

Annual Report 2019

AP4's mission is to contribute to the financial security of current and future pensioners by managing part of the Swedish national pension system's buffer capital.



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418

SEK billion
in fund capital

75

SEK billion net result
for the year

+21.7

% return after costs

+4.4

% in active return

0.10

% in management
costs

6.5

SEK billion paid
to pension system

Record result and active management delivered

- **The return for the year** was 21.8% before costs and 21.7% after costs. Active management contributed 4.4 percentage points to the return, representing a significant and important contribution of SEK 15 billion. With a profit of SEK 75.2 billion after costs and net disbursements during the year of SEK 6.5 billion to the pension system, total fund capital increased to SEK 418.0 billion at year-end 2019, compared with SEK 349.3 billion at the start of the year. Currency exposure was 19.8% of assets at year-end 2019.
- **Total costs** amounted to 0.10% of average assets under management. AP4's cost level is 47% lower than for corresponding pension funds in an international comparison.
- **AP4 reduced the carbon footprint** of listed equities in the portfolio by an additional 11% in 2019, and the carbon footprint is 48% lower than for a broad, global equities index. The low-carbon strategy now also includes emissions from the portfolio companies' subcontractors. During 2019, carbon footprint reporting was begun for the unlisted real estate portfolio. For the global, listed equity portfolio, two new resource efficiency measures have been introduced for water and waste intensity.
- **AP4 participated on 39 nomination committees** ahead of Annual General Meetings in 2019 and on 36 nomination committees ahead of AGMs in 2020. During 2019 AP4 voted at the AGMs of 87 Swedish companies and 1,025 international companies. Within the framework of the Climate Action 100+ international investor initiative, AP4 is participating in three company dialogues aimed at reducing the companies' greenhouse gas emissions. In 2019 two of these companies announced goals in accordance with the Paris Agreement. AP4 made two unlisted investments focused on sustainable infrastructure: a fund that invests in Africa and an investment through the investment company Polhem Infra. This latter company was established in 2019 and is co-owned with AP1 and AP3. Polhem Infra's focus is on making sustainable infrastructure investments.

Our mission

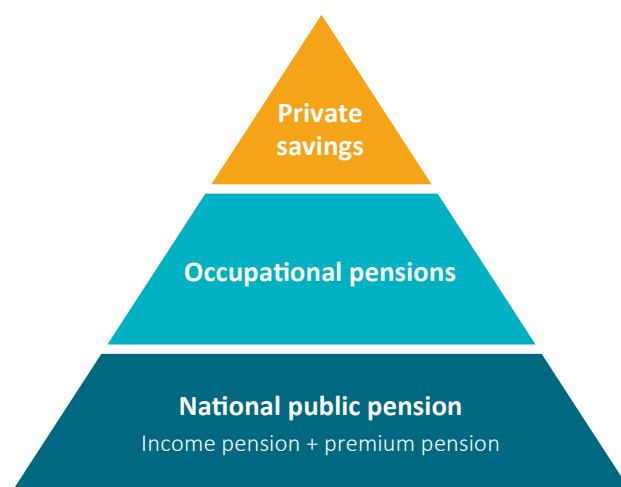
AP4's mission is to contribute to the financial security of current and future pensioners by managing part of the Swedish national pension system's buffer capital. AP4's long-term perspective, responsibility as an owner and strong commitment to sustainability create opportunities for high returns at a low cost. In this way, AP4 works for more secure pensions.

Sweden's pension system

The foundation of Sweden's pension system is the national public pension, which is made up of two parts: income pension and premium pension. Income pension is a pay-as-you go system where the year's pension contributions paid by the actively working population are used to pay pensions to pensioners during the same year. While a person is working, money is paid in to the pension system at the same time that pension points are earned. Paid-in pension contributions are based on income and other taxable remuneration, and provide a pension entitlement. In such way, paid-in pension contributions during a person's entire working life are linked to the right to receive a pension in retirement. For the premium pension portion, earned contributions are saved in each person's individual name, and pension savers have a say in which funds their money is invested. A substantial share of premium pension capital is managed by the Seventh Swedish National Pension Fund (AP7), which is the default alternative.

Bridging generation gaps

If the year's contributions to the income pension system from people who are actively working are less than the year's pension disbursements, the difference is taken from the AP Funds' buffer capital, and vice versa. AP4, together with AP1, AP2, AP3 and AP6, manages this buffer capital with the goal of achieving a long-term high return with low risk for reduced pensions. Since 2009 and through 2019 AP1–AP4 each paid out SEK 57 billion net to the pension system. These payments from the AP Funds have been made mainly as a result of demographic factors, such as the large number of people born during the 1940s, who are now pensioners. The pension system has been designed to withstand this without one generation benefiting at the expense of another. The AP Funds are expected to continue making net disbursements to the pension system for another some 20 years. Thereafter, the AP Funds are expected to receive net inflows. If the pension system



Swedish pensions come from the national public pension system, supplemented by occupational pensions and private savings.

comes into a financial imbalance, i.e., its liabilities become larger than its assets, an automatic balancing is activated. As a result of this balancing, income pensions would be lowered as long as the assets are lower than the pension obligations.

New investment rules for the AP Funds

In 2018 Swedish Parliament (the riksdag) decided on changed investment rules for the AP Funds, which took effect on 1 January 2019. The new rules entail greater opportunities to invest more capital in unlisted assets, a reduction of the requirement to hold a minimum level of fixed income securities in the Funds' portfolios, and elimination of the requirement that a minimum portion of



assets be managed externally. In addition, a stipulation was added that the AP Funds shall manage pension assets in an exemplary way through responsible investments and responsible ownership. The goal of exemplary management is to be achieved without the AP Funds compromising on the overarching goal of achieving a long-term high return.

In December 2019 the government submitted a bill to the riksdag with recommendations for certain additional changes. The bill proposes an increase in the maximum voting rights share in private equity companies from 30% to 35%, the opportunity for such private equity companies to also invest in illiquid credits, and the opportunity to make direct investments in unlisted companies apart from private equity companies that an AP Fund is already invested in. These rules are expected to take effect on 1 May 2020 (read more on page 16).

Three guiding principles for AP4's management

AP4 has unique prospects to invest long-term and sustainably, and takes ownership responsibility with focus on the climate and environment.

★ Long-term

Over a long time horizon, the pension system's need of disbursements is relatively predictable. AP4 therefore invests with a very long-term perspective, which provides unique opportunities to withstand market volatility and illiquidity.

★ Sustainably

A sustainability perspective is a prerequisite for long-term successful asset management. AP4 integrates sustainability with its Climate & Environment focus in its investment processes. In this way, AP4 achieves well considered risk, capitalises on business opportunities, and can thereby achieve a higher return over time.

★ Responsibly

Being one of the largest shareholders on the Stockholm Stock Exchange entails both opportunities and responsibility. AP4 serves on nomination committees, takes positions on important issues and votes at general meetings of shareholders. AP4 has clear expectations for and carries on a close dialogue with the boards and managements of the companies in which it is an owner.

YEAR AT A GLANCE, KEY RATIOS	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Net result for the year, SEK bn	75.2	-0.5	30.1	30.5	20.1	40.2	37.0	23.4	-1.6	21.2
Net flow to national pension system, SEK bn	-6.5	-6.8	-7.4	-6.6	-4.9	-5.1	-6.9	-3.8	-1.2	-4.0
Fund capital at year-end, SEK bn	418.0	349.3	356.6	333.9	310.0	294.9	259.7	229.6	210.0	212.8
Total return before costs, %	21.8	-0.1	9.2	10.1	6.9	15.8	16.5	11.3	-0.7	11.0
Total return after costs, %	21.7	-0.2	9.1	10.0	6.8	15.7	16.4	11.2	-0.7	10.9
Operating expenses as % of assets under management	0.06	0.06	0.06	0.06	0.06	0.07	0.08	0.08	0.08	0.09
Commission expenses as % of assets under management	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.01	0.01
Total costs (operating expenses and commission expenses) as % of assets under management	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.10	0.10	0.10

An outstanding 2019 – but challenges going forward

During 2019 AP4's portfolio passed the SEK 400 billion mark and amounted to SEK 418.0 billion at year-end. The return for the year was very strong at 21.7% after costs, and net result for the year was SEK 75.2 billion. This means that AP4's return and net result for 2019 reached record highs since the start of the pension system in 2001. Only the market recovery in 2009 following the financial crisis in 2008 generated a return in line with that achieved in 2019.

However, the year's strong performance in the financial markets should be viewed in the light of the very tough end to 2018, with sharply falling stock markets and rising interest rates. Over the two-year period 2018–2019, the average annual return was more balanced at 10.2%.

From a slightly longer time perspective of the last ten-year period we can affirm that AP4's portfolio delivered an average annual return of 9.9%. If we instead look ahead, we believe unfortunately that it will be a considerable challenge to achieve an equally favourable return over the next decade.

Our main scenario gives a picture of comparatively low growth in the developed countries during the coming decade. This is due to circumstances such as normalisation of monetary policies, climate adaptation, areas of high debt, demographic development and weak political resolve. On top of this we also see a risk for greater protectionist measures, heightened regional tensions and diminishing confidence in important government cooperation organisations like the UN and WTO, with a further, potentially negative effect on growth in the financial markets.

At present we also have generally high relative valuations and very low interest rates, which indicate an expectation for negative real returns on fixed income assets in the medium-term perspective. All in all, our assessment is that we can expect to see lower returns going forward.

Significant contribution to the pension system

Since the start of the Swedish pension system in 2001, the Fund has generated an average return of 6.5% per year after costs, with accumulated net results of SEK 320 billion. During this time AP4's portfolio has grown from SEK 134 billion to today's SEK 418 billion, at the same time that we have paid out SEK 36 billion to the pension system. AP4's return on top of the income index, which is the index with which the pension system's liabilities are measured against, has averaged 3.6 percentage points per year since the start. This corresponds to just under SEK 210 billion and means that AP4 has made a significant contribution to the growth

in the buffer funds' combined share of assets in the income pension system from 10% at the start to around 15% today.

AP4's favourable historical result is due in large part to the ability to leverage the large latitude that exists in the buffer funds' statutory mandate. Thus for example the buffer funds have unique conditions to act long-term and thereby have the opportunity to fully take advantage of the potential in investments through their ability to withstand large market movements and low liquidity where it favours long-term returns. We have also determined

“Since the start of the Swedish pension system in 2001, the Fund has generated an average 6.5% per year after costs, with an accumulated result of SEK 320 billion.”

that we are fulfilling our role in the pension system in the best way possible by maintaining a substantial allocation of equities, which has been beneficial since the Fund's start in 2001.

Successful active management

Our active management also made a significant contribution to the return. Of AP4's total return of 21.7%, a full 4.4 percentage points can be credited to our active management. The year's active return was achieved on a broad base, with contributions from most asset classes. Most of the active result contribution came from Swedish equities, global fixed income instruments and credits, and real estate.

The active return is evaluated over five-year periods, and on average the active return has been 2.3 percentage points per year during the last five years. For 2019 our active management made a net result contribution of SEK 15 billion, and over the five-year period the contribution totalled SEK 37 billion.



AP4 supports the climate goals

AP4 supports the Paris Agreement and the more ambitious Swedish environmental objective to achieve zero net emissions of greenhouse gases by 2045. One of AP4's goals is that we will contribute to the transition to a sustainable society. For these reasons, AP4 integrates sustainability in all of its investment processes. The Fund's sustainability strategies and thematic investments coupled to sustainability play an important role in the Fund's asset management.

AP4's contribution to the climate transition takes various forms. One example consists of our low-carbon strategies, which we have gradually developed and broadened since they were introduced in 2012, to where today they make up a significant feature in our global equities portfolio. Via the low-carbon strategies, AP4 is reducing climate risk in the portfolio by selling its holdings in companies with large CO₂ emissions while investing in companies with lower emissions as well as in companies that are contributing to the ongoing climate transition.

The fact that AP4 sells its holding in a company with a large carbon footprint does not by itself affect total greenhouse gas emissions. It is not until the portfolio companies themselves reduce their own emissions that a positive climate effect is achieved. However, a strong incentive is created for companies to reduce their carbon footprints if a large number of investors integrate climate risk into their investment decisions. This is one of several key reasons why AP4 acts transparently and tries to inspire other investors to take climate risks into account in their investment work. For example, through the creation of the Portfolio Decarbonization Coalition together with the UN and Amundi, AP4 has worked to encourage investors to reduce the

carbon footprint in their portfolios. We have also been active in developing a low carbon index and in launching low carbon funds, which other investors have then been able to use and invest in.

AP4 is an active owner that continuously influences and urges companies to change over to sustainable business models and reduce their CO₂ emissions. We do this by engaging with companies in dialogues – often in cooperation with other global investors.

“AP4's contribution to the climate transition takes various forms. One example consists of our low-carbon strategies, which we have gradually developed and broadened since 2012, to where today they make up a significant feature in our global equities portfolio.”

We also demand that companies report on their climate risks in a transparent manner. We want them to describe the governance and processes they have implemented along with the activities they are carrying out to manage their climate risks. By coordinating our work with other investors we believe that the prospects for influencing increase, as a larger share of ownership in the companies align themselves and support the dialogues. AP4 also acts formally as an owner in these issue by voting at general meetings of shareholders.

Need for global pricing of carbon emissions

In recent years the focus on sustainability has increased dramatically, and various actors' work with sustainability has developed at a rapid pace. The business sector, investors, consumers and other private actors have a large responsibility and central role in the transition to a sustainable society. However, political decision-makers' ability to forge broad-based international accords, rules and decide on long-term playing rules that promote sustainable development will be decisive.

At present there is scepticism about the political system's ability to make the decisions and implement the measures needed. Granted, positive initiatives are not entirely absent, such as the EU's recently decided and ambitious action plan for sustainable financing. Unfortunately we also see counteracting forces. The most recent climate summit, COP25 in Madrid, was a disappointment. Despite attendance by most relevant countries and decision-makers, they did not succeed in principle to arrive at any new agreements or undertakings of significance.

The single most important political measure would be the introduction of a global system of relevant pricing of carbon emissions. This would immediately provide impetus and momentum to a transition, as all economic actors would have a concordant and uniform incentive to reduce their carbon emissions.

“The single most important political measure would be the introduction of a global system of relevant pricing of carbon emissions.”

To make global pricing of CO₂ emissions politically feasible, it would likely need to be complemented with support to the groups and regions which, at least in the near term, would be negatively affected. As part of such a redistribution, the tax revenue generated by the pricing of CO₂ emissions could be used.

Development of sustainability work

Sustainability is a key investment belief for AP4, and Climate & Environment is one of the focus areas for AP4's asset management. For our work with sustainability, AP4 was named as the leading pension fund in the world with respect to climate measures by the Asset Owners Disclosure Project (AODP). In this context it is also positive that the legal language for the AP Funds was modernised prior to 2019 with the clarification that asset management shall be conducted in an exemplary way through responsible investments and responsible ownership. This gives AP4 further motivation and inspiration to stay at the forefront on these issues also in the future.

During 2019 AP4 carried out a number of activities to further develop and integrate sustainability in its asset management. Among other things we continued to increase the impact of low carbon strategies in the investment portfolio at the same time

that we have continued to broaden and refine them. Apart from the portfolio companies' own, direct carbon emissions, the strategies now also encompass direct emissions from the companies' subcontractors. Also taking subcontractors' carbon emissions into account is leading to a broader analysis of climate risk in the value chain, which provides better decision-making documentation for company selection.

During the last two years AP4 has also conducted extensive, in-depth work surrounding central sustainability themes. This analysis work is now beginning, step-by-step, to make an increasingly stronger presence in our investment portfolio. For example,

“Our way of acting as a long-term and responsible owner provides stability and predictability, which in turn leads to attractive business opportunities.”

it can be mentioned that we have developed equity strategies for taking resource efficiency into account, and we have implemented an equity strategy based on the shift from internal combustion engines to electric vehicles. During the year we also carried out thematic investments focused on sustainable infrastructure, among other things by establishing a fund that invests in sustainable infrastructure in Africa. In addition, in 2019 AP4 formed Polhem Infra together with AP1 and AP3, which is a company that focuses on infrastructure investments.

Our other sustainability focus area in addition to Climate & Environment is Corporate Governance. A key objective of our corporate governance work is to take responsibility and help companies be successful and generate long-term sustainable high returns. We influence by closely monitoring the companies' performance, asserting our position on various issues and communicating clear expectations to the companies' boards and management teams. During the 2019 AGM season, AP4 exercised its ownership rights and voted at the annual meetings of 87 Swedish companies and 1,025 foreign companies. In addition, we served on the nomination committees of 39 Swedish companies ahead of their 2019 AGMs, where among other issues we put strong emphasis on working for greater diversity and more women directors on boards.

Corporate governance is directly integrated in our operational asset management work. This applies especially for our internal, fundamental equities management, which combines active ownership with efforts to benefit from our opportunity to serve as a very long-term investor. Our actions as a long-term and responsible owner provide stability and predictability, which in turn leads to attractive business opportunities, such as serving as an anchor investor in IPOs or new issues. This asset management style has been successful and over time has been one of the largest contributing factors to AP4's active management result.



Certain additional changed rules

It is highly positive that the members of the so-called Pensions Group took the initiative a few years ago to modernise the AP Funds' investment rules. The first step in this modernisation took effect on 1 January 2019 and gives the AP Funds greater flexibility in their asset allocation through a relaxed requirement to hold liquid fixed income assets with high credit ratings as well as greater scope to invest in unlisted assets.

In December 2019 the Swedish government presented a bill laying out another step in the modernisation of the AP Funds' investment guidelines. This step focuses primarily on giving the AP Funds greater flexibility with respect to investment forms for unlisted investments, with the aim of creating even better conditions for long-term focus and cost efficiency. The proposed changes are yet another step in the right direction, even though they are not as far-reaching as AP4 had recommended. Nor do they give the AP Funds equal conditions to invest in unlisted assets as other, comparable institutional investors.

In preparation for the new rules to take effect, in recent years AP4 has strengthened its competence in alternative investments with focus on cost-efficient and long-term investments. Over time this will further improve our portfolio's return and risk profile. However, in this context it is important to reiterate that today we have a market situation with in many cases strained valuations of unlisted assets. Therefore, the build-up of the unlisted portfolio will be conducted prudently and incrementally over several years' time. Strong emphasis will be put on identifying the right investment opportunities and the ability to benefit from every individual investment on solid grounds.

Awards for AP4

AP4 received two awards at the IPE Conference & Awards 2019 in Copenhagen. First, we won an award as the Best In-House Investment Team, and second for Best Active Management. We were also nominated for two additional categories.

We are happy and proud to receive such fine recognition for our way of working and conducting our asset management, which is inspiring and motivating for our continued asset management and development work. These awards can be credited to all of the great employees we have at AP4 who do their utmost every day to ensure the Fund's return and performance. I therefore want to direct my warmest thanks to all of AP4's employees, who together in 2019 worked successfully for our societally important mission at the same time that we worked intensively to adapt our operations to future challenges.

Stockholm, 20 February 2020

Niklas Ekvall
CEO

A year characterised by strong stock market and continued falling interest rates

The year was dominated by a worsening global economy and continued fears of a trade war. Owing to strong action by central banks, however, most financial assets grew in value. Equities and other higher-risk assets benefited from the avoidance of a recession, partly owing to the proactive monetary policy stimulus measures. Even bonds grew in value as interest rates fell.

Growth

The global economic slowdown dominated the macro picture during 2019. AP4's initial assessment for 2019, which was more negative than the market's expectations, proved to be quite accurate. Growth declined in both the USA and Europe, but it was more of a slowdown than a recession, driven mainly by trade-related uncertainty that negatively affected export-, manufacturing- and investment-related parts of the economy. At the same time, domestic demand was relatively favourable, supported by private consumption and monetary policy stimulus measures.

Inflation, monetary policy and interest rates

Inflation flattened out somewhat during the year – well in line with AP4's forecasts – and continues to be lower or much lower than the target levels in the USA, Sweden and the eurozone. Inflation was relatively low in growth markets, with a few notable exceptions. What was most surprising during the year was the swing in monetary policy in large parts of the world. The expected, slow normalisation has – at least temporarily – reversed, and both the US Federal Reserve Bank and the European Central Bank (ECB) as well as a large number of other central banks have cut interest rates. The ECB and the Fed began buying assets again during the autumn and also reduced their already low interest rates. Norway and Sweden, on the other hand, resisted the trend and raised their rates.

Currencies

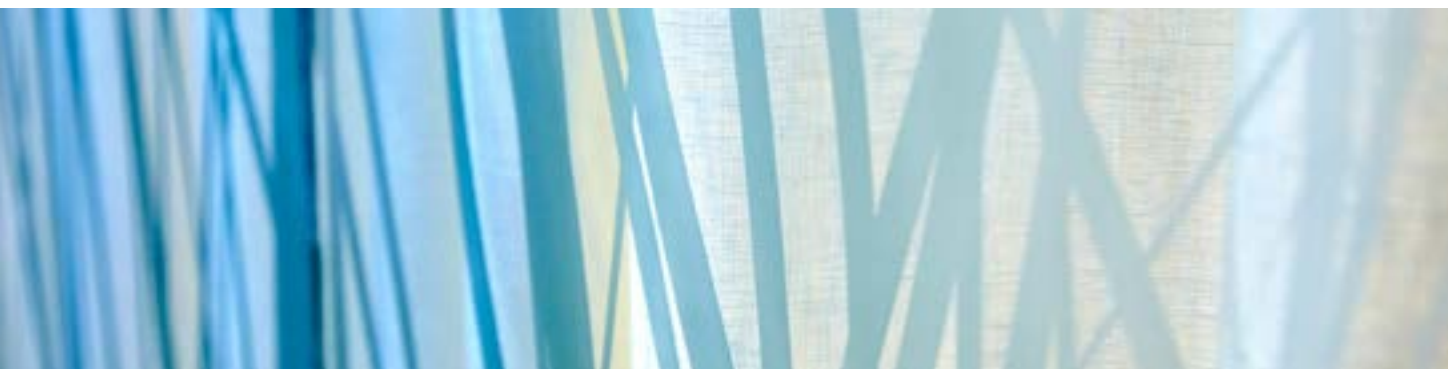
The US dollar remained strong during the year and strengthened against most currencies. For example, Euro weakened by 2% against US Dollar, while the SEK lost 6%.

Market sentiment

The sentiment in the market was bifurcated in 2019. The stock market rose strongly and the broad global index gained nearly 27% in USD, while interest rates fell to new record lows during the summer before climbing again slightly during the autumn. The fixed income market thus factored in a recession while the stock market discounted a brighter future. One decisive factor is probably that the central banks acted with unusual resolve on the economic slowdown at the same time that interest rates began falling from already low levels, since the normalisation of key rates had hardly begun.

Outlook

The global economy is expected to be weak on a full-year basis, but may level out and turn downward during the course of the year at the same time that inflation and interest rates remain low. There are significant downside risks. Several are already known – the autumn's turbulence in Hong Kong and several other growth markets, and trade worries. These are temporary but not structurally addressed at the same time that geopolitical and other risks are expected to rise.



Asset values and return 2019

AP4's fund capital of SEK 418.0 billion is invested in various asset classes, fixed income securities and real estate. A substantial equity allocation is justified by higher anticipated returns in support of the pension system.

Annual return of 21.7% after costs

AP4's total return was 21.8% (–0.1%) before costs and 21.7% (–0.2%) after costs. The return corresponded to a net result of SEK 75.2 billion (–0.5) after costs.

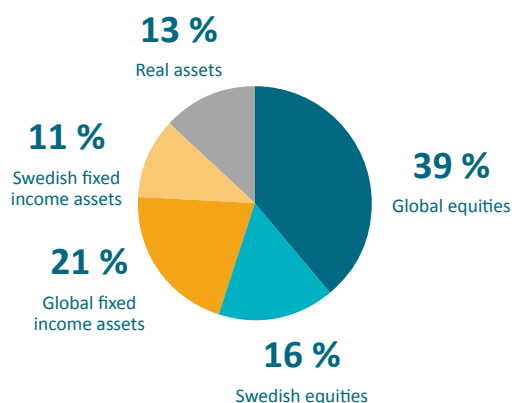
Equities more than half of assets

Global and Swedish listed equities accounted for more than half of assets at year-end. Unlisted equity investments mainly in property companies accounted for 9% of assets.

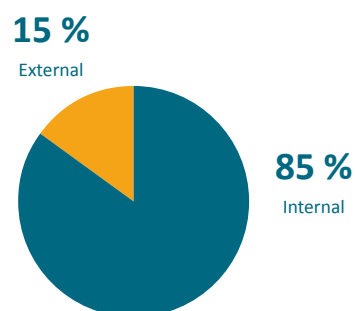
Internal and external management

85% (84%) of assets were managed internally. The remaining 15% (16%) of assets were managed externally. AP4 manages assets internally when an aggregate assessment shows that internal management can achieve an equally good or better return at a lower cost.

Asset allocation



Breakdown between internal and external management



ASSET CLASS	Market value, SEK bn	Portfolio return, %	Exposure ¹ , %	Return contribution, %	Net result contribution, SEK bn
Global equities	164.3	23.9	39.3	9.6	33.2
Swedish equities	65.2	42.4	15.6	6.0	21.0
Global fixed income	87.7	4.3	21.0	1.0	3.4
Swedish fixed income	47.5	1.7	11.4	0.2	0.7
Real assets	53.2	24.6	12.7	2.9	10.5
Other assets ²	0.0	0.2	0.0	0.2	0.8
Currencies	0.0	1.6	0.0	1.8	5.9
TOTAL INVESTMENTS³	418.0	21.8	100.0	21.8	75.5

¹ Underlying values of derivative instruments in the passive allocation are distributed among the respective asset classes.

² Consists mainly of various overlay mandates.

³ Portfolio return, return contribution and net result contribution before costs.

Management structure enables investments over several time horizons

AP4 has two different targets for evaluating the portfolio’s return. One is the portfolio’s real (inflation-adjusted) return target of 3% per year on average, and the other is the operative management’s active return target of 1% per year relative to a benchmark portfolio.

