SWEDISH PENSIONS AGENCY

Ten years after the Swedish Pension Reform

Design & Current Status

D.B. Mikula – Swedish Pensions Agency

(Oslo, 16:th sept. 2010)

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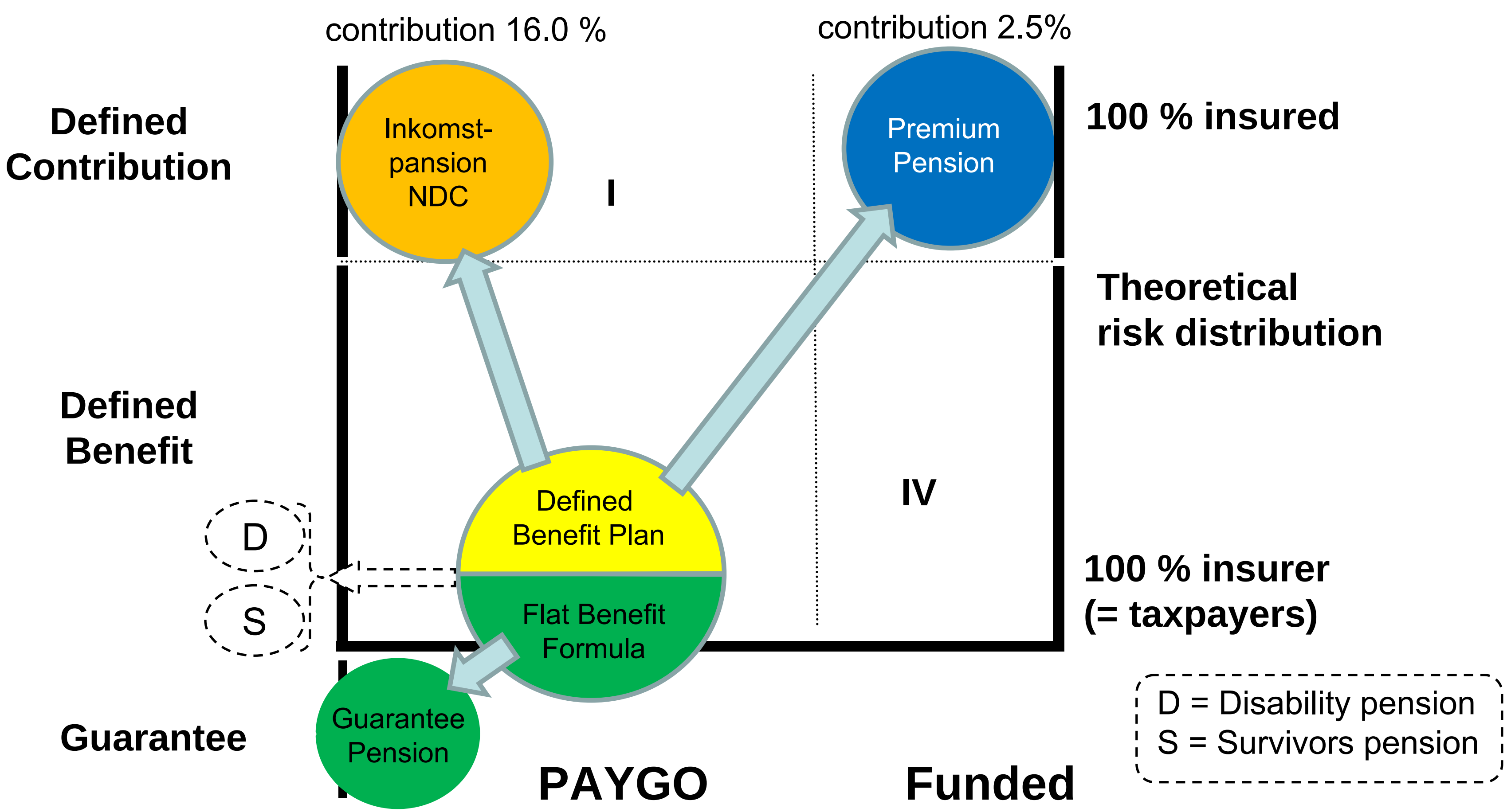
The Reform Strategy



