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Labour Supply Effects of a Subsidized Old-Age Part-Time Scheme in Austria

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Overview

- Introduction and description of Old-Age-Part-Time (OAPT) scheme in Austria
- Theoretical considerations and international evidence
- Expenditure and participation structure
- Empirical approach: Matching
- Causal labour market effects of OAPT
- Conclusions

Introduction

- *General background:* Phased retirement and flexible transitions from employment to retirement.
- *Motivation:* Preserves firm specific human capital held by older workers in workplace; employees with preferences for more leisure (e.g. health and family care) can adopt actual working hours to optimal hours.
- *Policy:* In Austria unemployment of elderly workers is traditionally high and labour force participation is low. In 2000 the OAPT scheme has been introduced with the aim to raise labour supply.

OAPT Scheme in Austria - I

- Bilateral agreement on *working time reduction* (by 40 to 60%) between employee and employer for older workers.
- *Employer* pays compensatory wage up to gross salary of 75%.
- Contributions to *social security* are paid at the same amount as before working time reduction.
- *OAPT subsidy* compensates employer for *additional costs* from compensatory wage and the difference of social security contributions.

OAPT Scheme in Austria - II

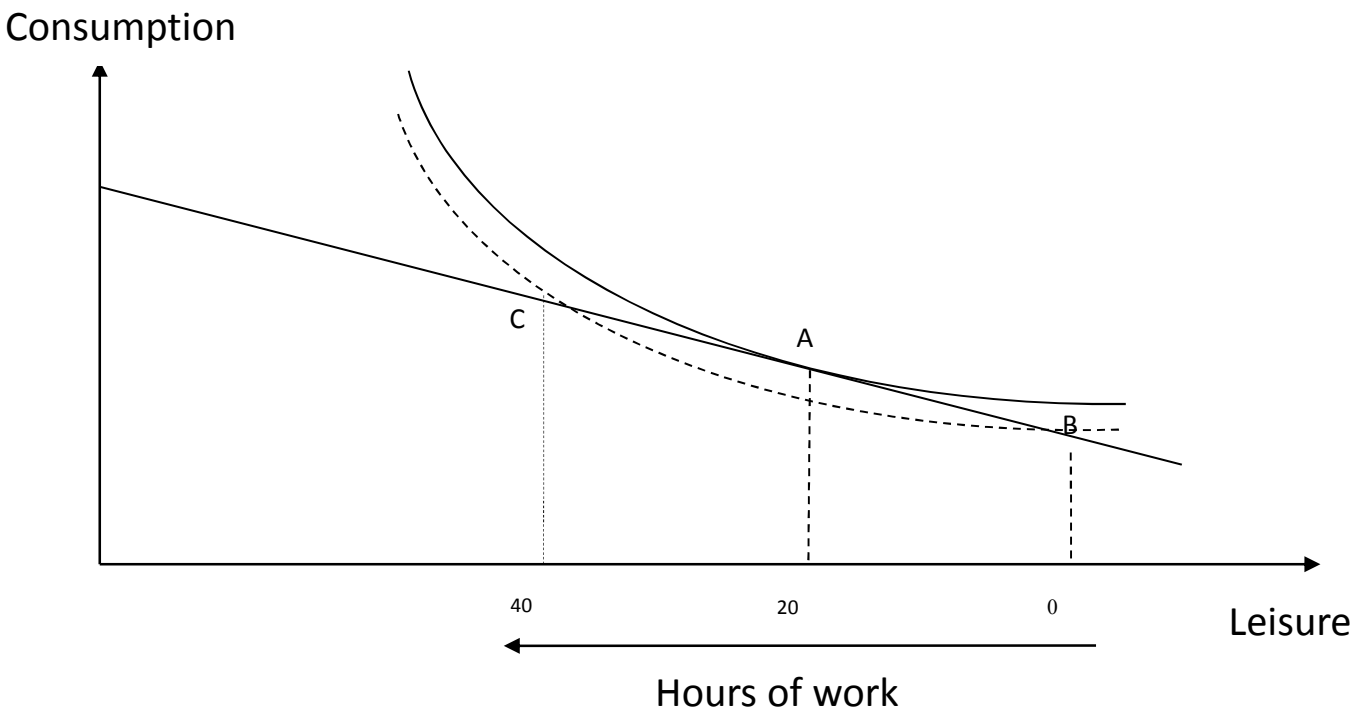
- Entry age of *55 years for men and 50 years for women*.
- Maximum OAPT duration of *6 ½ years*.
- *No obligation* for *hiring an additional employee ('Ersatzkraft') to receive the subsidy*.
- Working *full-time* prior to the working time reduction.
- *Blocking option* (Working full-time in a first phase followed by non-working phase up to a maximum of 2 years.)