The two return targets decided on by the Board of Directors reflect AP4’s mission to manage the fund assets in such a way that a long-term high return is achieved for the greatest possible benefit for the income pension system.

AP4 is achieving its real return target

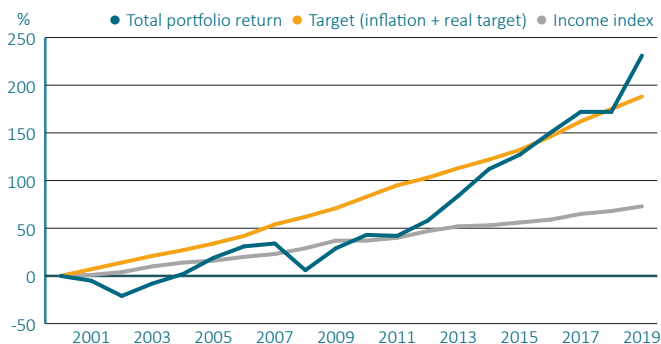
AP4’s real return target is 3% per year on average over a medium-term perspective of ten years. However, AP4 has determined that over a long-term horizon of 40 years it is possible to achieve an average annual real return of 4%. Following a time period with lower anticipated returns – which the market is currently in – a normalisation is expected to take place whereby a real return of slightly more than 4% will once again be reasonable. Since the start of the pension system in 2001, i.e., a time horizon of more than 19 years, AP4’s average annual return after costs has been 6.5% in nominal terms, which is higher than the long-term target of an average of 5.7% per year (real return target indexed by inflation). Expressed in real terms, AP4’s average annual return

has been 5.1%, compared with the long-term target of an average of 4.3% per year. The return has also amply exceeded the average annual 2.9% growth in the income index, which means that AP4 has contributed to the pension system’s stability.

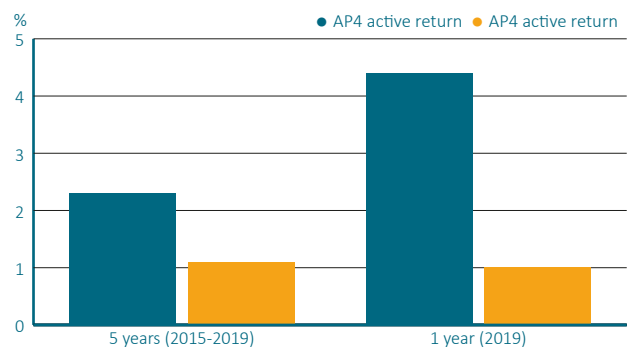
AP4 is achieving its active return target

The operative management’s active return is evaluated in relation to the Dynamic Normal Portfolio (DNP), which is the benchmark set by the Board of Directors. Starting in 2018 the target is 1.0% per year measured over five years. The target is linked historically to previous excess return targets – in this case for the three years 2015–2017, when the active management target was an average of 1.1% per year. For 2019 the active return was 4.4%, compared with the 1.0% target. Over the five-year period 2015–2019 the active return averaged 2.3% per year compared with the target of 1.1% per year. AP4’s operative management thereby outperformed the active return target both for 2019 and over five years.

AP4’s return, after costs, since start in 2001



Active return target, before costs





Three return perspectives

AP4's long-term analysis of 40 years strives for the best combination of anticipated return and risk so that the pension system will be strengthened over the long term without one generation benefiting at the expense of another. The most recent long-term analysis showed that a 4% average annual real return over 40 years is ambitious but possible to achieve with a balanced level of risk based on the pension system's needs. This is a decrease from the assessment of an average annual real return of 4.5% for AP4 that applied prior to 2018. At the same time, the pension system is more robust today than at its start in 2001. It has a strong balance sheet, combined with the fact that there is now a shorter remaining time of anticipated net payments from AP4 to the system compared with the start in 2001. This is resulting in a lower need for risk-taking and thereby also lower anticipated returns.

The medium-term analysis with 10-year perspective takes into account the prevailing economic situation and market dynamics according to a considerably shorter time horizon. The markets have performed very strongly during the last ten-year period, and valuations are generally high. Combined with the extremely low level of interest rates, it has been determined that it is now hard

in a medium-term perspective to achieve a return on par with the one AP4 has had during the last ten years. AP4's assessment is that a medium-term return target of a 3% average annual real return during the next ten years is achievable, even though – on top of the market's return – this will require a significant active return from AP4's asset management.

The active asset management target in the continuing asset management is handled by AP4's operative asset management organisation. The portfolio's asset allocation and active asset management decisions are based on the Dynamic Normal Portfolio (DNP), which is the benchmark adopted by the Board of Directors, and are steered with the help of structured risk budgeting in relation to the asset allocation assigned by the Board to the DNP. In addition, each year the Board sets a risk scope within which the operative asset management shall act. For 2019, AP4's risk mandate in terms of active risk, or tracking error, was 5%, and the active asset management target was a 1% annual excess return in relation to the Dynamic Normal Portfolio. The performance of the operative active asset management is evaluated over moving five-year periods.



“During the last ten-years the return has been very high, corresponding to 9.9% per year after costs.”

Magdalena Höberg

Senior Portfolio Manager,
Strategic Allocation &
Quantitative Analysis.

During the last ten-year period AP4's return has averaged 9.9% per year after costs, which corresponds to a real return (after deducting for inflation) of 8.6% per year after costs.

What does the economic forecast look like?

– AP4 believes that the main scenario for the economic trend will entail relatively modest global growth of just under 3% per year and inflation that is expected to rise slightly from current levels to just over 2.5% per year on average. Growth in Sweden is expected to be in line with other industrialised countries, while growth is expected to continue to be much higher in emerging countries. In our economic analysis we work from a base scenario that is complemented by a number of alternative scenarios where among other things we stress test our assumptions for growth and inflation, and integrate anticipated effects of climate risks in our forecasts.

– The anticipated return for the DNP is now around 2% per year on average, which is considerably lower than the historical average and also lower than the forecast from last year. The main reason for this is that interest rates fell from already low levels in 2019. Anticipated negative real returns for government bonds are putting downward pressure on the total portfolio's anticipated return.

Is this affecting the portfolio allocation?

– All asset classes have relatively high valuations, and the anticipated real return for government bonds is negative. AP4's long-term mission and the higher anticipated return for equities compared with government bonds continues to justify a substantial allocation to equities, even the high valuations in certain stock markets. At the same time, it is important to note that the high valuation of equities may entail a higher risk for

a correction compared with a neutrally valued market. Historically, fixed income assets offer some protection in a falling stock market, but from an historical perspective, owing to the extremely low interest rates we have today, it is questionable whether fixed income securities will fulfil the same role in the portfolio going forward. One focus area for the overall allocation is therefore to find other assets that can diversify the equity exposure and at the same time enhance AP4's return potential.

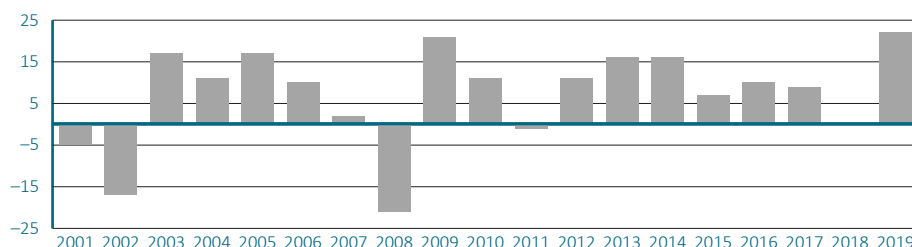
– Our ambition is to work long-term to increase the portion of real assets with stable cash flows, which in part offer better return potential and in part have the opportunity to diversify the portfolio's growth coupling. Owing to the low anticipated return on government bonds, we are also putting strong emphasis on our allocation within fixed income securities, both with respect to duration and creditworthiness.

What changes are being made in the portfolio?

– We have already made two changes to the Dynamic Normal Portfolio (DNP). The portion of fixed income assets in the DNP is being reduced by 4 percentage points, from 35% to 31% of the benchmark portfolio, and we are instead increasing the allocation to real assets such as real estate and infrastructure. The other change is that we are lowering interest rate sensitivity (the duration) in the portfolio from five to four years. This will lower the risk for a substantial negative return in the fixed income portfolio in the event of the anticipated normalisation of interest rates during the coming ten-year period.

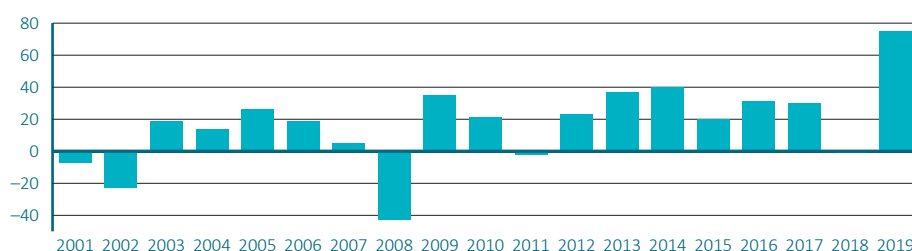
AP4's performance since the pension system's start in 2001

Annual return after costs (%)



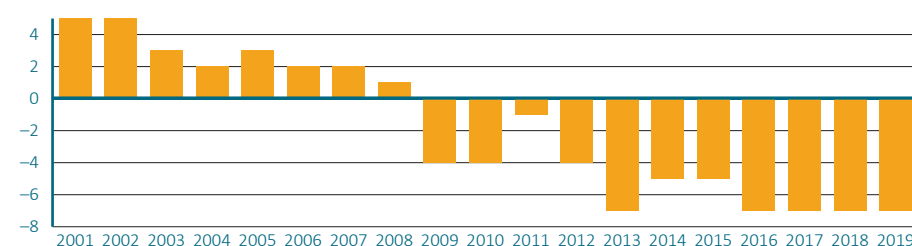
AP4's average annual return after costs has been 6.5% since 2001. The return has varied over time as a consequence of the significant equity exposure that AP4 considers to be necessary for achieving its long-term return target.

Annual net result (SEK billion)



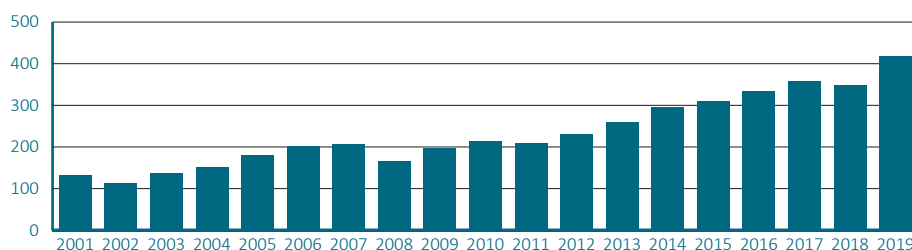
The strong net result in 2019 can be credited to the favourable returns in the equity and fixed income markets during the year combined with the fact that the opening portfolio value was considerably higher than what it was in previous years with strong returns, such as 2003, 2005 and 2009.

Yearly net flows to the pension system (SEK billion)



Since 2009 AP4 has paid out a combined sum of SEK 57 billion to the pension system. Since the pension system's start in 2001, net payments from AP4 to the pension system have totalled SEK 36 billion.

Closing fund capital (SEK billion)



AP4's closing portfolio value increased from SEK 134 billion at the start of the system in 2001 to SEK 418 billion at year-end 2019. This increase in the portfolio's value by SEK 284 billion has taken place at the same time that a net sum of SEK 36 billion has been paid out to the pension system.

Cost efficiency a prerequisite for sustainable returns

Cost efficiency is decisive for achieving the goal of generating the highest sustainable return over time. A cost focus is therefore an integrated approach that permeates AP4's operations. AP4 disclose its costs transparently in all reporting and communication.

International comparisons going back several years show that AP4 has a considerably lower level of costs than comparable international pension funds. AP4 has sufficiently large fund capital to be able to conduct very cost-efficient asset management, but not too large to be able to make attractive investments.

AP4's total management cost was 0.10% (0.10%) in 2019, measured as a percentage of average fund capital. The management cost consists of operating expenses and commission expenses. Operating expenses consist mainly of personnel costs, IT costs and cost of premises. Commission expenses consist mainly of fees paid to external asset managers and custodian fees.

AP4's operating expense ratio, which expresses operating expenses as a percentage of average fund capital, was 0.06% (0.06%). AP4's commission expense ratio was 0.04% (0.04%).

Cost-efficient in an international comparison

AP4 has high cost efficiency and low costs in an international comparison, which is confirmed in an independent survey conducted by CEM Benchmarking for 2018. In the survey, AP4's cost level was only 38% of the costs of a selection of internationally comparable funds. In view of the asset composition and portfolio's size, AP4's cost level is 53% of a corresponding international

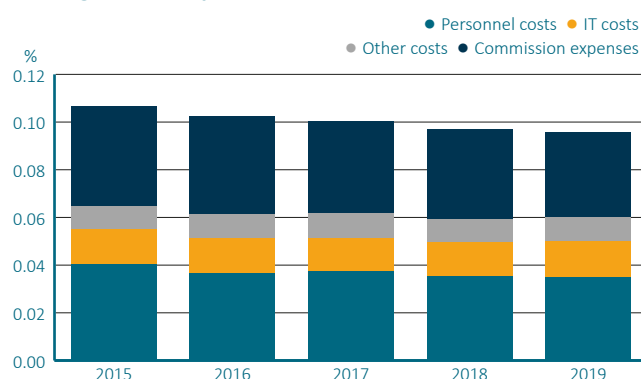
comparison group. The lower cost level is due to implementation style – mainly a lower share of active external management – and cost efficiency, i.e., AP4 has lower costs for corresponding services such as asset management fees.

Internal and external management

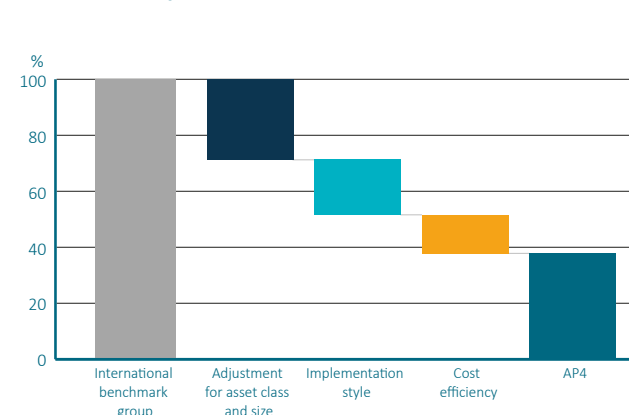
AP4 strives to manage assets internally when it is deemed to be cost-efficient, i.e., if AP4 can generate equal or higher returns for the same or lower cost than corresponding external management. One prerequisite for this is that AP4 has the right resources, expertise and experience. A larger share of internal asset management therefore entails slightly higher operating expenses. The relatively higher level of operating expenses is compensated by lower commission expenses for external asset management.

For external mandates, AP4 negotiates with the aim to pay the lowest fees possible for the selected asset management strategy for an estimated maximum risk-adjusted return. Costs are steered by the choice of asset classes and asset management strategy. The goal is to achieve a high risk-adjusted return after costs. The lowest absolute cost is therefore not always an accurate measure. A significant share of AP4's exposure to unlisted properties exists through its direct ownership in the companies Vasakronan and Rikshem. This is a long-term and cost-efficient investment form.

Management expense ratio (%)



AP4 cost comparison





Helene Lundkvist

CFO of AP4 and the Fund's representative on the Council of cooperation 2019.

The AP Funds' Council of cooperation (Samverkansråd) was established in autumn 2016 to give AP1–AP4 better conditions to collaborate in areas outside of the investment operations. During 2018 the Council was expanded to also include AP7.

Collaboration is conducted in the following areas:

Back office
HR
IT
Legal and compliance
Communication
Accounting
Risk and performance
System administration

What is the Council of cooperation's goal?

– According to the AP Funds Act, the overarching objective of the AP Funds is to manage the Fund assets in such a way as to create the greatest possible benefit for the income pension system. The AP Funds' principal, the government, has underscored the importance that the AP Funds work together to develop collaboration between the Funds in order to further improve management of the system's buffer capital. The aim of this collaboration is to increase cost efficiency for the Funds without affecting their independence and the diversification of their respective asset management models.

What is the Council of cooperation's role?

– The Council's overarching role is to ensure that the AP Funds collaborate in the best conceivable way. The Council has evolved over time and today works through eight collaboration groups over which the Council of cooperation is the unifying body. Each of the AP Funds appoints a member, and the Council's work is led by a chair, which is a responsibility that rotates between the AP Funds on a yearly basis. Among other things, the Council is responsible for maintaining a uniform structure so that all of its groups work according to a similar methodology and yearly plan. The Council is also responsible for reporting the groups' continuing work and results to relevant stakeholders.

How is the work conducted in the various groups?

– The work in the respective collaboration groups is well-defined with an overall focus on identifying

areas with clear potential for collaboration and cost efficiency. Over time we have seen that there is major value for the Funds to have a forum in which they can share knowledge and experiences, and benefit from discussing issues that affect all of them. Each of the collaboration groups formulates its own assignment description, and in a yearly plan each of the groups draws up an action plan for the coming financial year. The action plans are followed up twice a year, and the groups report on their projects to the Council of cooperation.

What transpired in 2019?

– In 2019 the Council put strong focus on further creating structure and joint guidelines for how the collaboration groups are to work. This was anchored in the various groups, and the next step is to fully implement the structure.

– We also conducted our annual Collaboration Day event, at which all of the Funds' business support staff gather. The theme for the 2019 Collaboration Day was how to get more out of our collaboration and how to highlight the results of the work conducted by the respective groups both internally and externally.

– During the year's Collaboration Day we also heard about collaboration projects conducted in 2019 by the IT, Accounting and System Administration groups. Other areas of collaboration during the year involved joint public tenders, joint training in matters surrounding operative due diligence for private equity funds, and the handling of Brexit-related issues. At least once a year the AP Funds' members on the Council of cooperation evaluate the work performed by the Council.

Changed investment rules provide greater flexibility to invest

On 1 January 2019, new investment rules for the AP Funds took effect which provide greater flexibility to allocate assets mainly to unlisted investments. In December 2019 a bill was submitted to Swedish Parliament regarding certain other changes in the investment rules.

The flexibility of the new rules entails that assets may be allocated in part through a reduction of the minimum requirement for investments in liquid fixed income assets with high credit ratings and an increase in the share of illiquid assets, from previously amounting to a maximum of 5% of the portfolio in unlisted investments excluding property companies, to a maximum of 40% in illiquid assets including property companies.

This improves the long-term opportunities for the AP Funds to achieve their mission. Step one entails a higher level of ambition in sustainability, as the requirement for exemplary management through responsible investments and responsible ownership has been codified into law.

In July 2019 the Ministry of Finance presented a proposal for a second step in the changes in the AP Funds' rules in a memo entitled "Certain additional changes in the investment rules for the First to the Fourth AP Funds". This was followed up with a

legislative review for consideration, which culminated in submission of the bill "Certain additional changes in the investment rules for the First to the Fourth AP Funds, prop 2019/20:57") to Parliament in December 2019.

The bill sets forth certain additional increased scope regarding the AP Funds' opportunity to make direct investments in unlisted assets. The bill proposes an increase in the maximum voting rights share in private equity companies from 30% to 35%, the opportunity for such private equity companies to also invest in illiquid credits, and the opportunity to make direct investments in unlisted companies aside from private equity funds that an AP Fund has already invested in. The changes are proposed to take effect on 1 May 2020 and will give the AP Funds better conditions to invest long-term and cost-efficiently in unlisted assets, which by extension will strengthen the pension system.

Step 1 took effect on 1 January 2019

- The required minimum portfolio allocation of fixed income securities with low credit and liquidity risk was reduced from 30% to 20%.
- Investments in illiquid assets may amount to a maximum of 40% of the portfolio. Previously, a maximum of 5% of the portfolio could be invested in unlisted assets. The new limit also encompasses unlisted real estate investments, in contrast to previously.
- The requirement that a minimum of 10% of the portfolio be externally managed has been eliminated.
- Management of pension assets shall be done in an exemplary way through responsible investments and responsible ownership. The goal of exemplary asset management shall be achieved without the AP Funds compromising on the overall goal of achieving a long-term high return.

Step 2 bill proposed to take effect on 1 May 2020

- The bill clarifies that co-investments in unlisted companies may be made through unlisted private equity companies, but that the AP Funds may not take on operational company management responsibility in such companies.
- An increase in the voting rights limitation in a private equity company from 30% to 35%.
- Ancillary investments in an unlisted company may be made together with a fund that an AP Fund has invested in.
- Allows investments in bonds and other fixed income assets that are not issued for general trading indirectly through investments in funds or private equity companies.



“Further developed strategy enables an increase in unlisted investments.”

Andreas Jensen

Senior Portfolio Manager,
Alternative Investments,
at AP4

The Alternative Investments unit is responsible for unlisted and illiquid investments such as unlisted property companies, private equity funds, real assets and illiquid credits. With the new investment rules that took effect on 1 January 2019, AP4's allocation to these types of investments can now increase.

How will alternative investments be developed?

– The Alternative Investments unit is responsible for AP4's unlisted and illiquid investments. These include, for example, unlisted property companies, private equity funds, real assets and illiquid credits. In 2019 we worked on developing the Fund's strategy and position in alternative investments. An example of the result of this work was the newly formed company Polhem Infra, which is jointly owned by AP1, AP3 and AP4. The company is to make long-term investments in Swedish and Nordic infrastructure with focus on collaboration and sustainability. For Polhem Infra, infrastructure is defined as businesses that provide societally beneficial services and assets, such as renewable power generation, energy storage, energy distribution and digital infrastructure.

Why is Polhem Infra needed?

– In Sweden, and in the other Nordic countries, there is a great need for both public and private sector infrastructure investments. At the same time that a lot of new infrastructure is needed to accommodate a growing population, the increase in urbanisation and transition to a sustainable society, substantial investments will be needed in existing infrastructure to manage society's demands for modernisation as well as quality and sustainability. With long-term ownership and focused sustainability work, Polhem Infra has conditions to be an attractive and unique actor in infrastructure, which will benefit both the pension system and society in general.

What did Polhem Infra achieve during the year?

– Polhem Infra made its first investment during the year, in Solör Bioenergi Holding AB. As a supplier of renewable district heating, Solör works in a sustainable and important part of the energy system at the same time that the transaction is in line with what Polhem Infra is searching for, i.e., stable investments in societally important assets that generate long-term cash flows. Polhem Infra's strategy is to make sizeable investments in infrastructure together with other long-term private or public sector partners – industrial or financial.

Why are these types of investments important?

– In today's low interest environment it is important to have alternatives to the portfolio's traditional investments. For example, real assets give the Fund extra inflation protection in that the revenues that are generated are often directly or indirectly linked to inflation through rental increases, long-term inflation-indexed contracts or regulations imposed by authorities. Certain real assets, such as infrastructure, also provide societally vital services. The need for these is essentially the same in both economic upswings and downswings, which naturally gives us as an investor a measure of stability that is desirable.

Infrastructure therefore complements our investments in equities, bonds and real estate through long-term stable cash flows.



Integrated sustainability work enables successful asset management

One prerequisite for long-term and successful asset management is to integrate sustainability in investments as well as in operations. The transparent sustainability reports that describe how AP4 is acting as a responsible owner in the companies and businesses that AP4 invests in serve as a natural guiding principle and part of this work.

AP4 has been reporting on various sustainability aspects in its asset management operations for many years, both in its annual reporting and in separate reports. Open and transparent reporting is important, since it contributes to greater awareness and thereby also to the public's trust in the AP Funds' work.

New legal rules for the AP Funds took effect on 1 January 2019. These stipulate that AP1–AP4 shall manage the fund assets in an exemplary way through responsible investments and responsible ownership, and that special emphasis shall be put on how sustainable development can be promoted without compromising on the overarching objective of achieving a long-term high return for the benefit of the income pension system. The law formalises this requirement among other things via collaboration on uniform reporting guidelines for showing how this objective has been achieved. AP4's sustainability reporting follows the structure in these jointly drafted guidelines and describes the work on integrating sustainability in asset management while taking into account the Annual Accounts Act, the GRI reporting standards, the Principles for Responsible Investments (PRI), carbon footprint reporting in accordance with the Task Force on Climate-related Financial Disclosures (TCFD), opportunities to contribute to the UN's Global Sustainable Development Goals, voting as a shareholder and the AP Funds' work in the Council on Ethics of the Swedish National Pension Funds (which is a collaboration started in 2007 between AP1, AP2, AP3 and AP4 to promote sustainability primarily in foreign equity investments).

Annual Accounts Act for major companies

Although the AP Funds are not subject to the Annual Accounts Act, AP4 nevertheless strives to ensure that its annual report including sustainability reporting meets the provisions of the Annual Accounts Act in applicable areas. AP4's Sustainability Report describes how sustainability is integrated in its asset management and operations in general, which includes integration

of sustainability in asset management, sustainability risks and their management, such as climate risks, the policy documents that govern sustainability, sustainability goals and reporting on their outcomes, and specific areas such as the environment, social conditions, employees, human rights and anti-corruption.

Stakeholder dialogues contribute to operations

AP4 reports in line with the international Global Reporting Initiative (GRI) standards. As a foundation for their GRI reporting, AP1–AP4 conduct continuous stakeholder dialogues.

In 2017 AP4, together with AP1–AP3, invited representatives from stakeholder groups such as the Funds' principal (representatives from the Ministry of Finance and the Pensions Group), beneficiaries, society (stakeholder organisations and labour market parties), other investors, vendors, employees and portfolio companies for a dialogue and materiality analysis. The AP Funds' goal was to identify the stakeholders' expectations and prioritised issues, solicit feedback on the AP Funds' current sustainability work and hear stakeholders' views on the continuing sustainability work.

