tax structure, present some formulas for simplified cases, and we will also examine how the analysis is modified if we incorporate redistributional objectives of taxation. We will also briefly discuss some additional problems in commodity taxation that are raised by production efficiency, pubic goods, externalities, international trade and public utilities. In all cases, the theory is surveyed with a view towards its implications for actual tax policy. Finally we introduce the novel policy problem of correcting for *internalities*, an example of behavioural public finance.

<u>Main references</u>

*Sandmo, A., 1976, "Optimal Taxation: an Introduction to the Literature", *Journal of Public Economics*, Vol. 6, pp. 37-54.

*Salanié, B., (2003), *Economics of Taxation,* Cambridge: MIT Press, Chapter 3.

*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapter 15.

*Heady, C. (1993), "Optimal Taxation as a Guide to Tax Policy", *Fiscal Studies*, Vol. 14, pp. 15-41.

Atkinson, A. and Stiglitz, J., (1980), *Lectures in Public Economics*, McGraw-Hill, Chapter 12.

Deaton, A. S., and Stern, N. H., (1986), "Optimally Uniform Commodity Taxes, Taste Differences and Lump-sum Grants", Economics *Letters*, Vol.20, pp. 263–66.

Diamond, P. A., and Mirrlees, J. A., (1971), "Optimal Taxation and Public Production 1: Production Efficiency and 2: Tax Rules", *American Economic Review*, Vol. 61, pp. 8–27 and 261–78.

Gerster, Andreas, and Michael Kramm. 2019. "Correct Me If You Can - Optimal Non-Linear Taxation of Internalities." CESifo Working Paper No. 7732.

Petit, P., M. Mansour and P.Wingender, (2021), "How to apply excise taxes to fight obesity", IMF How to Notes, Note 21/08, IMF, Washington DC.

9-10. Optimal Income Taxation

This lecture discusses the main issues concerning the design of the income tax structure, a problem which remains at the heart of debates at both a theoretical and at a policy level. The study of the optimal direct taxation must take into account two perspectives. The first refers to the efficiency cost of income taxation in terms of its disincentive effects on effort and labour supply. High income tax rates in this respect should be avoided in order to avoid such discouragement. The second refers to the obvious suitability of income taxes to serve well the task of redistributing income through a potentially progressive tax schedule. The determination of the optimal structure of income taxation involves reconciliation of these two apparently contrasting perspectives.

We will discuss the theoretical results, as well as the empirical evidence on the interaction between income taxation and labour supply. We will also describe models which try to incorporate the efficiency and equity aspects of direct taxation and discuss their implications for the design of the optimal income tax schedule.

Main references
*Salanié, B., (2003), *Economics of Taxation,* Cambridge: MIT Press, Chapter 4.
*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapter 16.
*Heady, C. (1993), "Optimal Taxation as a Guide to Tax Policy", *Fiscal Studies*, Vol. 14, pp. 15-41.
Atkinson, A. and Stiglitz, J., (1980), *Lectures in Public Economics*, McGraw-Hill, Chapter 13.
Gruber, J. and E. Saez, (2002), "The Elasticity of Taxable Income: Evidence and Implications", *Journal of Public Economics*, Vol. 84, pp. 1-32.
Kaplow, L. (2008), *The Theory of Taxation and Public Economics*, Princeton University Press, Chapter 4.
Mirrlees, J. (1971) "An Exploration in the Theory of Optimal Income Taxation". *Review of Economic Studies*, Vol. 38, pp. 175-208.
Saez, E. (2001), "Using Elasticities to Derive Optimal Income Tax Rates" *Review of Economic Studies*, Vol. 68, pp. 205-229.
Saez, E., J.B. Slemrod and S.H. Giertz, (2009), "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: a Critical Review", NBER Working Paper, No. 15012, May 2009.
Tuomala, M. (1990) *Optimal Income Tax and Redistribution*, Oxford University Press. Chapter 6.

11. Company taxation

This lecture examines some central issues in the design of the corporation tax. The first question to be explored is whether it makes sense to tax corporations and if so, what is the incidence of the tax (in other words, who pays the corporation tax). We also present some data on statutory and implicit tax rate on business income in the EU countries.

