ACCRUED-TO-DATE PENSION ENTITLEMENTS IN SOCIAL INSURANCE: FACT SHEET

SWEDEN

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Table of Contents

1. Table 29 column A: Defined contribution schemes (funded, non-general government) 2

2. Table 29 column B: Defined benefit schemes and other non-defined contribution schemes (funded, non-general government) 2

3. Table 29 column D: Defined contribution schemes (funded, general government) 4

4. Table 29 column E: Defined benefit schemes (funded, for general government employees, classified in financial corporations) 4

5. Table 29 column F: Defined benefit schemes (funded, for general government employees, classified in general government) 5

6. Table 29 column G: Defined benefit schemes (unfunded, for general government employees, classified in general government) 6

7. Table 29 column H: Social security pension schemes (unfunded) 8

8. Table 29 column K: Entitlements of non-resident households 10

9. Links to (national) publications providing further information on the pension schemes 10

1. Table 29 column A: Defined contribution schemes (funded, non-general government)

1. General description of the scheme and the calculation model	
a. Coverage of the scheme	
Column A consist of several defined contribution plans from different schemes. The plans are either of the unit-linked fund type or traditional defined contribution kind of saving schemes. There is one scheme that is mandatory and belongs to the general pension system, the Premium Pension Scheme. The scheme covers the working population born after 1937. In the Premium Pension Scheme, individuals can make their own choice of funds or let the premiums be funded in government administrated funds. At every date, it is possible to change the choice of funding among currently about 500 alternative unit-linked investment funds. Other unit-linked pension schemes are voluntary basis for different groups of employees; white collar workers (ITP1, ITPK as well as other employment related schemes for special groups like employees in banks and insurance corporations), blue collar workers (SAF/LO). For the voluntary schemes of white and blue collar workers the alternatives are restricted to about 10 different funds including both unit-linked and traditional pension funds. For examples: SAF/LO for the blue collar workers, ITP1* or ITPK for the white collar workers, as well as other employment related schemes for special groups such as BTP for the bank employees, and FTP for employees for the insurance corporations. Civil servants in central and local governments also have voluntary (employment related) saving schemes recorded in column A. These schemes are, as for private employees, of unit-linked type or traditional defined contribution schemes. Since the transition of the Swedish pension systems, have been towards defined contribution type of saving schemes, the young working population have all their employment related pension savings in defined contribution schemes whereas the older population has a varying degree of combination of DB and DC schemes. For retired DC schemes accounts only for a small part of total pension entitlements/benefits. *The scheme ITP1 covers those white-collar workers who was born in 1979 or after 1979.	
b. Institutional set-up	
Data sources/ suppliers	The Swedish Financial Supervisory Authority (Finansinspektionen)
Which institution is running/managing the calculations?	Insurance corporations and pension funds.
2. Any other comments	
DC schemes for government employees are included. They consist of both unit-linked pension plans and traditional funding with guaranteed investment income (rate of return to the entitlements). The premiums are funded according to the choice of the employees. In the accounts of insurance corporations and pension funds, administrating these pension plans, entitlements for government and private corporation employees are recorded together under the heading: "D. Investments for the benefit of life-assurance policyholders who bear the investment risk". It has currently not been possible to separate entitlements for government employees from the total of all employees.	

2. Table 29 column B: Defined benefit schemes and other non-defined contribution schemes (funded, non-general government)

1. General description of the scheme and the calculation model
a. Coverage of the scheme
The schemes covered in column B are voluntary defined benefit schemes for private corporation employees. The main scheme is the scheme for white collar workers (ITP2* and other DB schemes) *The scheme ITP2 covers those white-collar workers who was born in 1978 or before 1978.