The stakeholders felt that AP1–AP4's overarching objective is to generate a return on the buffer capital for current and future pensioners in Sweden. With respect to sustainability, the stakeholder groups shared the view that the AP Funds' actions surrounding investments and asset management are important and thereby also recognised the importance of integrating sustainability in asset management. Sustainability issues highlighted as being especially important and with the highest priority were:

- the environmental impact of the portfolio holdings
- the climate impact of the portfolio holdings
- human rights
- an ethical business approach, which was considered to be a basic precondition for operations



Other issues that were considered to be material included a sustainable supply chain, diversity and gender equality, and anti-corruption. AP4 and the Council on Ethics address all of the areas cited above in various ways in order to both reduce risk in the investments and to promote sustainable development. It is also important to address these issues based on the expectations placed on the AP Funds in order to limit any reputation risks.

AP4's GRI reporting is based on these material sustainability areas and is therefore conducted in accordance with the GRI Standards' relevant parts of GRI 102 General Disclosures, GRI 200 Ethics and Integrity, GRI Environment and GRI 400 Social Aspects. The GRI Index is presented on page 84 of this report. The GRI reporting has not been reviewed by a third party. AP1–AP4 intend to collaborate on an updated stakeholder dialogue and materiality analysis in 2020.

Support and reporting according to PRI

In 2007 AP4 signed the Principles for Responsible Investment (PRI), which have developed to become market practice among institutional investors, and AP4 reports its sustainability work in accordance with the PRIs. The PRI principles entail among other things that AP4 includes sustainability aspects in its investment process and policy documents, and openly reports on its sustainability work. This report is available from PRI's website. In addition, PRI is an organisation that coordinates and supports a large number of sustainability projects in which AP4 cooperates with other investors on sustainability issues and dialogues with portfolio companies.

Auditor's statement on the Fourth Swedish National Pension Fund's sustainability report

For the Fourth Swedish National Pension Fund, corporate identity number 802005-1952

Engagement and responsibility

It is the Board of Directors who is responsible for the sustainability report for the year 2019 and that it has been prepared in accordance with the Fourth Swedish National Pension Fund's principles for sustainability reporting, which correspond to those set forth in the Annual Accounts Act.

The scope of the audit

Our examination has been conducted in accordance with FAR's auditing standard RevR 12 The auditor's opinion regarding the statutory sustainability report. This means that our examination of the sustainability report is substantially different and less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinion.

Opinion

A sustainability report has been prepared.

Stockholm, 20 February 2020

Helena Kaiser de Carolis
Authorised Public Accountant

Peter Nilsson
Authorised Public Accountant

AP4 integrates sustainability in asset management

AP4's investment operations are conducted on the basis of the distinguishing features and so-called investment beliefs that serve as guiding principles for successful asset management.

Sustainability is a so-called investment belief for AP4. The pension system's needs and the investment rules that govern the AP Funds create unique opportunities to act long-term in the asset management.

By integrating sustainability aspects in asset management, sustainability risks can be reduced and sustainability opportunities can be taken advantage of. This enables a better risk-adjusted return over time. Acting as a responsible investor is also important for upholding the public's trust. Active corporate governance is an effective tool for securing shareholder value over time. No company can remain successful over time and give its shareholders a stable, favourable return unless sustainability aspects are prioritised by its board and management.

New legislation entails higher level of ambition

Ahead of 2019, new sustainability goals were added to the AP Funds Act, which stipulate that asset management shall be conducted in an exemplary way through responsible investments and responsible ownership. In the asset management activities, particular importance shall be attached to how sustainability development can be promoted without compromising on the overarching objective to generate a long-term high return. AP4 welcomes this higher level of ambition regarding sustainability and believes that an integrated sustainability perspective in investments is a precondition for successful and long-term asset management. The AP Funds Act stipulates that AP1–AP4 shall collaborate in adopting:

- common core values for managing funds
- common guidelines for reporting on how the objective has been achieved
- common guidelines on which assets funds should not be invested in

These documents are available on the respective AP Funds' websites.

Two focus areas

AP4 works with two focus areas in its sustainability work – Climate & Environment and Corporate Governance. These are in line with the Fund's mission, framework and core values. They have been chosen because they have significant financial impact on AP4's

investments and affect its opportunities to generate favourable returns over time. They are also relevant and possible to implement in the portfolio.

Climate & Environment entails a deeper integration of sustainability in asset management through numerous methods that employ broad strategies with positive and negative screening of equities and focused thematic investments. AP4 proactively searches for investment opportunities in Climate & Environment to be able to make dedicated investments in the area.

AP4's other focus area is Corporate Governance. Being an active, responsible owner in its asset management is an express part of AP4's strategy to enhance returns over time. The goal is that companies shall be run sustainably, responsibly and as efficiently as possible in order to be successful and deliver long-term returns.

Sustainability policy and ownership policy govern the work

Every year AP4's board of directors adopts a sustainability policy and an ownership policy.

The sustainability policy lays out overarching guidelines for administration of the organisation's work on integrating sustainability aspects in the investment operations. The sustainability policy describes AP4's views on sustainability and sustainable development, the preconditions for sustainability work, criteria for choice of focus areas and a description of the prioritised focus area Climate & Environment.

The ownership policy lays out overarching guidelines and strategies for the asset management organisation's work with corporate governance in the investment operations with the aim of contributing to the goal of responsible ownership and create opportunities for long-term high returns. The ownership policy's starting premise is to work toward the best interests both of shareholders and the individual companies, to take into account the individual companies' unique conditions and needs, and to contribute to maximising AP4's long-term returns. AP4 shall exercise the rights and obligations of its ownership role in a responsible and long-term manner, and promote the development of generally accepted practice in the securities market. Both policy documents are available on AP4's website.

Convention-based decisions to not invest in certain types of assets

A first joint step in integrating sustainability in portfolio management consists of the values-based decisions on which assets AP4 chooses not to invest in. In this assessment AP4 makes an interpretation of the AP Funds Act's requirement for exemplary management and the Swedish state's core values concretised through the international conventions that Sweden has ratified and the international agreements that Sweden has backed. These therefore make up the foundation determining which assets investments are not to be made in. International conventions are in most cases written to govern how states are to act and are not intended to directly regulate a company's operations. This gives rise to room for interpretation when it comes to a company's violations of conventions.

Decisions to not invest in a particular company may also be made after a recommendation from the Council on Ethics of the AP Funds based on confirmed company-specific violations of international conventions. Through the Council on Ethics,

the AP Funds work jointly and in dialogue with companies in the aim of bringing about a long-term improvement in how operations are conducted. If such a dialogue is not believed to be effective, the Council on Ethics can recommend that the AP Funds not invest in the company.

Following an internal assessment or recommendation by the Council on Ethics, AP4's CEO decides which assets AP4 may not invest in. For directly owned holdings, AP4 has complete opportunities to influence the portfolio. Instructions are then issued to the responsible fund managers to not own these assets in the portfolio. This applies to equities as well as fixed income instruments. In cases where AP4 is invested in actively managed securities funds or derivatives, AP4 conducts a structured evaluation of the fund manager's process for sustainability, obtains an assurance from the fund manager that these assets are held only in exceptional cases, notifies that holdings of excluded companies may constitute grounds for ending the management assignment, and continuously follows up underlying holdings.



AP4 does not invest in:



Nuclear weapons

Nuclear weapons are weapons of mass destruction, and their use would bear a heavy toll on civilians. Corresponding biological and chemical weapons are therefore addressed and banned by UN conventions. Nuclear weapons are covered by the Non-Proliferation Treaty, which permits five states to have nuclear weapons. However, under the treaty these states have committed themselves to reducing and, over the long term, eliminating their own nuclear weapons. Currently, modernisations and upgrades are being made to nuclear weapons programmes. AP4 is of the opinion that these modernisations and upgrades go against the spirit of the Non-Proliferation Treaty. AP4 therefore decided in 2018 to not invest in companies involved in this area.



Tobacco and cannabis

In 2016 AP4 decided to not invest in tobacco companies, based on the determination that increased regulations would negatively impact tobacco companies' future stock market valuations. In addition, AP4 believes that an exemplary interpretation of the WHO Framework Convention on Tobacco Control, which seeks to steadily and sharply reduce tobacco consumption, supports AP4's decision to not have ownership in tobacco companies. The Council on Ethics of the AP Funds has recommended that the AP Funds exclude companies active in cannabis as a recreational drug or for religious purposes based on the UN's conventions on narcotic preparations. Companies that produce cannabis for medical or scientific purposes are not covered by the exclusion. This decision was made in 2018.



Thermal coal and oil sand

AP4 does not invest in companies for which thermal coal or oil sand account for more than 20% of sales. Thermal coal and oil sand are fossil energy sources with high CO₂ intensity per energy unit, and AP4 believes that these must be phased out in a global transition to a low-fossil society in line with the UN's Climate Convention and the Paris Agreement. AP4 therefore divested its holdings in these companies in 2018. In addition, AP4 applies low-carbon strategies for global equities, entailing the AP4 is reducing its exposure to the companies in each sector that have high CO₂ intensity or fossil fuel reserves.



Cluster munitions and mines

The Mine Ban Treaty and the Convention on Cluster Munitions stipulate that states that have signed and ratified these treaties shall cease to produce, conduct trade in and use anti-personnel mines and cluster bombs. The Council on Ethics of the AP Funds has recommended that the four AP Funds divest companies that manufacture anti-personnel mines or cluster bombs, and AP4 therefore has not had ownership in any such companies since 2008.



Company-specific exclusions

AP4 has been collaborating with AP1–AP3 through the Council on Ethics of the AP Funds since 2007. In the event of confirmed violations of international conventions, the Council on Ethics may choose to engage individual companies in a dialogue to bring about a change. If such a dialogue proves to be unfruitful, the Council on Ethics recommends that the AP Funds exclude such companies from their investment portfolios. AP4 has chosen to exclude companies based on recommendations from the Council on Ethics due to violations of conventions on health and safety, negative environmental impact, labour law, corruption and operations in occupied areas.



Integration of sustainability in the investment processes

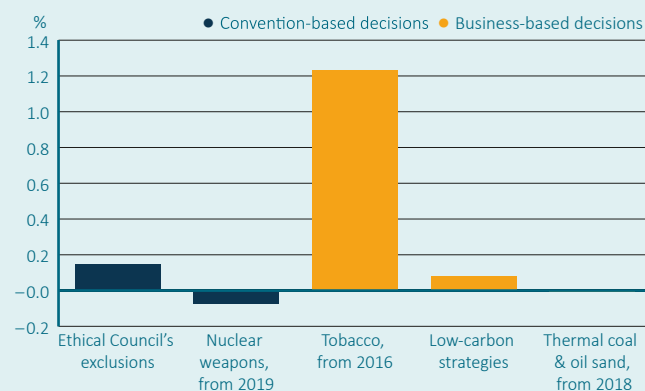
AP4 integrates sustainability in the investment processes based on the specific conditions that apply for the respective asset classes and how management of these asset classes is conducted. The conditions for integration of sustainability vary, depending on whether AP4 owns stocks or fixed income instruments, whether the investments are made in Sweden or globally, whether the asset management is conducted internally or by external asset managers, and whether the investments are in listed or unlisted assets. Read more on page 25.

Return impact of sustainability decisions

AP4 follows up the return impact of sustainability decisions in the portfolio. This follow-up illustrates how the companies that AP4 has decided to not invest in have performed in relation to a broad index. The analysis pertains to the five-year period 2015–2019 or from the start of the sustainability decision in cases where it pertains to a shorter period of time than five years. A positive return contribution in the chart shows that the effect of excluding certain companies has made a positive contribution to the portfolio’s return compared with a broad index and vice versa. Certain of these sustainability decisions are based on AP4’s interpretation of the Swedish state’s values foundation and the conventions that Sweden has ratified, and are therefore not business decisions inasmuch as they are expected to contribute to a higher return. Such decisions refer to the Council on Ethics’ exclusions of cluster

munitions, mines, cannabis companies and company-specific exclusions owing to violations of international conventions and AP4’s decision to not have ownership in companies involved in nuclear weapons. Other decisions, such as to not have ownership in tobacco companies or companies with substantial operations in thermal coal or oil sand, are made on business grounds and are expected to make a positive return contribution to AP4’s portfolio over the long term. With respect to the decision to not invest in tobacco companies, an exemplary interpretation of the Framework Convention on Tobacco Control also lends convention-based support for not investing in such companies.

Return contribution of sustainability decisions 2015–2019, %



Global equities

Integration of sustainability in asset management

- AP4 does not invest in companies on AP4's exclusion list.
- Starting point in fundamental analysis aimed at identifying global, thematic events and sustainability shifts. In combination with company-specific data, investment strategies are created that are in line with the thematic analysis. Examples of these strategies are reduced exposure to companies active in the coal and oil sand sectors, and companies with high greenhouse gas emissions intensity (so-called low carbon strategies). This work is in line with the Paris Agreement.
- Take responsibility as owner by voting at general shareholder meetings globally in accordance with AP4's ownership policy and set goals for ownership work. During 2019 AP4 voted at 1,024 general meetings.

Development meetings in 2019

- Increased low-carbon strategies' impact on the portfolio, which reduced CO₂ intensity by 28% in 2019, to where it is now 48% lower than for a broad global equity index.
- During 2019 AP4 further developed its low-carbon strategies for global equities. In addition to the portfolio companies' own direct CO₂ emissions, the strategies now also take into account direct emissions from the companies' subcontractors. By also taking into account subcontractors' CO₂ emissions, the analysis of climate risk in the value chain has been broadened. This is expected to lead to better company selection in the low-carbon strategies.
- Based on the thematic analysis, AP4 developed broader equity strategies with focus on resource efficiency related to water use and waste. Based on the thematic analysis, developed and implemented an equity strategy in line with the transition from internal combustion engines to electric vehicles.
- Integrated sustainability criteria and reduced exposure to CO₂ emissions in external equity mandates in emerging markets.

Swedish equities

Integration of sustainability in asset management

- AP4 does not invest in companies on AP4's exclusion list.
- Assesses trends driven by e.g., sustainability shift, the UN's Global Sustainable Development Goals and climate risks as part of company analysis prior to investment.
- As a natural part of a company analysis, including on-site visits to companies, sustainability issues are included to gain a broad understanding of the companies and their long-term sustainability work.
- Acting as engaged and responsible owner through participation on nomination committees of 39 companies and participation at 87 general shareholder meetings in 2019.

Development activities in 2019

- AP4 is engaged through continuous contacts with companies for the purpose of developing long-term sustainability work, i.e., corporate governance, environment and climate. An example is dialogues with companies to formulate new goals for sustainability after a major acquisition.
- Analysed portfolio companies in which AP4 participated in an IPO with respect to gender balance on the board of directors ahead of the Code's goals for 2020, read more on page 37.

Fixed income & currencies

Integration of sustainability in asset management

- AP4 does not invest in companies on AP4's exclusion list.
- Assesses sustainability trends such as the energy shift, resource efficiency and renewable energy ahead of investment decisions.
- No investments in company with significant operations in fossil fuel production (oil, coal or gas).
- Investments in green bonds.

Development activities in 2019

- Cooperation with the Strategic Allocation & Quantitative Analysis unit to use quantitative sustainability data on climate and the environment for bond selection.

Unlisted investments

Integration of sustainability in asset management

- Evaluates and puts demands on external asset managers' sustainability work prior to any investments as an integrated part of the investment decision and during the time as owner of an investment.
- Areas that are evaluated include integration of the sustainability shift in the investment strategy, integration of sustainability aspects in the evaluation of new investments and in the active ownership work, and sustainability in own operations.
- Searches for thematic investment opportunities that can contribute to and benefit from the sustainability shift to a low-fossil society in line with the Paris Agreement.

Development activities in 2019

- Further developed the process for assessment of asset managers prior to investment decisions, which also encompasses sustainability issues. The process is also intended to provide support for follow-up of investments' sustainability performance.
- Carried out two investments with focus on sustainable infrastructure:
 - 1) Commitment to a fund that invests in sustainable infrastructure in Africa
 - 2) Establishment of Polhem Infra (together with AP1 and AP3), which focuses on sustainable infrastructure investments



Focus area: Climate & Environment

Climate & Environment is a focus area for AP4's asset management. For a long-term investor such as AP4, climate change is one of the largest systemic risks. Reducing climate impact is a prerequisite for stable economic development and thereby for our opportunities to perform our mission over time.

AP4 works actively on reducing climate risk in the portfolio. This is done by making sustainability investments that contribute to and benefit from the ongoing climate transition, by engaging our portfolio companies in an active dialogue to promote transparent reporting, and by setting goals in line with the Paris Agreement.

AP4 believes that transparent reporting of climate-related risks and opportunities contributes to a faster transition to a low fossil fuel society. AP4 therefore supports climate reporting in accordance with the Task Force on Climate-related Financial Disclosures (TCFD), both for investors and for its portfolio companies. AP4 has reported in accordance with the TCFD since the framework was established in 2017.

Climate report according to the TCFD

AP4's climate reporting adheres to the TCFD's structure for reporting in the framework's four areas: Governance, Strategy, Risk Management, and Metrics and Targets.

Against the background of the Paris Agreement in 2015, through the Financial Stability Board (FSB) the G20's finance ministers and central bank heads formed a committee, the Task Force on Climate-related Disclosures (TCFD), tasked with coming up with recommendations for reporting of climate-related risks and opportunities. The TCFD's recommendations are non-compulsory and can be used by all types of organisations. The recommendations have quickly gained widespread acceptance and are expected to be the standard for climate reporting.



The TCFD's recommendations revolve around four thematic areas that describe how an organisation and its operations work: Governance, Strategy, Risk Management, and Metrics and Targets. Climate-related risks and opportunities are reported in accordance with the TCFD's recommendations in tables A1 and A2 on pages 87–89.

- **Governance** – The organisation's (board and management) governance of climate-related risks and opportunities
- **Strategy** – How the organisation's operations, strategy and financial planning manage the actual and potential impact of climate-related risks and opportunities
- **Risk management** – The processes that the organisation applies to identify, measure and manage climate-related risks
- **Metrics and targets** – The metrics and targets that are used to assess and manage relevant climate-related risks and opportunities

Governance

AP4's work with climate and environment emanates from its statutory mission

AP4's operations are governed by the AP Funds Act, which prescribes that asset management shall be conducted in an exemplary way through responsible investments and responsible ownership, and that particular emphasis shall be given to how sustainable development can be promoted without compromising on the overarching risk and return targets. The AP Funds Act also prescribes that AP4's overarching mission is to manage the fund assets in such a way that they will provide the greatest possible benefit for the income pension system, that is, generate the highest possible long-term return for the benefit of current and future pensioners.

This assignment makes AP4 a very long-term investor, with an investment horizon of up to 40 years. With such a time perspective it is essential as a responsible investor to take into consideration risks and opportunities related to sustainability, such as the environment, biodiversity, social aspects, human rights and corruption. Climate change is considered to represent a major systemic risk.

The Board governs and monitors climate-related risks and opportunities

Through a number of governance documents the Board of Directors lays out AP4's work with sustainability, which encompasses climate-related risks and opportunities. These governance documents are followed up yearly and are revised as necessary. In its Sustainability Policy the Board has determined that Climate & Environment and Corporate Governance are priority sustainability areas in the asset management. These are considered to be essential for AP4's opportunities to safeguard and develop the fund capital and are areas in which AP4 can contribute to sustainable development. The Board has also adopted an investment philosophy that stipulates that sustainability, over time, contributes to better management of risks and opportunities, and thereby to the return. Each year the Board adopts AP4's long-term strategy and yearly plan. These documents lay out the goals, activities and follow-up parameters for AP4's operations, which include sustainability in asset management.

The Board has assigned the CEO with the task of continuously assessing and addressing climate-related issues in the asset management. The CEO reports regularly to the Board on the implementation of sustainability in asset management as well as on the development of strategies, activity plans and goals.

Climate-related matters related to asset management strategies and investments are prioritised by AP4's board and are addressed in principle at every board meeting. During 2019 the Board, in addition to making decisions on and following up AP4's governance documents and strategy, addressed matters related to AP4's sustainability work, sustainability trends and the climate scenario analysis. The Board was also presented with climate scientists' insights into CO₂ pricing.

Management is responsible for managing climate-related risks and opportunities

The CEO, the heads of the respective asset management units and the Head of Strategy & Sustainability are responsible for ensuring that sustainability is integrated in AP4's investment processes.

Asset management is organised into five units: Fundamental Equities, Global Macro, Fixed Income & FX, Alternative Investments, and Strategic Allocation & Quantitative Analysis.

“Climate-related matters related to asset management strategies and investments are prioritised by AP4's board and are addressed in principle at every board meeting.”

The CEO has delegated each of the asset management heads with the task of yearly, in accordance with AP4's strategy and yearly plan, to report on their respective development activities for how sustainability is integrated in AP4's investment processes as well as their responsibility for these activities.

The Fund's action plans are followed up every four months by the executive management team. The Strategy & Sustainability unit, which is directly subordinate to the CEO, has overarching coordination and business support responsibility vis-à-vis the asset management units regarding strategic and sustainability matters. Strategy & Sustainability is also responsible for AP4's coordination of sustainability cooperation and initiatives with other investors – in Sweden and internationally.

Strategy

Identified climate risks in the short-, medium- and long-terms

In the transition to a low fossil fuel society, AP4 believes among other things that greenhouse gas (GHG) emissions may lead to higher costs for companies. Companies with large GHG emissions and companies with fossil fuel reserves will be negatively affected and will be valued and priced differently than they are today. Climate risks therefore lend themselves to being included in financial investment assessments with long-term investment horizons.

AP4's asset management structure takes advantage of the opportunity to invest over several time horizons. The longest time perspective of up to 40 years focuses on the best combination of anticipated return and risk based on the pension system's needs. In this perspective, AP4 believes that transition risks as well as physical risks arising out of climate change can play a significant role.

In the medium-term perspective of 10 years, consideration is given to the prevailing economic situation and anticipated market dynamics. In this perspective, AP4 assesses the market outlook over the medium term, and this analysis includes an economic scenario analysis, which is complemented by a consideration of how climate scenarios may affect the economic scenarios. AP4 believes that transition risks have the greatest impact on the portfolio in this perspective. Work with the climate scenario analysis is reported on page 30.

“AP4 has gradually increased its share of investments according to low-carbon strategies over time. AP4 has also divested assets in fossil-based energy sources with high CO₂ intensity, such as thermal coal and oil sand.”

In the short-term perspective of approximately five years, decisions are made on individual investments. Here AP4 focuses on individual investments, and in this perspective AP4 believes above all that it is the market's expectations and pricing of financial assets and transition risks that have the greatest impact on the portfolio's anticipated return and risk. From this perspective AP4 focuses on specific investments that help reduce the portfolio's climate risk and also searches for thematic investments that can contribute to and at the same time benefit from the

ongoing transition. The asset management structure's three time perspectives enable easier identification of climate risks for AP4's portfolio.

Effect of climate risks on AP4's strategy and planning

AP4 addresses the climate issue in the strategic planning that stretches over a number of years and in the drafting of the yearly plan with development activities. These activities are followed up every four months by management and are presented to the Board in summary half-yearly.

AP4's fundamental principles for implementation of sustainability in the portfolio are:

- 1 Measure and report climate risks, cooperate with other investors and organisations, and engage the portfolio companies in a dialogue in an effort to influence other investors and portfolio companies to reduce their carbon emissions in line with the Paris Agreement.
- 2 Integrate climate risk analysis in all investment processes to ensure well-considered and controlled risk management in an effort to achieve a high return.
- 3 Invest in reducing climate risk in AP4's portfolio. Since 2012 a global platform is used for investments in low-carbon strategies. These investments reduce climate risk in AP4's assets by reducing exposure to companies with the relatively largest CO₂ emissions and fossil fuel reserves. This is done under controlled risk-taking with a maintained expected return relative to benchmark indexes. AP4 has gradually increased its share of investments according to low-carbon strategies over time. AP4 has also divested assets in fossil-based energy sources with high CO₂ intensity, such as thermal coal and oil sand. These investment decisions are judged to reduce climate risk in the portfolio. During 2019 AP4 further developed its low-carbon strategies for global equities. In addition to the portfolio companies' own direct CO₂ emissions, the strategies now also take into account direct emissions by the companies' subcontractors. By also taking into account subcontractors' CO₂ emissions, the analysis of climate risk in the value chain is broadened. This is expected to lead to better company selection in the low-carbon strategies.
- 4 Dedicated allocation to investments that benefit from or play a leading role in the ongoing climate transition. AP4 evaluates and carries out thematic, proactive investments in specific sustainability areas. Examples of such investments are green bonds and alternative investment funds with a pronounced sustainability focus, and directly owned companies with a distinct sustainability focus integrated in their business strategies.



Assessment of sustainable portfolio strategy based on climate scenario analysis

Decisions to not own certain fossil fuel-based companies and to reduce climate risk in the portfolio by investing according to low-carbon strategies together contribute to a lower carbon footprint for the portfolio. This reduces exposure to both short-term market risks and transition risks. AP4 identifies and invests in dedicated sustainability investments that can contribute to and benefit from the ongoing climate transition. Over time these can constitute significant opportunities in the portfolio.

Climate scenario analysis

AP4 conducted a climate scenario analysis in 2018, and summarised results of the analysis were presented in the 2018 Annual Report. Work with the climate scenario analysis was further developed in 2019, and the analysis was integrated in the medium-term scenarios for the economic macro analysis, which is then used as a basis for decisions on overarching portfolio allocation, among other things.

The starting premise for AP4's climate scenario analysis is achievement of the Paris Agreement's goals, which entails a comparatively rapid and proactive climate transition. This transition can take place in several different ways. AP4's overarching scenario analysis evaluates the transition's potential impact on supply and demand, and by extension, also on anticipated growth and inflation.

In the base scenario, the climate transition is expected to accelerate over the coming ten years through a gradual sharpening of climate policies. In part this will entail more and stricter climate laws and in part a higher and more widespread CO₂ price along with new technology that promotes the transition.

In the alternative scenarios, a faster and slower climate transition is modelled as well as the degree of political and technological drivers. An important conclusion is that a slower initial transition should not be interpreted to mean that it will not take place, but rather that it will be more intense once it takes place.