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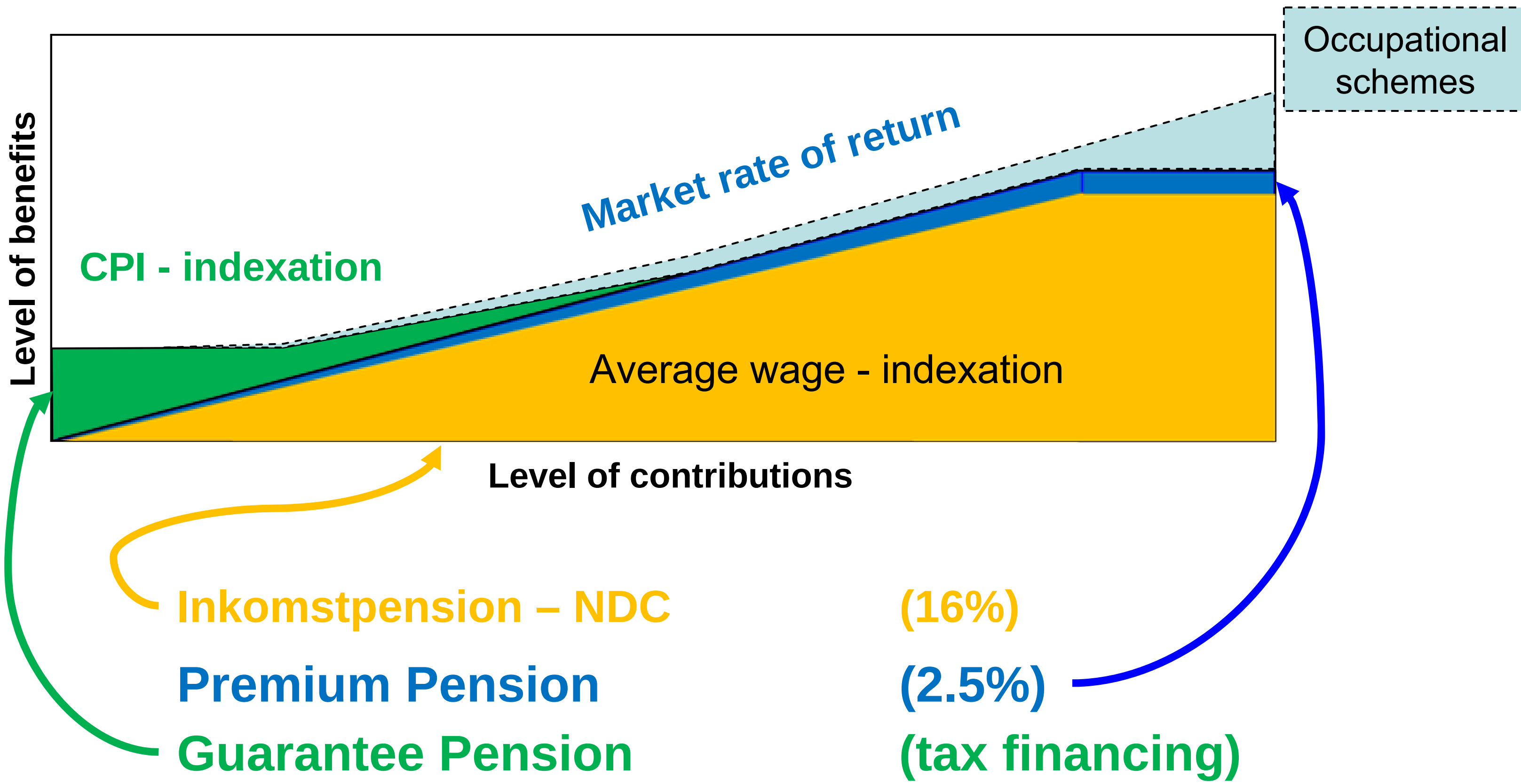
Major structural reform 1999 (since 1960)



