

Demographic Change, Retirement Saving, and Financial Market Returns: Phase I

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Project goal

- The potential effect of demographic trends on asset flows
- The potential effect of asset flows on market returns
- The effect of market returns on the wealth of future retirees

This phase of the project

- Demographic trends and asset flows
- Retirement saving and withdrawals
- Now 88% of private retirement contributions are to personal retirement plans
- 401(k) assets in particular

Outline

- The spread of 401(k) plans 1982 to 2003
 - Eligibility
 - Participation
- Projections
 - Mean 401(k) assets at retirement, to 2040
 - Stock of 401(k) assets by year, to 2040

401(k) Eligibility

- Cohort data
- For families

Eligibility increase for given age

- Age 30 in 1984—11.8%
- Age 30 in 2003—61.3%

- Age 45 in 1984—19.5%
- Age 45 in 2003—69.9%

Participation

- Cohort data
- For families

Participation increase given age

- Age 30 in 1984—5.5%
- Age 30 in 2003—43.9%

- Age 45 in 1984—11.7%
- Age 45 in 2003—56.6%

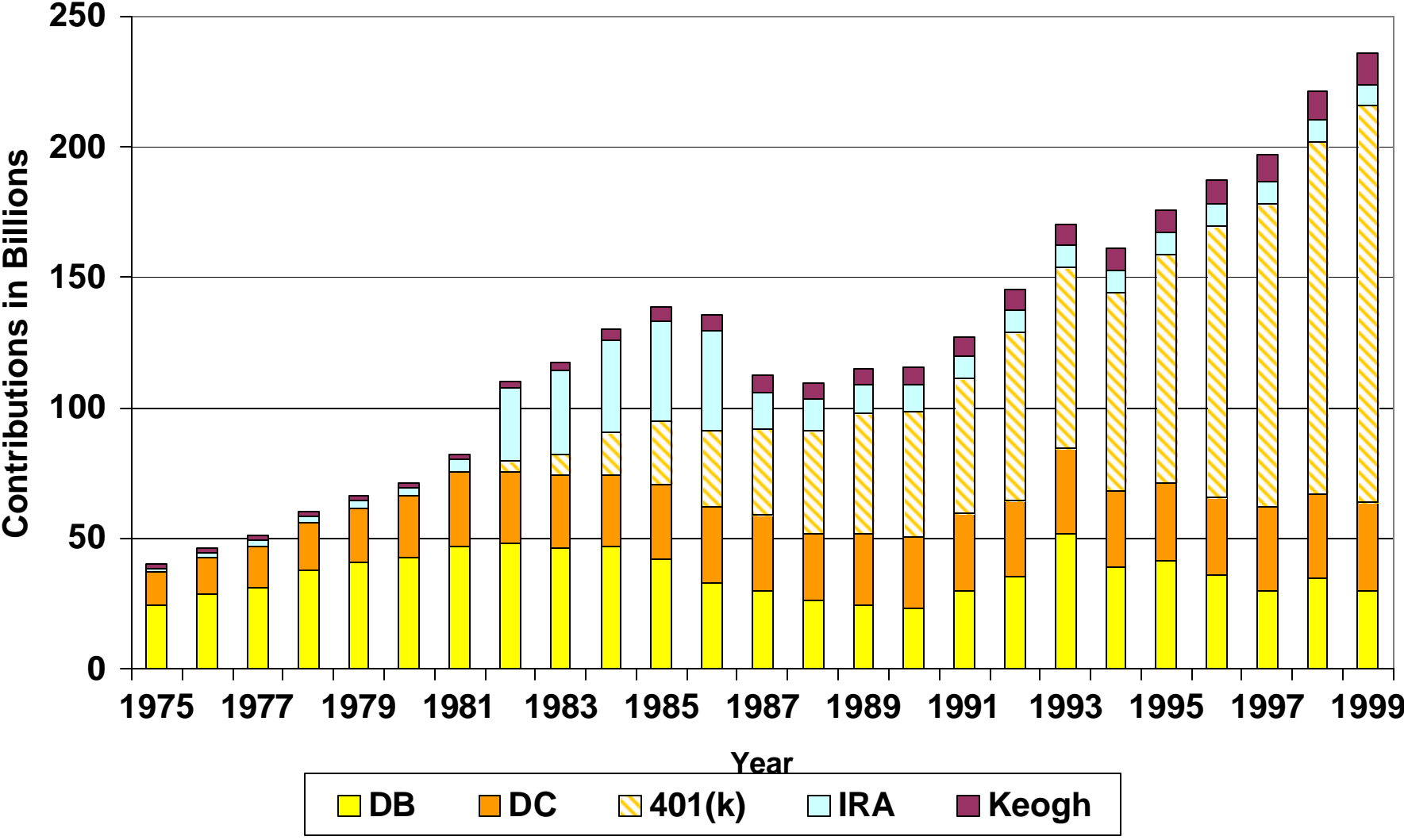
Participation given eligible

- Age 45 in 1984—60.0%
- Age 45 in 2003—81.0%

Total 401(k) contributions

- Began in 1982
- \$152 billion by 1999
- 66% of total private pension contributions
- Increase in total private pension contributions 1982 to 1999 accounted for by 401(k) plans

