Lecture 8: Assessing the NDC option

Antoine Bozio

Paris School of Economics (PSE)
École des hautes études en sciences sociales (EHESS)

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Introduction

- **Reforming PAYG pension systems**
  - Notional defined contributions (NDC)
  - Radical reform without change in funding level
  - Change in benefit formula, linking benefit level to demographic changes

- **Another reform strategy ?**
  - Reforms in Sweden and Italy (1990s)
  - Debate on whether this is an attractive reform option
  - An NDC variant in Germany with a point-based system
  - 2020 reform in France : why the failure ?

Outline of the lecture

I. Notional defined contributions (NDC)
1. Forerunners of NDC
2. Generic NDC and variants

II. The Swedish NDC reform
1. Swedish pension system pre-reform
2. The 1994/1998 Swedish pension reform
3. Recent reforms (2020, 2023, 2026)

III. NDC as reform option
1. International debate about NDC
2. Italian experience
3. French debate

IV. The failed 2020 French reform
1. The reform process
2. A point-based system with long transition
3. Assessment of the reform : why the failure ?

I. Notional defined contributions (NDC)

- **Definition**
  - Notional : Unfunded pension system
  - Defined contribution : benefits depend on past contributions
  - Insurance : benefit is a life annuity

- **NDC vs FDC**
  - Financial defined contribution : funded pensions
  - Both have individual accounts

- **Rate of return**
  - FDC : market returns r
  - NDC : internal rate of return g

Defined Rate of Return

- **Samuelson (JPE, 1958)**
  - Internal rate of return (IRR) of unfunded pension schemes is growth rate of the economy $(n + g)$
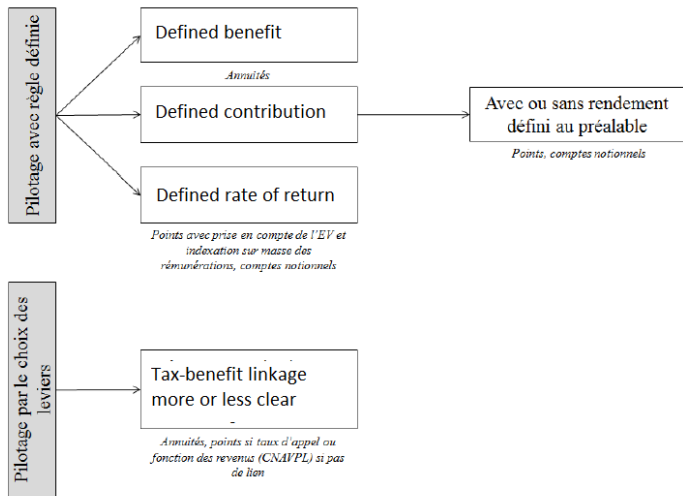 - The IRR can be temporarily higher when the scheme is created (windfall to first cohorts)

- **Consequences**
  - With a mature system, IRR cannot be higher than $n + g$
  - This is the fundamental budget constraints of *all* unfunded pension systems
  - Idea of NDC : a sustainable unfunded pension can be written as defined rate of return :
    $$P = CONT \times [1 + (n + g)]$$
  - Idea of a quid pro quo tax/contribution (Musgrave, 1968)

Figure 1 – Rule-based vs discretionary management of unfunded pension schemes

Pilotage avec règle définie

Defined benefit

Annuités

Defined contribution

→ Avec ou sans rendement défini au préalable

Points, comptes notionnels

Defined rate of return

Points avec prise en compte de l'EV et indexation sur masse des rémunérations, comptes notionnels

Pilotage par le choix des leviers

Tax-benefit linkage more or less clear

Annuités, points si taux d'appel ou fonction des revenus (CNAVPL) si pas de lien

SOURCES : Conseil d'orientation des retraites, document 2, 18 Oct. 2018.

I. Notional defined contributions (NDC)

1. Forerunners
2. Generic NDC
3. Rate of return
4. Financial balance
5. Variants : indexation

Forerunners : French point systems

- **French Complementary Pension Schemes**
  - 1947 : creation of Agirc for executive workers
  - 1961 : creation of Arrco for non-executive workers
  - Management by unions
  - Voluntary schemes until the 1972

- **Point-based pension schemes**
  - Each euro of contribution leads to points (purchase price $p_{b,t}$, *salaire de référence*)
  - Points are accumulated in individual accounts
  - Total points are converted into life annuity at retirement (selling price $p_{s,R}$, *valeur de service*)

Forerunners : French point systems

- **Pension formula**
  - pension P_R is computed from past contributions $wh_t \cdot \tau$ (with shadow prices $p_{b,t}$, $p_{s,R}$)

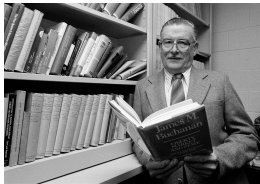$$P_R = \sum_{t=t_0}^{R-1} \frac{\tau_t \cdot wh_t}{p_{b,t}} \times p_{s,R}$$

- **Clear tax-benefit linkage**
  - additional payroll tax leads to increased pension benefit for individuals affected

$$\Delta P_R = \left(\sum_{t=t_0}^{R-1} \frac{wh_t}{p_{b,t}} \times p_{s,R} \right) \Delta \tau$$

Forerunners : Buchanan Bonds

- **James M. Buchanan (1919–2013)**

  American economist, winner of the Nobel Prize in 1986

  Founder of the public choice theory

- **Buchanan (NTJ, 1968)**
  - Two options for Social Security reforms :
    1. Move into the direction of more insurance mechanism
    2. Move into more tax/benefit redistributive schemes
  - Radical reform proposal into more insurance mechanism
  - Agreement on the basic need for mandatory pension system