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The Swedish NDC/PAYGO pillar attributes

- **Pension credit = contribution**

Also sources for financial imbalances

- **Indexation by growth in average income**
  (front-loading of benefits with discount rate 1.6 %)
- **Annuity divisors**
  (calculated annually with fresh mortality experience)
- **Buffer fund**

dealt with by

- **The Automatic Balancing Mechanism**

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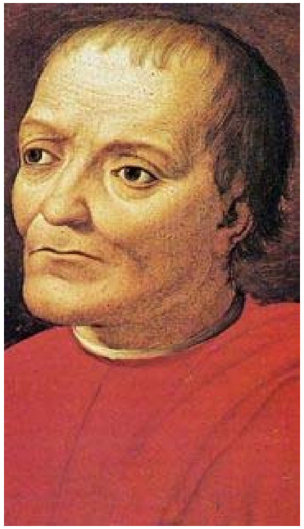
The Swedish Automatic Balance Mechanism makes use of an ...

...old Italian invention

Double-entry bookkeeping



Giovanni di Bicci de' Medici 1360-1429

(...)

Luca Bartolomeo de Pacioli 1445–1517 "Summa de arithmetica, geometrica, proportioni et proportionalita" 1494

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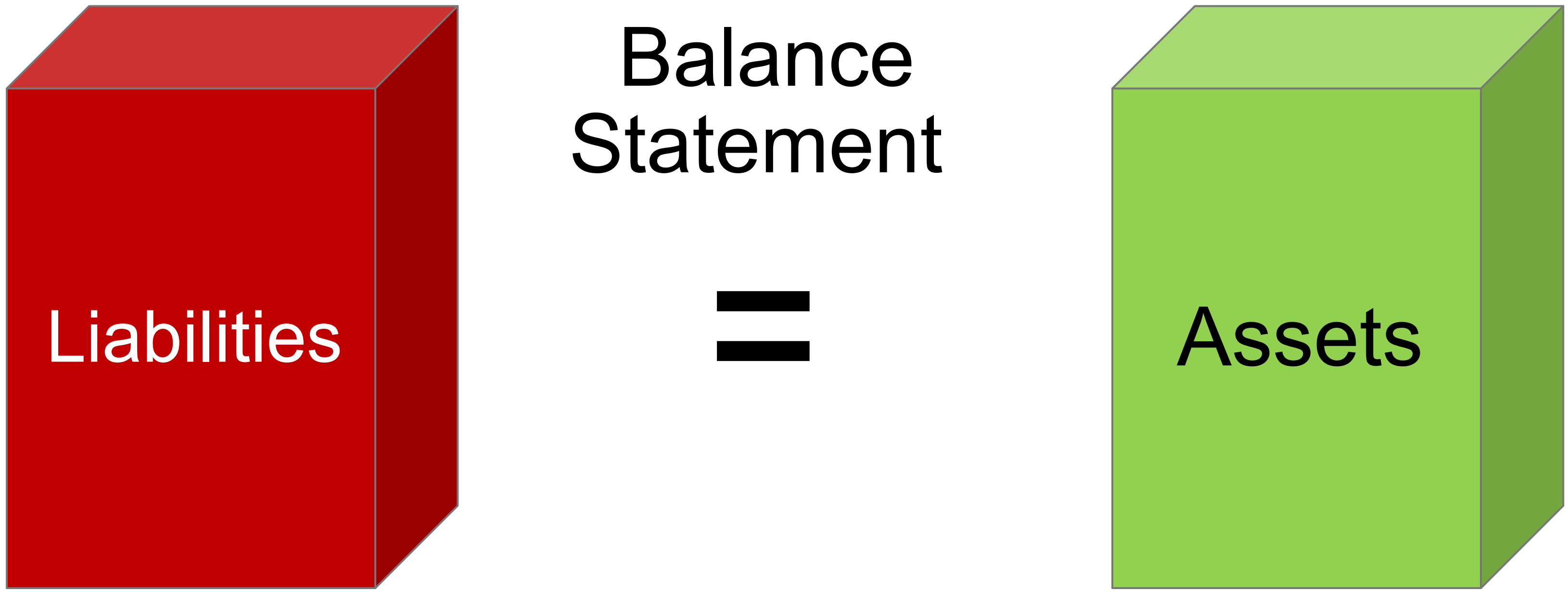
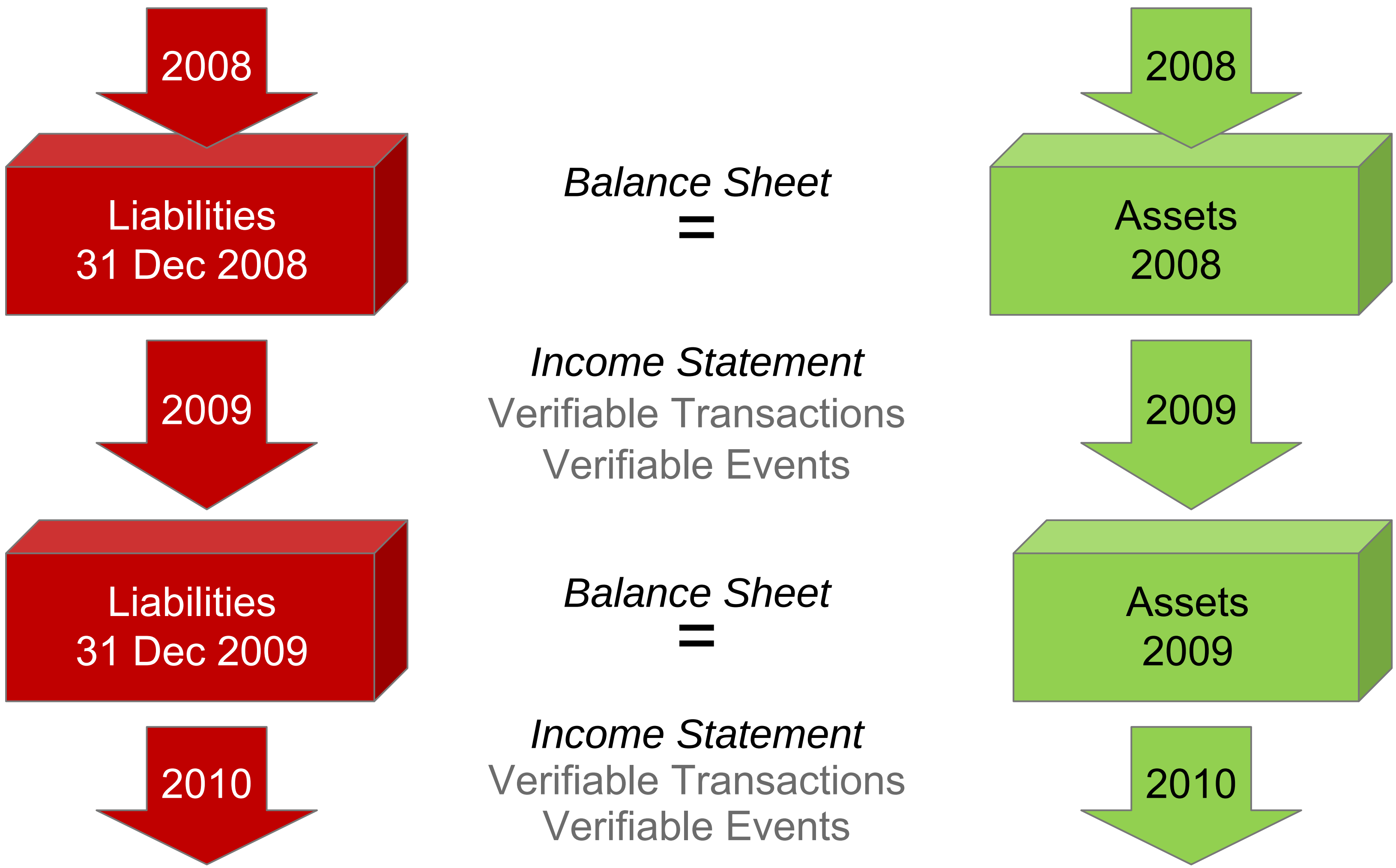
Accounting of a PAYGO Pension System