b. Institutional set-up	
Data sources/ suppliers	The Swedish Financial Supervisory Authority (Finansinspektionen)
Which institution is running/managing the calculations?	Mainly mutual insurance corporations and pension funds of which Alecta AB is the largest.
c. Major formulas: Benefit formula; Indexation of benefits	
Benefit formula	ITP2-plan: Benefits are related to final salary
Indexation of benefits	ITP2-plan: No indexation, but surpluses from the management of the assets (the collective reserve) are used to compensate for inflation.
d. Type and structure of the calculation model	
2. Assumptions and methodologies applied	
a. Discount rate	
According to the guidelines of the Swedish Financial Supervisory Authority. According to chapter 4, paragraph 6; the insurance corporation should use risk free discount rates for relevant durations. Furthermore, the calculation of insurance technical provisions can be made on individual basis or for a group of individuals.	
b. Wage growth	
c. Valuation method: ABO/PBO	
ABO	
3. Data used to run the model	
a. Mortality tables	
b. Entitlement statistics; other relevant statistics	
4. Reforms incorporated in the model	
5. Specific assumptions	
a. How are careers modelled?	
b. How are survivor pensions calculated?	
c. How is the retirement age modelled over time?	
d. Other specific features of the model	
6. Any other comments	
Calculations are performed by actuaries and compiled in National Accounts based on the accounts of insurance corporations and pension funds. Detailed information on calculation models is not available from public sources.	

3. Table 29 column D: Defined contribution schemes (funded, general government)

1. General description of the scheme and the calculation model	
a. Coverage of the scheme	
Column D covers the part of the Premium Pension scheme with Social Security Funds as manager. The Premium Pension scheme is a mandatory scheme covering the entire working population born after 1937. The part covered in column D is a traditional pension plan for those who have made the choice to invest in this plan. The investment risk in the assets in relation to the guaranteed pension is borne by the Swedish Pensions Agency that is part of general government.	
b. Institutional set-up	
Data sources/ suppliers	The Swedish Pensions Agency
Which institution is running/managing the calculations?	The Swedish Pensions Agency
2. Any other comments	
Pension entitlements for government employees where premiums are paid by government units are recorded in column A. In the accounts of insurance corporations and pension funds, the entitlements are recorded under the heading: "D. Investments for the benefit of life-assurance policyholders who bear the investment risk". It is currently not possible to separate these entitlements from total entitlements including employees in private corporations The entitlements of government employees are based on agreements with the levels of premiums described below. <u>The pension agreements for all central government employees includes the following:</u> Premiums of 2.5 percent in relation to salaries are funded according to the choice of employees. The fund options consists of unit-linked funds and traditional pension funds. Premiums of 2 percent in relation to salaries are managed by the pension fund Kåpan Pensioner that is managing a traditional pension fund. <u>Additional premiums for central government employees born 1988 or later:</u> Premiums of 17.5 percent in relation to salaries above 7.5 income basis amounts (IBB) funded according to the choice of employees. Premiums of 7.5 percent in relation to salaries above 7.5 IBB funded by Kåpan Pensioner in a traditional pension fund. <u>The pension agreements for local government employees includes the following:</u> For employees born before 1986: premiums of 4.5 percent in relation to salaries up to 30 IBB are funded according to the choice of employees. The fund options consists of unit-linked funds and traditional pension funds. For employees born 1986 or later: premiums of 4.5 percent in relation to salaries up to 7.5 IBB and 30 percent between 7.5 and 30 IBB are funded according to the choice of employees. The fund options consists of unit-linked funds and traditional pension funds. Annual salaries of 7.5 IBB corresponds approximately to € 45.700 (2018).	