Forerunners : Buchanan Bonds

- **Buchanan's reform outline**
  1. Employer and employee payroll taxes are repelled
     - *It would dispel the illusion that the employer portion of this tax falls somehow on other than the employee.*

  2. Mandatory to buy "Social Insurance Bonds"
     - *The taxpayer secures no explicit claim in exchange for his payment. With a bond, however, the purchaser receives a claim in return for his payment, an obligation against the government.*

  3. Use the bond sales to pay pension benefits

  4. Rate of return on those "Buchanan bonds" is g or interest on Treasury Bills

  5. Mandatory annuitization of the bonds at retirement

Forerunners : German point system

- **Rentenreform 1957 (Chancellor Adenauer)**
    - Change from a partially funded (*Kapitaldeckungsverfahren*) to a pay-as-you-go system (*Umlageverfahren*) based on intergenerational contract (*Generationenvertrag*)
    - Pension formula depends on lifetime individual earnings relative to mean earnings
    - Dynamic benefits : indexation to gross wages

- **Rentenreform 1992**
    - *Entgeltpunkte* = pension points related to the proportion of average earnings
    - No direct linkage between contributions and points
    - Value of the point follows average net wage growth

- **Rentenreform 2004**
    - Introduction of sustainability factor (*Nachhaltigkeitsfaktor*)
    - Move towards NDC (Börsch-Supan and Wilke, 2006)

Sweden, home of Ikea and NDC

- **Swedish reform (1990s)**
  - 1992 Parliamentary working group on pensions published sketch of reform
  - 1994 vote in Swedish Parliament
  - 1998 implementation of the reform

- **Promoting NDC abroad**
  - Swedish NDC reform has raised large interest in Sweden and abroad in the NDC model
  - World Bank 2006 volume (Holzmann and Palmer, 2006)

Generic NDC

- **Individual account**
  - Each individual i has an individual account
  - Record of all contributions paid
  - Record accumulated pension rights or pension wealth

- **Conversion principle**
  - Between pension wealth and annuity benefit

- **Lifetime approach**
  - Account exists until death
  - Possible to work and pay contribution after a full pension has been claimed
  - Annuity can be converted back into an account value

Generic NDC

- **Accumulation of pension wealth (W)**
    - Contribution rate c_t in period t
    - Earnings $w_{i,t}$ in period t
    - Rate of return index I_t

$$W_{i,T} = \sum_{t=1}^{T} c_t w_{i,t} I_t$$

$$I_t = \prod_{t+1}^{T-1} (1 + \alpha_t)$$

    - With α_t the internal rate of return

Generic NDC

- **Pension benefit : annuitization**
    - At retirement R, pension wealth accumulated is converted into pension annuity P, by applying an annuity factor $G_{R,\kappa}$, which depends on year of birth κ and age at retirement a_R :
    $$P = \frac{W_{i,R}}{G_{a_R,\kappa}}$$

    - Annuity factor depends on life expectancy of the cohort LE_{κ,a_R} at age of retirement
    $$G_{a_R,\kappa} = G[LE_{\kappa,a_R}]$$

    - Pension is indexed on the internal rate of return α

Generic NDC

- **Redistribution separately funded**
  - No redistribution imbedded in the NDC formula
  - Second pillar of non-contributory rights
  - Funded through general taxation, i.e. taxes that do not lead to additional rights

- **Non-contributory rights**
  - Minimum pension
  - Free contributions for caring of children, unemployment period, etc.
  - Only constraint is explicit redistribution

Rate of return

- **Samuelson (1958) result**
  - Internal rate of return of unfunded system, α is sum of growth of productivity g and population growth λ

  $$\alpha = g + \lambda$$

- **Settergren and Mikula (2006) criticism**
  - Samuelson (1958) result is valid only in 2-period OLG models or in steady-state population
  - Change in age-earnings distribution, mortality rates, retirement age distribution are common
  - Lead to changes in income-weighted average age of contributors and retirees

Rate of return

- **Turnover duration**
  - Turnover duration (TD) = duration of the pension liability

$$\alpha = g + \lambda + \rho$$

- **"A more exact consumption loan model"**
  - Settergren and Mikula (2006) suggest that in addition to the biological interest rate, one needs to add the change in turnover duration
  - Estimation of ρ through ratio of present-value of asset and liabilities in the system :

$$\rho = \frac{PV(A_t)}{PV(L_t)} - 1$$

Financial balance

- **Financial balance**
    - If the system offers a rate of return on contribution equal to α, then the system is financially balanced *over the course of a generation*
    - No guarantee that the balance will be reached every year (different cohort size, wage growth, etc.)