Fossil assets and the value chains that deliver into fossil energy production will be affected first and foremost. The transition will also entail extensive shifts in value within all sectors that are large energy consumers through production processes, in transportation, steel and metal production, agriculture and food, and construction and real estate. AP4 believes that the climate transition on the whole constitutes an asymmetric force that will have a varying impact between and within various sectors. Some existing companies within a given sector will be negatively affected while others may be part of the solution at the same time that new companies and technologies will take market shares. AP4 is therefore working actively with a combination of quantitative and fundamental analyses at the portfolio and sector levels to identify potential winners and losers.

AP4's conclusion is that the risks of being late in the transition are assumed to outweigh the risks of being too early. The upside for resource-intensive assets is limited by the emergence of climate-friendlier alternatives – which are gradually winning support through technology, policies and reputation – at the same time that the risk in these investments is great, as assets could become stranded due to regulatory and technical risks combined with market and reputation risks. Short-term market movements, such as changes in oil prices, can hit in both directions, but over time the market is expected to move in this direction given the strong focus on sustainability.

Risk management

Processes for identifying, assessing and managing climate risks

AP4 strongly regards climate risks to be financial risks and believes they should be taken into account and assessed in the same way as other financial risks.

AP4 has a process for structured analysis of sustainability trends, how these may affect AP4's portfolio, and how AP4 can make investments to manage these risks and opportunities. The process is built upon a structured evaluation of investment ideas by documenting a distinct investment thesis, testing this thesis, and making a determination of whether it is possible to invest in accordance with the thesis.

A step in this work is the climate scenario analysis, which assesses possible effects on macroeconomic development. Work with the climate scenario analysis was further developed in 2019, and the analysis was integrated in the medium-term scenarios for the economic macro analysis, which is then used as a basis for decisions on overarching portfolio allocation. This work provides great knowledge and support for AP4's work on measuring climate risks in the portfolio. This knowledge is used in dialogues with portfolio companies and other owners as well as to reduce risks in the portfolio and invest in proactive sustainability themes that can contribute to and also benefit from a sustainability transition.

Based on the climate scenario analysis, AP4 has identified a number of themes that are essential for the climate transition. These are considered to be investable and have impact on the portfolio today. Among these themes are the energy shift including mobility, resource efficiency and renewable energy.

Owner dialogue with portfolio companies

It is important to be an active and responsible owner that influences companies to practice greater awareness and transparency regarding climate-related risks.

Active corporate governance is an effective tool for creating and safeguarding shareholder value over time with respect to sustainability aspects. No company can remain successful over time and give its owners a stable return without sustainability aspects being prioritised by its board and management. The work on transitioning to a low fossil fuel society therefore has high priority in the advocacy work conducted by an owner. This work involves the exercise of voting rights, owner-influence

dialogues, support of investor initiatives, and cooperation with other investors and organisations to be able to drive matters with greater impetus and support organisations and projects that promote sustainability, such as Climate Action 100+ and Transition Pathway Initiative. AP4 advocates for and expects companies to transparently report on material sustainability aspects that can affect analyses and decisions of investors and other stakeholders. AP4 supports the development of standardised and integrated

“No company can remain successful over time and give its shareholders a stable, favourable return unless sustainability aspects are given priority by its board and management.”

reporting of information about a company's economic position and financial risks including sustainability, and therefore advocates that companies report in accordance with the TCFD. In recent years AP4 – together with other investors – has submitted shareholder proposals and voted in favour of other shareholders' proposals at annual meetings calling for greater transparency in climate reporting and that influence the operations of companies involved in fossil energy. As a responsible owner AP4 exercises its voting rights to influence companies to adopt greater sustainability practices. During 2019 AP4 exercised its voting rights at the annual meetings of 1,025 companies from 19 countries. Of these, 41 out of a total of 368 shareholder proposals were related to the climate or renewable energy.

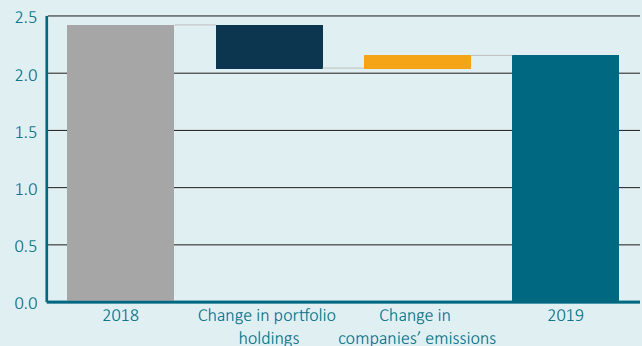
Measures for the Climate & Environment focus area

Metrics for assessing climate risk

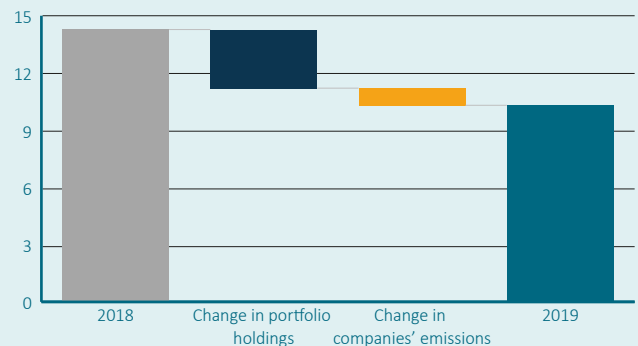
AP4 measures the portfolio's carbon footprint and has been publishing information about it in its annual reports since 2014. Together with other AP Funds, AP4 has standardised how the AP Funds conduct their carbon footprint reporting by introducing three joint metrics in 2015 that describe the carbon footprint of its investments. In 2017 the AP Funds' carbon footprint reporting was complemented with the TCFD's metrics for CO₂ intensity. In 2019 the AP Funds further developed their reporting to also include an account of changes over time. These measures are aimed to report changes in a portfolio's carbon footprint owing in part to the changes that the AP Fund makes in the portfolio and in part to the work conducted by the underlying portfolio companies to reduce their emissions.

AP4's total CO₂ emissions in the listed equity portfolio decreased by 11% in 2019. Of this decrease, 16 percentage points are attributable to changes made by AP4 in its holdings during the year, while higher emissions by portfolio companies contributed 5 percentage points. The portfolio-weighted CO₂ intensity (TCFD) decreased by nearly 28% in 2019, of which AP4's portfolio changes contributed 21 percentage points to the decrease and the companies 6 percentage points. That the companies' CO₂ intensity decreased at the same time that their total CO₂ emissions increased during the year is due to the fact that their sales increased more than their emissions.

Total carbon dioxide emissions (tCO₂e)



Portfolio-weighted carbon dioxide intensity (TCFD) (tCO₂e/SEKm)



Carbon footprint of the listed equity portfolio

METRICS	2019	2018	2017	2016	2015	2014	2013
Total carbon emissions (millions tCO ₂ e) ¹	2.16	2.42	2.35	2.60	2.45	2.80	3.28
Change in portfolio's total carbon emissions compared with preceding year (%)	-11%						
Of which, due to portfolio change (%-pts)	-16%						
Of which, due to companies' changed emissions (%-pts)	5%						
Relative carbon emissions (tCO ₂ e/SEKm) ²	8.8	13.3	11.5	14.5	14.0	16.2	23.1
Carbon intensity (tCO ₂ e/SEKm) ³	13.5	15.9	13.5	17.6	22.2		
Portfolio-weighted average carbon intensity (TCFD) (tCO ₂ e/SEKm) ⁴	10.3	14.3	15.3				
Change in portfolio's weighted average carbon intensity (TCFD) compared with preceding year (%)	-28%						
Of which, due to portfolio change (%-pts)	-21%						
Of which, due to companies' changed emissions (%-pts)	-6%						
Identified market value as share of total fund capital (%)	59%	50%	56%	56%	56%		
Identified market value as share of total equities (%)	100%	95%	97%	96%	100%		
Share of market value for which reported emissions data is available (%) ⁵	60%						

Carbon footprint of the unlisted real estate portfolio

METRICS	2019
Total carbon emissions (millions tCO ₂ e) ¹	0.032
Relative carbon emissions (tCO ₂ e/SEKm) ²	0.83
Carbon intensity (tCO ₂ e/SEKm) ³	4.6
Portfolio-weighted average carbon intensity (TCFD) (tCO ₂ e/SEKm) ⁴	5.6
Identified market value as share of total fund capital (%)	9%
Identified market value as share of unlisted properties (%)	100%
Share of market value for which reported emissions data is available (%) ⁵	91%

Carbon footprint of unlisted property companies

Starting in 2019 AP4 also reports the carbon footprint of the unlisted real estate portfolio, in addition to the footprint of the listed equity portfolio. The carbon footprint for AP4's holdings in unlisted property companies is generally low. However, it varies considerably from company to company depending on their various conditions, such as the type of property and their geographic location. AP4 will use the information collected in this mapping to, in dialogue with the respective property companies, look into measures to achieve a continued reduction in the carbon footprint in the coming years.

¹ Sum of owned portion of portfolio companies' respective CO₂ emissions.

² Sum of owned portion of portfolio companies' respective CO₂ emissions in relation to the portfolio's market value.

³ Sum of owned portion of portfolio companies' respective CO₂ emissions in relation to the sum of owned portion of the portfolio companies' sales (harmonic mean).

⁴ This measure sums the portfolio companies' respective CO₂ intensity, i.e., a company's CO₂ emissions in relation to its sales, weighted based on the respective companies' share of the portfolio (arithmetic mean).

⁵ For the remainder of the portfolio, emissions data is estimated.

Goals for the Climate & Environment focus area

Integrating climate and environmental aspects in the asset management has high priority. AP4 has the following goals for this work.

1 Contribute to the climate transition to a sustainable society

AP4 supports the Paris Agreement and the more ambitious Swedish environmental objective to reach net GHG emissions of near zero by 2045. AP4's portfolio and investments are to support these goals.

Since AP4 began measuring CO₂ emissions for the listed equity portfolio in 2013, the portfolio's CO₂ emissions have decreased by 34%. Carbon dioxide intensity (CO₂ emissions in relation to the portfolio companies' sales) has decreased by 39% since measurements began in 2015. AP4's carbon dioxide intensity is today approximately 48% lower than for a broad global equity index.

2 Make investments that reduce climate risk in the portfolio

The share of investments that reduce climate risk in the portfolio increased during the year to 35% (32%) of AP4's global equity investments. This was achieved by AP4's application of low-carbon strategies in the equity portfolio, whereby AP4, for each sector, reduces exposure to companies with high CO₂ emissions or fossil fuel reserves. AP4 does not own shares in companies with significant operations in thermal coal or oil sand. This reduces exposure to CO₂ emissions and thereby reduces the portfolio's risk profile. In addition, AP4's substantial allocation to Swedish equities contributes to lower CO₂ exposure.

This is partly countered by AP4's significant exposure to equities in emerging markets, which generally have higher carbon dioxide intensity than for those in developed markets. However, AP4's equity index exposure to emerging markets uses quality and sustainability factors in the share selection, and also reduces the carbon footprint of the portfolio compared with the index.

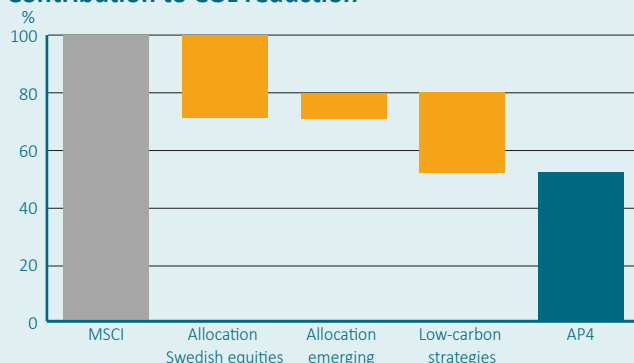
During 2019 AP4 further developed its low-carbon strategies for global equities. In addition to the portfolio companies' own direct CO₂ emissions, the strategies now also take into account direct emissions from the companies' subcontractors. By also taking into account subcontractors' CO₂ emissions, the analysis of climate risk in the value chain has been broadened. This is expected to lead to better company selection in the low-carbon strategies.

“By also taking into account subcontractors' CO₂ emissions, the analysis of climate risk in the value chain has been broadened. This is expected to lead to better company selection in the low-carbon strategies.”

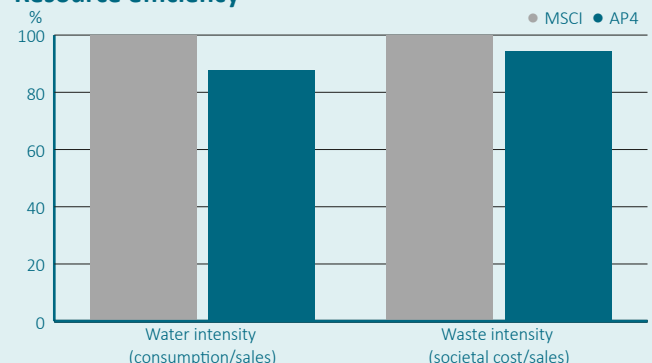
3 Make proactive investments that contribute to and benefit from the climate shift

AP4 shall continuously analyse sustainability trends and seek out proactive investments in sustainability trends that contribute to the transition to a sustainable society and that also benefit from this transition.

Contribution to CO₂ reduction



Resource efficiency





In alternative investments, in 2019 AP4 made a commitment to a fund that invests in sustainable infrastructure in Africa. Also during the year, together with AP1 and AP3, AP4 established Polhem Infra, which will focus on sustainable infrastructure investments.

4 Identify indicators and, based on these, evaluate possible asset management strategies

AP4 is working continuously to identify complementary indicators for Climate & Environment, both quantitative and qualitative, that can be used in its asset management. More indicators for climate risk are necessary as a complement to measuring carbon footprint, which shows only part of the exposure to climate risk in the asset portfolio. During 2019 AP4 began measuring resource efficiency for the global listed equity portfolio. Water and waste intensity compared with a broad global equity index (MSCI) are shown in the chart on page 34. AP4 intends to implement an asset management strategy based on resource efficiency in 2020.

5 Advocate for a climate transition

AP4 influences companies in its role as owner, cooperates with other investors in an effort to broaden knowledge about how the climate issue can be addressed in the asset management operations, and engages political decision-makers in a dialogue aimed at creating conditions for a climate shift. AP4 has reduced the carbon footprint of its portfolio through portfolio changes. To achieve the climate goals, the companies must also reduce CO₂ emissions in their own operations. AP4's work as an owner and its cooperation with other investors internationally to influence companies in this regard are reported on pages 36–43.

AP4 also engages political decision-makers in a dialogue for the main purpose to create a global system for pricing CO₂ emissions. Such pricing would impactfully and immediately provide strength and momentum to the climate transition by giving all economic actors a concordant and clear-cut incentive to reduce their CO₂ emissions. During the last three years AP4's CEO has participated and spoken at 15 conferences on the theme of sustainable investments, including the UN in 2017 and the G20 in 2018.

Corporate Governance – focus area for companies’ long-term development

As a long-term and engaged owner, AP4 works to ensure that its portfolio companies will develop, improve and be run responsibly and transparently. Corporate Governance is one of AP4’s sustainability focus areas and an expressed part of the strategy that contributes to a favourable, long-term sustainable return.

Within the corporate governance framework AP4 works with matters such as the Board’s composition, capital structure, structuring of long-term remuneration programmes, diversity of human capital, the portfolio companies’ work with sustainability matters and transparency in reporting. This work takes into account the views of stakeholders in the respective companies in order to best promote the company’s long-term development, and in this work AP4 takes into consideration other owners’ interests as well as what is best for the company in question.

It is important to promote development of generally accepted practice in the securities markets. Well-functioning stock markets are essential for long-term investors to be able to generate high and long-term sustainable returns. In this work AP4 often works together with other owners and market actors through various cooperation initiatives and industry organisations, such as the Institutional Owners Association (IÄF), whose members consist of the 16 major institutional actors in the Swedish stock market and which works to ensure favourable development of self-regulation in the Swedish stock market. One example of an international corporate governance organisation that AP4 belongs to is the investor-led International Corporate Governance Network (ICGN), which is a leading actor in establishing global standards for corporate governance and how owners should act.

AP4’s corporate governance work is based on its ownership policy, which is available on AP4’s website. AP4 reports in greater detail on the year’s ownership matters in a yearly AGM season report.

AP4 believes that direct dialogue with company boards, management and other owners often works best. In order for dialogues to work and be successful, they are conducted in confidence between the parties.

Many of the matters that were addressed ahead of and at Swedish companies’ annual meetings in 2019 involved remuneration and the boards’ work – matters that AP4 has worked with

for many years. AP4 and the majority of Swedish owners want to see remuneration programmes with relevant and comprehensible performance requirements: for good and better than normal performance, higher remuneration is paid, and for failure to reach performance targets, no grants shall be made. With the growing complexity of board work, emphasis is put on the importance that board members dedicate the requisite time for the board work and that they are active at board meetings.

Globally AP4 has voted in favour of matters that are tied to increased shareholder influence, such as the opportunity to submit proposals to annual general meetings and make it easier for shareholders to summon an extraordinary general meeting. Other matters where AP4 has been active include calling for greater transparency on how companies work with sustainability issues, such as how CO₂ emissions can be reduced and how the companies can better communicate how advocacy work is conducted and financed.

The legislative changes that resulted from enactment of the Shareholder Rights Directive II (SRD2) in June 2019 affect, among other things, how institutional owners are to integrate shareholder engagement in their investment strategies. This entails that owners are to submit a yearly report that describes how the principles for shareholder engagement have been applied as well as an account of the most important features of their investment strategy.

Greater diversity in boards

Every company board is formed according to the company’s specific needs to create the best conditions for optimum value creation. The number of directors, the directors’ competence, experience, age, gender, and available time to fulfil their assignment are factors that are taken into account based on the individual company’s situation. AP4 has worked actively for a number of years to help bring about greater diversity and a more even

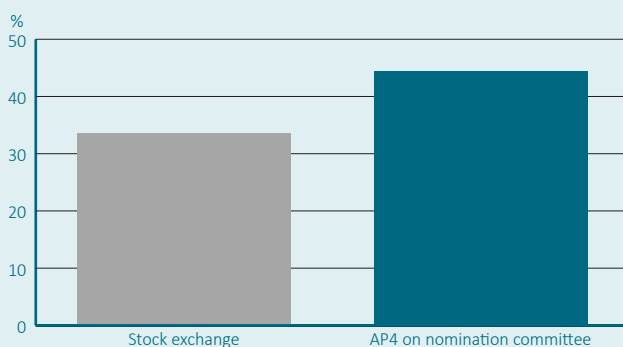


gender balance in company boards. Accordingly, for many years AP4 has actively worked to ensure that at least one woman is included as a final candidate in nominations for new board members. This measure has had good results and has in many cases contributed to a higher share of women on the company boards for which AP4 has participated on the nomination committee. In 2019, 44.4% (39.4%) of new directors on these boards were women, compared with 33.6% (36.2%) for the stock exchange as a whole. For boards of companies listed on the Stockholm Stock Exchange in total, 318 new directors were elected, of whom 107 were women on the boards of companies in which changes were made. The share of women on the boards of listed companies decreased by 1.8 (1.4) percentage points to 33.1% (34.9%).

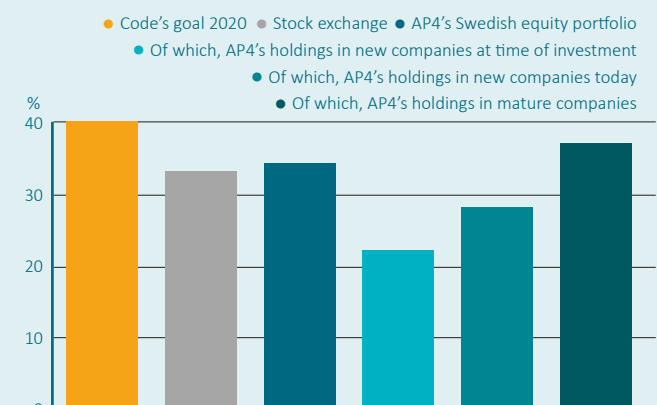
2020 is an important year as the Code’s recommendation that a board shall be composed of a minimum of 40% of directors from either gender is to be achieved. One challenge that exists in boards’ diversity work is the large number of companies that are relatively small and newly introduced on the stock market.

Such companies typically have an uneven gender balance. During the last five years AP4 participated in 37 IPOs and in 16 directed new issues. These companies now make up a third of the number of companies in the Swedish equity portfolio. On these companies’ boards, the share of women was 22% at the time of AP4’s investment. After an average of slightly more than three years on the stock market, the share has increased to slightly more than 27%. The share of women on company boards in AP4’s more mature portfolio companies is slightly more than 37%. This means that the newer companies pull down the average share of women to 34.4% for AP4’s portfolio as a whole. AP4 is working actively to achieve a more even gender balance on company boards. One goal is that the short list for new board members shall include at least one candidate of each gender. This was achieved for slightly more than three-fourths of the nomination committees that AP4 worked on. Within the framework of the Institutional Owners Association (IÄF), AP4 has also advocated for a more even gender balance ahead of Initial Public Offerings.

Share of newly elected directors who were women in 2019



Share of newly elected directors who were women in 2019



Corporate governance goals

1 Participate on nomination committees by virtue of ownership stake

AP4 participated on 39 (33) nomination committees in 2019, and in January 2020 was participating on 36 (32) nomination committees ahead of the 2020 AGM season. The Swedish ownership model creates a good balance between shareholders and company managements and is regarded as an international model.

2 Interview all or certain board members in connection with board evaluations

In a nomination committee's evaluation of a board, AP4 advocates that the nomination committee conducts its own interviews to gain a deeper understanding of how well the board is working and which complementary competences and experience the company is most in need of. This is an important complement to any written self-assessments that the board may have commissioned or to an external board evaluation. Ahead of the 2020 AGM season, AP4 interviewed board members from all but one company in which AP4 served on the nomination committee. That AP4 did not interview board members for one company is due to the fact that AP4 became represented on the nomination committee after its work was already completed.

3 Advocate for greater diversity among board members, especially in terms of gender balance

For Swedish companies to have the best boards with relevant and complementary experience and competence, AP4 works in the nomination process in a broad and structured manner. To ensure breadth in the selection of directors, AP4's goal is that on the nomination committees that AP4 participates on, at least one woman should be included as a final candidate in nominations for new board members, and the nomination committee shall strive to ensure that the Swedish Corporate Governance Code's recommendations on the proportion of women are met. On the nomination committees for 2019 AGMs on which AP4 participated, final candidates of both genders existed in 76% of the cases, and 12 (13) of newly elected directors were women, corresponding to 44.4% (39.4%).

4 Exercise voting rights at Swedish companies' AGMs

AP4 gives priority to companies in which it has major holdings, has a large share of votes, and/or to issues of importance as a matter of principle. During 2019 AP4 participated at the AGMs of 87 (90) Swedish companies, of which five (eight) by proxy.

5 Exercise voting rights at foreign companies' AGMs

AP4 gives priority to the largest companies in the respective markets – companies that the Council on Ethics of the AP Funds works with and companies through which AP4 is supporting an international initiative. AP4 voted at a total of 1,025 (971) AGMs of foreign companies during the 2019 AGM season. In 2019, AP4 voted on 12,623 resolutions at these AGMs. AP4 reports on these individual resolutions on its website. With respect to most board recommendations for variable remuneration programmes and protection against takeovers, AP4 voted against the boards' recommendations. With respect to shareholder proposals regarding climate matters, health, corporate governance, social issues and human rights, AP4 voted in favour of the shareholders' proposals in the majority of cases. Sometimes similar shareholder proposals are submitted to several companies regarding various sustainability matters. In cases where these propose something that a company has already presented or achieved, AP4 usually votes against the proposal. Consequently, AP4 does not support certain shareholder proposals. A summary of resolutions is provided in a table on the following page. In cases where the share of votes for and against do not sum up to 100%, this is because AP4 abstained from voting.

6 Support initiatives that work for shareholders' rights and companies' work with sustainability

AP4 provides constructive views when proposals for shareholders' rights are submitted or updated. In this work AP4 often collaborates with other owners in various organisations and initiatives. During 2019 AP4 was engaged in matters related to shareholders' rights and climate impact. During the year, proposals were submitted that infringe upon shareholders' rights in the USA, such as regarding opportunities to submit proposals to general meetings, and in Japan regarding restrictions in how much foreign owners can own and act in contacts with certain companies. This is a development that goes against opportunities to act as a long-term and engaged owner. The Fund therefore expressed its views through various organisations, such as the ICGN and PRI, but also together with other shareholders. In the climate area, AP4 works in various cooperation initiatives. For example, AP4 is one of 370 global investors participating in Climate Action 100+, whose purpose is to influence the some 160 companies with the highest CO₂ emissions to work on reducing their carbon footprints. Within the framework of Climate Action 100+, AP4 is participating in dialogues with three companies, Daimler, Engie and Volkswagen. Daimler and Volkswagen are two of the companies in the initiative that have set targets to be climate-neutral by 2039 and 2050, respectively.



Summary of resolutions in global votes

ISSUE	BOARD'S RECOMMENDATION			SHAREHOLDER PROPOSALS		
	Number	AP4 for	AP4 against	Number	AP4 for	AP4 against
Board members and release from liability	9,139	75%	16%	111	45%	54%
Incentive programmes	1,179	32%	66%	45	51%	49%
Adoption of financial statements, appointment of auditors, etc.	1,359	94%	1%	116	84%	16%
Protection against takeovers	105	44%	55%			
Capital structure, organisation, acquisitions	555	70%	30%			
Environment and health				41	54%	37%
Corporate governance				19	84%	16%
Social issues and human rights				36	64%	33%

Council on Ethics of the AP Funds

Through the Council on Ethics of the Swedish National Pension Funds (the Council on Ethics), AP1–AP4 cooperates to support and influence primarily foreign companies to solve various environmental and social challenges, improve internal processes and increase transparency. Its work on exerting influence is conducted through dialogues with companies, industry projects, international collaborations and owner initiatives. The work contributes to reducing sustainability risks in foreign companies and enable them to be more long-term sustainable investments that generate favourable financial returns over time.