4. Table 29 column E: Defined benefit schemes (funded, for general government employees, classified in financial corporations)

1. General description of the scheme and the calculation model
a. Coverage of the scheme
Column E covers the part of local government pension scheme. The private insurance corporation KPA Pension AB manages the scheme. The scheme is voluntary. This part consists of defined benefit pensions earned after 1997 and managed outside the government sector. Local governments pay premiums to KPA Pension AB.
b. Institutional set-up

Data sources/ suppliers	The Swedish Financial Supervisory Authority (Finansinspektionen)
Which institution is running/managing the calculations?	KPA Pension AB
c. Major formulas: Benefit formula; Indexation of benefits	
Benefit formula	Main part of benefits are related to average salary (average of 5 years with the highest purchasing power)
Indexation of benefits	Price index
d. Type and structure of the calculation model	
2. Assumptions and methodologies applied	
a. Discount rate	
According to the guidelines of the Swedish Financial Supervisory Authority. According to chapter 4, paragraph 6; the insurance corporation should use risk free discount rates for relevant durations. Furthermore, the calculation of insurance technical provisions can be made on individual basis or for a group of individuals.	
b. Wage growth	
c. Valuation method: ABO/PBO	
ABO	
3. Data used to run the model	
a. Mortality tables	
b. Entitlement statistics; other relevant statistics	
4. Reforms incorporated in the model	
5. Specific assumptions	
a. How are careers modelled?	
b. How are survivor pensions calculated?	
c. How is the retirement age modelled over time?	
d. Other specific features of the model	
6. Any other comments	
Calculations are performed by actuaries and compiled in National Accounts based on the accounts of insurance corporations and pension funds. Detailed information on calculation models is not available from public sources.	

5. Table 29 column F: Defined benefit schemes (funded, for general government employees, classified in general government)

1. General description of the scheme and the calculation model	
a. Coverage of the scheme	
The schemes in column F are voluntary schemes and consists of a scheme for all central government employees and a scheme for local government employees.	
b. Institutional set-up	
Data sources/ suppliers	The National Government Employee Pensions Board (SPV), The Swedish Association of Local Authorities and Regions (SKR).

Which institution is running/managing the calculations?	Central government and each local government are running their own scheme. For local governments the calculations are managed by the insurance corporation KPA Pension AB and Skandikon Pensionsadministration AB.
c. Major formulas: Benefit formula; Indexation of benefits	
Benefit formula	Benefits are related to average salary (average of the 5 years with the highest purchasing power)
Indexation of benefits	Price index
d. Type and structure of the calculation model	
2. Assumptions and methodologies applied	
a. Discount rate	
Real discount rate for 2018: 1.0 percent for local government debt, -0.6 percent for central government debt. For calculation of investment income (D.442), 2 percent is used by Statistics Sweden for all years.	
b. Wage growth	
c. Valuation method: ABO/PBO	
ABO	
3. Data used to run the model	
a. Mortality tables	
b. Entitlement statistics; other relevant statistics	
4. Reforms incorporated in the model	
5. Specific assumptions	
a. How are careers modelled?	
b. How are survivor pensions calculated?	
c. How is the retirement age modelled over time?	
d. Other specific features of the model	
6. Any other comments	
Calculations are performed by actuaries and compiled in National Accounts based on the accounts of the insurance corporations KPA AB and the National Government Employee Pensions Board (SPV). Detailed information on calculation models is not available from public sources.	

6. Table 29 column G: Defined benefit schemes (unfunded, for general government employees, classified in general government)

1. General description of the scheme and the calculation model	
a. Coverage of the scheme	
The scheme is voluntary and covers employees in local governments (municipalities and county councils) earning entitlements until 1997-12-31. The entitlements are unfunded so this is a genuine pay-as-you-go scheme. Since 1997 no further contributions are paid by employers. In National Accounts contributions are recorded for technical reasons due to indexation of entitlements/benefits and benefits paid for un recorded debts.	
b. Institutional set-up	
Data sources/ suppliers	The Swedish Association of Local Authorities and Regions (SKR).