- **Reserve fund**
    - Need of a reserved fund, attached to NDC to accumulated reserves and fund temporary deficits

Financial balance

- **Automatic balancing**
  - Change in life-expectancy incorporated in benefit formula
    e.g. increase in life-expectancy leads to reduction in annuity benefit for given retirement age, and given pension wealth
  - Change in growth rate of earnings lead to changes in benefit level

- **Valdes-Prieto (SJE, 2000)**
  - Suggests importance of short-run financial balance
  - Shows lack of financial balance in the short-run in NDC systems

Variants : indexation

- **Pension indexation**
  - In many countries pensions are indexed by prices
  - Internal rate of return is likely to be higher
  - Hence generic NDC system lead to surpluses and lower pension benefits

- **Front-loading the pension annuity**
  - Incorporating the expected rate of return during retirement $\alpha(LE_{\kappa,a_R})$ in the annuity factor
  - Annuity factor depends on life expectancy of the cohort LE_{κ,a_R} at age of retirement, and the expected internal rate of return over the same period $\alpha(LE_{\kappa,a_R})$

$$G_{a_R,\kappa} = G[LE_{\kappa,a_R}, \alpha(LE_{\kappa,a_R})]$$

Variants : indexation

- **Expected rate of return**
    - Problem : $\alpha(LE_{\kappa, a_R})$ is not known at retirement age
    - Need to anticipate the internal rate of return (IRR)
    - Sweden : expected 1.6% rate of return

- **Automatic balancing mechanism**
    - Realised rate of return might be different from anticipated IRR
    - Need to set-up adjustment mechanisms when deviations from anticipated IRR

II. Swedish experience

1. Swedish pension system pre-reform
2. Reform process
3. Swedish specific choices
4. Recent reforms to the NDC system (2020, 2023, 2026)

Swedish pension system pre-reforms

- **Three-parts pension system**
  1. *Folkspension* (FP) : flat-rate universal benefit
  2. *Allmänna tilläggspension* (ATP) : earnings related benefit
  3. Occupational pensions : outcome of collective agreements

- **ATP**
  - Reference wage : best 15 years of earnings
  - Requirement of 30 years of contribution for full pension
  - 60% replacement rate up to a ceiling

- **Contribution rates**
  - 17.6% for earnings related component
  - 2.2% for non-earnings related

Swedish pension system pre-reforms

- **Funding**
  - Significant buffer stock pre-reform (5 years of benefit for ATP)

- **Need for reform**
  - Increasing life-expectancy
  - Weak contribution-benefit linkage
  - Perverse redistribution of the best 15-years of earnings rule
  - Pension Commission report in 1990 suggesting increasing normal retirement age and number of years for full pension

Reform process

- **Working Group on Pensions**
  - A parliamentary group representing all seven parties was appointed in 1991
  - Agreement on
    - Keeping PAYG system
    - Contribution link : "Every krona counts"
    - Lifetime income principle : benefit depends on life expectancy
  - Disagreement on
    - Use of financial individual account

- **1994 reform in Parliament**
  - Large majority (85% of MPs)
  - 5 main parties in favour

Reform process

- **Long preparation**
  - Implementation work 1994-1998
  - New IT system
  - Training of staff and simulation
  - Information campaign

- **Opening of Pensionsmyndighet in 1998**
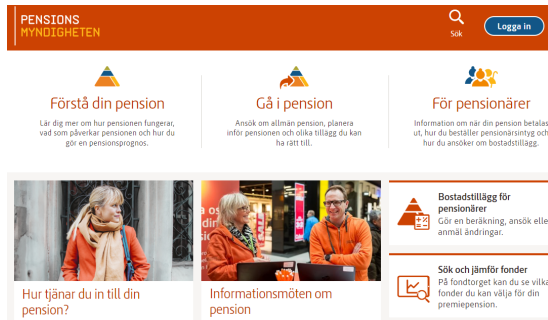
Swedish choices

- **Two reforms in one**
  1. Unfunded pensions NDC
  2. Mandatory funded defined contribution FDC

- **NDC component**
  - Rate of contribution set at 16%
  - Rate of return set as per capita wage growth
  - Anticipated IRR of 1.6% into the annuity rate
  - Pensions indexed on inflation + wage growth - 1.6%
  - Early retirement age set as 61

Swedish choices

- **FDC component**
  - Rate of contribution set at 2% (later 2.5%)
  - Individuals asked to choose investment fund (up to 700 different funds)
  - Default option invested in global equities
  - Annuitization is mandatory

- **Guaranteed pension**
  - Means-tested pension benefit
  - Financed by general tax revenues
  - From age 65, benefit roughly 30% of average wage

Swedish choices

- **Transition process**
  - 16 years of transition 1999-2015
  - Idea to smooth transition

- **Progressive switch to new system**
  - First cohort affected born in 1938, 1/5 of new system pension, 4/5 of old system
  - Then additional 1/20 of new system for every cohort
  - Those born in 1954 and after fully incorporated in the new system

Swedish choices

- **Automatic balancing mechanism**
  - Legislated in 2001, after the creation of the new system
  - Principle, a "brake" in pension indexation when liabilities above assets

$$Balance\ ratio = \frac{Contribution\ assets\ +\ Buffer\ fund}{Pension\ liabilities}$$

  - If ratio < 1, then reduction in pension indexation

Swedish choices

Figure 2 – Automatic balancing in Swedish system
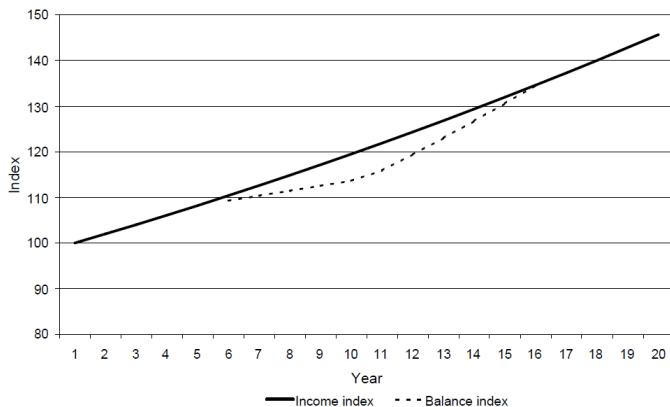
* Average income grows with 2 % per year through out the period. Year 6 the balance mechanism is activated. Balancing reduces the indexing years 6-11, is neutral year 11 and increases the indexing years 12-17. Year 18 the balance mechanism is discontinued.