Quick Summary

- Subsidised reduction of working time some 5 years prior to regular retirement
- No pension paid during this time
- No requirement to work AFTER regular retirement age
- Possibility to block: i.e. retire earlier and cash in the subsidy
- Policy would only be favorable if these workers would be unemployed otherwise

Theoretical assessment - I

Deciding about hours of work in a constrained situation



Theoretical assessment - II

- Older workers *prefer to reduce working hours* (health aspects, family care, physical strength).
- *'Hours constraints'* reduce working time flexibility (e.g. older workers work full-time or not at all).

➡ *OAPT scheme can reduce hours constraints* and increase working time flexibility.

- On the one hand, working hours flexibility reduces the incentive to exit from the labour force,
- but increases the incentive to substitute part-time work for full-time work.

➡ *Empirical analysis* of total effects on labour supply is necessary.

International evidence

Similar (part-time and partial pension) schemes: Altersteilzeitgeld (*Germany*), Career Break Scheme (*Belgium),* Life Course Scheme (*Netherlands),* Partial Pension Schemes (*Sweden* and *Finland)*;

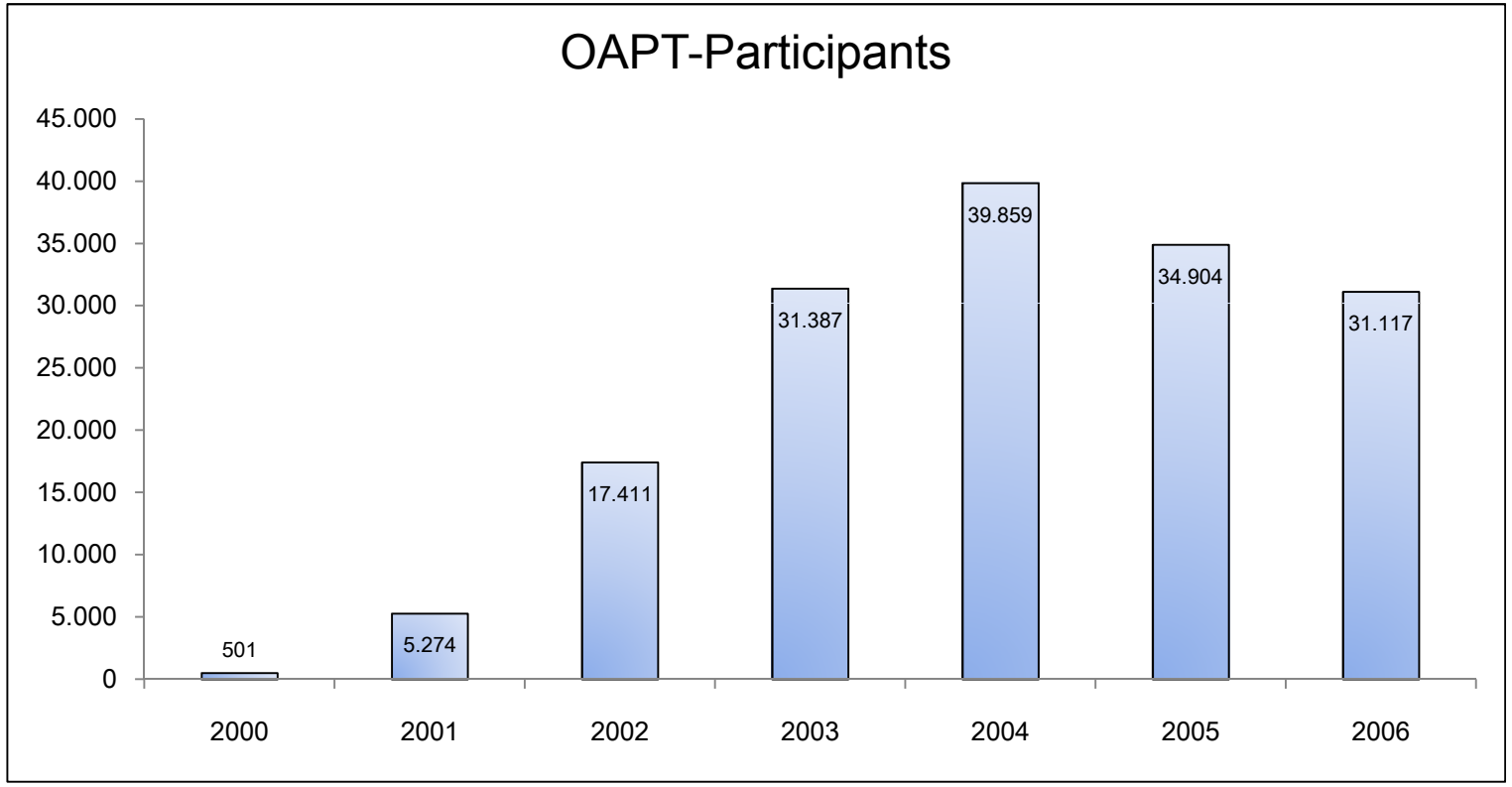
Evaluation results:

Germany and Belgium: often used as *'alternative pathway to early retirement'*.[1]

Sweden: Increased labour supply, but *high budgetary* costs. Phased-out and *stopped in 2001*.[2]

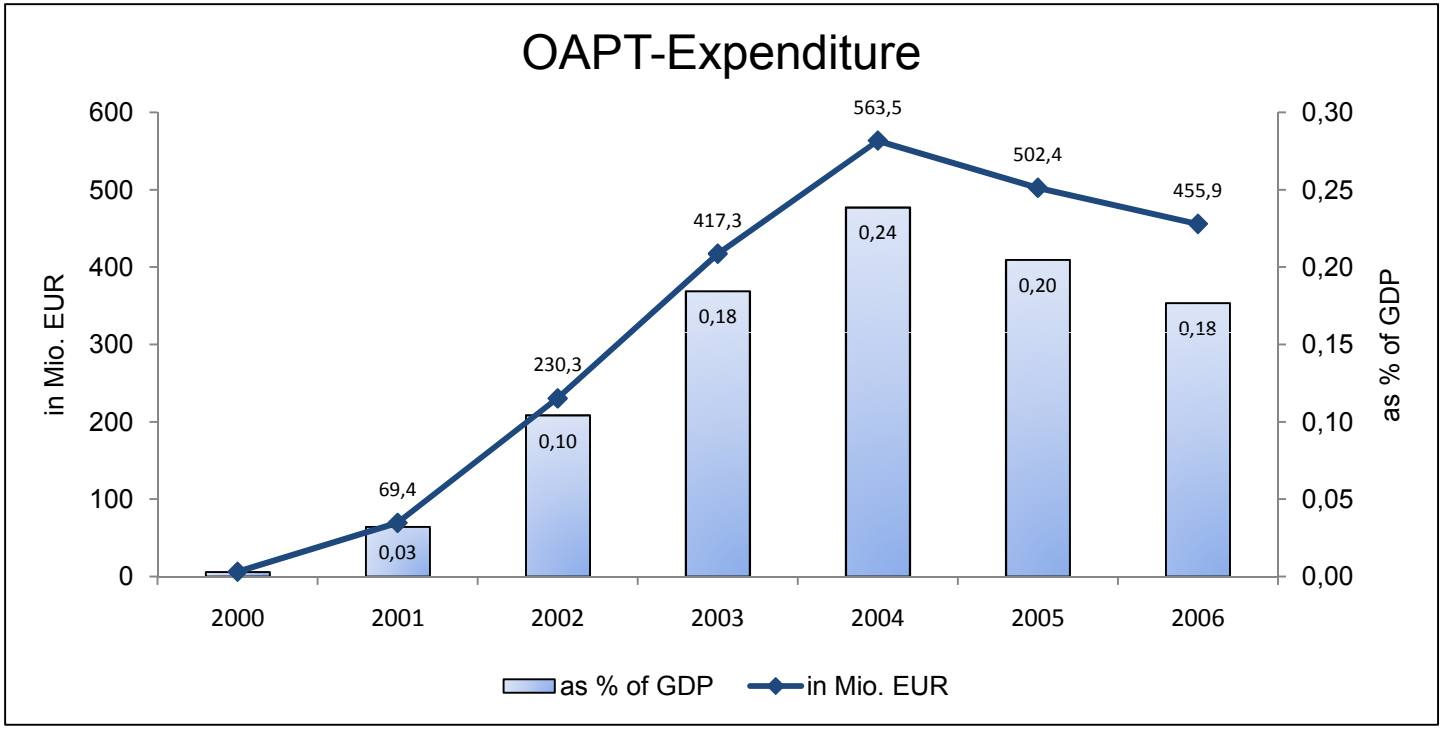
[1] see Devischer 2004 for Belgium, Arnds und Bonin 2002, Eichhorst 2006 for Germany.
[2] see Wadensjö 2006.