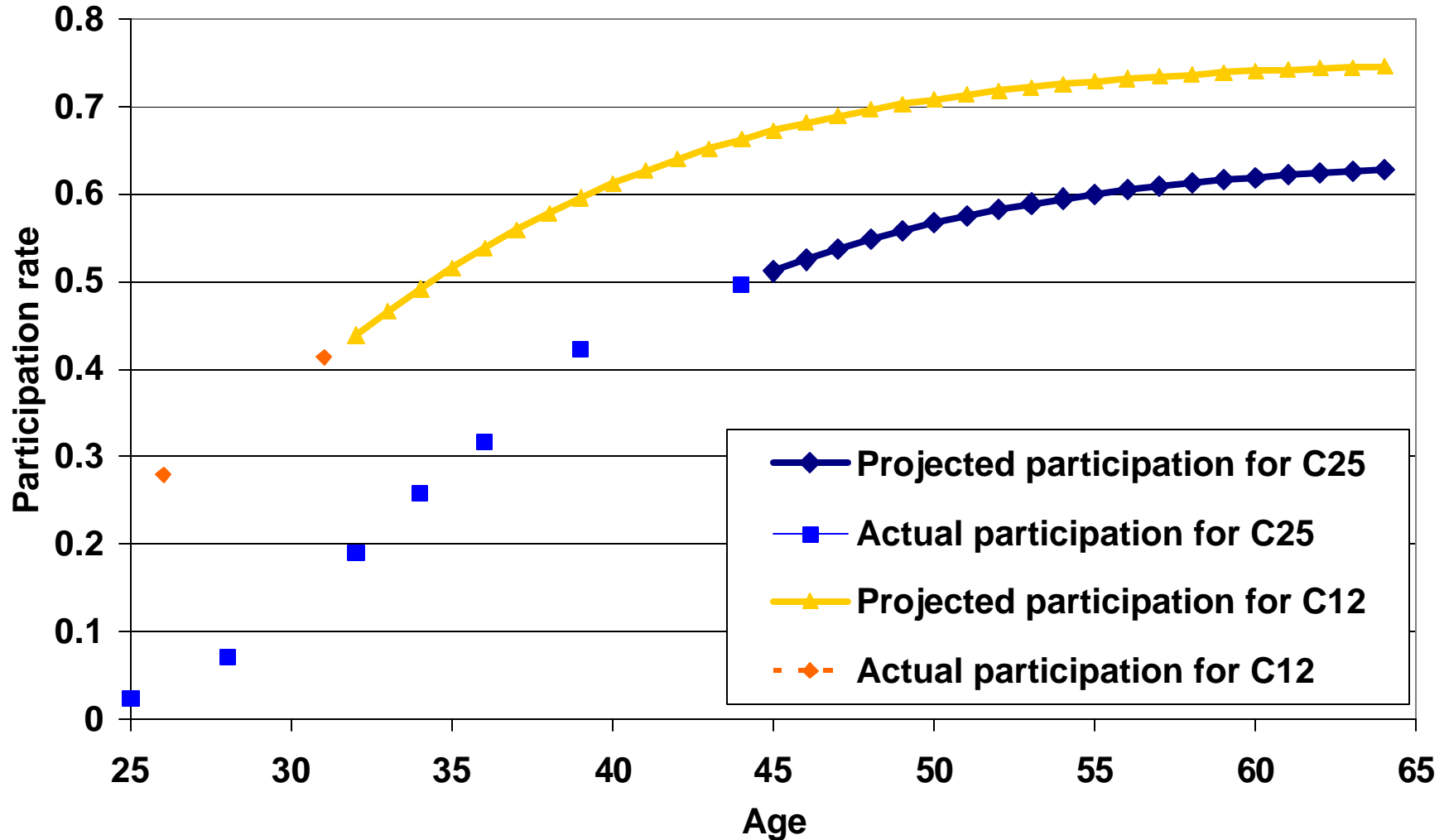
Figure 4. Private Pension Contributions



Projecting 401(k) contributions

- Participation rates
- Rate of return
- Asset allocation
- Job separation and cash-outs
- Withdrawals after retirement
- Earnings
- Contribution rate

Figure 6. Projected participation rates for cohorts C25 (R2024) and C12 (R2037)



Projecting 401(k) contributions

- Rate of return: < average 1926 to 2003:
 - 6% nominal for bonds
 - 12% nominal for large-capitalization stocks
- Allocation:
 - 40% bonds
 - 60% equities

Projecting 401(k) contributions

- Job separation and cashouts
 - From Poterba, Venti, and Wise (2001)
- Withdrawals
 - 2 percent of balances between ages 65 and 71 ½
 - Then $1/(\text{Remaining Life Expectancy})$.