Swedish choices

- **Orange envelops**

- **Information needs**
  - Each individual receives annually annual account statement in "orange envelops"
  - Personal information on expected benefits
  - Brochure explaining the system

Recent reforms in Sweden

- **Debate about the incentives impact on retirement**
  - Fear that too many Swedes are retiring too early, at the ERA of 61, with low pension
  - Not completely clear that this fear is warranted

- **Reforms increasing early retirement age**
  - 2020 : increase of ERA from 61 to 62
  - 2023 : increase of ERA from 62 to 63

- **Creation of a "target age"**
  - From 2026 onwards, introduction of "target age" of 67
  - "Target age" is reference norm (no change in benefits)
  - Minimum pension will be available at "target age"
  - Planed increase of "target age" with life-expectancy

III. NDC as reform option

1. Debate about NDC
2. Italian experience
3. French debate

Debate about NDC

- **Different views about NDC**
  1. Advocates of NDC
  2. Criticism : still unfunded
  3. Criticism : similar to trad. PAYG
  4. Criticism : lack of redistribution

- **Pension reform strategy**
  - A transparent reform process
  - Or a diversion from real issues ?

- **NDC adoption**
  - Sweden, Italy, Latvia, Poland, Norway, Kyrgiz Rep., Egypt
  - Under consideration in China, Spain, Austria

Debate about NDC

- **Advocates of NDC**
  - Swedish academics and policymakers
  - Various economists : E. Palmer, R. Holzmann

- **Arguments**
  - A transparent reform process
  - Financial balance over the long run
  - Pedagogy of reforms : increase in life expectancy
  - Recovering trust in PAYG systems : pension contributions do provide positive rate of return
  - Expected impact on labour supply : clearer tax-benefit link
  - Explicit redistribution mechanisms
  - Automatic balancing mechanisms, isolation from political meddling

Debate about NDC

- **Criticism : still unfunded**
  - Valdes-Prieto (2001), Disney (1999), Borsch-Supan (2005)

- **Arguments**
  - NDC are still unfunded systems
  - Implicit tax with lower rate of return
  - NDC do not address properly labour supply distortion due to lower rate of return
  - If optimal system is funded individual accounts, NDC is a distraction from real reform
  - NDC do not achieve short-term financial balance, which opens the door to political meddling, hence NDC do not bring much to pension reform strategy

Debate about NDC

- **Criticism : close to trad. PAYG**
  - Barr and Diamond (2008), Diamond (2005)

- **Arguments**
  - NDC are economically similar to trad. PAYG systems
  - Well designed PAYG systems are like NDC :
    - Average lifetime earnings, indexed by wage growth
    - Annuity rate change slowly with cohort life-expectancy
  - Most of what NDC claims can be done with trad. PAYG systems

Debate about NDC

- **Criticism : lack of redistribution**
  - Barr (2005), and others.

- **Arguments**
  - Pure NDC do not have redistribution or poverty relief imbedded
  - Objectives of pension design includes redistribution and poverty relief
  - NDC are designed to enforce higher actuarial fairness
  - This is at the expense of redistribution
  - Optimal pension system should redistribute across the life cycle and NDC reduce ability to redistribute

Italian experience

- **1995 reform**
  - Quick reform process (2 months)
  - Introduction of NDC in Italy

- **Specific elements**
  - Long transition : new entrants only
  - Higher benefit than contribution rate
  - Annuity factor not indexed on life expectancy
  - Lack of information about the system
  - NDC not properly understood by policymakers at the time of reform

Italian experience

- **Very unsatisfactory post-reform**
  - Lack of sustainability
  - Lack of support or understanding of NDC

- **Fornero reform 2011**
  - Monti government facing financial crisis
  - Elsa Fornero, Minister of Labor
  - Increase in retirement age of current pension system (from 62 for women to 66 by 2018)
  - Change in rules for proper indexing of NDC benefit
  - Change in rate of return used towards GDP growth

French debate

- **Bozio and Piketty (2008)**
  - Unification of pension schemes
  - Progressive switch to NDC system

- **Vigorous debate**
  - Friot (2008) : NDC is neoliberal agenda of upper class domination
  - Sterdyniak (2008) : NDC breaks the labour contract which includes pay and pension
  - Bichot (2008) : Ideal system is point-based system
  - COR report (2010)

- **Recent work**
  - Blanchet, Bozio and Rabaté (2016)
  - Bozio and Dormont (2016)

French debate
Bozio and Piketty (2008)

- **Need for reform**
  - Very complex system
  - Many incoherences
  - Lack of transparency
  - Lack of financial sustainability
  - Redistribution not efficient

- **Proposal**
  - Unification of all mandatory pension schemes
  - Switch to unified NDC system

French debate
Bozio and Piketty (2008)

- **Indexation choices**
  - Pension still indexed on inflation
  - Anticipated rate of return as in Sweden

- **Contribution rate**
  - Mandatory rate of 25%
  - Under 3-4 times Social Security Threshold (against 8 SST today)

- **Non-contributory benefits**
  - Keeping all current benefits
  - Credited on the accounts
  - Paid by general revenues (as today)

French debate
Bozio and Piketty (2008)

- **Transition**
  - Proposal of 20 years transition
  - 5% of new system each year