Participants and Expenditure - I



Source: BMWA.

Participants and Expenditure - II



Source: BMWA.

OAPT participation structure

- *Women*'s participation share (46.6%) higher compared to workers over 50 years old (42.5%).
- OAPT more frequently used in *manufacturing* (32.3% vs. 21%), and *financial intermediation* (7.8% vs. 4.6%).
- OAPT-share of *public administration* is high (15.9%), but below employment share (20.6%).
- OAPT more frequently used in *large firms*.
- *Median income* of OAPT-participants (2,677 EUR) higher compared to reference population (2,033 EUR).

Evaluation approach: Matching - I

Let $Y_i(1)$ denote the potential outcome of individual i participating in OAPT and $Y_i(0)$ the potential outcome of non-participation, $D_i = \{0,1\}$ is an indicator for exposure to treatment.

Average Treatment Effect on the Treated (ATT):

The first part of the expression can be identified for the treatment group sub-sample, the second part is counterfactual.

$$\Delta_{ATT} = E(Y(1) \mid D(1)) - E(Y(0) \mid D(1))$$

Evaluation approach: Matching - II

We apply the Abadie-Imbens (*nearest-neighbour*) matching estimator with bias-correction.

In contrast to propensity score matching, the matching is performed on the covariates X.

A regression method is used to reduce the bias due to the difference of the matched observations and their matches.

Evaluation approach: Matching - III

Matching is valid only if the *assumption of conditional unconfoundedness* is fulfilled. It requires that conditional on observed covariates there are *no unobserved factors* that are associated both with the assignment and with the potential outcomes.

Given that our data-set contains a rich set of variables (socio-demographic factors, long labour market history and firm specific data) we argue that the assumption of unconfoundedness is justified in our case.

Empirical results - I

Data source is AMDB ('*Arbeitsmarktdatenbank*'): social security records and employment office. This dataset is matched with administrative information for the participants.

Birth cohort 1943/44 for males and 1946/47 for females.

Treatment group includes all participants entering the OAPT scheme between 2000 and 2003 (6,142 males and 3,210 females).

Control group : all workers of these age cohorts employed in the private sector (23,810 males and 28,651 females).

Matching

Covariates

- Employment days per year (1, 2, 3 years before entrance in OAPT); unemployment risk, tenure, status white-collar vs. blue-collar, income;
- days of sickness leave, accident benefits (3 years before entrance);
- region (9 Federal States),
- industry (11), firm size and employment dynamics of the firm;
- exact matching for birth-cohorts.

Empirical results - III

Observation period 4 years after entrance in the OAPT

Outcome variables:

- Days in employment
- Days in unemployment
- Full-time employment rate, calculated as days in full-time equivalents over days in the sample period (4*365); for OAPT participants we assume a working time reduction by 50%.