Projecting 401(k) contributions

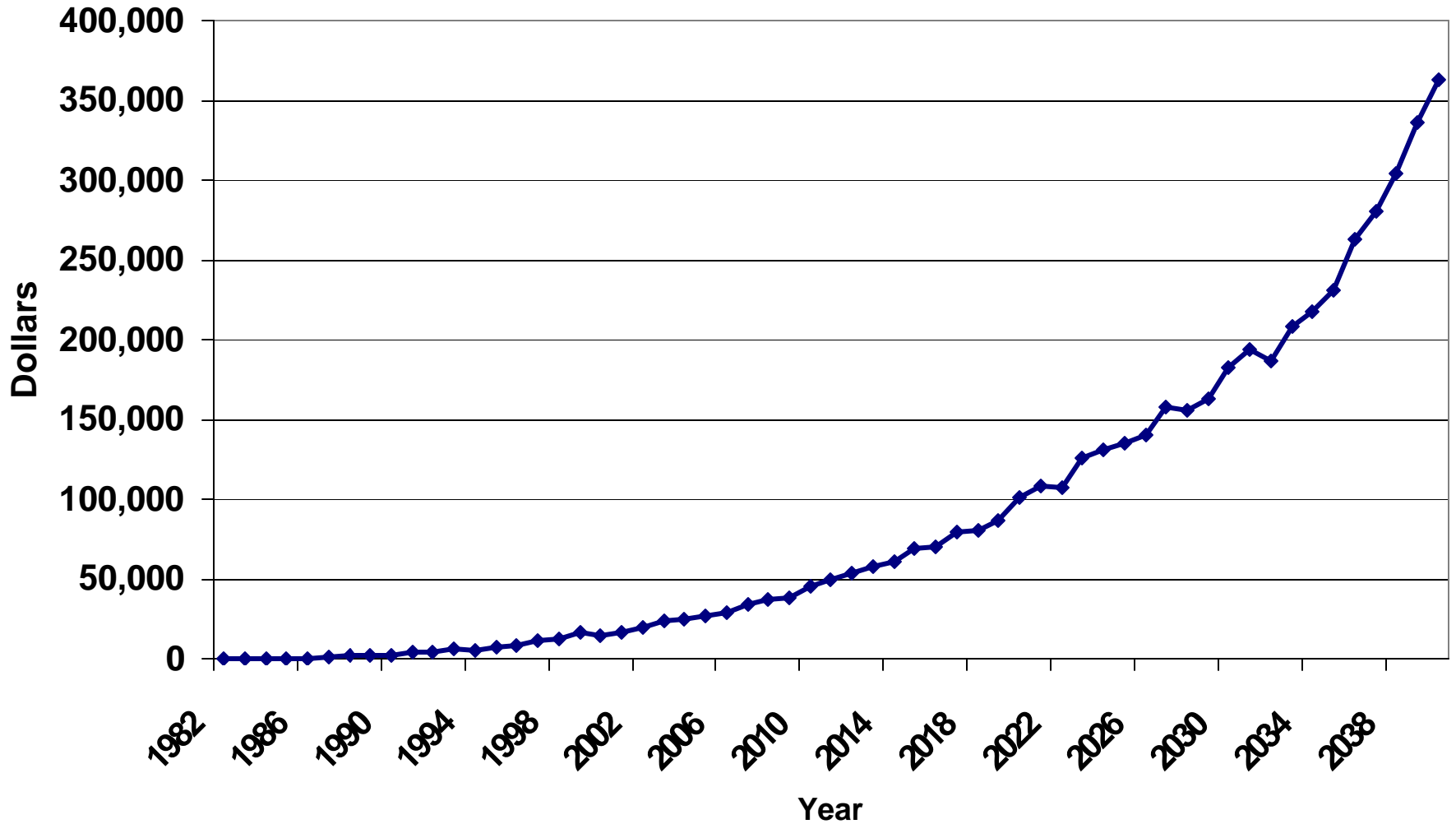
- Earnings
 - Earnings of HRS respondents that attained age 65 in 1998-2000
 - Inflate using Social Security intermediate earnings assumption
 - Assume same employment rate and distribution of employment by age
 - No change in relative earnings of high- and low-earners

Projecting 401(k) contributions

- Contribution rate—9%

Projected 401(k) assets at retirement

Figure 8. Mean 401(k) assets at retirement, by cohort, for persons (in 2000 dollars)