- **Public sector issues**
  - Larger employer contributions
  - Bonuses do not lead to contributions nor benefits
  - Heterogeneity in remuneration between pay/pension according to type of jobs
    e.g. teachers vs Treasury officials

- **Self-employed issues**
  - Lower contribution rate currently
  - Justified for need to accumulate capital
  - Low pension benefit resented today

French debate
Criticisms at the time

1. France is not Sweden
2. We don't have reserves
3. Unification means State control, instead of trade-unions
4. NDC do not address sustainability because they don't increase retirement age
5. Sustainability is false because it relies on increase in retirement age
6. Points systems allow to achieve financial balance every year
7. NDC implies stop in growth in pension spending
8. NDC does not allow to decrease pension spending

Bozio, Blanchet and Rabaté (2016)

- **Further work on structural reforms**
  - Structural reform is not on the agenda
  - Current French system has still issues

- **Main issues is French pension system**
  1. Growth dependence
  2. A complex, non-transparent system

- **Using microsimulation techniques**
  - Development of PENSIPP model
  - Simulating NDC, points-based or other reforms

Bozio, Blanchet and Rabaté (2016)

- **Policy objectives**
  1. Remove dependence on growth
  2. Remove anti-redistributive components
  3. Unify non-contributory elements
  4. Simply the pension structure (mobility between schemes ; number of scheme)
  5. Improve the contributory link (increasing efficiency)

- **Structural vs parametric**
  - Parametric : changing parameters
  - Structural : changing the pension formula

- Unification of unit of account $\nRightarrow$ unique scheme

- Difference in pension generosity $\neq$ difference in pension formula

Bozio, Blanchet and Rabaté (2016)

- **Notional defined contribution (NDC)**
  - Example of the Swedish pension reform
  - Contributions credited on individual accounts
  - Rate of return of the system (wage growth)
  - Annuitisation based on life-expectancy by cohort

- **Point-based system**
  - Contributions converted into points
  - Points converted into pensions
  - Rate of return and annuitisation incorporated into point values

- **Non-contributory benefits**
  - Free points or pension rights credited into individual accounts
  - Financed through general taxation

Bozio, Blanchet and Rabaté (2016)

- **Main parameters of point-based system**
  - Price of the point (to buy) v_b
  - Price of the point (to sell) v_s
  - Demographic factor $\delta = \frac{\partial}{\partial t} \frac{60+}{20-60}$
  - v_b : indexed on earnings growth
  - v_s : 60% replacement rate for the first cohort

- **Variant 1**
  - v_s indexed on earnings growth - δ
  - Once retired : indexation on inflation

- **Variant 2**
  - v_s indexed on earnings growth - δ - 0,25%/year for 35 years
  - Once retired : indexed on earnings growth - δ

Transition to NDC

Figure 3 – Pension spending as a share of GDP
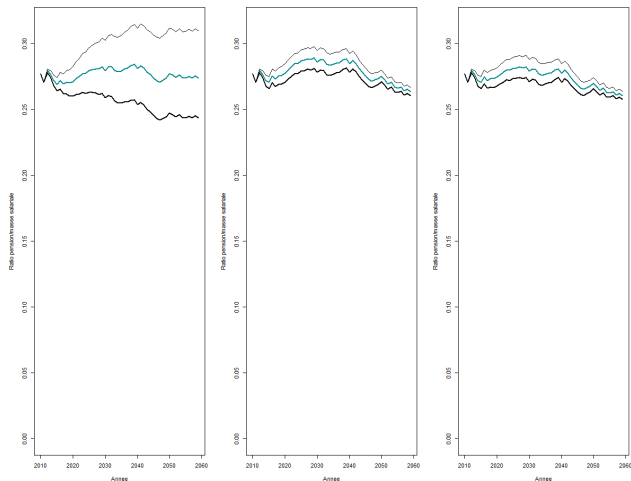
Transition to NDC

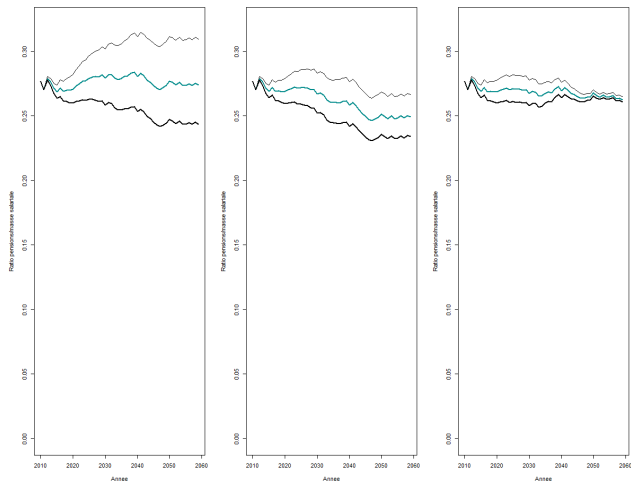Figure 4 – Ratio of mean pension over mean wage
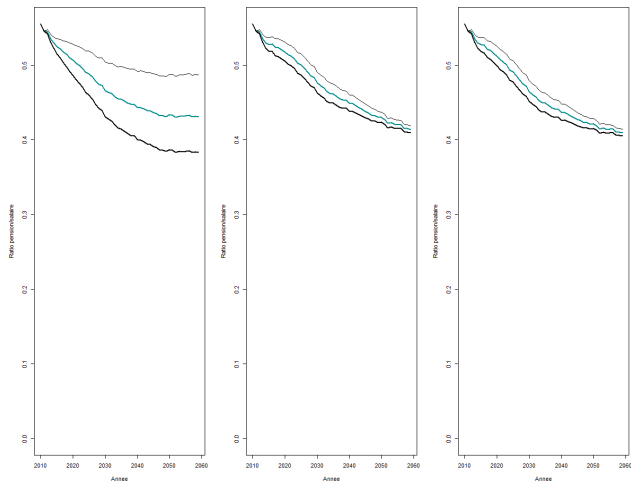
Transition to NDC