Which institution is running/managing the calculations?	KPA Pension AB and Skandikon Pensionsadministration AB.
c. Major formulas: Benefit formula; Indexation of benefits	
Benefit formula	Benefits are related to final salary
Indexation of benefits	Income index until retirement and price index after retirement
d. Type and structure of the calculation model	
Pension account benefit scheme (pension points earned until 1997-12-31).	
2. Assumptions and methodologies applied	
a. Discount rate	
Discount rate depends among all on 10 year government bonds. Currently the real discount rates are 0 percent before retirement and 1 percent after retirement. The difference is due to different indexation.	
b. Wage growth	
c. Valuation method: ABO/PBO	
ABO, no projection of future wage increases.	
3. Data used to run the model	
a. Mortality tables	
b. Entitlement statistics; other relevant statistics	
4. Reforms incorporated in the model	
5. Specific assumptions	
a. How are careers modelled?	
b. How are survivor pensions calculated?	
Survivor pensions are calculated as a share of the deceased persons pension benefit and is received until age of 18 for children. For partners the benefit is received until retirement, at maximum.	
c. How is the retirement age modelled over time?	
d. Other specific features of the model	
The scheme is coordinated with the TP-plan of the general pension scheme (cf. column H) including guaranteed pensions (Guaranteed pension is the minimum pension every inhabitant receives who has lived at least 40 years in Sweden at the retirement age of 65 years. Guaranteed pension benefits are reduced proportionately for those having lived shorter than 40 years in Sweden). Coordination are also made with other employment related pension entitlements earned. The entitlements of the scheme is the difference between the agreed level of pension entitlements and the entitlements earned in the TP-plan incl. guaranteed pensions and other employment related plans.	
6. Any other comments	
Calculations are performed by actuaries and compiled in National Accounts based on data from each local government reported to The Swedish Association of Local Authorities and Regions (SKR). Detailed information on calculation models is found in separate documentation: Guiding principles for calculation of pension debt 2017 (RIPS-17). It has not been possible for Statistics Sweden to apply the recommended discount rate of 3 percent. The basic data needed for the calculations are only available at each of the 290 municipalities and 20 county councils/regions. Basic data for individuals include: annual salaries, number of qualifying years including other local governments than the last, age, other employment related pension benefits, benefits from the general Swedish pension scheme. Fortunately the discount rate used in relation to the recommended by AWG (cf. 2a above) does not underestimate the debt of local governments. The sensitivity analysis is an approximation based on the results for earlier years. These results shows that a drop of the discount rate with 0.75 percent will increase the debt by 8 percent. The sensitivity analyses are	

reported by SKL (cf. documentation below under 9. Links). The results of the sensitivity analyses have been extrapolated, by Statistics Sweden in cooperation with SKL, to cover a change of +- 1 percent.

7. Table 29 column H: Social security pension schemes (unfunded)

1. General description of the scheme and the calculation model	
a. Coverage of the scheme	
The scheme is mandatory and covers the entire working population. It consists of two mandatory plans; the Income Pension Plan (IP-plan) and the Additional Pension Plan (TP-plan). The TP-plan is gradually being replaced by the IP-plan. The TP-plan covers individuals born before 1954 and the IP-plan individuals born after 1937. Individuals born in the years 1938 to 1953 benefit from both plans but decreasingly from the TP-plan and increasingly from the IP-plan. The major part of the scheme is a notional defined contribution plan where premiums and indexation gradually are increasing the entitlements. Since only a small part of the scheme is dependent on discounting the sensitivity analysis is of very little interest for this scheme. A change of the discount rate, for the active population earning pensions in the TP-plan, with +- 1 percent will change the entitlements with approximately +- 2 percent for that part of the scheme. The small impact is due to the fact that the active population earning pensions in the TP-plan is very close to retirement.	
b. Institutional set-up	
Data sources/ suppliers	The Swedish Pensions Agency
Which institution is running/managing the calculations?	The Swedish Pensions Agency
c. Major formulas: Benefit formula; Indexation of benefits	
Benefit formula	For the IP-plan there is no earning of benefits below the threshold of 42.3 percent of one price-related base amount and 16 percent of the pension qualifying income up to the level of the threshold plus 7,5 income-related base amounts. For the TP-plan the earning of points is based on the average income of the top 15 years reduced by each month less than 360 working month and for individuals born after 1937 the earning is reduced with 6 percent each for year born after 1937 until born in 1953.
Indexation of benefits	General wage index, additional price indexation for the retired of the TP-plan.
d. Type and structure of the calculation model	
Pension account benefit schemes (TP-plan is a pension point plan and the IP-plan is a notional defined contribution plan).	
2. Assumptions and methodologies applied	
a. Discount rate	
A discount rate is only applied for the working population (active) earning pension points in the TP-plan. At the time of retirement, the annual pension benefit is established and increases only due to the increases in the price level (inflation rate). Persons earning points in the TP plan reached the age of 65 in 2018 and after 2018 no more points can be earned which means that the TP plan is closed. Discounting of future estimated wage levels are no longer necessary.	
b. Wage growth	
Average historical wage growth. The final wage for persons in the TP plan was finally established in 2019 based on the annual wages until the year 2018.	
c. Valuation method: ABO/PBO	
ABO, no projection of future wage increases.	
3. Data used to run the model	
a. Mortality tables	
b. Entitlement statistics; other relevant statistics	
4. Reforms incorporated in the model	