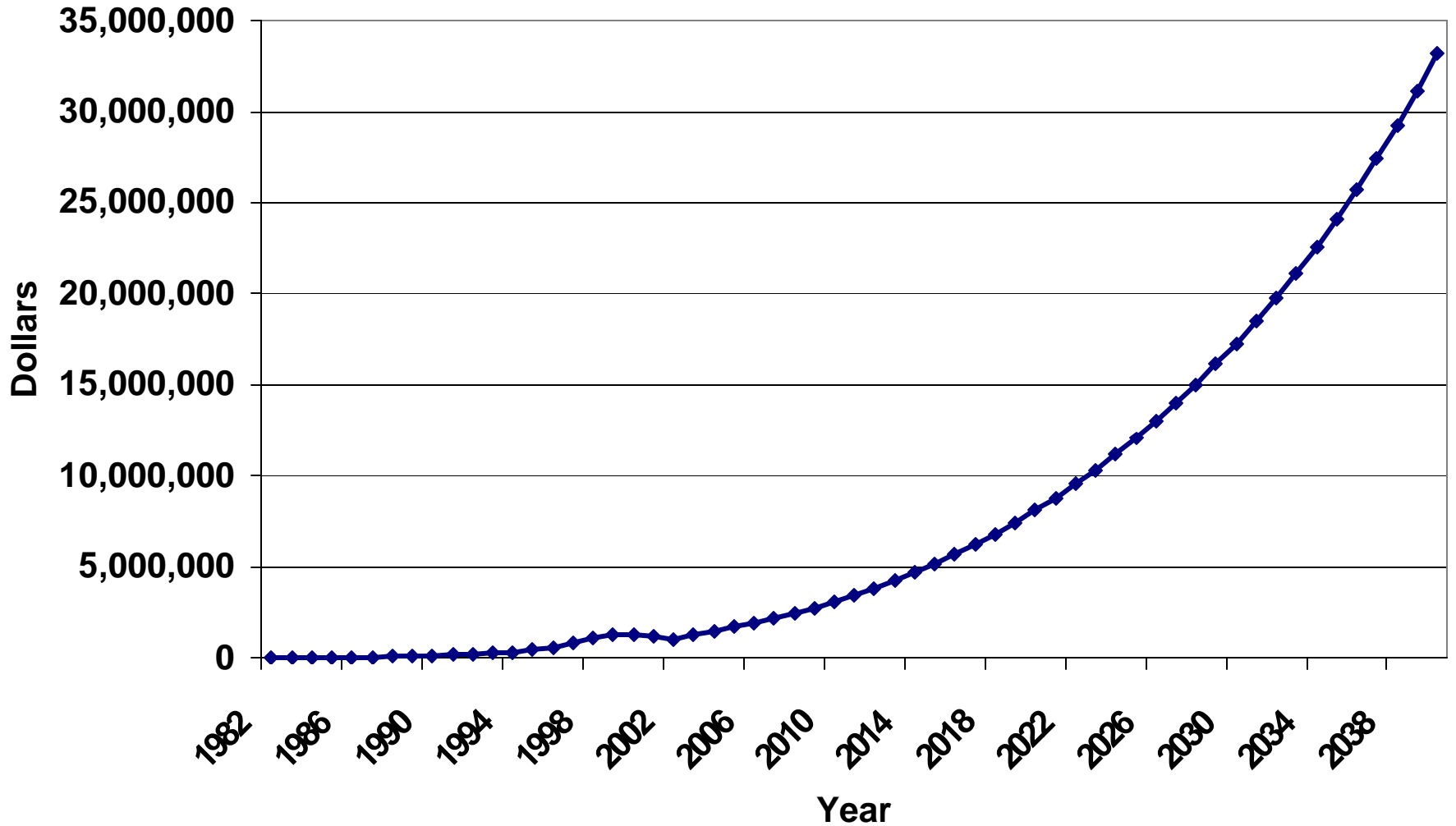
Projected 401(k) assets at retirement (in 2000 dollars)

- \$14,760 in 2000
- \$100,833 in 2020
- \$363,331 in 2040

- Compare: DB pension wealth for persons 65 to 69 in 2000 was \$50,203
- 401(k) assets attain this level in 2010