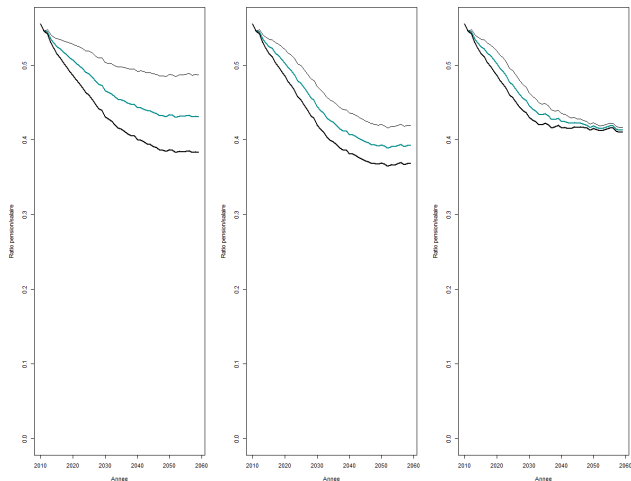## Figure 5 – Ratio of mean pension over mean wage
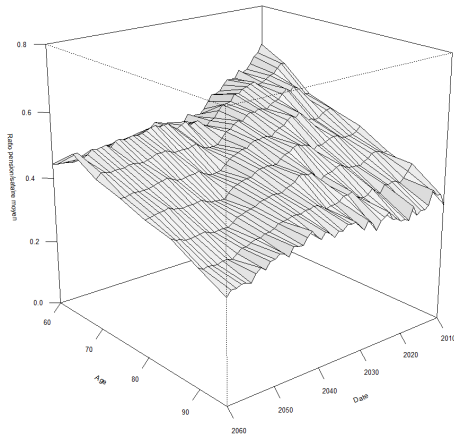
Transition to points
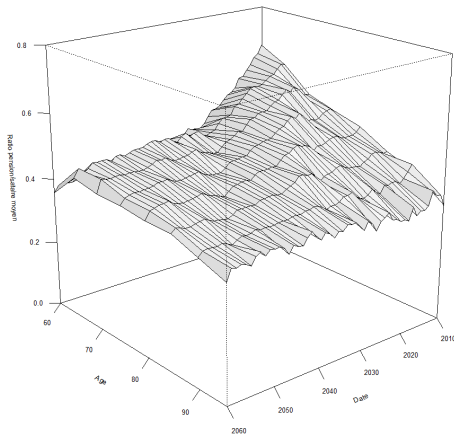
Figure 6 – Pension spending as a share of GDP

Transition to points

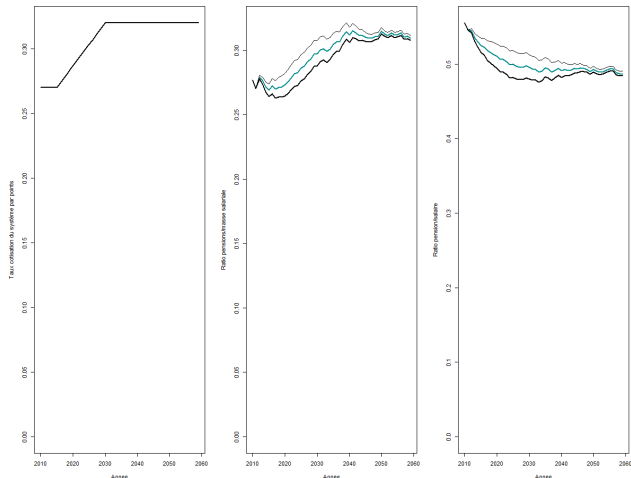Figure 7 – Ratio of mean pension over mean wage

Transition to points

Figure 8 – Ratio pension/earnings by age and period

Transition to points : with increasing contributions

Figure 9 – Ratio pension/earnings by age and period

IV. The failed 2020 French reform

1. The reform process
2. A point-based system
3. Parametric vs systemic reform
4. Redistributive impacts
5. Italian-style transition

The reform process

1. Electoral manifesto of Mr. Macron (March 2017)

2. Uncertainties around the likelihood of the reform (June-Dec. 2017)

3. Choice of point-based system (Dec. 2017)

4. Consultation with Mr. Delevoye (2018-2019)

5. Delevoye report (July 2019)

6. Social protest and strikes (Dec. 2019 - Jan. 2020)

7. Law proposal and impact evaluation (Jan. 2020)

8. Mr. Macron announces the suspension of the reform (March 2020)

Electoral platform of E. Macron (2017)

"*Notre projet, ce n'est pas de changer encore une fois tel ou tel paramètre du système de retraites. (...)*

Il est de rétablir la confiance (...)

Il est de clarifier et de stabiliser les règles du jeu, une fois pour toutes, en mettant en place un système universel, juste, transparent et fiable (...)

Nous créerons un système universel de retraites où un euro cotisé donne les mêmes droits, quel que soit le moment où il a été versé, quel que soit le statut de celui qui a cotisé."

