

A Dynamic Microsimulation Model to Examine Redistributive Impacts of Tax-Benefit Policies in Turkey

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Outline

🔦 Introduction

- Turkish economy: a general overview

🔦 Background: Turkish Tax and Expenditure System

🔦 Studies on redistributive impacts of fiscal policies in Turkey

- Static fiscal incidence

🔦 Why do we need a dynamic microsimulation model for Turkey?

🔦 Some points in DMS model in construction

- Data

🚧 Introduction & Motivation

- 🚧 **Two Financial Crises: 1994 and 2001**
- 🚧 **Reduction in GDP, high inequality and unemployment rates despite of high growth rates (average 7.8% between 2002-2005) for a middle-income country**

Some Basic Indicators of Turkish Economy							
	1994	1995	2001	2002	2003	2004	2005
Gini Coefficient	0.49		0.46	0.44	0.42	0.4	0.38
Growth Rate	-6.1	8	-9.5	7.9	5.9	9.9	7.6
GDP per capita*	2,159	2,784	2,110	2,634	3,390	4,172	5,042
Unemployment rate	8.6	7.6	8.4	10.3	10.5	10.3	10.3

**US Dollar, at current prices*
Source: State Planning Organisation (SPO), TUIK

- 🚧 **So need for a closer examination of redistributive policies: actual impacts and potentials**

Turkish Tax System

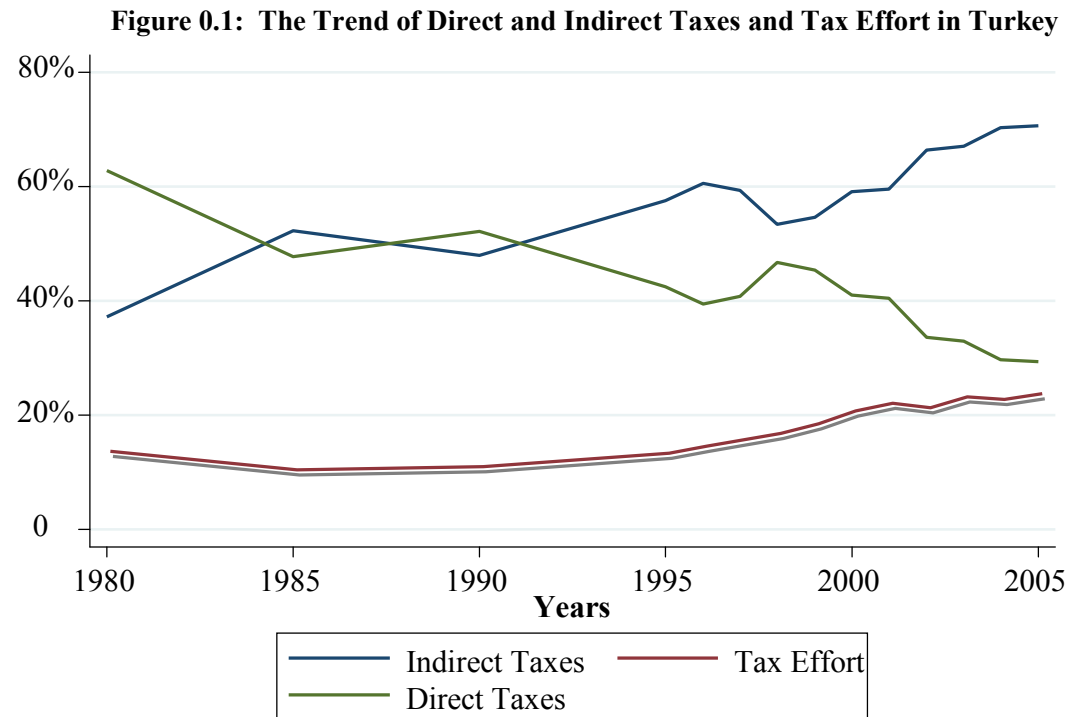
Table 1. Central Government Domestic Revenue (% share of GDP and Total Tax Revenue)			
Turkey, 2003			
	Total Amount*	% of GDP	% of Total Tax Revenue
Direct Taxes	25,716	7.21	30.5
Income tax	17,064	4.78	20.24
Corporation Tax	8,645	2.42	10.25
Other	7	0	0.01
Taxes on Property			
Motor Vehicles Tax	1,206	0.34	1.43
Property Tax and Other	886	0.25	1.05
Indirect Taxes	43,927	12.32	52.1
VAT	15,390	4.31	18.25
Private Consumption Tax	22,306	6.25	26.46
Private Communication Tax	1,048	0.29	1.24
Other Indirect Taxes	5,184	1.45	6.15
Foreign Trade Taxes	12,579	3.53	14.92
Other	2	0	0
Total Tax Revenue	84,314	23.64	100
Total Non Tax Revenue	15,934	4.47	
Total Revenue	100,248	28.11	
<i>*Trillion TL</i>			
<i>Source: Ministry of Finance</i>			

Turkish Tax System

🚩 Indirect taxes' share in Total Tax Revenue rose from 48% in 1990 to 67% in 2003.