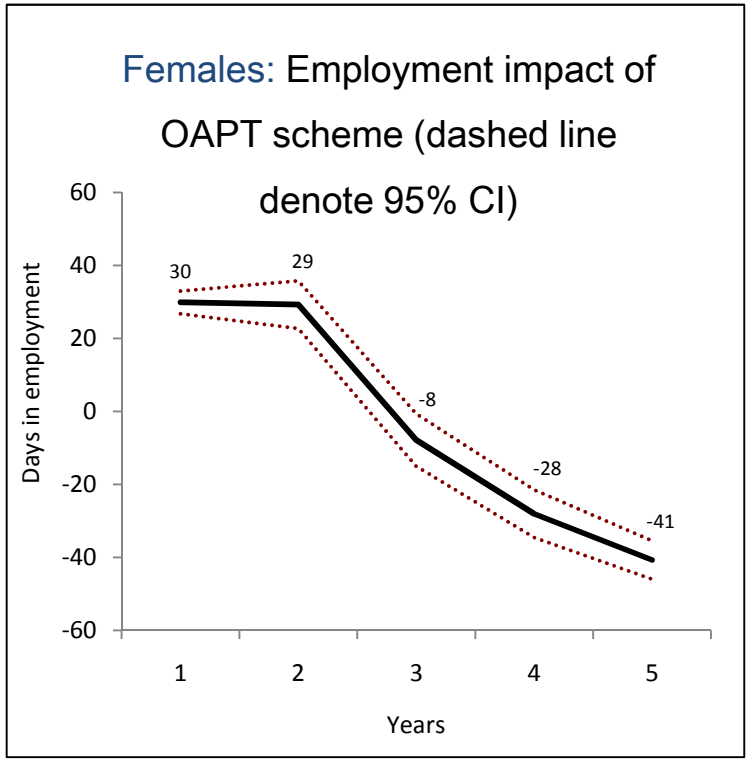
Empirical results - IV

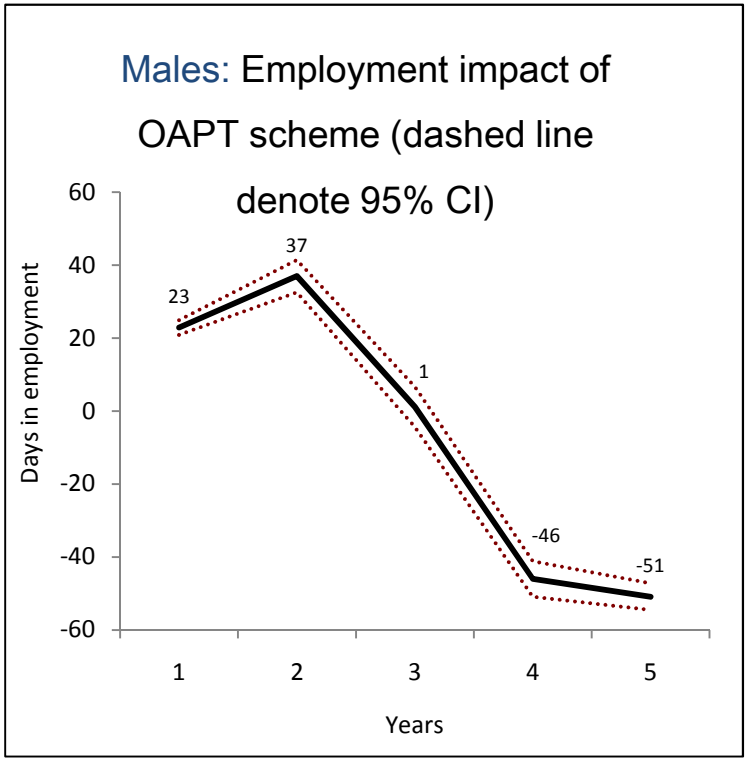
Cumulative effects of OAPT 4 years after program entrance (SE in parenthesis)

Cumulated effects over 4 years	**Males**	**Females**
Employment:	15.1 (7.0)	23.3 (9.9)
Full-time employment[(1)]:	-28.9%	-24.7%
Unemployment:	-32.5 (2.8)	-38.4 (3.7)

[(1)] In percentage points: calculated as (difference in days in full-time equivalents) over days in the sample period; we assume that OAPT participants reduce working time by 50 percent.

Employment effect over time





(1) Employment effect in days per year. Source: IHS.

Conclusions

- Back of the envelope calculations based on our matching results: abolishing OAPT scheme:

  1.5 PP higher full-time employment rate for age-group 50 to 64,

  0.2 PP higher unemployment rate for age-group 50 to 64,

- OAPT scheme is *expensive with minor labour market effects*.
- The aim of OAPT is to reduce early exit from the labour force by allowing part-time work. However, our analysis indicates that most workers *substitute part-time work for full-time work*.