Emmanuel Macron, programme En Marche

Electoral manifesto of E. Macron (2017)

- **The reform content**
  - Unification of the pension formula
  - Keeping current schemes, including different contribution rates
  - Unification of non-contributory benefits

- **The NDC model?**
  - Individual accounts
  - Pension rights credited on account
  - Balance taking account increase in life expectancy

- **Constant budget reform**
  - "*Dans les 60 milliards d'économie, il n'y a pas d'allègements des pensions de retraite*".
  - "*L'âge légal de la retraite restera 62 ans*"

Delevoye report (July 2019)

- **Point-based system**
  - Unique SSC rate of 28%
    - under monthly threshold of 10 000 euros
    - including 2,81% on all earnings
  - Return of the point fixed at 5,5%
  - Balance through "pivotal age" at age 64
    - bonus/penalty of 5% around pivotal age
    - progressive increase in pivotal age by cohort

- **Non-contributory benefits**
  - Minimum pension at 1000 euros
  - Bonus of 5% per child
  - Points for unemployment periods, sick leave and maternity

- **Gov. communication**
  - Increase in retirement age : from 62 to 64
  - End to special schemes (RATP, SNCF, etc.)

Social protests

- **"Special schemes"**
  - RATP, SNCF, strikes to defend schemes specificity

- **Teachers**
  - With low bonuses, new system leads to heavy losses for teachers (-15%,-20%)
  - Nothing on the report about potential pay rises to compensate teachers

- **Self-employed professionals**
  - Lawyers/doctors defending their own scheme
  - Pharmacists defending reserves of their funded scheme

Two reforms announced, then cancelled

❶ **Parametric reform of current system, 2022–27**
- Between 2022 and 2027, introduction of pivotal age
- Increase in full-rate age from 62 to 64
- Decrease of the unconditional full-rate age from 67 to 64

❷ **Universal point system, 2037**
- Starting from cohort born in 1975 (first pension in 2037)
- Contribution in the new system since 2025
- Point indexed progressively on wage growth (fully from 2042 onwards)
- Specific schemes for police and military
- Announcement of unchanged teachers pension

↻ **Both reforms cancelled with onset of covid**

Impact evaluation

Reduction in pension spending

- **Objective not initially announced**
  - Constant budget in 2050

Figure 10 – Impact of the reform on pension spending in 2050

en points de PIB	2025	2030	2040	2050
Trajectoire du COR (scénario 1,3%)	13,8%	13,8%	13,5%	13,2%
Effet de la hausse de la DAR pour les générations 1976 et suivantes	0,0%	0,0%	0,0%	-0,2%
Situation contrefactuelle	**13,8%**	**13,8%**	**13,5%**	**13,0%**
Rééquilibrage du système à court terme	-0,3%	-0,3%	0,0%	0,0%
Effet de la réforme systémique sur prestations de droit propre	0,0%	0,0%	-0,2%	0,0%
Effet de la réforme systémique sur prestations de droit dérivé	0,0%	0,0%	0,0%	0,0%
Trajectoire de dépenses du SUR	**13,6%**	**13,5%**	**13,3%**	**12,9%**

Sources :

COR (rapport novembre 2019) jusqu'à 2030 et extrapolations DSS à partir des données du COR (rapport juin 2019) post-2030 pour le scénario contrefactuel

Cnav - Modèle PRISME pour l'effet sur les masses de prestations de l'augmentation de la durée d'assurance pour les générations 1975 et suivantes

Cnav - Modèle PRISME pour les effets de la réforme systémique sur les prestations de droit propre et de droit dérivé

SOURCES : Evaluation d'impact projet de loi, 24 janvier 2020, Tab. 39, p. 176.

Impact evaluation
Reduction in pension spending

❶ **Delaying the systemic reform : -0,6 pp. GDP**
- 2037 point-based system
- 2042 wage indexation instead of price indexation
- Allowing to keep longer price indexation

❷ **Parametric reform : -0,3 pp. GDP**
- Short-term impact (2025, 2030)
- Acceleration of previously legislated reforms

$\Rightarrow$ **Total = -0,9 pp. GDP**

Impact evaluation
Redistributive impacts

- **Known impacts**
  - Redistributive impact of moving to the entire career
  - Redistributive impact of wage indexation
  - Redistributive impact of minimum pension

- **Some uncertainties**
  - Impact of new non-contributory rights
  - Impact on civil servants (bonuses vs basic salary)
  - Change in thresholds
  - Impact of pivotal age