The Council on Ethics works to give the First, Second, Third and Fourth AP Funds greater weight in their joint work on influencing companies to adopt positive changes, reducing sustainability risks in their asset management, sharing experience and knowledge, and conducting advocacy work more time- and cost-efficiently. The Council on Ethics' work focuses on how companies handle complicated issues in their operations, such as corruption, human rights, workers' rights, health and safety, pollution and biodiversity. Any violations of international conventions that Sweden has ratified in these areas affect individual people as well as society in general. This also entails a higher risk level in the companies that AP4 has invested in. It is therefore both natural and expected that the AP Funds and the Council on Ethics act in such situations to mitigate investment risk and trust risk.

Investor cooperation for safer tailings dams

Since the major mine tailings dam accident in Brumadinho, Brazil, in January 2019 and its tragic consequences with loss of lives, livelihoods and devastating environmental destruction, the Council on Ethics has worked together with the Church of England's pension fund and investors from around the world on making demands for greater safety at mining companies' tailings dams. This is to prevent future accidents and the associated risk of devastation of employees' and the local populations' lives and health as well as of the environment and biodiversity.

During the year the Council on Ethics was involved in driving two major global projects in parallel to meet two identified needs: a global, public database with information on the tailings dams at all mines, and an international standard for safe handling of mine tailings. A first version of the global database was launched at the end of 2019. The database is accessible for all stakeholders such as civil society actors, governments and investors. During the year, 680 mining companies were contacted and urged to

submit information on every tailings dam they own or have part ownership of. The work on filling the database with information is expected to continue for several years. The Council on Ethics has already been able to confirm that the database may serve as a global, transparent model for data on mining companies and their tailings dams.

An international standard for safe handling of mine tailings is needed and could replace or complement current, different national standards and contribute to the prevention of dam failures. The Council on Ethics is working as one of the Principles for Responsible Investment's (PRI's) two representatives in this global project, which is being supported by the United Nations Environmental Programme (UNEP), the International Council on Mining and Metals (ICMM) and PRI. During the year, a proposal for an international standard was drafted and sent out to various stakeholders for public consultation. After receiving feedback, a proposal for an international standard for safe handling of mine tailings will be drafted during 2020.

Biodiversity – food

During the autumn the Council on Ethics arranged a seminar on sustainability in the food sector, inviting colleagues, investors and organisations. The seminar's focus was on food – what we eat, where food comes from and the conditions under which food is produced. During the seminar it was discussed how technologies can fundamentally change and develop the food sector, and how we can strive for more sustainably produced food from environmental and climate perspectives, and safeguard biodiversity and human rights.

Human rights

Shortcomings and violations of human rights are a sustainability risk that arises in many industries, especially those with long supply



chains and production in countries with weak laws and weak enforcement of laws. The United Nations Guiding Principles on Business and Human Rights (UNGP) is a framework for how states and companies should act to avoid and prevent negative impacts on or violations of human rights. Among other things, companies shall have implemented processes for identifying and managing human rights risks.

Through the Council on Ethics, AP4 is working to influence foreign companies – often in cooperation with other investors and stakeholders – to act on human rights violations and prevent future negative impacts. In the aim of deepening and further developing its work with human rights, during the year the Council on Ethics and the AP Funds conducted a project with Shift, an organisation with UNGP expertise. Among other things, the project has focused on sharing knowledge about and an understanding of the challenges and opportunities in risk identification and prioritisation, ways of working and organisation, and identification of improvement areas both in the Council on Ethics' and AP4's processes.

Anti-corruption work

Work on preventing and combating corruption is an important sustainability issue, and essentially all of the Council on Ethics' proactive company dialogues cover companies' work with anti-corruption. Corruption is a global problem that is pervasive in many countries and industries. It is harmful and costly for society,

it skews sound competition, and it undermines asset values as well as people's trust in political and economic systems. Various forms of corruption are commonly occurring sustainability risks for most companies. The goal of the Council on Ethics' influence dialogues with companies concerning corruption and AP4's anti-corruption work by voting at general meetings and supporting various global initiatives against lobbying is that companies will strengthen their anti-corruption work. During the autumn the Council on Ethics arranged a well-attended seminar on money laundering. The speakers at the seminar included the CEO's of major banks as well as representatives from Swedish regulatory authorities and other pertinent organisations. Money laundering is a major challenge for society, the financial system in general and for all banks. The latter serve as a hub for modern society's financial transactions. Measures that were highlighted to be able to better identify and prevent money laundering included strong internal systems, trained personnel, technical solutions and greater opportunities for banks to cooperate in order to be able to identify and prevent money laundering. Tools for reducing and preventing corruption include greater transparency, whistleblower functions and improved follow-up of companies' internal rules.

The Council on Ethics' most recent report, from 2018, noted that 382 incidents were registered during the year. Of these, more than 100 pertained to human rights and just under 70 pertained to corruption. The Council on Ethics participated in 330 company dialogues. For more information, visit the Council on Ethics' website.

The UN's Global Sustainable Development Goals – part of AP4's framework

AP4 is striving to integrate sustainability in its operations. The UN's Global Sustainable Development Goals are part of AP4's sustainability policy, which serves as a governing framework for asset management.

The Global Goals increase the operation's focus on investments and sustainability work that can contribute to solutions for major global problems. They also contribute to the asset management operations' opportunities to identify global trends that point

to areas in which investments are needed and that can provide favourable, sustainable returns in the future. In its investments, AP4 focuses on the Global Goals that have investment potential and that preferably have couplings to the Climate & Environment focus area.

AP4's asset management in relation to the UN's Global Goals

Goal 3. Good Health and Well-being

AP4 does not invest in companies active in tobacco or cannabis.

Goal 5. Gender Equality

AP4 has long worked in a structured manner as an owner and in nomination processes for greater diversity and gender equality on company boards. This is an expressly stated objective in AP4's Corporate Governance focus area. AP4 has also invested in a fund with gender equality as a specific sustainability area.

Goal 8. Decent Work and Economic Growth

AP4 participates in international owner initiatives and engages companies in dialogues – through the Council on Ethics of the AP Funds, among other contexts – to promote decent working conditions, protect workers' rights, promote a safe and secure work environment, and combat forced labour, child labour, modern slavery and human trafficking.

Goal 11. Sustainable Cities and Communities

AP4's unlisted property companies work with sustainability, and most are evaluated against the Global Real Estate Sustainability Benchmark (GRESB), which analyses sustainability in the real estate sector globally. These companies have good scores from GRESB for their sustainability work. For example, AP4 owns 25% of Vasakronan, Sweden's largest property company, which has long worked with sustainability in its operations and has earned the highest Green Star rating from the GRESB.

Goal 13. Climate Action

AP4 supports the global Paris Agreement, which has set a goal to limit global warming to under 2 degrees Celsius. AP4 does not invest in companies that derive a significant share of their sales from thermal coal or oil sand. AP4 has more than 35% of its global equity portfolio invested in low-carbon strategies and also invests in strategies based on resource efficiency. AP4 actively supports the Global Goals by urging companies to refrain from negative climate lobbying, urges stock markets around the world to apply sustainability reporting guidelines, supports initiatives demanding that oil companies work to reduce the negative environmental impacts of their operations, and supports initiatives focusing on gender equality and human rights.

Goal 15. Life on Land

Climate change is the issue at the global level that is considered to have the greatest impact on biodiversity. At the regional level AP4 works together with other investors, often through the Council on Ethics, on projects in support of biodiversity. Examples of such projects include deforestation in the Amazon and Asia, and sustainable meat production. At the local level AP4 works through the Council on Ethics to ensure that individual facilities such as hydroelectric dams, mines and fossil fuel production will have as limited environmental impact as possible. An example here is the establishment of the database for mining companies' tailing dams, which the Council on Ethics played a driving role in during 2019.

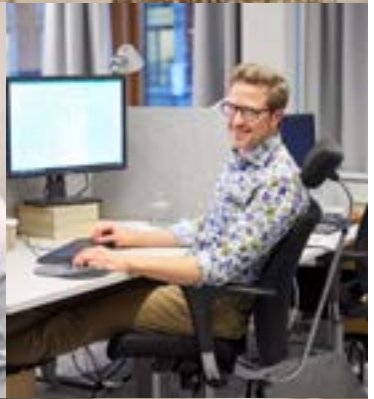
Considerable challenges in calculating and measuring contributions in detail

During the year AP4 evaluated the opportunities to calculate, measure and report the contribution of its investments to the UN's Global Sustainable Development Goals. Measuring contributions to the individual goals at the company level is a major, complex and resource-intensive undertaking that is encumbered with considerable uncertainties. For example, there are difficulties in making individual considerations per company regarding which company activities are considered to contribute to individual Global Goals over time. AP4 has therefore chosen to identify and evaluate global trends which in turn may give rise to long-term sustainable investment opportunities.

Sustainability engagement

The number of sustainability engagements, collaborations and projects for investors to participate in is growing rapidly. This is a positive trend that AP4 supports, however, it is also a development that is putting greater demands on prioritisation to ensure that AP4's resources are used where they have the greatest benefit. During the year AP4 further developed its process for documenting analyses, evaluations, selection and follow-up of various sustainability engagements. This ensures a uniform approach and prioritisation of resources, and simplifies the conveyance of information in the asset management operations. Sustainability engagements are assessed on the basis of how they contribute to AP4's long-term objectives, such as through greater sustainability of investments, as well as to promoting transparency, providing greater access to data and development of market practice. Engagement, initiatives and collaborations also show how AP4 is taking a position. Following are a few sustainability engagements that AP4 participated in during the year.

- Combating climate change by influencing companies to reduce their greenhouse gas emissions. This work is being conducted through initiatives such as Climate Action 100+, where AP4 is engaged in dialogues with the companies Daimler, Engie and Volkswagen.
- Transition Pathway Initiative (TPI) is an investor-led collaboration aimed at getting companies to reduce their greenhouse gas emissions and transparently report on this work in accordance with the Task Force on Climate-related Financial Disclosures (TCFD). TPI is building up a public and open online database of companies' public information and assesses companies' progress in their transition compared with international goals laid out in the Paris Agreement. This work is being conducted with the support of an independent academic partner, the London School of Economics. AP4 supports TPI's work and is a member of the TPI Steering Group.
- Combating deforestation. AP4 and the Council on Ethics have worked for many years globally on combating deforestation and for preservation of biodiversity. During the year, deforestation in the Amazon intensified, and its future is considered to be under acute threat. AP4, together with other investors, has supported a call against deforestation in the Amazon and has engaged a number of companies in dialogue on the matter.
- Sustainability initiatives for gender equality. AP4 has been working for many years for greater diversity and gender equality in companies and on company boards. During the year, AP4 – together with other investors – urged large global foreign listed companies to act in accordance with the Women's Empowerment Principles. These ten principles are based on the Global Compact and aim to create conditions for equal-opportunity workplaces where women and men can work on equal terms and with the same opportunities. The principles also stress the importance of transparency surrounding equal opportunity work.
- Work to convince companies like Google, Facebook, Twitter and others to take responsibility for protecting individuals' human rights and strengthen their policies, routines and follow-up to ensure that human rights are not violated.
- Urging companies to certify that they do not provide financial support to organisations that conduct lobbying activities or are active in undermining work on combating climate change.
- A call to ensure that shareholders' opportunities to influence American corporations are not undermined. During the autumn the US Securities Exchange Commission (SEC), after successful lobbying by corporate organisations, submitted a proposal that would significantly reduce shareholders' opportunities to influence listed companies, to the benefit of company managements and boards. The SEC's proposal undermines shareholders' opportunities to submit proposals to general meetings and vote on e.g., companies' sustainability work, the transition to low-fossil operations and executive remuneration.



HR with focus on development and sustainability

The vision for strategic HR work is to achieve AP4's overall goals and develop operations together by having the right competence in the right place. It is important that everyone at AP4 feels a sense of commitment, motivation to develop and continuously strives for the operations as a whole to deliver results in the best way possible.

Strategic HR work includes identifying priorities and activities which in a sustainable manner contribute to delivery of high returns at low costs. AP4 conducts a specialised and knowledge-intensive operation that is also relatively small and cost-efficient, which means that dependence on individuals is a personnel risk. It is therefore critical to be able to attract, engage and develop all employees so that they are motivated and have the conditions required to be able to perform their jobs. To create these conditions, AP4 works with competence inventorying that results in development plans for ensuring operations in the short and long terms. We also conduct annual succession planning. Work environment activities include reviewing organisational risks, and in this work, handling of key competencies is important. Gender equality and equal treatment are a central part of our recruitment and our development work. Clear personnel- and ethics-related rules clarify the high expectations placed on AP4 as a government authority and manager of public pension capital, which reduces trust risk.

Culture and our values

During 2019 focus was on leadership development, values and competence development from a sustainability perspective. The sustainability perspective is a central part of all areas of the HR strategy. A sustainable work life and sustainable leadership are important for AP4 in achieving its overall objectives. Competent and engaged employees are a success factor in a knowledge-intensive operation such as ours, where the company culture is one of the most essential conditions for building a successful organisation. As AP4 works in an environment where specialised and deep competence are basic preconditions, it is important to foster a culture that promotes a shared view of professionalism, innovative thinking, implementation strength and cooperation. During 2019 AP4 continued its work on developing and building a foundation for these values in the operations. Equal treatment and gender equality are practised in all aspects of work with our employees and the organisation.

Sustainable organisation

We are working to be a sustainable and attractive workplace for our employees. To promote long-term good health, all employees are offered regular health check-ups and a fitness subsidy. AP4 conducts market salary surveys on a regular basis to ensure that salary levels and remuneration packages are competitive and reasonable. We also conduct annual salary mapping to ensure that we do not have unreasonable pay differences between women and men in the organisation. Focus on the work environment is a natural part of operations, where participation and development of all employees are central features.

Employee survey

AP4 conducts yearly employee surveys. The aim is both to ensure a long-term good work environment, but also to identify areas of greatest significance for ensuring that employees enjoy their work, feel motivated and continue to develop in pace with the operations. Results are continuously followed up and analysed. Improvement areas that are identified are addressed through a systematic process. Action plans are created at both the overall fund level and for each unit, and are then followed up during the year. The 2019 employee survey showed generally good results in all areas. The results of the survey were reported internally and addressed in accordance with AP4's process for improvement.

Personnel and ethics-related rules

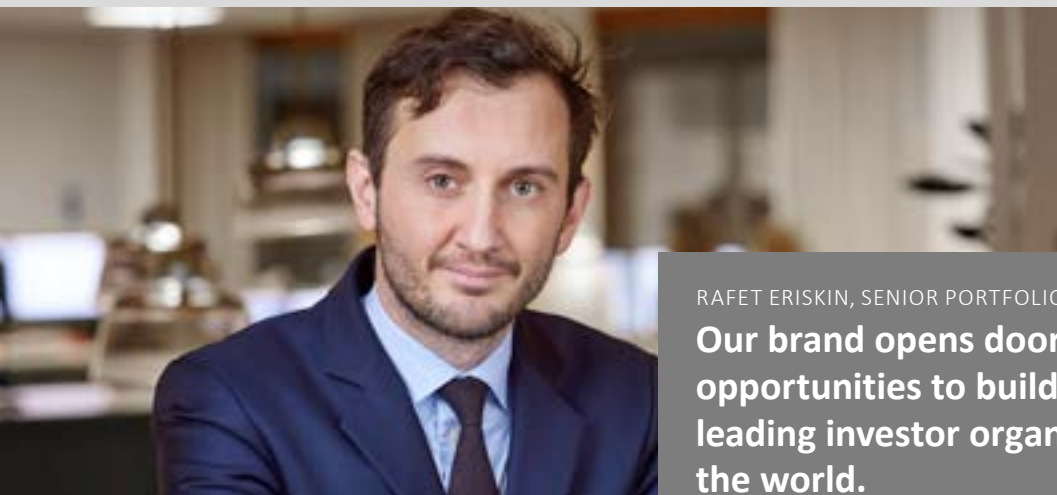
Every year AP4's board of directors adopts a personnel and ethics-related policy that is based on statutory regulations as well as ethical rules. On top of this policy, the CEO sets a number of internal guidelines which, among other things, lay out rules on matters such as public tenders, remuneration and benefits, business travel, entertainment, employees' personal trading in securities, inside information and side jobs. The policy also includes rules regarding bribery and conflicts of interest. All employees at AP4 are responsible for their own compliance with the rules in this policy and its underlying guidelines. However, the guidelines state that moral or complex dilemmas are to be addressed in consultation with the employee's immediate manager.



JENNY THEORÉN, HEAD OF RISK CONTROL:

The Fourth AP Fund has an important mission that I think we handle well. I am proud of that.

From day one I have felt that I have my managers' confidence. Here we are given great freedom with responsibility, with opportunities to develop if you want, and combining work with family life works very well here. I have rewarding and complex work duties coupled to a large and highly varied portfolio, where administration and other operations are conducted in a small organisation with relatively few people. As a result, in risk control we gain an overall view that is hard to find at a major bank, for example. The fact that we are few people also contributes to a personal, informal environment where everyone cares about each other.



RAFET ERISKIN, SENIOR PORTFOLIO MANAGER:

Our brand opens doors that create opportunities to build relationship with leading investor organisations around the world.

Personally, I have deep insight into various asset management models and the opportunity to take greater responsibility for solving our investment challenges. I am involved in the Fund's development work surrounding internal and external active management sources, where we are constantly developing the portfolio to generate the highest risk-adjusted return as possible. I am responsible for approximately SEK 40 billion of the Fund's capital in various portfolios, where essentially all asset management is specialised on taking advantage of incorrect pricing in a global market. The culture and values that distinguish AP4 promote freedom and encourage initiative. The culture suits me as a person and is conducive to the building of successful teams in which we solve challenges together.



NILS EVERLING, QUANTITATIVE ANALYST:

I learn new things constantly, not least by sharing in my colleagues' deep and broad knowledge.

AP4 is an organisation with an important mission to deliver a high return to the pension system over time with sustainability in focus. My work touches upon several areas, such as quantitative analysis, trading, mandate evaluation and software development. In my job I get to develop in the taking of responsibility, the ability to synthesise new information and guide others. I am also involved in and develop our quantitative-driven approach to global equity management. Today, for example, we can take thematic views in sustainability and convert this to systematic, data-driven strategies.



LOVISA RUNGE, FUNDAMENTAL EQUITIES ANALYST:

I appreciate the clear professional focus that AP4 has on delivering a favourable, sustainable return to the Swedish pension system and the Fund's strong brand as an asset manager.

The long-termism that AP4 has in its investments provides great opportunities in the active management and makes us an appreciated owner. The fundamental equities team also plays an important role in the Swedish corporate governance model, which adds an additional dimension of meaningfulness in our work. Having the opportunity to serve on numerous nomination committees gives us an important opportunity to influence the direction of the companies in which AP4 are a major shareholder.



KEY RATIOS – EMPLOYEES	2019	2018	2017	2016	2015
Number of employees, average	56	54	54	53	55
Of whom, women, %	35	33	35	37	38
Number of persons in Executive Management, average	9	7	7	8	7
Of whom, women, %	44	25	27	25	29
Average age	45	43	44	44	44
Employee turnover, %	9	19	11	11	11
Sickness-related absence, %	2.5	1.6	1.6	3.3	2.9

AP4'S DIRECT ENVIRONMENTAL IMPACT	2019	2018	2017	2016	2015
Total electricity use in own offices, MWh	103	107	111	113	112
District cooling use in own offices, MWh	46	51	44	89	109
Use of heat in own offices, MWh	40	42	37	104	104
Use of water, m ³	433	433	413	810	648
Use of paper, tonnes	1.0	0.7 ¹	1.1	1.0	1.1
Ecolabelled paper as share of total paper use, %	100	100	100	100	100
Business travel by air, km 10,000s	54	51	46	57	64
Business travel by air, tonnes CO ₂ emissions	60	57	52	63	75

¹Change of supplier. Use is based partly on standardised calculation.



“Building upon our culture and shared values – we practice what we preach.”

Emily Tepler

Head of Compliance at AP4 since March 2019. Responsible for external and internal rules that govern the Fund’s operations, and monitoring compliance with these rules.

How do you work with compliance at AP4?

– AP4 is an exciting environment to work in, where compliance varies in the interface between government authority and asset manager. As an asset manager, AP4 has a great responsibility to always do right. By also being a government authority, we have a lot to live up to in order to uphold our stakeholders’ trust in us. Last but not least, compliance is largely a matter of culture and shared values – that we practice what we preach.

What is most rewarding about your role?

– My ambition and goal is to ensure that everyone at the Fund does right in an effective and pragmatic way. As part of the work on structuring

and organising the compliance function, a number of new routines have been implemented, and certain existing ways of working have been revised. I have been involved in various projects in the organisation, such as a review of the due diligence process in alternative investments and how tomorrow’s digital work tools can best be implemented in the Fund.

How has your first year at AP4 been?

– Focus during the year has been on structuring and improving routines and processes in the Fund’s operations and administration. I have also worked actively for ensuring that compliance will continue to be an integrated and natural part of operations, so that all employees feel confident about my role and my duties.

Compliance – an approach to practicing what we preach

The Fourth AP Fund’s Compliance function is an independent function that is directly subordinate to the CEO. The function’s responsibility covers all external and internal policies and guidelines that regulate the Fund’s operations.

However, an important limitation is drawn with respect to rules governing operational risk in the investment operations and financial risks, since compliance with these is monitored by Risk Control and other relevant functions in IT & Risk. During 2019 the focus

was sharpened, and work during the year was characterised by structuring of the function and establishing a base of support within the organisation.

The Compliance function’s business plan for 2019 was focused on an analysis of the Fund’s risks in the aim of identifying where the risk for non-compliance is greatest. In the performance of this analysis, the rules’ significance for the Fund was reviewed, and an assessment was made of the Fund’s existing level of controls and of residual risk.

Directors' report 2019

With a positive return of 21.7% (-0.2%) after costs, corresponding to a net result of SEK 75.2 billion (-0.5), fund capital grew to SEK 418.0 billion (349.3).

Result and fund capital

Fund capital increased by SEK 68.7 billion (-7.3) to SEK 418.0 billion (349.3). The positive change in fund capital consists of net result for the year of SEK 75.2 billion (-0.5), i.e., the return for the year less management costs, and net payment of SEK 6.5 billion (6.8) to the public pension system. AP4 has paid out a combined total of SEK 57 billion to the pension system since the system's net flows became negative in 2009.

SEK billion	2019	2018
Fund capital, opening balance	349.3	356.6
Net payments to the pension system	-6.5	-6.8
Net result for the period	75.2	-0.5
FUND CAPITAL, CLOSING BALANCE	418.0	349.3

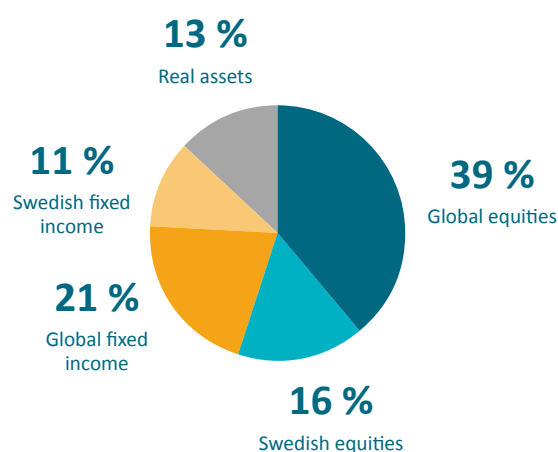
Portfolio allocation

AP4's long-term mission and the higher anticipated return for equities compared with government bonds justifies a higher allocation to equities. Listed equities, broken down into global and Swedish, accounted for more than half of assets at year-end.

AP4 has relatively high exposure to Sweden in equities and fixed income investments, which is justified in part by a higher anticipated return relative to many other markets and in part by favourable opportunities for the Fund to generate excess returns and achieve lower currency hedging costs.

AP4 has defined real assets, such as real estate and infrastructure, as a separate asset class in the portfolio. What characterises real assets is that they generally have long-term and comparatively stable cash flows that are coupled to inflation. As a result, these assets contribute stable returns and diversification of risk, and are suitable components in the portfolio for a long-term investor such as AP4.

Breakdown of assets



Operative portfolio

The total return for AP4 was 21.8% (-0.1%) before costs and 21.7% (-0.2%) after costs. The portfolio is evaluated in relation to the Dynamic Normal Portfolio (DNP). For 2019 the active return was 4.4 (2.3) percentage points. Over the five-year evaluation period, the average excess return was 2.3% (1.7%) per year.¹

Global equities

Global equities management rests upon two building blocks: cost-efficient and quantitatively based asset management aimed at efficiently creating index-linked exposure to the stock markets; this is complemented by active management that is conducted by selected external managers that are chosen to provide a large diversification of active return sources and thus risk diversification. These differ in terms of regions, information sources and investment strategies, which enables a favourable risk-adjusted return over time. AP4 is lowering climate risk in the assets through low-carbon

¹ For the period 2015-2017, active return pertains to the accumulated excess return from the Fund's previous tactical and strategic asset management with investment horizons of 0-3 years and 3-15 years, respectively, in relation to the Fund's previous reference portfolio, the Normal Portfolio.

strategies and by not owning shares in companies where 20% or more of sales are derived from thermal coal or oil sand. The year's return for global equities was 23.9% (-8.5%). The excess return for global equities management was 1.3% for 2019 and an average of 0.7% (0.8%) per year over the five-year evaluation horizon.

Swedish equities

Swedish equities management is conducted from a starting point of fundamental company analysis, where long-term perspective, corporate governance and sustainability are key parts of the strategy. The goal is to outperform the market index by identifying companies with long-term favourable growth in value and equities with revaluation potential. The return for Swedish equities in 2019 was 42.4% (-1.1%). Over several years, Swedish equities management has outperformed the index with favourable risk-adjusted returns. For 2019 the excess return was 7.4% (3.3%). Over the five-year evaluation horizon, the average excess return was 2.8% (1.5%) per year.