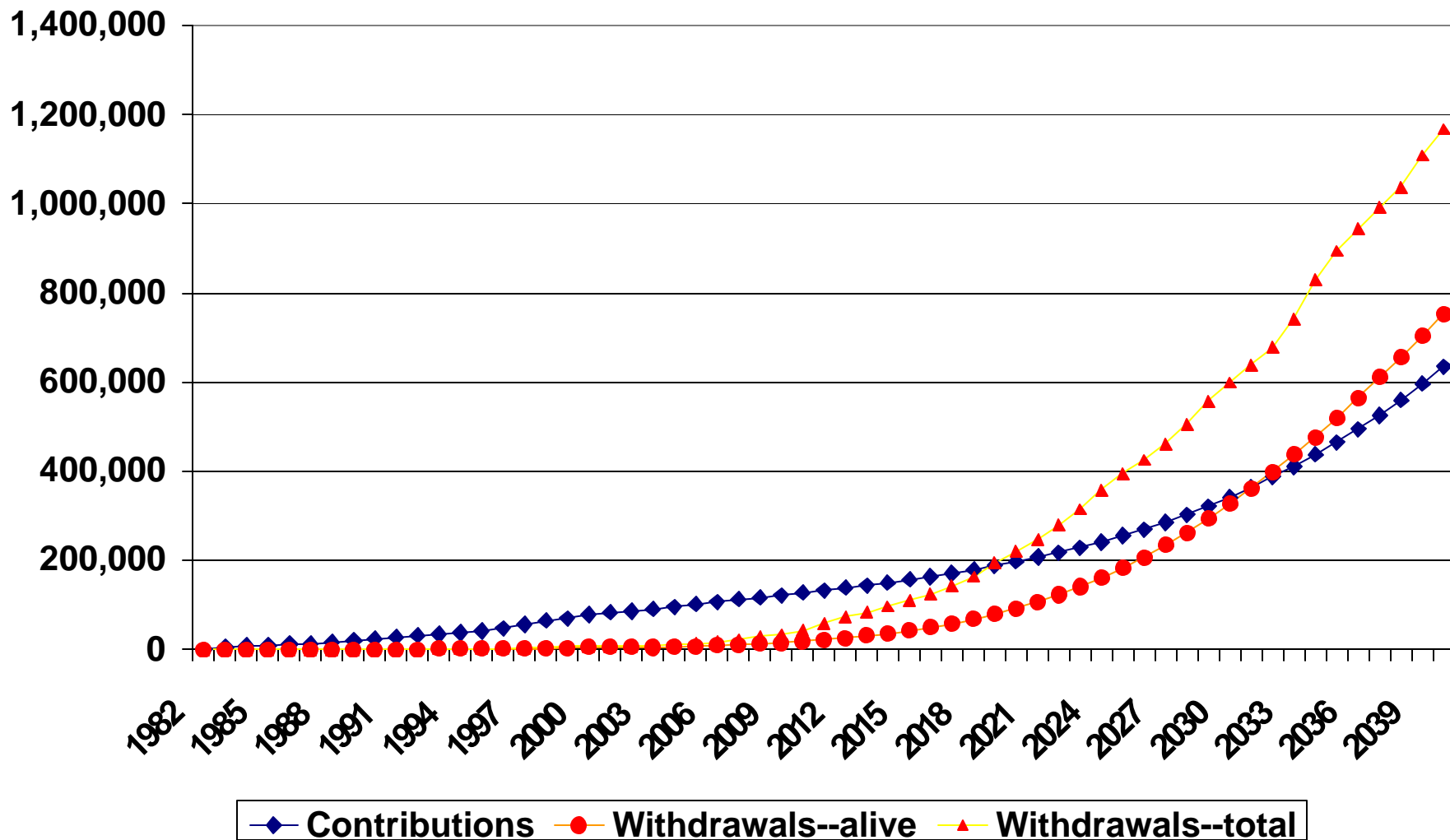
Total 401(k) assets by year

**Figure 9. Total 401(k) stock assets in each year
(in millions of year 2000 dollars)**



Projected stock contributions and withdrawals

Figure 10. Stock contributions and withdrawals (in millions of year 2000 dollars)



Checks on 401(k) projections

- Projected mean assets in 2000—**\$14,760**
- HRS mean in 2000—**\$15,937**

- Projected total assets in 1999—**\$1.838** trillion
- Form 5500 total—**\$1.853** trillion

Conclusions About 401(k)s

- Now 67% of private pension contributions
- Participation rate now about 50%
- Projected mean assets \$100,000 at age 65 by 2020
- Equities: \$1.3 trillion in 2000 to \$33 trillion in 2040
- Effect on returns depends on changes relative to the total equity market.