"You should not go to sleep at night until the debits equal the credits! "

Accounting of a PAYGO Pension System



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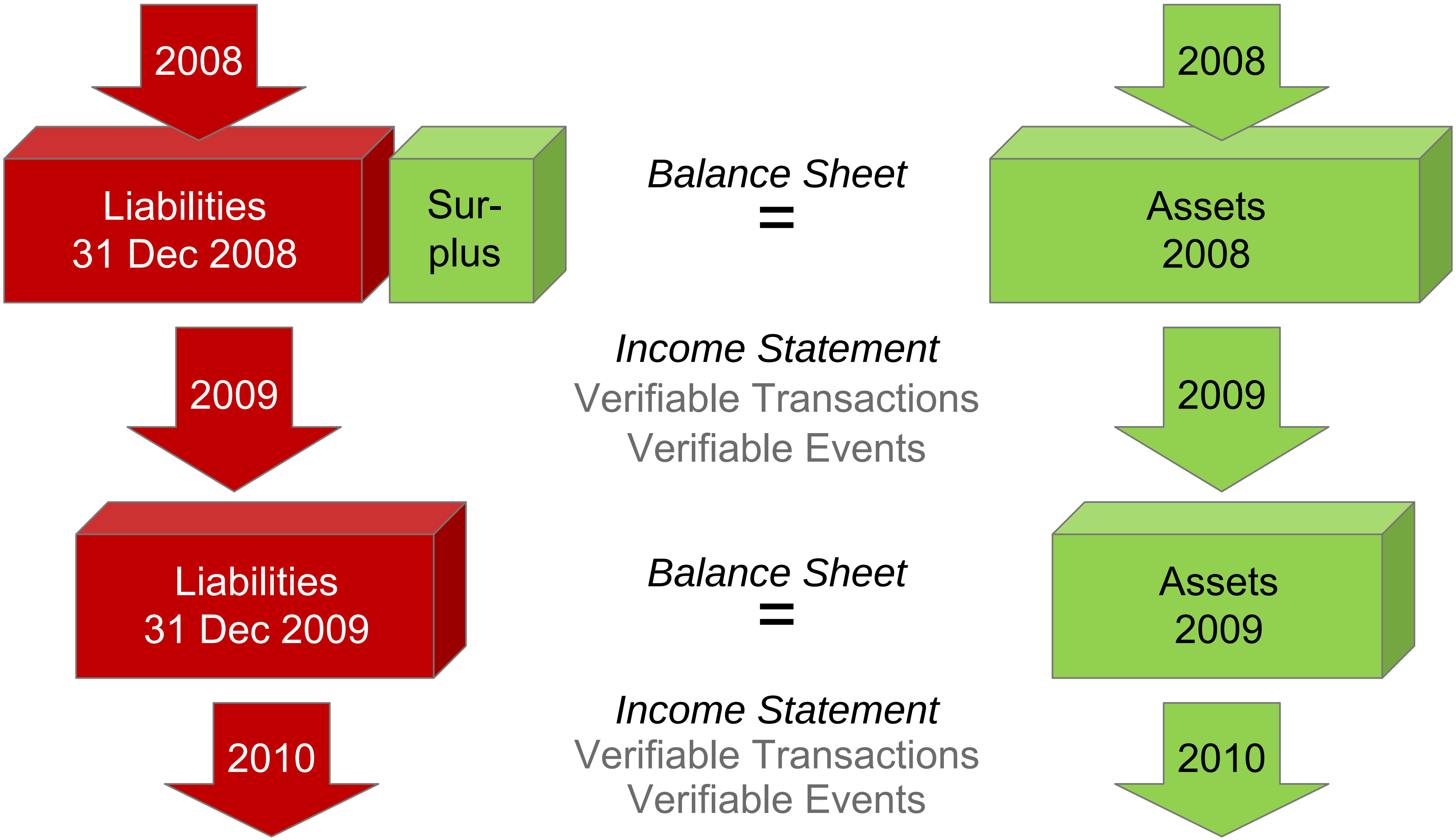
Accounting of a PAYGO Pension System