Global and Swedish fixed income investments

AP4's Fixed Income & FX unit is responsible for management of fixed income securities. Management is conducted actively with the goal to generate a higher return than the index. The fixed income portfolio is liquid and creditworthy: bonds with the highest AAA¹ credit rating accounted for slightly more than 70% (71%) of AP4's holdings of listed fixed income securities. Corporate bonds made up just under half of bond holdings at year-end. The return for the year was 4.3% (-0.9%) for AP4's global fixed income investments and 1.7% (1.5%) for Swedish fixed income investments. The excess return for fixed income investments was 1.1% (0.2%) for 2019 and an average of 0.3% (0.3%) per year over the five-year evaluation horizon.

Real assets

Real assets today consist mainly of unlisted and listed real estate equities and to a lesser extent of funds focusing on infrastructure investments. Real assets make up 13% (12%) of the portfolio, and the goal is to increase this allocation over the long term. Real assets generated a return of 24.6% (19.1%) in 2019, which is 20.0 (13.8) percentage points better than the return target. Since the return target for real assets consists of an absolute target of the CPI plus three percentage points, the high return for the year entails that the active return was also very high. However, the return for real assets is to be evaluated over longer periods of time. Over a five-year period the portfolio has generated an average return of 23.6% (21.8%) per year.

Currency

AP4 hedges certain foreign assets. Currency management involves in part the handling of AP4's currency hedging portfolio and in part active currency management. AP4's currency exposure, i.e., the share of assets in foreign currency that is not neutralised through currency hedges, was 19.8% (18.4%) of total at year-end. The return contribution from the Fund's open currency exposure was 1.6 percentage points (1.5). Over a five-year period, the Fund's open currency exposure has contributed an average of 1.2 percentage points (1.7) to the return per year.

Other assets

Other assets consist mainly of asset allocations in the form of so-called overlay mandates over several time horizons. The return contribution was 0.2 percentage points (-0.1).

Share of internal and external asset management

At year-end 2019, 85% (84%) of assets were managed internally, and 15% (16%) of assets were managed externally. AP4 manages assets internally when an aggregate assessment shows that internal management can achieve an equally good or better return at a lower cost. The previous legal requirement that a minimum of 10% of the portfolio be externally managed was eliminated in connection with the changed rules for the AP Funds that took effect on 1 January 2019.

Portfolio risk

The Fund has high exposure to equities, which is necessary given the goal to generate a high real rate of return over time. These consist mainly of listed, liquid shares that are invested globally. Portfolio risk for the operative portfolio, measured with a 12-month historical standard deviation, decreased to 5.3% (6.4%) at year-end.

Using short-term changes in market movements as a measure of risk is standard practice, but it entails a risk for inaccuracy due to AP4's very long-term investment horizon. For this reason, AP4 works with several investment horizons up to 40 years so that it can take developments in the near term into account without losing sight of the long-term target.

Active risk for the operative portfolio is measured in relation to the Dynamic Normal Portfolio (DNP), which reflects the Board's decision on AP4's medium-term asset allocation. The DNP is a benchmark portfolio consisting of a market index – where such relevant indexes are available – such as for liquid and listed equities and for fixed income instruments. For real assets such as unlisted properties and infrastructure, the target consists of a required real rate of return equal to the CPI plus three percentage points. The active risk for AP4's operative asset management, measured with a 12-month historical standard deviation, decreased slightly during the year and was 1.2% (1.5%) at year-end.

AP4's open currency exposure is mainly a decision from a risk mitigation perspective, where the level is regulated primarily through currency forward contracts. Open currency exposure in the operative portfolio in 2019 was between 16.6% and 20.7% and consisted mainly of exposure to USD, which continued to strengthen against the Swedish krona during the year. At year-end, the open currency exposure was 19.8% (18.4%).

Interest rate risk, measured in terms of modified duration, fluctuated between 3.5% and 5.6% during the past year, which is the limit interval that has been set for the fixed income portfolio. At year-end, modified duration of the fixed income portfolio was 4.0% (3.5%).

The share of listed AAA¹ credit risk classified bonds has been relatively stable at around 70% of the fixed income portfolio and was 70% (71%) at year-end. The share of BBB¹-rated bonds at year-end was 21% (21%).

¹ The credit risk classification presented (rating) pertains to an internal standard. The assessment in this standard for 2019 is based on the rating issued by the selected rating agency (Moody's Analytics UK Ltd)

ASSET CLASS	Market value, SEK bn	Portfolio return, %	Exposure, ¹ %	Return contribution, %	Net result contribu- tion, SEK bn
Global equities	164.3	23.9	39.3	9.6	33.2
Swedish equities	65.2	42.4	15.6	6.0	21.0
Global fixed income	87.7	4.3	21.0	1.0	3.4
Swedish fixed income	47.5	1.7	11.4	0.2	0.7
Real assets	53.2	24.6	12.7	2.9	10.5
Other assets ²	0.0	0.2	0.0	0.2	0.8
Currencies	0.0	1.6	0.0	1.8	5.9
TOTAL INVESTMENTS³	418.0	21.8	100.0	21.8	75.5

¹ Underlying values of derivative instruments in the passive allocation are distributed among the respective asset classes.

² Consists mainly of various overlay mandates.

³ Portfolio return, return contribution and net result contribution before costs. The portfolio return and return contribution after costs was 21.7%. The net result contribution after costs was SEK 75.2 billion.

Exposure to issuers

AP4's ten largest exposures to issuers together amounted to slightly more than SEK 131 billion (119). Of these, 45% consisted of sovereign exposures and 31% consisted of exposures to the banking and financial sector. AP4's sovereign exposures with a credit risk classification below AAA¹ in the euro zone was unchanged compared with the preceding year-end. The ten largest holdings in banking and financial sector represented a combined exposure of SEK 54 billion (46).

Cost-efficient asset management

AP4's total management cost was 0.10% (0.10%), measured as a percentage of average fund capital. The management cost consists of operating expenses and commission expenses. Operating expenses consist mainly of personnel costs, information costs and IT costs. Commission expenses consist mainly of fees paid to external asset managers and custodian fees. AP4's operating expense ratio, which expresses operating expenses as a percentage of average fund capital, was 0.06% (0.06%). AP4's commission expense ratio was 0.04% (0.04%).

Management costs	2019	2018
Operating expenses, SEK m	231.3	211.3
Commission expenses, SEK m	138.9	135.3
Operating expense ratio, % ¹	0.06	0.06
Operating expense ratio, % ²	0.10	0.10

¹ Operating expenses as a percentage of average fund capital.

² Operating expenses including commission expenses as a percentage of average fund capital.

Collaboration with other AP Funds

The existence of the four independent buffer funds, AP1-AP4, has contributed to well-working and sound competition, which in turn has contributed to cost-efficient asset management. It has also led to a relationship in which the significant economic position in Sweden conveyed by this buffer capital has been spread out and not become overly concentrated. In areas that do not risk inhibiting competition between the AP Funds, the Funds can cooperate to achieve cost savings and efficient use of resources as well as to

share experiences, knowledge and ways of working between their organisations. What these collaborations share in common is that they are conducted based on the value-added that they create for each individual Fund and for the AP Funds collectively.

AP Fund cooperation initiatives in 2019

For many years AP1-AP4 and AP7 have had well-established forms of cooperation, which are conducted today through eight so-called collaboration groups in which the Council of cooperation is the gathering body. Following are a few examples of some collaboration projects in 2019.

Cost and efficiency-improvement projects

During the year the AP Funds conducted a business intelligence project surrounding system support for the AP Funds' central processes with the goal to find vendors in the market that can deliver systems that better meet the needs that exist in the various operations and that provide cost- and resource efficiency. The analysis entailed an evaluation of some 20 system vendors. The results of the study showed that there are good alternatives that can improve efficiency, lower operational risks and reduce costs while at the same time meeting the operations' requirements.

Compliance, reporting and transparency

Under the new investment rules, the share of illiquid assets in the respective AP Funds' total portfolio may amount to 40%. A natural consequence of this is thus a greater focus on reporting by the fund managers on quality, transparency and the reporting format. The AP Funds have identified sector-specific challenges that the Funds share with most other global institutional investors. They have a strong, common interest in finding sustainable solutions over time and in ensuring that the AP Funds play a central role by actively driving the issues of standards, transparency and degree of digitalisation together with other actors.

Employees and HR

AP4 aspires to be an employer that attracts and develops competent and engaged employees. As part of this work AP4 shares experiences with the other AP Funds in HR areas in which the

¹ The credit risk classification presented (rating) pertains to an internal standard. The assessment in this standard for 2019 is based on the rating issued by the selected rating agency (Moody's Analytics UK Ltd).

Funds do not compete. Examples of such areas of collaboration with other AP Funds include crisis organisations and crisis management, work with strategic competence development, work environments and recruitment.

Procurement processes

During 2019, collaboration on public procurement processes was conducted in the areas of internal audit services, qualified legal services, telecommunications and data centres.

Exemplary asset management and development in sustainability

During 2019 AP4 continued its work on developing sustainability in its asset management. AP4 reports on this work in the Sustainability Report, which is presented on pages 18-49 in this Annual Report.

During 2019 AP4 lowered the CO₂ intensity for listed equities by 28%, and at year-end it was 48% lower than for a broad global equity index. Low-carbon strategies now also include emissions from the portfolio companies' subcontractors, which is expected to lead to better company selection. The climate scenario analysis has been integrated in the macroeconomic analysis that serves as the foundation for the overarching portfolio allocation. AP4 has implemented an equity strategy in line with the transition from internal combustion engines to electric motors.

AP4 has taken its owner responsibility and served on 30 nomination committees for annual meetings in 2019, and at year-end had representation in 36 nomination committees for annual meetings in 2020. In 2019 AP4 voted at the annual meetings of 87 Swedish companies and 1,025 companies internationally. AP4 conducts an active dialogue with its portfolio companies in an effort to develop long-term sustainability work. Among other initiatives, AP4 helped one company formulate new sustainability goals in connection with an international acquisition. Two of the three companies with which AP4 conducts influencing dialogues internationally within the Climate Action 100+ investor initiative have announced goals in line with the Paris Agreement.

AP4 has made two unlisted investments focused on sustainable infrastructure: a fund that invests in Africa, and establishment of the investment company Polhem Infra together with AP1 and AP3. Polhem Infra focuses on sustainable infrastructure investments.

Changes in personnel and remuneration

Employee turnover at AP4 was 9% in 2019. At year-end the number of employees was 53 (54).

For a manager of public pension funds it is essential that employee remuneration levels are reasonable, justifiable and explainable. AP4 strives to ensure that its remuneration is in line with the market and enables AP4 to recruit and retain talented people. AP4 shall not be a salary leader. The Board bears ultimate responsibility for remuneration issues. Every year the Board adopts principles for remuneration and other terms of employment. The Board is responsible for monitoring compliance with the government's guidelines for terms of employment for senior executives in the AP Funds. The Board solicits the help of external consultants to monitor compliance with the remuneration prin-

cles. The Board has appointed a remuneration committee that is tasked with serving in an advisory role for the Board and for drafting remuneration matters for the CEO and senior executives. The Remuneration Committee also conducts drafting work for matters related to AP4's principles for remuneration and other terms of employment for all employees. Total remuneration for an AP4 employee consists of fixed salary, variable salary, pension provisions and other benefits. The CEO, senior executives, the Head of Compliance and Head of Risk Control do not receive any variable remuneration. For other employees, variable remuneration can amount to a maximum of two months' salary.

Variable remuneration may be awarded when clear and measurable goals have been achieved and is based on group-oriented and individual quantitative performance goals measured over a rolling three-year period. Variable remuneration is payable only if AP4 posts a positive total net result for the financial year. Other benefits are of limited value and are offered to all employees. Examples include health insurance, group insurance and fitness subsidies. AP4 also has four parking spaces that employees can use whereupon they are taxed for the benefit. Further information is provided in Note 6 and in AP4's Fund Governance Report.

Significant events after the end of the financial year

No significant events have taken place since year-end 2019 that require disclosure.

Financial statements and note disclosures

Five-year overview

Several-year overview	2019	2018	2017	2016	2015
FUND CAPITAL, FLOWS AND NET RESULT, SEK BILLION					
Fund capital	418.0	349.3	356.6	333.9	310.0
Net flows to the pension system	-6.5	-6.8	-7.4	-6.6	-4.9
Net result for the year	75.2	-0.5	30.1	30.5	20.1
RETURN, %					
Return, total portfolio before costs	21.8	-0.1	9.2	10.1	6.9
Return, total portfolio after costs	21.7	-0.2	9.1	10.0	6.8
Return, total portfolio after costs, annualised 5 yrs	9.3	8.1	11.5	12.0	9.7
Return, total portfolio after costs, annualised 10 yrs	9.9	9.9	7.3	6.7	6.7
OPERATING EXPENSE RATIO AS % OF AuM (ANNUALISED)					
Operating expenses	0.06	0.06	0.06	0.06	0.06
Operating expenses and commission expenses	0.10	0.10	0.10	0.10	0.11
RISK, %¹					
Standard deviation ex-post, Total portfolio	5.3	6.4	4.1	7.3	8.8
Standard deviation ex-post, Liquidity portfolio ²	5.8	7.0	4.5	7.8	9.4
Standard deviation ex-post, Total portfolio, 10 yrs ³	6.7	7.5	8.6	8.8	9.0
Sharpe ratio total portfolio, ex-post	4.2	0.1	2.5	1.5	0.8
Sharpe ratio liquidity portfolio, ex-post ²	3.9	-0.2	2.0	1.2	0.6

¹ Refers to daily return data unless indicated otherwise.

² Refers to liquid assets excluding unlisted properties, private equity funds and high-yield fixed income assets.

³ Refers to quarterly data for total assets.

Cont. Five-year overview

Other key ratios, as per balance sheet date	2019	2018	2017	2016	2015
Active return, before costs, % ^{1, 2}	4.4	2.3	-1.1	1.0	4.8
Inflation, %	1.8	2.0	1.7	1.7	0.1
Real return after costs, %	19.9	-2.3	7.4	8.3	6.8
Active risk ex-post, active management, % ³	1.2	1.5	1.7	2.7	2.8
Currency exposure, %	19.8	18.4	18.4	26.9	27.0
Proportion external management incl. investments in private equity companies, % ⁴	14.7	16.2	17.0	22.7	22.4
Number of employees on balance sheet date	53	52	53	54	55
ALLOCATION OF INVESTMENTS, %^{5, 6}					
Global equities	39.3	38.9	40.8	40.2	39.4
Swedish equities	15.6	14.6	16.6	17.6	17.8
Global fixed income	21.0	22.0	21.1	22.7	20.5
Swedish fixed income	11.4	12.2	11.6	10.6	14.5
Real assets	12.7	12.1	9.6	8.6	7.3
Other	0.0	0.3	0.3	0.3	0.5
TOTAL INVESTMENTS, %	100.0	100.0	100.0	100.0	100.0

¹ The Fund's operative portfolio is evaluated against a benchmark portfolio made up of a number of market indexes with set asset weights. The reference indexes used are standardised and currency-hedged to SEK in order to simplify and increase transparency. The Fund can use its tax status as a state pension fund, and during 2019 this gave a positive contribution of 0.22 percentage points.

² Active return, calculated as the difference in returns between the operative portfolio and the benchmark portfolio.

³ Active risk, calculated as standard deviation, measured on a yearly basis, in the difference in the return between the operative portfolio and the benchmark portfolio.

⁴ Wholly or partly owned property companies are reported as internally managed.

⁵ Refers to exposure; underlying derivative values in the passive allocation have been distributed among the respective asset classes.

⁶ "Other" mainly includes mandates without capital.

Income statement

SEK million	Note	2019	2018
OPERATING INCOME			
Net interest income	2	2,027	1,978
Dividends received		6,035	6,583
Net income/loss, listed shares and participations	3	50,676	-11,862
Net income, unlisted shares and participations	4	5,589	4,976
Net income/loss, fixed income assets		3,322	-566
Net income/loss, derivative instruments		2,018	-4,484
Net income, changes in exchange rates		5,939	3,196
Commission expenses	5	-139	-135
Total operating income		75,467	-314
OPERATING EXPENSES			
Personnel costs	6	-136	-126
Other administrative expenses	7	-95	-85
Total operating expenses		-231	-211
NET RESULT FOR THE YEAR		75,236	-525

Balance sheet

SEK million	Note	31/12/2019	31/12/2018
ASSETS			
Shares and participations, listed	8	248,771	190,635
Shares and participations, unlisted	9	42,897	36,077
Bonds and other fixed income assets	10	115,965	115,163
Derivative instruments	11	6,307	4,806
Cash and cash equivalents		4,496	3,484
Other assets	12	3,167	1,020
Prepaid expenses and accrued income	13	1,030	1,338
TOTAL ASSETS		422,633	352,523
LIABILITIES AND FUND CAPITAL			
Liabilities			
Derivative instruments	11	1,112	1,659
Other liabilities	14	2,865	487
Prepaid income and accrued expenses	15	628	1,065
Total liabilities		4,605	3,211
Fund capital			
	16		
Fund capital, opening balance		349,312	356,609
Net payments to the pension system		-6,520	-6,772
Net result for the year		75,236	-525
Total fund capital		418,028	349,312
TOTAL LIABILITIES AND FUND CAPITAL		422,633	352,523
Pledged assets, contingent liabilities and commitments	17		

Notes to the income statement and balance sheet

The Fourth Swedish National Pension Fund (AP4), corporate identity number 802005-1952, is one of the buffer funds in the Swedish national pension system and has its registered office in Stockholm. The Annual Report for the 2019 financial year was approved by the Board of Directors on 20 February 2020. The income statement and balance sheet shall be adopted by the government.

1 Accounting and valuation policies

According to the Swedish National Pension Funds Act (Lagen (2000:192) om allmänna pensionfonder), the annual report shall be prepared in accordance with generally accepted accounting principles, whereby the assets in which AP4's funds are invested shall be recognised at market value. Based on this premise, AP1-AP4 have drawn up and applied uniform accounting and valuation policies, as summarised below.

The AP Funds' accounting and valuation policies are gradually being adapted to International Financial Reporting Standards (IFRS). A complete adaptation to IFRS would not materially affect the reported results and capital. AP4 meets the requirement to be classified as an investment company in accordance with IFRS 10. In the current IFRSs the only major difference is that a statement of cash flows has not been prepared and that IFRS 16 Leases has not been applied.

Trade date accounting

Transactions in securities and derivative instruments in the money market, bond market, stock market and currency market are recognised on the balance sheet as per the trade date, i.e., at the point in time when the material rights and risks are transferred between parties. The receivable or liability to the counterparty between the trade date and settlement date is recognised under Other assets and Other liabilities, respectively. Other transactions, mainly transactions in unlisted shares, are recognised on the balance sheet as per the settlement date, which is consistent with market practice.

Net accounting

Financial assets and liabilities are reported net on the balance sheet when there is a legal right to offset transactions and there is an intention to settle net or realise the asset and settle the liability simultaneously.

Translation of foreign currencies

Transactions in foreign currency are translated to Swedish kronor (SEK) at the exchange rate in effect on the transaction date. On the balance sheet date, assets and liabilities in foreign currency are translated to SEK at the exchange rate in effect on the balance sheet date. Changes in the value of assets and liabilities in foreign currency are broken down into a part attributable to the change in value of the asset or liability in local currency and to a part attributable to the changed exchange rate. The exchange gain or loss that arises from changes in exchange rates is reported in the income statement on the line "Net income/loss, changes in exchange rates".

Shares in subsidiaries and associated companies

According to the Swedish National Pension Funds Act, both shares in and loans to subsidiaries and associated companies are measured

at fair value. Fair value is determined using the same methods used for unlisted shares and participations. There is no requirement to prepare consolidated accounts. Loans to subsidiaries and associated companies that are intended to be held to maturity are measured at fair value in accordance with the fair value option provided in IFRS 9. However, the entire change in value is reported as part of the shareholding on the line Net income/loss, unlisted shares and participations.

Valuation of financial instruments

All of AP4's investments are measured at fair value, whereby realised and unrealised changes in value are recognised through profit or loss. The line Net income/loss per asset class thus includes realised and unrealised gains or losses. Equity instruments held for trading are therefore measured at fair value through profit or loss. Debt instruments held for trading are therefore measured at fair value through profit or loss. Loans to subsidiaries and associated companies are intended to be held to maturity; however, the fair value option is used here in order to be in compliance with the requirements in the Swedish National Pension Funds Act for fair value measurement. The AP Funds measure all of their assets at fair value. Following is a description of how fair value is determined for AP4's various investments.

Listed shares and participations

For shares and participations traded in a regulated market or trading platform, fair value is determined based on official year-end market quotations according to the Fund's designated index, usually an average price. Holdings not included in an index are measured at quoted prices observable in an active market. Brokerage fees paid are recognised as expenses under Net income/loss, listed shares.

Unlisted shares and participations

For shares and participations not traded in a regulated market or trading platform, fair value is determined based on a valuation obtained from the counterparty or other external party. The reported value is updated when a new valuation has been obtained and is adjusted for any cash flows up to the end of the accounting period. In cases where the Fund has good reason to believe that the valuation is incorrect, an adjustment is made of the received valuation.

Valuations of unlisted participations are made in accordance with the International Private Equity and Venture Capital Valuation (IPEV) Guidelines, or equivalent principles, and are to be based primarily on transactions with third parties, however, other valuation methods may be used.

Valuations of unlisted shares in property companies are based on a market valuation of the properties taking into account a

market-based deduction for deferred tax liabilities, to the extent that the stock has not been subject to transactions in a secondary market. This may differ from the valuation of deferred tax liabilities that is used in the accounting of the property companies.

Bonds and other fixed income assets

For bonds and other fixed income assets, fair value is calculated based on the official market quotation on the balance sheet date (usually the bid rate) according to AP4's designated index provider. Holdings not included in an index are valued at quoted prices observable in an active market. In cases where an instrument is not traded in an active market, and reliable market prices are not available, the instrument is measured using generally accepted valuation models, which entails that cash flows are discounted to the relevant yield curve.

Interest income includes interest calculated using the effective interest method based on amortised cost. Amortised cost is the discounted present value of future payments, where the discount rate consists of the effective interest rate at the date of acquisition. This means that acquired surplus and deficit values are allocated over the remaining term or until the next interest rate adjustment and are included in reported interest income. Changes in value attributable to changes in interest rates are reported in "Net income, fixed income assets", while changes in value attributable to exchange rate changes are reported in "Net income/loss, changes in exchange rates".

Derivative instruments

For derivative instruments, fair value is calculated based on year-end quotations. In cases where an instrument is not traded in an active market and reliable market prices are not available, the instrument is measured using generally accepted valuation models, in which observable market data is used as the input data.

Derivative contracts with positive fair value at the balance sheet date are reported as assets, while contracts with a negative fair value are reported as liabilities. Changes in value attributable to changes in exchange rates are reported in the income statement under "Net income/loss, changes in exchange rates", while other changes in value are reported as "Net income, derivative instruments".

Repurchase transactions

In genuine repurchase transactions, so-called repos, the sold asset remains on the balance sheet and the payment received is recognised as a liability. The sold security is recognised as a pledged asset on the balance sheet among memorandum items. The difference between the settlement in the spot and futures market is allocated over the term and recognised as interest.

Securities lending

Securities lent are reported on the balance sheet at fair value, while the compensation received for the loan is reported as interest income in the income statement. Collateral received for loaned securities can consist of securities and/or cash. In cases where AP4 has the right of disposal over cash received as collateral, the collateral is reported on the balance sheet as an asset and corresponding liability. In cases where AP4 does not have disposal over the security, it is not reported on the balance sheet, but is specified separately in a note under the heading "Pledged assets, contingent liabilities and commitments". This item also includes the value of securities on loan and their related collateral.

Items recognised directly against fund capital

Incoming and outgoing payments that have been made against the pension system are reported directly in fund capital.

Commission expenses

Commission expenses are recognised in the income statement as a deduction from operating income. They consist of external costs for asset management services, such as custodian fees and fixed fees to external asset managers as well as fixed fees for listed funds. Performance-based fees, which are paid when asset managers achieve returns above the agreed level where profit-sharing is applied, are recognised as a deduction under net income for the relevant asset class.

Asset management fees for unlisted shares and participations are recognised as an acquisition cost and are therefore included in the unrealised result.

Operating expenses

All asset management costs, excluding brokerage fees, fees paid to external asset managers and custodian fees, are recognised as operating expenses. Investments in equipment including internally developed and purchased software are normally expensed as they are incurred.

Taxes

AP4 is exempt from all income tax on investments in Sweden. Taxes on dividends and withholding taxes assessed in certain countries are reported net in the income statement under the respective income classes.

AP4 has been registered for value added tax (VAT) since 2012 and is thereby subject to VAT on purchases made abroad. AP4 is not entitled to recover paid VAT. Expensed VAT is included in the expense item to which it belongs.

Amounts in SEK millions

Amounts are specified in millions of Swedish kronor (SEK m), unless otherwise indicated.

2 Net interest income

	2019	2018
NET INTEREST INCOME		
Bonds and other fixed income assets	1,954	1,917
Other interest income	73	61
Total interest income	2,027	1,978
INTEREST EXPENSE		
Other interest expenses	0	0
Total interest expense	0	0
NET INTEREST INCOME	2,027	1,978

3 Net income, listed shares and participations

	2019	2018
Net income, listed shares and participations	50,714	11,897
Less brokerage fees	-38	-35
NET INCOME, LISTED SHARES AND PARTICIPATIONS	50,676	11,862

4 Net income, unlisted shares and participations

	2019	2018
Realised gains	751	480
Unrealised changes in value	4,838	4,496
NET INCOME, UNLISTED SHARES AND PARTICIPATIONS	5,589	4,976

During the year, the reporting of asset management fees for unlisted assets was changed. The comparison figures in the note have not been changed in a corresponding manner, but are presented in accordance with the previous policies. Items affecting comparability in the comparison figure for unrealised changes in value amount to SEK 0 million. External asset management fees for unlisted assets are reported as part of the asset's cost and are thereby charged against unrealised net income for unlisted assets. Consequently, refunded management fees have a positive effect on unrealised income. During the year a total of SEK 121 (93) million was paid in asset management fees for unlisted assets, of which SEK 121 (93) million allows refunds. Also during the year, SEK 53 (30) million was refunded, and the unrealised result for unlisted shares and participations was thereby negatively affected by SEK 68 million (-62).