Another set of questions refer to the effect of the corporation tax on behaviour and corporate decisions. Three dimensions are examined: how the total amount of physical investment is affected by the corporation tax, how the composition of physical investment is affected in terms of types of physical assets and how the financing of the corporation is affected (debt versus equity finance).

We will finally touch on some issues regarding the taxation of multinational corporations, the scope of such corporations to avoid paying taxes and also attempts made at the European Union level to harmonize corporate taxation with the view of mitigating harmful tax competition between EU Member States. We will finally briefly refer to the global minimum tax agreed by 126 countries in October 2021, which is considered a major reform of the international corporate tax system.

Main references

*Rosen, H.S. and T. Gayer, (2008), *Public Finance*, 8th edition, Mc Graw-Hill, Chapter 19 (pp. 438-461).

*Rosen, H.S, T.Gayer, Β.Θ. Ράπανος και Γ. Καπλάνογλου, (2009), Δημόσια Οικονομική: Σύγχρονη Θεωρία και Ελληνική Πραγματικότητα, τόμος Β, κεφ. 18 (σ. 271-316), Εκδόσεις Κριτική.

*Auerbach, A.J., M.P. Dereveux and H.Simpson, (2010), "Taxing Corporate Income", in *Dimensions of Tax Design, The Mirrlees Review*, pp. 837-893, Oxford University Press, UK.

*Institute for Fiscal Studies, 2011, "Taxing Corporate Income", in *Mirrlees Review: Reforming the Tax System for the 21st Century, Tax by Design*, Chapter 17.

Barake, M., P-E Chouc, T. Neef and G.Zucman (2021), "Revenue effects of the global minimum tax: country-by-country estimates", EU-Tax Observatory, Note No. 2, October 2021.

European Commission, (2003), "An internal market without obstacles – achievements, ongoing initiatives and remaining challenges", COM (2003) 726.

European Commission, (2010), *Taxation Trends in the European Union: Data for the EU Member States, Iceland and Norway*, 2010 edition, Luxembourg.

Gravelle, J.G. (2015), "Tax Havens: International Tax Avoidance and Evasion", Congressional Research Service, Cornell University, ILR School.

Hassett, K.A. and G.E. Metcalf, (1999), "Investment with Uncertain Tax Policy: Does Random Tax Policy Discourage Investment?", *The Economic Journal*, Vol. 109, No. 457 (Jul., 1999), pp. 372-393.

Mintz, J. (1995), "The Corporation Tax: A Survey", *Fiscal Studies*, Vol. 16, pp. 23–68.

12. Optimal tax mix and Optimal Tax Theory in Practice.

This lecture analyses how the conclusions of optimal tax theory are modified when multiple tax instruments (e.g. commodity taxes, non-linear income tax) are available to the government. The issues involved are of particular interest since they shed light on the problems facing real-world governments in designing taxes. In this framework we will focus on how optimal taxation theory can act as a guide to tax policy and explore the extent to which the insights gained by theoretical results are indeed reflected in real tax policies and whether the developments in the theory of taxation have actually improved tax policies around the world.

Main references

*Heady, C. (1993), "Optimal Taxation as a Guide to Tax Policy", *Fiscal Studies*, Vol. 14, pp. 15-41.

*Mankiw, N.G., M. Weinzierl and D.Yagan, (2009), "Optimal Taxation in Theory and Practice", *Journal of Economic Perspectives*, Vol. 32 (4), pp. 147-174.

*N. Stern, (1987), "The Theory of Optimal Commodity and Income Taxation: An Introduction," in D. Newbery and N. Stern, *The Theory of Taxation in Developing Countries* (Oxford: Oxford University Press, 22-59.

*Slemrod, J., 1990, "Optimal Taxation and Optimal Tax Systems," *Journal of Economic Perspectives*, Vol. 4, pp. 157–178.

Καπλάνογλου, Γ. (2023), Η άνιση κατανομή του φορολογικού βάρους στα νοικοκυριά στη Ελλάδα, ΙΝΕ-ΓΣΕΕ, Αθήνα.