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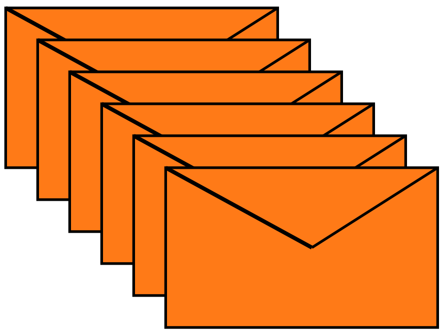
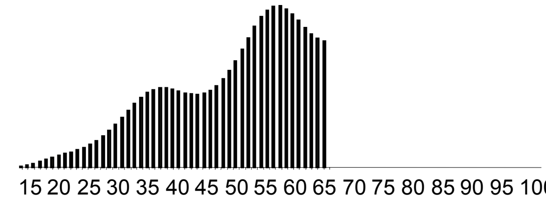
Calculation of liabilities

(1)

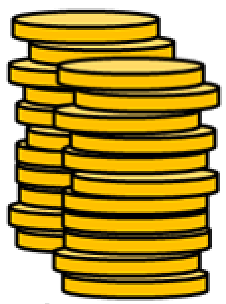


The sum of the notional accounts of the active population



+

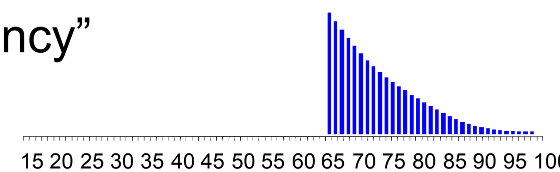
(2)



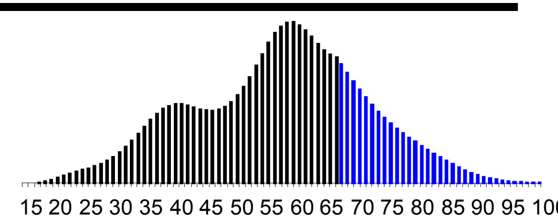
Pension payments

×

"Remaining life expectancy"



= Total net pension liability*



* Accrued to date, that is 31 December each year

Income statement
What explains changes in the liabilities?

Verifiable Transactions

- (+) Accrual of new pension credits
- (-) Pension disbursement
- (+) Indexation of pensions and entitlements
- (-) Deduction for administrative costs

Verifiable Events

- (+/-) Value of change in life expectancy (money weighted)
- (-) Inheritance gains arising
- (+) Inheritance gains distributed

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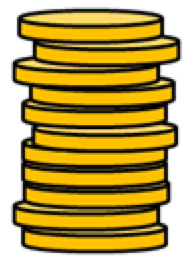
Calculation of assets

It corresponds to only
10% of
pension liability !...

Buffer Fund

+

…"Value of
contributions"…



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Contributions

Turnover
Duration

- contribution asset
- transfer wealth
- balance liability

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Expected Turnover Duration

A_c (2001) = 43.12

A_c (2008) = 43.93

+ 9.7 months

(42 days per year)