5 Commission expenses

	2019	2018
External asset management fees, listed assets	-125	-122
External asset management fees, unlisted assets	0	0
Other commission expenses, including custodian fees	-14	-13
COMMISSION EXPENSES	-139	-135

Commission expenses do not include performance-based fees. Performance-based fees for the year totalled SEK 13 (17) million and reduced net income for the respective asset classes. The reporting of asset management fees for unlisted assets was changed during the year. The comparison figures in the note have not been changed in a corresponding manner, but are presented in accordance with the previous policies. Items affecting comparability in the comparison figure for external asset management fees amount to SEK 0 million.

6 Personnel

Number of employees	2019		2018	
	Total	Women	Total	Women
Average number of employees	56	20	54	18
Number of employees, 31 December	53	20	54	17
Number of persons in Executive Management, 31 December	9	4	8	3

Salaries and fees

Directors' fees are set by the government and were unchanged compared with the preceding year. The Board sets the terms of employment for the CEO based on a recommendation from the Remuneration Committee. Remuneration for the CEO, senior executives, the Head of Compliance Officer and the Head of Risk Control consists of a fixed salary. Every year, under commission by the Board of Directors and Remuneration Committee, an external

consultant performs an examination of remuneration levels for senior executives of AP4. The Board can thereby ascertain that AP4 complies with the government's guidelines for remuneration of senior executives of the AP Funds. Read more about remuneration under the heading "Remuneration at AP4" in the Annual Report.

Variable remuneration

The variable remuneration plan is part of AP4's remuneration policy and is adopted yearly by the Board. The plan covers all employees employed more than six months, except for the CEO, senior executives, the Head of Compliance and the Head of Risk Control. The basic principle is that variable remuneration shall be paid for the achievement of excess returns relative to the benchmark and reference indexes, provided that AP4 shows a positive total result for the financial year. The maximum outcome for a full-time equivalent employee is two months' salary. For 2019, a total of SEK 6,384 thousand was expensed for variable remuneration, excluding social security costs.

Pensions and similar benefits

The CEO's employment contract includes special stipulations for pension benefits and severance pay. The contract provides a pension entitlement at age 65, with a pension provision of 30% (30%) of salary. A mutual notice period of six months applies for the CEO. In the event AP4 serves notice, the CEO is also entitled to severance pay equal to 18 months' salary. Severance pay is paid out monthly and is reduced by any other income from salary, assignments or own business.

Other members of the Executive Management as well as other employees have individual employment contracts in which the notice period is based on the applicable collective agreement between the Employers Organisation of the Swedish Banking Institutions (BAO) and the Swedish Confederation of Professional Associations (SACO). Pension entitlements are either defined-benefit solutions in accordance with the applicable collective agreement between BAO and SACO, or defined-contribution solutions in accordance with AP4's pension policy, entailing a pension contribution of 30% of salary amounts higher than 7.5 times the Income Base Amount.

All employees are entitled to exchange a portion of their gross salary for pension contributions. In such cases, the pension contribution is increased by 5.8%, which corresponds to the difference between AP4's costs for payroll tax and its cost for the special employer's payroll tax on pension contributions. The procedure is cost-neutral for AP4. All employees are offered supplemental health insurance, a benefit for which the employees are taxed in accordance with the tax rules that apply at any given time. All persons employed before 1 January 2007 have, in addition to benefits under the pertinent collective agreement, disability insurance for periods of illness lasting longer than three months, for which a benefit is payable to cover 90% of salary amounts lower than 20 times the Base Amount and 80% of salary amounts higher than 20 times the Base Amount. The maximum benefit corresponds to 40 times the Base Amount. Benefits paid out are decreased by benefits payable from Försäkringskassan, SPP and any other insurances.

Other benefits

All employees have the opportunity to purchase group life insurance that is taxed as an employment benefit. The CEO has the right to a parking space, which is taxed as an employment benefit if he uses it. AP4 has an additional three parking spaces that employees can use and are taxed for as an employment benefit. The value of these employment benefits in 2019 was SEK 377 thousand.

6 Cont. Personnel

Personnel costs, SEK thousand, 2019	Salaries and remuneration	Variable remuneration	Pension costs	Of which, salary exchange	Social security costs ²	Total
Chair of the Board Sarah McPhee	100	-	-	-	31	131
Other board members ¹	513	-	-	-	119	632
CEO Niklas Ekvall	4,732	-	1,444	-	1,837	8,013
OTHER EXECUTIVE MANAGEMENT MEMBERS						
Head of Fundamental Equities Per Colleen	2,925	-	1,192	190	1,208	5,325
Head of Human Resources Anette Segercrantz	985	-	181	-	353	1,519
Head of Finance & Business Operations Helene Lundkvist	1,895	-	538	-	726	3,159
Head of IT & Risk Nicklas Wikström	1,687	-	956	317	762	3,405
General Counsel Theresa Einarsson, from 1/6/2019	806	-	377	-	345	1,528
General Counsel Ulrika Malmberg Livijn, through 31/8/2019	1,194	-	494	85	495	2,183
Head of Strategy & Sustainability Tobias Fransson	2,137	-	766	-	857	3,760
Head of Strategic Allocation & Quantitative Analysis Marcus Blomberg	2,891	-	951	-	1,139	4,981
Head of Alternative Investments Jenny Askfelt Ruud	1,987	-	610	-	772	3,369
Other employees	47,509	6,384	17,664	2,146	21,155	92,712
Total	69,361	6,384	25,173	2,738	29,800	130,718
Other personnel costs						5,229
TOTAL PERSONNEL COSTS						135,947

¹ Individual directors' fees are reported in the Fund Governance Report.

² Social security costs also include payroll tax.

Personnel costs, SEK thousand, 2018	Salaries and remuneration	Variable remuneration	Pension costs	Of which, salary exchange	Social security costs ²	Total
Chair of the Board Sarah McPhee	100	-	-	-	31	131
Other board members ¹	525	-	-	-	154	679
CEO Niklas Ekvall	4,617	-	1,332	-	1,774	7,723
OTHER EXECUTIVE MANAGEMENT MEMBERS						
Head of Global Macro Bengt Lindefeldt, through 30/6/2018	1,485	-	699	190	636	2,820
Head of Fundamental Equities Per Colleen	2,859	-	1,162	190	1,180	5,201
Head of Administration Susan Lindkvist, until 18/7/2018	854	-	396	32	364	1,614
Head of Finance & Business Operations Helene Lundkvist, from 3/9/2018	635	-	325	-	278	1,238
Head of IT & Risk Nicklas Wikström	1,635	-	930	317	739	3,304
General Counsel Ulrika Malmberg Livijn	1,790	-	738	127	741	3,269
Head of Strategy & Sustainability Tobias Fransson	2,112	-	708	-	835	3,655
Head of Strategic Allocation & Quantitative Analysis Marcus Blomberg	2,840	-	927	-	1,117	4,884
Head of Alternative Investments Jenny Askfelt Ruud, from 1/9/2018	625	-	333	-	277	1,235
Other employees	47,713	414	17,681	1,984	18,748	84,556
Total	67,790	414	25,231	2,840	26,874	120,309
Other personnel costs						5,735
TOTAL PERSONNEL COSTS						126,044

¹ Individual directors' fees are reported in the Fund Governance Report.

² Social security costs also include payroll tax.

Costs for personnel reductions: Costs for personnel reductions in 2019 amounted to SEK 0 thousand (2,240 thousand) and pertained to remuneration for salaries, pension costs and social security costs in connection with personnel reductions.

7 Other administrative expenses

	2019	2018
Cost of premises	11	10
Information and IT costs	58	52
Purchased services	17	14
Other administrative expenses	9	9
TOTAL OTHER ADMINISTRATIVE EXPENSES	95	85

THE ITEM PURCHASED SERVICES INCLUDES FEES PAID TO THE AUDIT FIRM AS FOLLOWS:

	2019	2018
Audit assignment, PwC	1.0	0.8
Other audit services, PwC	-	-
TOTAL FEES PAID TO AUDIT FIRM	1.0	0.8

8 Shares and participations, listed

	31/12/2019	31/12/2018
	Fair value	Fair value
Swedish shares	78,046	55,929
Foreign shares	120,277	93,408
Participations in Swedish funds	808	2,673
Participations in foreign funds	49,640	38,626
TOTAL SHARES AND PARTICIPATIONS, LISTED	248,771	190,635

The scope of securities on loan as well as collateral received is presented in Note 17. A complete list of shareholdings can be found on AP4's website: www.ap4.se.

Five largest holdings of Swedish shares, 31/12/2019

	No. shares	Fair value	Capital, %	Votes, %
Atlas Copco	12,166,915	4,140	0.99%	0.53%
Hennes & Mauritz B	20,165,864	3,841	1.22%	0.59%
Lifco	6,260,580	3,581	6.89%	4.30%
Getinge B	20,362,572	3,543	7.48%	4.67%
Elektta B	25,088,808	3,095	6.54%	4.84%

Five largest holdings of foreign shares, 31/12/2019

	No. shares	Fair value
Apple	1,331,103	3,659
Microsoft Corp	2,092,071	3,088
Alphabet	179,562	2,249
Amazon.Com	121,219	2,097
Facebook A	698,357	1,342

Five largest holdings of Swedish shares, 31/12/2018

	No. shares	Fair value	Capital, %	Votes, %
Hennes & Mauritz B	22,752,678	2,867	1.37%	0.67%
Atlas Copco	12,605,942	2,506	1.03%	0.56%
Elektta	23,267,534	2,451	6.07%	4.49%
Volvo	19,843,022	2,303	0.93%	1.77%
Lifco	6,933,163	2,271	7.63%	4.76%

Five largest holdings of foreign shares, 31/12/2018

	No. shares	Fair value
Apple	1,399,078	1,957
Microsoft Corp	2,086,512	1,879
Alphabet	178,156	1,643
Amazon.Com	119,003	1,585
Johnson & Johnson	793,549	908

9 Shares and participations, unlisted

	31/12/2019 Fair value	31/12/2018 Fair value
Shares in Swedish associated companies	32,179	27,686
Shares in foreign associated companies	1,099	853
Shares and participations in other Swedish unlisted companies	4,336	3,516
Shares and participations in other foreign unlisted companies	5,283	4,022
TOTAL SHARES AND PARTICIPATIONS, UNLISTED	42,897	36,077

Shares in associated companies, 31/12/2019	Corp. ID no.	Domicile	No. shares	Capital, %	Votes, %	Fair value	Equity	Net result
SHARES IN SWEDISH ASSOCIATED COMPANIES:								
Vasakronan Holding AB	556650-4196	Stockholm	1,000,000	25	25	20,590	70,156	13,909
Rikshem Intressenter AB	556806-2466	Stockholm	250	50	50	11,280	20,542	2,205
Polhem Infra KB	969789-2413	Stockholm		33	33	309	926	-11
Polhem Infra AB	559183-3917	Stockholm	20,000	33	33	0	0	0
TOTAL SHARES IN SWEDISH ASSOCIATED COMPANIES						32,179		
SHARES IN FOREIGN ASSOCIATED COMPANIES:								
ASE Holdings S.à.r.l.		Luxembourg	1,609,214	38	38	225	Not public	Not public
ASE Holdings II S.à.r.l.		Luxembourg	215,023,696	45	45	551	Not public	Not public
ASE Holdings III S.à.r.l.		Luxembourg	5,121,867	35	35	323	Not public	Not public
TOTAL SHARES IN FOREIGN ASSOCIATED COMPANIES						1,099		

Other holdings, 31/12/2019	Corp. ID no.	Domicile	Capital, %	Votes, %	Cost
FIVE LARGEST HOLDINGS IN OTHER SHARES & PARTICIPATIONS, SWEDISH UNLISTED COMPANIES¹					
Infranode I Holding AB	556851-2817	Stockholm	20	20	656
Areim Holding Finland 3 AB	559091-2456	Stockholm	50	9	639
Alfvén & Didrikson AB	556954-4066	Stockholm	32	17	395
Areim Fastigheter 3 AB	559035-9161	Stockholm	4	2	245
AB Max Sievert	556995-3598	Stockholm	25	11	211
FIVE LARGEST HOLDINGS IN OTHER SHARES & PARTICIPATIONS, FOREIGN UNLISTED COMPANIES¹					
White Peak Real Estate IV L.P.		Jersey	24		693
Infracapital Greenfield Partners I LP		UK	6		457
EQT Infrastructure III (No. 1) SCSP		Luxembourg	1		425
EQT Credit Opportunities III (No. 1) L.P.		Luxembourg	9		291
Generation Sustainable Solutions Fund SSF III		Guernsey	15		290

¹ Refers to AP4's holdings in limited partnerships and other similar structures in which AP4 does not have significant influence.

A complete specification of shareholdings is available at www.ap4.se.

9 Cont. Shares and participations, unlisted

Shares in associated companies, 31/12/2018	Corp. ID no.	Domicile	No. shares	Capital, %	Votes, %	Fair value	Equity	Net result
SHARES IN SWEDISH ASSOCIATED COMPANIES:								
Vasakronan Holding AB	556650-4196	Stockholm	1,000,000	25	25	17,704	60,271	12,902
Rikshem Intressenter AB	556806-2466	Stockholm	250	50	50	9,982	18,337	2,490
TOTAL SHARES IN SWEDISH ASSOCIATED COMPANIES						27 686		
SHARES IN FOREIGN ASSOCIATED COMPANIES:								
ASE Holdings S.à.r.l.		Luxembourg	1,609,214	38	38	160	Not public	Not public
ASE Holdings II S.à.r.l.		Luxembourg	215,023,696	45	45	512	Not public	Not public
ASE Holdings III S.à.r.l.		Luxembourg	5,121,867	35	35	181	Not public	Not public
TOTAL SHARES IN FOREIGN ASSOCIATED COMPANIES						853		

Other holdings, 31/12/2018	Corp. ID no.	Domicile	Capital, %	Votes, %	Cost
FIVE LARGEST HOLDINGS IN OTHER SHARES & PARTICIPATIONS, SWEDISH UNLISTED COMPANIES¹					
Areim Investment 3-5 AB	559111-1165	Stockholm	50	9	737
Infranode I	556982-5283	Stockholm	20	20	375
Alfvén & Didrikson AB	556954-4066	Stockholm	25	18	264
LSTH Svenska Handelsfastigheter AB Pref	559009-2325	Stockholm	13	2	210
Areim Property Holding 5 AB	556963-0261	Stockholm	33	6	140
FIVE LARGEST HOLDINGS IN OTHER SHARES & PARTICIPATIONS, FOREIGN UNLISTED COMPANIES¹					
White Peak Real Estate IV L.P.		Jersey	21		481
EQT Infrastructure II (No. 1) Feeder L.P.		UK	4		389
Infracapital Greenfield Partners I L.P.		UK	6		328
EQT Infrastructure III (No.1) Feeder SCSP		Luxembourg	2		291
Keyhaven Growth Partners L.P.		UK	29		159

¹ Refers to AP4's holdings in limited partnerships and other similar structures in which AP4 does not have significant influence.

A complete specification of shareholdings is available at www.ap4.se.

10 Bonds and other fixed income assets

	1/12/2019 Fair value	31/12/2018 Fair value
BREAKDOWN BY ISSUER CATEGORY		
Swedish state	2,055	5,873
Swedish mortgage institutions	33,053	28,897
Other Swedish financial services companies	9,765	8,904
Swedish non-financial companies	1,667	2,456
Foreign governments	55,969	54,988
Other foreign issuers	13,456	14,045
TOTAL FIXED INCOME ASSETS	115,965	115,163
Breakdown by type of instrument		
Other bonds	111,329	111,516
Subordinated loans	2,699	2,193
Unlisted promissory note loans	-	0
Unlisted shareholder loans	852	805
Participations in foreign fixed income funds	748	649
Other instruments	337	-
TOTAL FIXED INCOME ASSETS	115,965	115,163

The scope of securities on loan, as well as collateral received, is presented in Note 17.

11 Derivative instruments

	31/12/2019 Fair value		31/12/2018 Fair value	
	Positive	Negative	Positive	Negative
INTEREST-RELATED INSTRUMENTS:				
Swaps	16	1	26	516
Total interest-related instruments	16	1	26	516
CURRENCY-RELATED INSTRUMENTS:				
Options	993	784	719	364
Forward contracts	4,932	320	4,061	779
Swaps	366	7	-	-
Total currency-related instruments	6,291	1,111	4,780	1,142
TOTAL DERIVATIVE INSTRUMENTS	6,307	1,112	4,806	1,659

For details about areas of use and risk management for derivative instruments see Note 20 Risks, on page 68.

Maturity analysis

Most the AP4's derivatives have terms of less than one year. Only a few currency options, cross currency basis swaps, credit default swaps and currency forwards have longer terms, and of these 25 (34) contracts have a negative fair value. These are presented in the tables below.

Maturity analysis of derivative positions with negative fair value, with terms longer than 12 months, 2019

Maturity structure Term	> 1 yr < 3 yrs	> 3 yrs < 5 yrs	> 5 yrs < 10 yrs	> 10 yrs
Issued currency options	-377	-11	-	-
Credit Default Swap	-	-17	-	-
TOTAL	-377	-28	-	-

Maturity analysis of derivative positions with negative fair value, with terms longer than 12 months, 2018

Maturity structure Term	> 1 yr < 3 yrs	> 3 yrs < 5 yrs	> 5 yrs < 10 yrs	> 10 yrs
Issued currency options	-122	-13	-	-
Credit Default Swap	-6	-	-92	-418
TOTAL	-128	-13	-92	-418

12 Other assets

	31/12/2019	31/12/2018
Outstanding receivables	3,164	1,018
Other assets	3	2
TOTAL OTHER ASSETS	3,167	1,020

13 Prepaid expenses and accrued income

	31/12/2019	31/12/2018
Accrued interest income	762	1,070
Accrued dividends and repayments	259	261
Other prepaid expenses and accrued income	9	7
TOTAL PREPAID EXPENSES AND ACCRUED INCOME	1,030	1,338

14 Other liabilities

	31/12/2019	31/12/2018
Trade accounts payable	10	15
Outstanding liabilities	2,849	466
Other liabilities	6	6
TOTAL OTHER LIABILITIES	2,865	487

15 Deferred income and accrued expenses

	31/12/2019	31/12/2018
Accrued interest expenses	607	1,052
Accrued personnel costs	15	9
Accrued external asset management fees	0	1
Other accrued expenses	6	3
TOTAL DEFERRED INCOME AND ACCRUED EXPENSES	628	1,065

16 Fund capital

	31/12/2019	31/12/2018
Fund capital, opening balance	349,312	356,609
NET PAYMENTS TO THE PENSION SYSTEM:		
Paid-in pension contributions	72,343	69,552
Pension funds disbursed to the Swedish Pensions Agency	-78,681	-76,109
Transfer of pension rights to EG	0	-1
Settlement of pension rights	3	2
Administration fees to the Swedish Pensions Agency	-185	-216
TOTAL NET PAYMENTS TO THE PENSION SYSTEM	-6,520	-6,772
NET RESULT FOR THE YEAR	75,236	-525
FUND CAPITAL, CLOSING BALANCE	418,028	349,312

17 Pledged assets, contingent liabilities and commitments

	31/12/2019	31/12/2018
OTHER PLEDGED ASSETS AND EQUIVALENT COLLATERAL:		
Securities on loan against collateral received in the form of securities ¹	25,173	23,740
Collateral pledged for exchange-cleared derivative contracts	1,494	1,418
Pledged assets pertaining to OTC derivative contracts ²	-	630
COMMITMENTS:		
Investment commitments to future payments for alternative and strategic investments	8,616	12,847
Subscription commitments, see Note 18	9,500	9,500

¹ Collateral received for loaned securities amounts to SEK 26,353 million (24,869).

² Collateral received for OTC derivative contracts amounted to SEK 5,086 million (400).

18 Related parties

The purpose of this note is to disclose how AP4's earnings and financial position have been affected by transactions and outstanding balances, including commitments, with related parties in accordance with the definitions in IAS 24. With respect to salaries and fees paid to the Board of Directors and senior executives, see Note 6. All associated companies are considered to be related parties to AP4, see also Note 9.

	31/12/2019	31/12/2018
VASAKRONAN HOLDING AB		
Interest income	9	9
Commitments ¹	4,500	4,500
RIKSKEM INTRESSENER AB		
Interest income	15	10
Commitments ¹	5,000	5,000
ASE HOLDINGS S.Å.R.L.		
Interest income	29	28
Shareholder loans	248	226
ASE HOLDINGS II S.Å.R.L.		
Interest income	32	31
Shareholder loans	400	364
ASE HOLDINGS III S.Å.R.L.		
Interest income	13	7
Shareholder contributions during the year	70	55
Shareholder loans	196	112
POLHEM INFRA AB		
Shareholder contributions during the year	4,5	-
POLHEM INFRA KB		
Contributions during the year	312	-

¹ At the request of Vasakronan and Rikshem, AP4 has committed to buying commercial paper in the respective companies up a value reported above.

19 Financial instruments, price and valuation hierarchy

Fair value, SEK m	31/12/2019 Level 1	31/12/2019 Level 2	31/12/2019 Level 3	31/12/2019 Total
FINANCIAL ASSETS				
Shares and participations, listed	201,340	43,210	4,220	248,771
Shares and participations, unlisted	-	-	42,897	42,897
Bonds and other fixed income securities	113,282	94	2,590	115,965
Derivative instruments	3	6,304	-	6,307
Total financial assets	314,624	49,609	49,707	413,940
FINANCIAL LIABILITIES				
Derivative instruments	0	-1,112	-	-1,112
Total financial liabilities	0	-1,112	-	-1,112
NET FINANCIAL ASSETS AND LIABILITIES	314,624	48,496	49,707	412,827

Fair value, SEK m	31/12/2018 Level 1	31/12/2018 Level 2	31/12/2018 Level 3	31/12/2018 Total
FINANCIAL ASSETS				
Shares and participations, listed	152,605	34,579	3,450	190,635
Shares and participations, unlisted	-	-	36,077	36,077
Bonds and other fixed income securities	112,269	452	2,443	115,163
Derivative instruments	0	4,806	-	4,806
Total financial assets	264,874	39,837	41,970	346,681
FINANCIAL LIABILITIES				
Derivative instruments	0	-1,659	-	-1,659
Total financial liabilities	0	-1,659	-	-1,659
NET FINANCIAL ASSETS AND LIABILITIES	264,874	38,178	41,970	345,022

Changes in Level 3

	Shares and participations, unlisted	Shares and participations, listed	Bonds and other fixed income investments
Opening balance, 1/1/2019	36,077	3,450	2,443
Realised and unrealised gains (+) or losses (-) in the income statement*	5,156	589	-151
Purchases	2,674	543	580
Sales	-1,010	-362	-282
CLOSING BALANCE, 31/12/2019	42,897	4,220	2,590
*Of which, unrealised gains	4 426	585	-186

	Shares and participations, unlisted	Shares and participations, listed	Bonds and other fixed income investments
Opening balance, 1/1/2018	29,914	3,254	1,382
Realised and unrealised gains (+) or losses (-) in the income statement*	4,736	226	47
Purchases	1,955	872	1,023
Sales	-528	-901	-9
CLOSING BALANCE, 31/12/2018	36,077	3,450	2,443
*Of which, unrealised gains	4,495	150	47

Level 1 Instruments with publicly quoted prices

Financial instruments traded in an active market. A market is considered to be active if it has quoted prices that are regularly updated more frequently than once a week and if the prices used are unadjusted for settled trades in the market. Slightly less than 76% of AP4's investments are classified in this level.

Level 2 Valuation methods based on observable market data

Financial instruments traded in a market that is not considered to be active, but where there are quoted prices that are unadjusted for trades, or observable input data that is updated regularly for indirect valuation using generally accepted models. At AP4 this category mainly includes market-quoted equity funds that are not considered to be active but where there is observable input data that is regularly updated for indirect valuation as well as OTC derivatives such as forward exchange contracts and interest rate swaps, but also fixed income instruments and funds containing interest-related instruments with low liquidity. OTC derivatives are valued using discount curves that are indirectly based on regularly updated observable input data that is interpolated or extrapolated to calculate non-observable interest rates. Input data for these interest rates that is used to discount the future cash flows of the instrument for valuation is updated regularly and is observable, though this does not apply for the interest rates. These instruments are therefore classified as Level 2.

Level 3 Valuation techniques based on non-observable market data

Financial instruments that are valued using a significant amount of non-observable data or that cannot otherwise be classified as Level 1 or Level 2. This includes unlisted shares and shareholder loans in directly held real estate companies and unlisted shares in private equity firms. For private equity firms, the IPEV's principles are used as the main framework and include several valuation methods such as valuation based on actual transactions, multiples valuations, calculations of net asset value and discounted cash flows. For holdings in directly owned property companies, the principles of IPD Svenskt Fastighetsindex are used as a framework, with two basic methods: the local market price method and the indirect return method (NPV approach). With the local market price method, the property holdings are compared with similar properties sold on the open market, while the indirect return method involves the use of discounted forecast future cash flows.

Sensitivity analysis

According to IFRS a sensitivity analysis shall be presented using an alternative valuation for Level 3 assets. In terms of valuation methodology, an alternative valuation of these assets is associated with major difficulties. Generally speaking, for unlisted properties the yield requirement is of crucial importance, but assumptions about factors such as vacancies, operating costs, market and profit growth are also of great importance. For private equity firms, profit growth and the stock exchange's P/E multiple valuations are important. Level 3 valuations

usually include a delay, which in a positive-trending market entail a conservative valuation and vice versa.