5. Specific assumptions
a. How are careers modelled?
b. How are survivor pensions calculated?
For children under age of 18 the survivor pension benefit is between 25 and 35 percent of the estimated old age pension at the age of 65 years of the deceased parent. For a partner the survivors pension is 55 percent of the estimated old age pension at the age of 65 years of the deceased partner and will be received for 12 month.
c. How is the retirement age modelled over time?
d. Other specific features of the model
The pension scheme is sustainable. Sustainability is achieved by a balancing mechanism reducing pension benefits and entitlements when the estimated entitlements are short of estimated assets.
6. Any other comments
Contributions are paid by employers as part of social contributions. The amount corresponds to 10.21 percent in relation to wages and salaries up to the income level of 7.5 income basis amounts (IBB). Self-employed and employees also contribute. Employees pay 7 percent in relation to wages and salaries and self-employed 17.21 percent. Government contributes for employees on paternity leave, income loss due to disability etc. Disability pension is not included. Benefits for disability before retirement are paid as social assistance benefits.

8. Table 29 column K: Entitlements of non-resident households

1. General description and the calculation model	
a. Coverage of the scheme	
The total of resident households and non-resident households towards domestic pension schemes would be the total of all domestic pension schemes (Column I). However, we do not have any direct information about the group of non-resident households towards domestic pension schemes (Column K). We assume that this group contains largely of retired households who moved to other countries. To make this compilation model simplified, we make a further assumption that this group only contains those retired households who receives benefits from defined benefit schemes and social security pensions. Based on this simplified model and data on benefits payed to the rest of the world from Swedish tax authority and some complimentary information provided by Statistics Sweden, we were able to allocate the domestic social insurance pension liabilities to non-resident households (Column K). The resident households towards domestic pension schemes (Column J) are derived residually by the total of all domestic pension liabilities (Column I) minus the non-resident households towards domestic pension schemes (Column K)	
b. Institutional set-up	
Data sources/methods	Swedish tax authority
Which institution is running/managing the calculations?	Statistics Sweden
2. Any other comments	
As mentioned above, the compilation model is based on some assumptions, therefore is quite simplified. The model might however be modified when we get access to better information.	

9. Links to (national) publications providing further information on the pension schemes

For the general income pension system information is found in the Orange Report. Latest English version is published for 2020 (scroll down for the English section):

Årsredovisningar - Annual reports | Swedish Pension Agency

For column G and guidelines for the calculation of other parts of local government pension debt information (only in Swedish) is published in RIPS-17:

Local government pension calculation guidelines (Swedish)

RIPS 19 can be found here.

Link to the national directives for calculation of insurance technical reserves (only in Swedish) by the Swedish Financial Supervisory Authority (Finansinspektionen)

http://www.fi.se/contentassets/d9cbf4570ebf4d55ae5c305894599a82/fs1508.pdf