A_r (2001) = 75.01

A_r (2008) = 75.69

+ 8.2 months

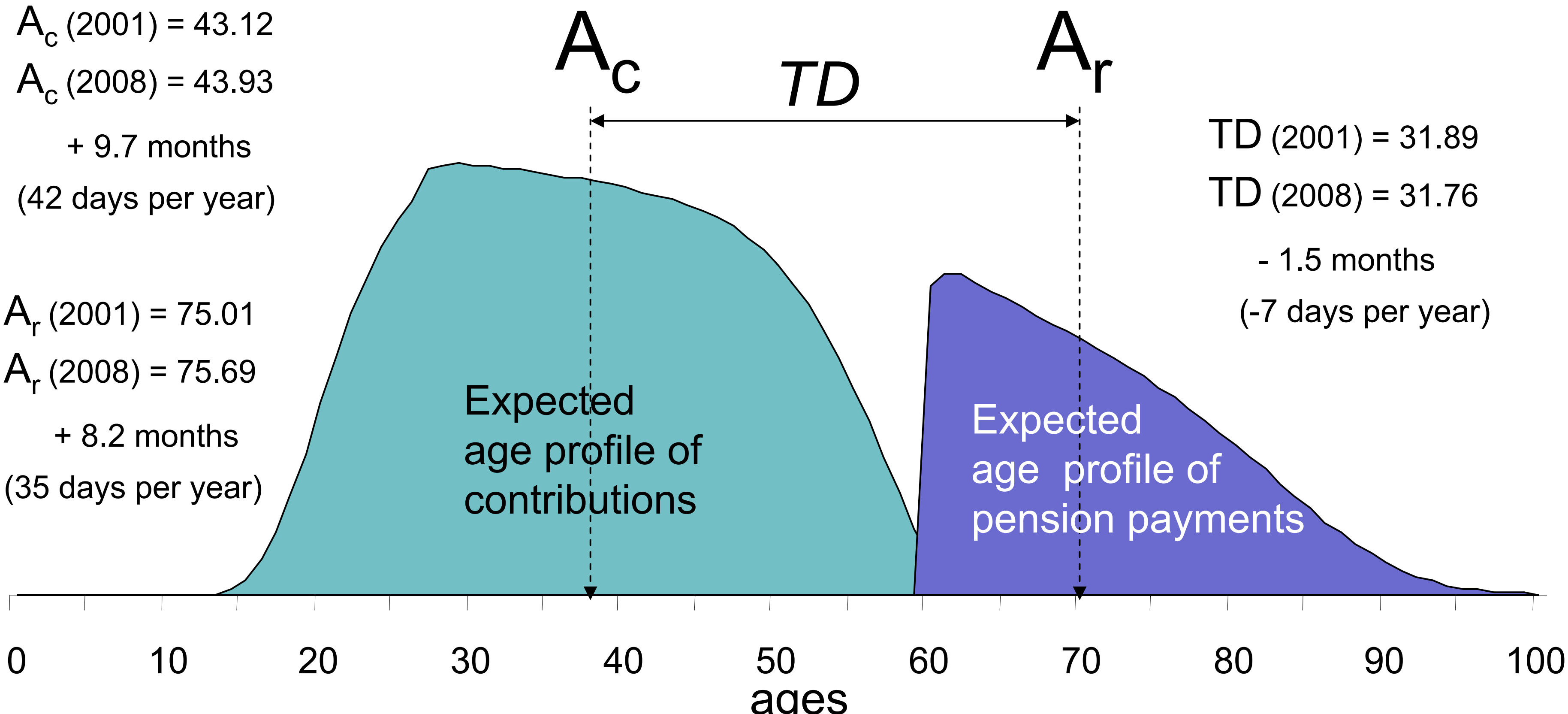
(35 days per year)

TD (2001) = 31.89

TD (2008) = 31.76

- 1.5 months

(-7 days per year)



TD = 30-34 years

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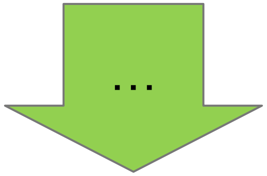
Income statement
What explains changes in the assets?



Verifiable Fund Transactions

(+) Pension contributions

(-) Pension disbursement

(+/-) Return on funded capital

(-) Administrative costs

Verifiable Events (changes in the contribution asset)

(+/-) Value of change in contribution revenue

(-/+) Value of change in turnover duration

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Balance sheet
as a percent of GDP

