

Mandatory Pension Saving and Homeownership

Marcel Fischer^{1,2}, Bjarne Astrup Jensen¹, and Marlene Koch²

¹Copenhagen Business School, ²University of Konstanz

marlene.koch@uni.kn

Abstract

We explore the implications of mandatory minimum contributions to retirement accounts over the life cycle. These contributions alter housing market entry and have substantial welfare effects. We propose a flexible retirement saving scheme that only requires individuals to contribute to retirement accounts if they have not built up sufficient savings. This flexible retirement saving scheme partly alleviates the unintended side effects of mandatory minimum contributions and simultaneously ensures that individuals build up sufficient retirement savings.

Motivation

- Saving for retirement is among the most important financial decisions individuals face throughout their lives.
- Pension systems struggle with sustaining reasonable levels of benefits for retirees due to increasing life expectancies, decreasing birth rates, and low interest rates.
- The current solution approach of many countries is to impose some kind of **mandatory retirement saving scheme**. In these saving schemes, contributions to retirement accounts are often a **constant share of labor income**.
- Retirement accounts are often set-up as **tax-deferred accounts**, i.e., contributions are made from pre-tax income, savings accumulate tax-free and withdrawals after attaining retirement age are taxed as regular income. Withdrawals prior to retirement age are generally impossible or subject to heavy penalty taxes implying that the important difference between a conventional bank account (a so-called taxable account) and a retirement account is the illiquidity of the latter.

Why is it taken for granted that an individual's best retirement savings pattern is a constant share of labor income? Are there any alternatives?

Model

- We set up a realistically calibrated **life cycle model**.
- We want to investigate the **impact of mandatory minimum contributions** to retirement accounts. Therefore, we compare two different settings with each other (prior to retirement age): 1) mandatory contribution of a constant share (12.4%) of labor income to the retirement account; 2) no mandatory contribution.
- There are two financial markets in our model:
 1. **Housing market:** Individuals face a **rent-versus-own decision**, i.e., they can either live in a rented place or an owner-occupied home. Owner-occupied homes serve a dual role as asset and durable consumption good. Owners and renters face **recurring costs** (maintenance costs or rent rate). Individuals acquiring a new owner-occupied home face **non-recurring costs** (e.g., taxes, transaction costs).
 2. **Capital market:** Individuals can invest either into a **risky asset** representing a stock market index or a **risk-free asset**. Homeowners can use their **home as a collateral** and can borrow up to 80% of the home's value whereas renters have no borrowing opportunity.
- Individuals make **seven interrelated decisions** at every point in time simultaneously to achieve their goal of maximizing their present discounted lifetime utility: 1) non-durable consumption level; 2) contributions to (prior to retirement age) / withdrawals from (after retirement age) the retirement account; 3) share of retirement savings invested in stocks; 4) home size; 5) homeownership status; 6) amount of taxable wealth invested in stocks; 7) amount of taxable wealth invested in bonds or the size of their mortgage.
- We use Epstein-Zin preferences, employ a Cobb-Douglas utility function over consumption and housing, account for individual's preferences of living in owner-occupied homes instead of rented places, and include mortality risk into our model.