Ahmad, E. and Stern, N., (1984). "The Theory of Reform and Indian Indirect Taxes", *Journal of Public* Economics, Vol. 25(3), pp. 259-98.

Atkinson, A. and Stiglitz, J. (1980), *Lectures in Public Economics*, McGraw-Hill, Chapter 14.2.

Kaplanoglou, G. and D.M. Newbery, (2003), 'Indirect Taxation in Greece: Evolution and Possible Reform' *International Tax and Public Finance*, Vol. 10, pp. 511-33.

Kaplow, L. (2006), "On the Undesirability of Commodity Taxation even when Income Taxation is not Optimal", *Journal of Public Economics*, **90**, pp. 1235-1250.

Organisation for Economic Co-operation and Development, (2010), *Tax Policy Reform and Economic Growth*, OECD Tax Policy Studies No.20, OECD: Paris.

Salanié, B., (2003), *Economics of* Taxation, Cambridge: MIT Press, *Chapter* 5.

13. Tax evasion and compliance

Optimal tax models considered so far assume that economic agents are honest in reporting their taxable activities. This assumption is apparently unacceptable when confronted with reality in all countries. Particularly in Greece, tax evasion, i.e. the intentional failure to declare taxable economic activity, is considered pervasive. The purpose of this lecture is to present a number of theoretical and empirical tools to understand this practical constraint on the free choice of tax policy.

We will try to understand the factors involved in the decision to evade tax. Initially this decision is represented as a choice under uncertainty. The analysis predicts the relationship among the level of evasion, tax rates, and punishments. Within this framework the optimal degree of auditing and of punishment is considered. Evidence that can be used to assess the model's predictions is then discussed. In the light of this, some extensions of the basic model are considered. We will finally examine how evasion can be measured. We will review the evidence on the extent of tax evasion in a range of countries, as well as a recent empirical study attempting to estimate the degree of tax evasion of the personal income tax in Greece.

Main references

*Hindriks, J. and G. Myles, (2013), *Intermediate Public Economics*, MIT Press, Chapter 17.

*Slemrod, J. and Yitzhaki, S. (2002) "Tax Avoidance, Evasion and Administration", *Handbook of Public Economics*, Vol. **3**, 1423-1470, North-Holland, Elsevier.

*D'Attoma, J, 'Explaining Italian Tax Compliance: A Historical Analysis', in Sven H. Steinmo (ed.), The Leap of Faith: The Fiscal Foundations of Successful Government in Europe and America (Oxford, 2018; online edn, Oxford Academic, 20 Sept. 2018), https://doi.org/10.1093/oso/9780198796817.003.0005.

*Kaplanoglou, G. & V. Rapanos (2012), "Tax and Trust: The Fiscal Crisis in Greece, South European Society and Politics, DOI:10.1080/13608746.2012.723327

Kaplanoglou, G. & V. Rapanos (2015), "Why do people evade taxes? New experimental evidence from Greece", Journal of Behavioural and Experimental Economics, 56, pp. 21-32, http://dx.doi.org/10.1016/j.socec.2015.02.005

Kaplanoglou, G., Rapanos, V., & Daskalakis, N. (2016). "Tax compliance behaviour during the crisis: the case of Greek SMEs" European Journal of Law and Economics, 42(3), 405–444. https://doi.org/10.1007/s10657-016-9547-y

Andreoni, J. Erard, B. and Feinstein, J. (1998), "Tax Compliance", *Journal of Economic Literature*, Vol. 36, pp. 818-860.

Schneider, F. and Enste, D.H. (2000), "Shadow economies: size, causes and consequences", *Journal of Economic Literature*, Vol. 38, pp. 77-114.

*Alm, J, (2019), "What Motivates Tax Compliance?" *Journal of Economic Surveys*, Vol. 33, No. 2, pp. 353–388

Slemrod, J. (2019), "Tax Compliance and Enforcement", *Journal of Economic Literature*, 57(4), 904–954, https://doi.org/10.1257/jel.20181437904