🚩 Introduction of VAT, 1985

🚩 High tax evasion for direct taxes



Welfare System

👉 Welfare creating or pro-poor public expenditures on:

- Education
- Health
- Social cash transfers
- Unemployment benefits
- Pension system
 - Informal Employment: over 45%

Summary of Results from Albayrak (2009)

- ✦ **Total public expenditure on education, health, infrastructure and some cash transfers is progressive, but apart from primary and secondary education, none of them is pro-poor. Middle income classes utilise the redistributive impact largely.**
 - Retirement payments are regressive because of high informal employment in the bottom of the distribution.
 - Informal employment is the reason of small progressivity of health expenditures.
- ✦ **Personal income tax is progressive thanks to the progressive income schedule. However, tax evasion decreases the progressive power of the tax.**
- ✦ **We need to keep in mind that direct taxes make up only 30% of total tax revenue in Turkey.**
- ✦ **Indirect taxes are progressive thanks to PCT and PCOT but the redistributive power is ignorable and it is sensitive to the welfare indicator chosen-regressive if income used-. VAT is less progressive tax among indirect taxes.**
- ✦ **VAT is regressive under I-O method for both income and consumption.**
- ✦ **Progressivity rates for poorer households are very low. Hence middle income classes are the part of the society who enjoys mostly the redistribution caused by the taxes and public services.**

The problems with the results

- ✖ **Static, immediate impacts with mean values of variables**
- ✖ **Behavioural responses were not taken account**
- ✖ **One year cross sectional data used. There is no dynamic impact thought. So long term impacts of policies ignored**
- ✖ **High income inequality is one of the results of high share of indirect taxation and ineffectiveness in benefit system**
 - **So need for reform in fiscal system and DMS is a useful method to see the redistributive and welfare impacts of alternative policy reforms**

What Does Redistributive System Do?

✎ Redistributive Systems change:

- **Income impact:**

- **households' incomes and poverty levels**
- **households' positions in the income distribution and inequality levels**
- **consumption level**

- **Substitution impact: economic decisions of economic agents (behavioural impacts)**

- **consumption pattern**
- **labour supply**
- **the decision for being informal or formal sector**
- **decision for evading tax or not**

The need for a DMS

✚ Arithmetical, behavioural and dynamic model together

- Why an arithmetical model?
 - to see the immediate impacts (first round) of the policies: useful for policy makers especially
 - to compare the results with the previous studies and behavioural model

- Why behavioural model?
 - People may change their economic decisions according to the fiscal variables
 - What incentives or disincentives are created as a result of the fiscal policies?
 - Mainly behavioural impacts on consumption and labour supply
 - Tax evasion, informal employment as a part of the responses to the tax and benefit system

- Why dynamic component?
 - Life-time impact of tax and benefit policies
 - Redistribution not only changes the existent distribution also intertemporal distribution

Dynamic component on

Benefit system:

- **Informal employment seems to have positive impact on inequality as it is the case for the bottom part of the distribution.**
- **What about the effects of informal employment on retirement and benefiting health services along with tax revenues (both income and payroll tax)**
- **Both in the short term and long term**
 - **So retirement and health benefits should be considered related to the informal employment and income tax**
- **Need for health services rise with age. Young employee would prefer to be informal sector but in the long run this effects welfare of this person and distribution**

Data

- ✦ **No panel data available now. But announced that it is on the way!**
 - **For the dynamic component of the model: hypothetical method'll be used**

- ✦ **Main data set: Household Budget Surveys (HBS), since 2003 annual, from Turkish Statistical Institute (Turksat) to attain socio-economic and demographic characteristics of households/individuals**
 - **Net incomes by individuals**
 - **Consumption by households**
 - **2003**
 - **25690 households**
 - **COICOP 199 products**
 - **Regionally representative**
 - **Other years (2004-5-6-7-8)**
 - **Around 8000 households**
 - **Rural/urban breakdown**

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✦ **Household Labour Force Statistics since 2004 annual**

- **Regional labour participation and unemployment rates with general characteristics of workers (age, gender, where they work)**