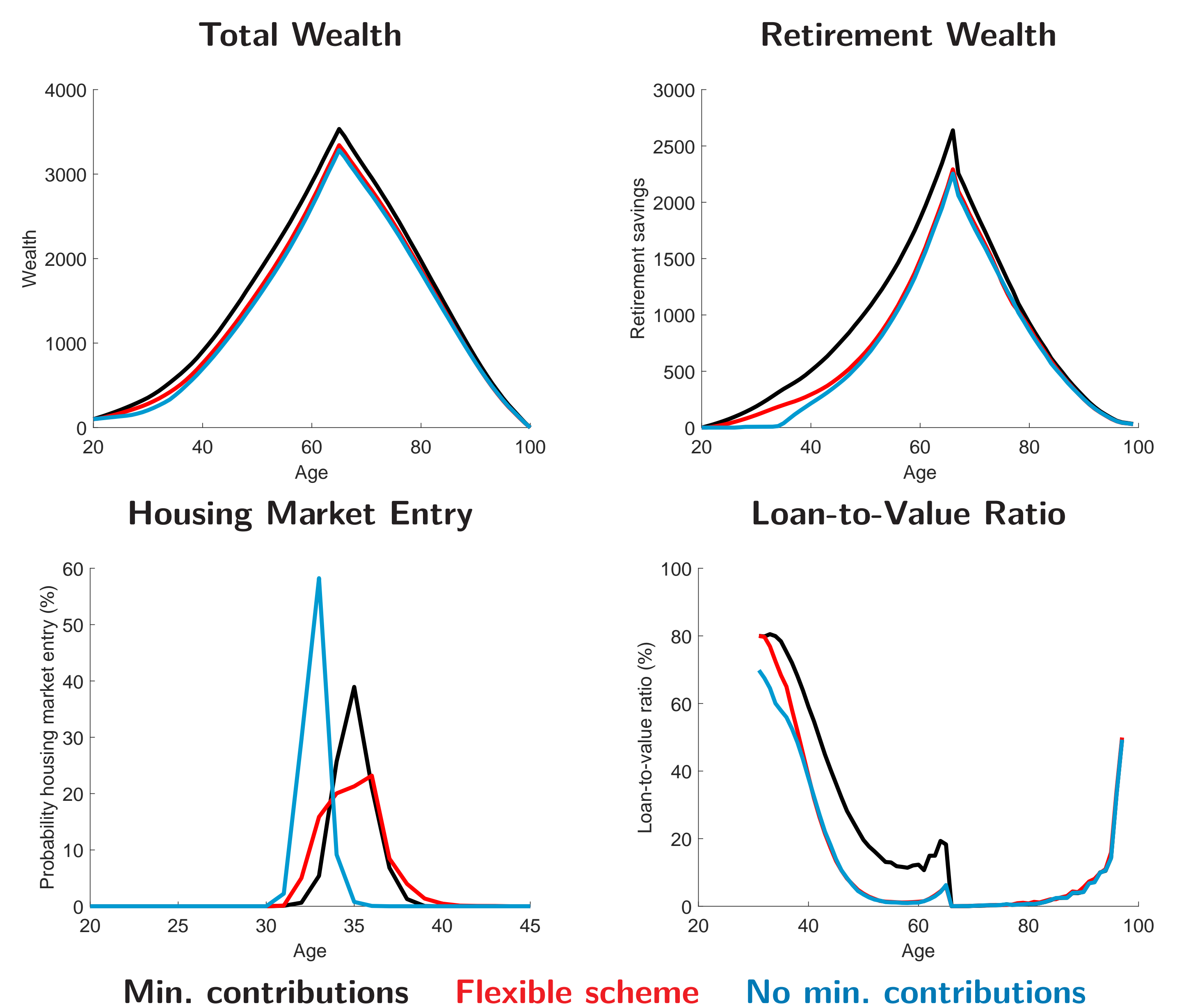
Flexible Scheme

- **Minimum contributions to retirement accounts have unintended side effects.** Not imposing any saving requirements might lead to individuals not saving enough, which is undesirable from a legislative perspective.
- Our approach is to implement a **flexible retirement scheme** which gives individuals **freedom in their asset location decision** but simultaneously makes sure that they save enough.
- In every period, we evaluate whether the individuals meet a certain savings requirement. If they do not, we force them to make age-dependent contributions to the retirement account.

Calibration

- We choose preference parameters to match empirically observed growth of wealth for individuals facing minimum contribution requirements, set the financial market parameters to historical estimates, and the taxes to the top tax rates in the U.S. On the financial market, we assume that borrowers face an interest rate margin.
- Standard choice of housing market parameters, of the dependence structure, and of the labor income process prior to retirement age.
- As we want to investigate how contributions to pension systems can be best implemented we assume that our individuals do not receive any labor income after retirement age.

Results



Interpretation of Results

- **Minimum contributions have the effect of causing individuals to accumulate more wealth** than individuals not facing minimum contributions which is mainly **channelled through the higher accumulation of retirement savings**. Individuals not facing minimum contributions postpone building up retirement savings until their liquidity constraint is less binding.
- **Minimum contributions postpone housing market entry** on average by 2.2 years in comparison to no minimum contributions. The flexible scheme does not alter housing market entry much in comparison to the case with minimum contributions.
- **Minimum contributions lead to higher loan-to-value ratios.** Without minimum contributions, individuals can finance their home with a higher share of equity, thus avoiding the relatively high borrowing rate. Individuals facing minimum contribution requirements are forced to borrow more for a comparable home. That is, these individuals invest at a relatively low rate in their retirement accounts and simultaneously borrow at a relatively high rate. In essence, these **individuals incur the cost of the interest margin by borrowing their own money**. Our **flexible retirement saving scheme allows our individuals to repay their relatively expensive mortgages at a faster rate** (almost as fast as in the case with no minimum contributions).
- **Welfare effects:** A 20-year old facing minimum contributions needs to be endowed with a 7.7% (2.5%) higher level of present wealth and lifetime labor income to attain the same level of expected presently discounted lifetime utility as an individual not facing minimum contribution requirements (trading under the flexible scheme).

Conclusion

- Mandatory minimum contributions to retirement accounts postpone homeownership, lead to higher loan-to-value ratios, and have substantial welfare effects.
- Our flexible retirement saving scheme alleviates many of the unintended side effects of mandatory minimum contributions. Individuals have freedom in their asset location decision but simultaneously it is made sure that they save enough.