Dec. 31	2008	2007	2006	2005	2004	2003	2002
Assets							
National Pension Funds	23.1	29.3	28.7	26.9	23.3	21.6	18.6
Contribution asset	212.1	199.2	198.9	200.1	202.6	204.4	202.1
Total assets	235.2	228.4	227.6	227.0	225.9	226.8	220.7
Surplus							
Opening surplus	0.6	3.2	1.0	0.3	2.1	1.9	6.8
Net income/-loss	-8.6	-2.7	2.4	0.7	-1.8	0.2	-4.9
Closing surplus	-8.0	0.6	3.3	1.0	0.3	2.2	2.0
Liabilities and Surplus							
Closing surplus	-8.0	0.6	3.3	1.0	0.3	2.2	2.0
Pension liability	243.2	227.8	224.3	226.1	225.6	223.9	218.7
Total liability and surplus	235.2	228.4	227.6	227.0	225.9	226.0	220.7

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Balance ratio and the automatic balancing mechanism (ABM)

Contributions *Turnover Duration* *Buffer Fund*

ABM 2001-2009

$$BR = \frac{\text{Assets}}{\text{Liabilities}} = \frac{C \times TD + F}{PL} \geq 1.0$$

Pension Liability

Average value of last 3 years

ABM 2010-

$$BR \neq \frac{C \times TD + \overline{F}}{PL} \geq 1.0 \approx BR$$

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Do the numbers have a meaning for humans, for retirees?

			Projection, uncertain ->		
	2009	**2010**	**2011**	**2012**	**2013**
Change in income-index, %	+ 6.2	+ 0.3	+ 3.1	+ 4.0	+ 3.9
Balancing effect, %	0.0	– 1.7*	– 4.5	– 1.4	+ 0.1
Indexation of NDC-accounts %,	+ 6.2	– 1.4	– 1.6	+ 2.6	+ 4.0
Indexation of NDC-pensions, %	+ 4.5	– 3.0	– 3.1	+ 1.0	+ 2.3

*Parliament decided on a smoothing rule in 2009, implying that the value of the buffer fund in the balance ratio should not be by its value 31 December, but the average of the buffer fund value 31 December the last three years. Without this smoothing the balancing effect for 2010 would have been 3.28 %. The old rules would most probably have implied a lower balancing effect in 2011 and 2012

Source: Försäkringskassan, Budgetuppföljning 2009-10-29

What did we learn so far …

The accounting procedure has been a very useful device. It helps efficient to clarify the system performance. It makes the Swedish public pension system:

- more transparent
- easier to communicate to the public
- easier to discuss when it comes to proposal for any modifications

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What did we learn so far ...

The performance of the scheme was however worse then expected in respect to:

- **Internal rate of return:**

  on average, explicit indexation exceeded the available return by 1.1% per year since start

- **Volatility:**

  The system outcome is more volatile than expected

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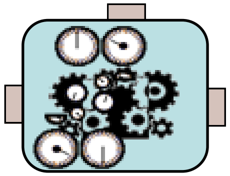
The main reasons for this outcome

- Low buffer fund return relative to indexation of liabilities
- Uncertainties in original forecasts of the DB pension liability being phased out
- Change in tax code 2001 – 2004 gave an artificially high indexation of liabilities
- Indexation of the system is estimated from lagged and smoothed changes in average wage. This is a source of undesired volatility when growth rate shifts

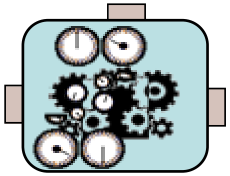


Swedish NDC

Current issues

The Pensions Agency has proposed:

- a minor technical modification of how liability should be calculated (will reduce volatility when balancing)
- that alternative designs of the indexation should be investigated in order to reduce system volatility



Swedish NDC

...more

Possible issues:

- Front loading with 1.6% can be considered to be to high – however very difficult to change
- Real retirement age – lot of surrounding legislation still focus on 65?
- Guarantee pension (+housing allowances) and work incentives
- ...

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At last: What might the accounting be good for?

The fundamental difficulty to give understandable and credible information opens the floor for a political struggle that can be harmful. Harmful in the sense that “worse” political and private actions are taken than if we have transparency.

One reason for the income statement and balance sheet is to increase transparency. Hopefully transparency may improve the logic and efficiency of public decisions on pensions.

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Thank you for your attention

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