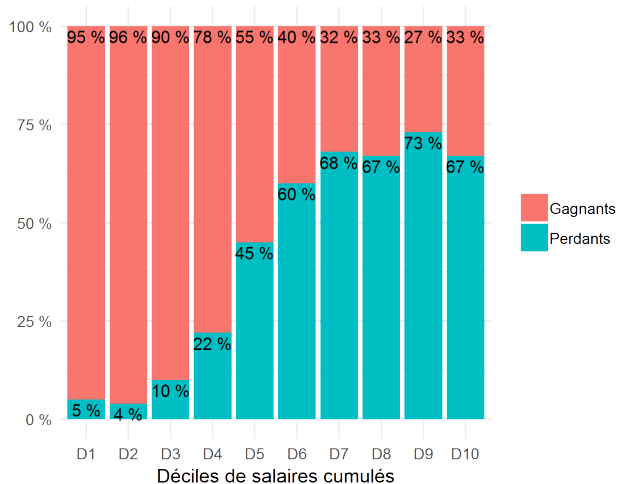# Figure 11 – Impact of moving from best 25 years to the entire career (excluding non-contributory benefits)
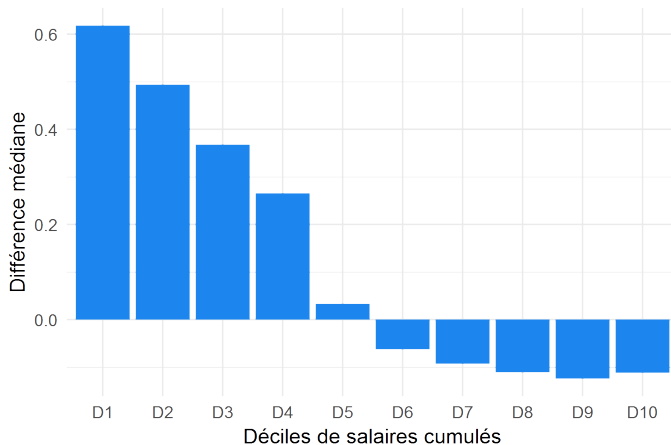
SOURCE : Bozio, Lallemand, Rabaté, Rain and Tô (2019), *IPP Policy Brief*, No. 44, Fig. 5.a. [web link]
CHAMP : Monopensionnés du régime général, génération 1946.
SOURCE : EIR 2008 et 2012 ; EIC 2013 et 2008, Drees ; Pensipp.

Figure 12 – Percentage gaining/losing of moving from best 25 years to the entire career

SOURCE : Bozio, Lallemand, Rabaté, Rain and Tô (2019), *IPP Policy Brief*, No. 44, Fig. 5.b. [web link]
CHAMP : Monopensionnés du régime général, génération 1946.

Figure 13 – Impact of moving from best 25 years to the entire career (excluding non-contributory benefits)
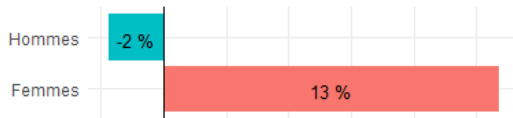
SOURCE : Bozio, Lallemand, Rabaté, Rain and Tô (2019) *IPP Policy Brief*, No. 44, Fig. 6. [web link]
CHAMP : Monopensionnés du régime général, génération 1946.

Impact evaluation : Redistributive impacts

- **Lack of details**
 - Little in terms of evaluation
  - Nothing by cohort, decile, scheme

Table 1 – Average Monthly Pension by quartile (cohort 1980)

	Q1	Q2	Q3	Q4
Before the reform	510	1 290	1 910	2 980
After the reform	660	1 350	1 930	3 020
Impact of the reform	29%	5%	1%	1%

SOURCE : CNAV, PRISME model. *Evaluation d'impact projet de loi*, 24 janvier 2020, Tab. 13, p. 132.

Impact evaluation : Everybody gains ?

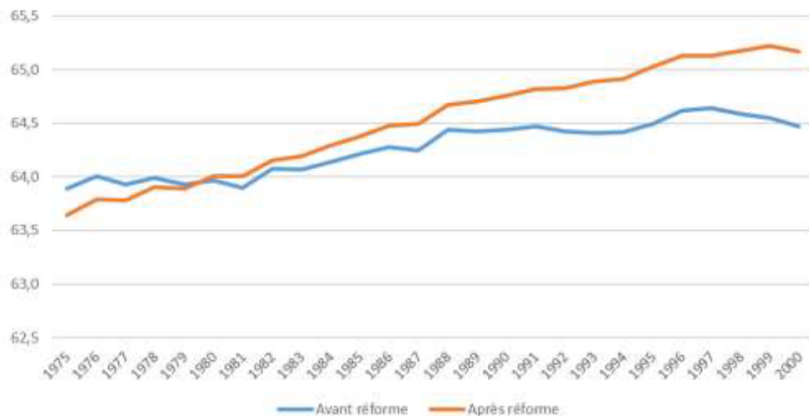Figure 14 – Average Monthly Pension by Cohort
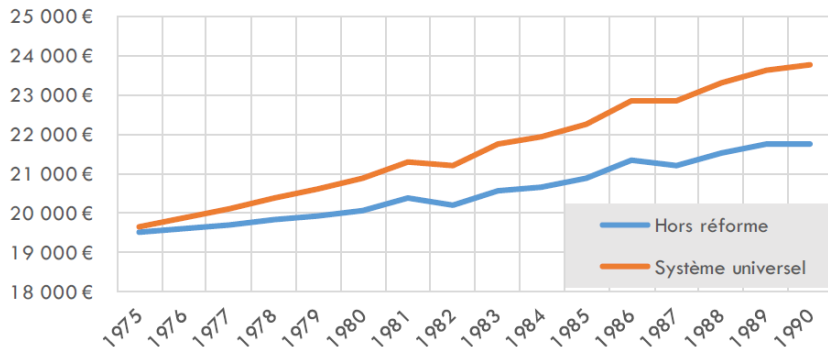
Source : Cnav - Modèle PRISME

Impact evaluation : Everybody gains ?

Figure 15 – Average Claiming Age by Cohort

Source : Cnav, modèle PRISME

Conclusion

- **NDC as reform option**
  - NDC is an unfunded pension system with most desirable features of any unfunded pension system
  - No characteristics is linked to proper framing of NDC
  - NDC framing do bring transparency in the working of unfunded pension schemes
  - NDC needs to be supplemented with non-contributory benefits (like trad. unfunded systems)

- **NDC option in France**
  - Harder reform with complexity of schemes
  - Higher gains from reform in simplifying the system
  - Question of governance ist key preliminary (Bozio and Dormont, 2016)

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