A sensitivity analysis of Vasakronan, AP4's largest real estate holding, with a fair value of shares and participations of SEK 20.6 billion, i.e., just over 50% of unlisted shares in Level 3, has been performed by the property company. According to this analysis a change in required yield by +/- 0.25 percentage points would change the value of the shareholding in Vasakronan by approximately SEK -2.1/+2.4 billion.

For valuation of AP4's investments in private equity firms reported in unlisted shares, corresponding to SEK 6.4 billion, significant assumptions are made about valuation multiples and future cash flows. A changed assumption for the EV/EBITDA multiple by +/- 5% would result in a change in the valuation of these investments by SEK -/+ 797 million. Valuation of AP4's high-yield fixed income assets reported in listed shares, corresponding to SEK 5.1 billion, is based substantially on discount rates for interest income and repayment of loans. A change in the discount rate of +/- 1 percentage point for all maturities would result in a change in value by SEK -/+ 102 million.

20 Risks

Business risks

Following is a description of AP4's principal risks, which consist of financial and operational risks.

Operational risk

By operational risk is meant the "risk of loss resulting from inadequate or failed processes, human error, defective systems or external events". The definition includes legal risk. Examples of operational risks include conscious or unconscious mismanagement, which can be caused by substandard routines or instructions, inadequate systems, insufficient control and audit, and by criminal actions or external events.

The overall goal in managing operational risks is to achieve and maintain a good control culture and to reduce significant operational risks within the Fund.

Established, Fund-wide process and methodology

Operational risks at AP4 are to be managed through an established Fund-wide process and methodology. This process includes process mapping, identification and valuation of risks, and shall be conducted for all identified processes. Key controls shall be in place for all material risks, which as far as possible reduces the likelihood of risks materialising or mitigates the consequences when undesirable events occur despite all. In the valuation of risks, existing key controls shall be quality-assured to ensure they have the desired functionality and are effective.

As part of the operational risk management process it is especially important to evaluate change processes and their effects on operations. Operational risks are evaluated specifically in connection with the implementation of new products, system changes and organisational changes.

To minimise operational risks, a clear division of responsibilities and authorities shall be documented in written rules and instructions. Applicable processes and procedures shall ensure good internal control and be documented in relevant instructions.

Responsibility and organisation

In the day-to-day activities all managers and employees shall maintain an awareness of risks in the business and their key controls, and act in such a way to ensure that the operations, assets or trust in the Fund among parties in the external operating environment are not jeopardised. Further, all units are responsible for ensuring that the daily operations meet the requirements for good internal control and allocate sufficient resources for this.

The operations, with the process owner as the responsible party, shall identify, assess and manage the risks in their respective areas of operation. IT & Risk is responsible for supporting and coordinating the management of operational risks in the entire Fund. This responsibility includes developing and providing expert and methodology support and following up, evaluating and developing the risk management process. In addition, IT & Risk is responsible for conducting a follow up at least once of year to ensure compliance with the joint risk management methodology for operational risks for all identified processes in the Fund. The same applies for all identified material change processes, such as for the implementa-

tion of new products, system changes and organisational changes.

AP4's Legal unit is responsible for legal risk aspects of contracts and similar.

Financial risks

Financial risks, consisting mainly of market, credit and liquidity risks, are monitored and controlled by the independent IT & Risk unit, which reports directly to the CEO and the Board of Directors. The goal of asset management is to only take positions that are expected to generate favourable returns within established risk mandates. Therefore, the main risks that AP4 exposes itself to should consist of transparent financial risks, and in such case predominantly market risks where there are good opportunities for forecast risk premiums.

Market risks

Market risk is the risk that the value of an instrument will be negatively affected by variations in share prices, exchange rates or market interest rates. Since AP4's holdings consists mainly of listed instruments with daily pricing in liquid markets, there are good opportunities to regularly measure and report on market risks through both prognosticated and realised risk levels. AP4's goal is to hold a high proportion of listed equities and fixed income instruments.

Share price risk

Share price risk refers to the expected variation in the market value of shares. Share price risk is managed through diversification across regions, countries and sectors.

Interest rate risk

Only AP4's fixed income assets are included in the measurement of interest rate risk attributable to expected variations in the market value of the Fund's fixed income assets caused by nominal interest rate movements in bond markets. AP4 manages interest rate risk through diversification across regions and yield curves.

Currency risk

Currency risk refers to expected variations in exchange rates for assets denominated in foreign currencies. Currency risk arises in connection with investments that are quoted in foreign currencies. The Swedish National Pension Insurance Funds Act limits the total currency exposure in the Fund to a maximum of 40 percentage points. AP4's investment policy determines the ultimate currency exposure for each major currency in the Dynamic Normal Portfolio (DNP).

Risk in investments

One way of calculating financial risk is to use the Value at Risk (VaR) metric. Value at Risk is defined as the maximum loss that can arise with a given probability during a given period of time. In the table below an analytical factor model is used for a 10-day period of time and 95% confidence level.

20 Cont. Risks

Asset classes, 31/12/2019	VaR, ex-ante, holding period 10 days	Contribution volatility % 12-month portfolio	VaR, ex-ante, holding period 1 day ²
Global equities ¹	4,604	4.0	1,216
Swedish equities	2,309	2.0	608
Global fixed income instruments ¹	-40	0.0	-39
Swedish fixed income instruments	-11	0.0	-8
Real assets ¹	1,311	1.2	108
Currency and other	79	0.1	8
TOTAL INVESTMENTS	8,252	7.3	1,893

Asset classes, 31/12/2018	VaR, ex-ante, holding period 10 days	Contribution volatility % 12-month portfolio	VaR, ex-ante, holding period 1 day ²
Global equities ¹	3,299	3.5	1,292
Swedish equities	1,842	1.9	504
Global fixed income instruments ¹	-1	0.0	-5
Swedish fixed income instruments	-13	0.0	5
Real assets ¹	1,314	1.4	101
Currency and other	33	0.0	14
TOTAL INVESTMENTS	6,474	6.8	1,911

¹ Some of AP4's assets lack market quotations of asset prices with good periodicity or are also missing underlying holdings of an index. This makes it difficult to forecast the risks for these assets in a satisfactory manner in the Fund's risk system, Barra. AP4 has therefore chosen to use alternative listed securities as approximations for these holdings. Approximations have been used for a total of 13.4% of assets. Approximations have been made as follows: For real estate holdings, corresponding to 9.7%, shares in listed Swedish property companies have been used. For unlisted equities and high-yield fixed income instruments, corresponding to 2.3%, a European equity index and European high-yield index have been used, respectively. For externally managed equities in emerging markets, corresponding to 1.4%, an equity index for emerging markets has been used. ² To enable comparisons with AP1, AP2 and AP3, the Fund has also estimated VaR based on a one-day holding period, a 95% confidence level, and a data length of one year in which the observations are given equal weight. In this context a simulation method with historical return distribution has been used for the calculation.

The risk measure Value at Risk (VaR) is used to calculate financial risks. Value at Risk is defined as the maximum loss that can arise with a given probability over a given period of time. The table above uses a 10-day period and 95% confidence level, unless otherwise indicated.

Currency exposure

31/12/2019	USD	HKD	JPY	GBP	KRW	TWD	Other	Total
Shares and participations	95,537	11,555	9,457	3,280	7,066	3,219	45,158	175,271
Bonds and other fixed income assets	34,939	0	6,820	0	0	0	29,695	71,454
Derivative instruments, excl. currency derivatives	-12,675	0	0	0	0	0	-510	-13,185
Other receivables and liabilities, net	1,124	-1,770	366	1	83	0	2,113	1,916
Currency derivatives	-78,456	-3,977	-12,631	0	-4,099	-330	-53,159	-152,653
CURRENCY EXPOSURE, NET	40,469	5,808	4,012	3,281	3,050	2,888	23,295	82,804

31/12/2018	USD	HKD	JPY	GBP	KRW	TWD	Other	Total
Shares and participations	71,415	6,032	9,106	7,715	2,893	2,392	33,479	133,031
Bonds and other fixed income assets	37,784	0	0	6,435	0	0	26,977	71,196
Derivative instruments, excl. currency derivatives	12	0	0	0	0	0	-501	-489
Other receivables and liabilities, net	1,922	7	167	181	0	0	1,268	3,545
Currency derivatives	-83,032	0	-5,322	-10,645	0	0	-44,039	-143,038
CURRENCY EXPOSURE, NET	28,101	6,038	3,952	3,686	2,893	2,392	17,184	64,246

AP4 hedges its entire holding of foreign fixed income assets as well as parts of its foreign shareholdings using currency derivatives. AP4's currency exposure at year-end was 19.8% (18.4%). The Fund's currency exposure is shown in the table above.

20 Cont. Risks

Credit risk

Credit risk refers to the risk that an issuer or counterparty cannot meet its payment obligations. Credit exposure refers to the value that is exposed to credit risk through agreements with counterparties or issuers. Credit exposure thus includes both issuer and counterparty exposures. Total credit risk is limited by the selection of the interest rate index in the Dynamic Normal Portfolio and limits per rating category. Credit risk per pool of issuers or issuer is restricted

by limits which include both issuer and counterparty risk.

The CEO approves all counterparties with which the Fund can do business (in both standard and non-standard instruments). Further, when trading in OTC derivatives, ISDA and CSA agreements must exist for all large counterparties.

Non-standardised derivatives				
Rating classes, ¹ 31/12/2019, SEK m	Bonds ² , exposure	Fair Value ²	Collateral/security	Residual risk
AAA	79,717	-	-	-
AA	7,059	1,565	-1,590	-25
A	2,524	2,256	-3,862	-1,606
BBB	24,046	0	-49	-49
BB	29	-	-	-
No rating ³	1,934	-	-	-
TOTAL CREDIT RISK EXPOSURE	115,309	3,821	-5,501	-1,680

Non-standardised derivatives				
Ratingklasser ¹ , 2018-12-31, Mkr	Bonds ² , exposure	Fair Value ²	Collateral/security	Residual risk
AAA	80,721	-	-	-
AA	6,057	529	388	917
A	2,688	1,793	134	1,927
BBB	23,999	0	8	8
BB	25	-	-	-
No rating ³	1,723	-	-	-
TOTAL CREDIT RISK EXPOSURE	115,214	2,323	530	2,853

¹ The credit ratings presented here refer to an internal standard. For 2019 this standard is based on the rating assigned by the chosen rating agency (Moody's Analytics UK Ltd).

² Fair value, including accrued interest.

³ Pertains to subordinated loans, bonds and shareholder loans in Alternative investments and Real estate.

Management of derivatives

AP4 uses derivatives in most management mandates. Derivatives have several areas of use and purposes, where the most important are outlined below:

- Hedging of AP4's foreign investments, where derivatives are the only alternative
- Making index management more efficient, where derivatives are used to minimise transaction costs and simplify administration
- Making active management more efficient, where derivatives are used to minimise transaction costs and simplify administration as well as to enable positions to be taken that cannot be created using other instruments (short positions, volatility positions, and more)
- Regulating the strategic portfolio's risk with the help of strategic derivative positions

The use of derivatives is limited both in terms of the nominal underlying values and market risk. All derivative positions and associated risks are subject to daily position and risk monitoring.

The CEO approves all counterparties with which AP4 may do business regarding both standard and non-standard instruments.

Furthermore, when trading in OTC derivatives, ISDA (International Swaps and Derivatives Association) and CSA (Credit Support Annex) agreements must exist with all large counterparties. ISDA agreements refer to a standard agreements for regulating derivatives trading between two counterparties. CSA agreements refer to an annex to an ISDA agreement.

CSA agreements regulate how collateral is to be pledged as outstanding liabilities in the form of liquid funds or securities.

20 Cont Risks

Liquidity risk

Liquidity risk includes liquidity risk related to cash flows and liquidity risk in financial instruments.

Liquidity risk in a financial instrument consists of the risk that the instrument cannot be sold or can only be sold at a significantly lower price than the market quoted price. A large share of AP4's securities are immediately available for trading or lending. Illiquid financial instruments consist primarily of assets in unlisted companies and real estate. OTC derivatives and credit instruments may also become illiquid and/or show significant differences between the bid and ask prices from time to time.

Liquidity risk may also be high if large net payments are needed from the liabilities side, since the Fund has a payment obligation to the Swedish Pensions Agency. This makes it necessary to keep a large share of liquid assets. At present AP4 makes monthly payments to the Swedish Pensions Agency that are relatively small in relation to existing capital, however, possible losses on currency forward contracts and equity index futures may be significant, and daily forecasts of liquidity in SEK and other currencies are to be prepared.

AP4's liquidity risk in financial instruments is limited by the Fund's investment universe as well as by limits for active risk combined with the choice of benchmark index for fixed income securities and listed equities. Further, the Swedish National Pension Funds Act limits liquidity risk, as it stipulates that a minimum of 20% of AP4's total market value must be invested in debt instruments with low credit and liquidity risk.

The Board's rules limit liquidity risk through specific guidelines for investments in interest-bearing assets and through careful monitoring of cash balances. AP4 invests a large share of the portfolio in listed equities and government bonds with good liquidity. Overall, liquidity risk in AP4 is considered to be low.

The table below provides a summary of AP4's liquidity risk according to the maturity structure. Bonds and fixed income instruments are stated at fair value, including accrued interest.

Maturity structure, 31/12/2019, SEK m						
Term	< 1 yr	1<3 yrs	3<5 yrs	5<10 yrs	> 10 yrs	Total
Nominal government	0	25,313	14,393	12,627	6,011	58,343
Nominal corporate	3,794	18,989	25,838	7,580	765	56,966
TOTAL	3,794	44,302	40,230	20,207	6,776	115,309

Maturity structure, 31/12/2018, SEK m						
Term	< 1 yr	1<3 yrs	3<5 yrs	5<10 yrs	> 10 yrs	Total
Nominal government	4,150	25,152	18,089	8,629	5,265	61,285
Nominal corporate	1,687	14,066	28,573	8,345	1,258	53,929
TOTAL	5,837	39,218	46,663	16,973	6,522	115,214

All liabilities have terms of less than one year except for a few currency options, forward exchange contracts and credit derivatives (credit default swaps), see Note 11.

21 Financial assets and liabilities that are netted on the balance sheet or subject to netting agreements

31/12/2019	Amounts not netted on the balance sheet							Total on balance sheet
	Gross amount	Netted amount on balance sheet	Net amount on balance sheet	Offsetting of financial instruments under agreements	Collateral received	Net amount after offsetting	Other ¹	
ASSETS								
Derivative instruments	6,307	0	6,307	1,112	4,819	376	-	6,307
Unliquidated receivables	11,069	10,944	125	-	-	125	3,042	3,167
TOTAL	17,376	10,944	6,432	1,112	4,819	501	3,042	9,474
LIABILITIES								
Derivative instruments	1,112	0	1,112	1,112	0	0	-	1,112
Unliquidated receivables	10,997	10,944	53	-	-	53	2,796	2,849
TOTAL	12,109	10,944	1,165	1,112	0	53	2,796	3,961

31/12/2018	Amounts not netted on the balance sheet							Total on balance sheet
	Gross amount	Netted amount on balance sheet	Net amount on balance sheet	Offsetting of financial instruments under agreements	Collateral received	Net amount after offsetting	Other ¹	
ASSETS								
Derivative instruments	4,806	-	4,806	1,340	366	3,100	-	4,806
Unliquidated receivables	4,475	4,473	2	-	-	2	1,016	1,018
TOTAL	9,281	4,473	4,808	1,340	366	3,102	1,016	5,824
LIABILITIES								
Derivative instruments	1,659	-	1,659	1,340	294	25	-	1,659
Unliquidated receivables	4,475	4,473	2	-	-	2	464	466
TOTAL	6,134	4,473	1,661	1,340	294	27	464	2,125

¹ Other instruments on the balance sheet not subject to agreements that allow offsetting.

The table above shows financial assets and liabilities that are presented net on the balance sheet or that have rights associated with legally binding master agreements for offsetting or similar agreements. Financial assets and liabilities are recognised net on the balance sheet when AP4 has a legal right to net under normal business conditions and in the event of insolvency, and if there is an intention to settle net or sell the asset and settle the liability simultaneously. Financial assets and liabilities that are subject to legally binding master agreements on offsetting or similar agreements that are not presented net on the balance sheet are arrangements that usually come into force in the event of insolvency, but not under normal business conditions or for arrangements in which AP4 does not have the intention to liquidate positions simultaneously.

Board of Directors' signatures

Stockholm, 20 February 2020

Sarah McPhee
Chair of the Board

Lars Åberg
Vice Chair

Sven Hegelund

Henrik Rättzén

Erica Sjölander

Katrin Stjernfeldt-Jammeh

Maj-Charlotte Wallin

Ingrid Werner

Göran Zettergren

Niklas Ekvall
CEO

Our audit report was submitted on 20 February 2020

Helena Kaiser de Carolis
Authorised Public Accountant,
Appointed by the Swedish government

Peter Nilsson
Authorised Public Accountant,
Appointed by the Swedish government

Auditor's Report

Report on the audit of the annual accounts

Below text is a translation of the official auditor's report, which is presented in Swedish.

Opinion

We have audited the annual accounts of AP4 for 2019. The Fund's annual accounts are included in the printed version of this document on pages 50–73.

In our opinion, the annual accounts have been prepared in accordance with the Swedish National Pension Funds Act (2000:192) and present fairly, in all material respects, the financial position of the Fourth AP Fund as at 31 December 2019 and of its financial performance for the year then ending according to the Swedish National Pension Funds Act.

The statutory administration report is consistent with the other parts of the annual accounts.

We, therefore, recommend that the income statement and balance sheet be adopted.

Other Information than the annual accounts

This document includes other information than the financial statements. The other information comprises the pages 1–49 and 76–89. The Board of Directors and the Managing Director are responsible for the other information.

Our opinion on the annual accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities according to these standards are described in more detail in the section Auditor's responsibilities below. We are independent in relation to AP4 according to generally accepted auditing standards in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these standards.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of the Board of Directors and the Managing Director

It is the Board of Directors and Managing Director who are responsible for the preparation and fair presentation of the annual accounts in accordance with the Law on Pension Funds. The board of Directors and Managing Director are also responsible for the internal control they deem necessary to enable the preparation of annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts, the Board of Directors and Managing Director are required to assess the Fund's capacity to continue its operations. They are also to provide disclosures, as appropriate, of the circumstances regarding such assessments and as regards the application of the going concern basis of accounting, provided the Board of Directors and Managing Director do not intend to liquidate the Fund or cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities

Our responsibility is to obtain reasonable assurance as to whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an Auditor's Report that includes our opinion. Reasonable assurance is a high level of assurance, but does not comprise a guarantee that an audit conducted in accordance with ISA and generally accepted auditing standards in Sweden will always identify material misstatements should they exist. Misstatements can arise from fraud or error and are considered to be material if, individually or taken together, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts. As a part of the audit in accordance with ISA, we undertake professional judgment and maintain professional scepticism throughout the entire audit.

As a part of the audit in accordance with ISA, we undertake professional judgment and maintain professional scepticism throughout the entire audit. In addition, we execute the following activities:

- We identify and assess the risks of material misstatement in the annual accounts, whether due to fraud or error, design and execute audit procedures based on, amongst other things, these risks, and obtain audit evidence which is sufficient and appropriate to provide a basis for our opinion. The risk of not identifying a material misstatement resulting from fraud is higher than one resulting from error, as fraud can include collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- We obtain understanding of the internal control of the fund relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal controls.

- We evaluate the appropriateness of the accounting principles applied and the reasonability of the accounting estimates and related disclosures made by the Board of Directors and Managing Director.
- We reach a conclusion on the appropriateness of the Board of Directors' and Managing Director's application of the going concern basis of accounting in the preparation of the annual accounts. We are also to reach a conclusion, based on the audit evidence obtained, whether any material uncertainty exists related to such events or circumstances which can result in significant doubt as regards the Fund's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our Auditor's Report to the related disclosures in the annual accounts, or if such disclosures are inadequate, we are required to modify our opinion on the annual accounts. Our conclusions are based on the audit evidence obtained up to the date of our Auditor's Report. However, future events or circumstances may cause the Fund to cease to continue as a going concern.
- We evaluate the overall presentation, structure and content of the annual accounts, including the disclosures, and whether the financial reports represent the underlying transactions and events in a manner providing true and fair presentation.

We are required to inform the Board of Director's regarding, amongst other matters, the planned scope of the audit and its focus and time schedule, as well as regards any significant observations made during the audit, including potential significant deficiencies in the internal control which we identify during our audit.

Report on other legal and regulatory requirements

Opinion

In addition to our audit of the annual accounts, we have also audited the inventory of the assets managed by AP4. We have also audited to determine if there are any criticisms, in general, as regards the Board of Director's and Managing Director's management of AP4 for 2019.

The audit has shown no reason to criticise the inventory of the assets or, in general, the administration.

Basis for opinion

We conducted our audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities according to those standards are described in more detail in the Auditor's responsibilities section below. We are independent in relation to AP4 according to generally accepted auditing standards in Sweden and have otherwise fulfilled our ethical responsibilities

in accordance with these standards. We believe that the audit evidence we have obtained is sufficient and appropriate as a basis for our opinion.

Responsibilities of the Board of Directors and Managing Director

It is the Board of Directors who has the responsibility for the accounts and for the administration of the Fund's assets according to the Swedish National Pension Funds Act.

The Board of Directors is responsible for the organisation of AP4 and for the administration of the Fund's activities. This includes, amongst other things, the on-going assessment of the AP4 Fund's financial situation and ensuring that the organisation of AP4 is designed in such a manner that the accounts, funds management and the Fund's activities are, in general, subject to satisfactory controls. The Managing Director is responsible for the day-to-day administration according to the Board of Director's guidelines and instructions and for, amongst other things, the implementation of measures necessary to ensure that the Fund's accounting is executed in compliance with the applicable legislation and that the funds of AP4 are managed in a satisfactory manner.

Auditor's responsibilities

Our responsibility regarding the audit of the administration and, thereby, our opinion on discharge from liability, is to evaluate audit evidence in order to, with a reasonable degree of assurance on the basis of reasonable assurance, if there is any criticism of the Board of Directors' and Managing Directors' administration of the AP4 for financial year 2019.

Reasonable assurance is a high level of assurance but does not comprise a guarantee that an audit executed in accordance with generally accepted auditing standards in Sweden will always identify actions or negligence which can result in criticism.

As a part of an audit according to generally accepted auditing practice in Sweden, we exercise professional judgment and maintain a professional scepticism through the entire audit. The audit of the administration is based primarily on the audit of the accounts. Any additional audit procedures selected to be executed are based on our professional judgment with the starting point being the risks in the operations and the determined level of materiality. This implies that we focus the audit on such measures, areas and circumstances that are significant to the operations, and where non-compliance in such contexts would be of particular importance to AP4's situation. We review and test decisions taken, decisionmaking documentation, measures taken and other circumstances relevant to our opinion on the administration.

Stockholm, 20 February 2020

Helena Kaiser de Carolis

Authorised Public Accountant

Appointed by the Swedish Government

Peter Nilsson

Authorised Public Accountant

Appointed by the Swedish Government

Fund Governance Report

The Fund Governance Report describes parts of the work conducted by the Board of Directors and AP4 during the year. The report follows applicable parts of the Swedish Corporate Governance Code (“the Code”), which provides guidance for generally accepted practice for listed Swedish companies. AP4 is a government authority, and the differences between public law and company law are substantial. The Fund Governance Report is therefore limited to the parts of the Code that can be regarded as relevant for AP4. The Fund Governance Report has not been reviewed by AP4’s external auditors.

Governance of AP4 – an authority governed by law

AP4 is a government authority whose operations are regulated by the National Pension Funds (the AP Funds) Act (Lagen (2000:192) om allmänna pensionfonder (AP-fonder)). The purport of this law is that AP4’s capital may only be used by the state to fund income-related retirement pensions, unless Swedish Parliament decides otherwise. In accordance with National Pension Funds Act, the AP Funds each have their own, independent boards of directors, which are responsible for the organisation and administration of the Funds’ capital. According to this Act, AP4’s board and operations may not be steered by government directives nor by business policies or economic policy interests. On 1 January 2019, changed rules in the National Pension Funds Act took effect regarding the AP Funds’ investment rules, including a stipulation for exemplary asset management. Following is a description of the rules that apply as from 1 January 2019.

AP4’s mission

AP4’s mission is to manage pensions funds in an exemplary way through responsible investments and responsible ownership to provide the greatest benefit for the pension system. The goal of exemplary asset management shall be achieved without compromising on the overarching goal of generating a long-term high return.

Investment rules

The investment rules for AP1-AP4 are stipulated in the National Pension Funds Act. Investments may be made in all market-listed and tradable instruments on the capital market, except for those related to commodities.

- A minimum of 20% of assets must be invested in fixed income securities with low credit and liquidity risk.
- A maximum of 40% of assets may be exposed to currency risk.
- A maximum of 10% of assets may be exposed to an individual issuer or group of issuers with internal ties.

- The market value of AP4’s shares in listed Swedish companies may amount to a maximum of 2% of the respective companies’ total market capitalisation.
- A maximum of 10% of votes may be owned in an individual listed company (except for own property companies).
- A maximum of 40% of assets may consist of illiquid assets.
- Unlisted shares may only be owned indirectly via funds or via private equity companies.
- Shares and participations in unlisted property companies may be directly owned.

Review and evaluation

The AP Funds are reviewed by external auditors. The government adopts the AP Funds’ income statements and balance sheets yearly. Under assignment by the government the AP Funds’ operations are also evaluated every year. This evaluation is presented in a report that is submitted to Swedish Parliament.

Audit of operations

AP4’s auditors are appointed by the Swedish government. The current assignment for 2019 is held by Helena Kaiser de Carolis and Peter Nilsson, from PwC. This assignment applies until AP4’s income statement and balance sheet for 2019 have been adopted and also includes a specific assignment for PwC AB to coordinate the audits of the AP Funds.

The auditors issue an audit report on their review. The auditors report directly to the Board of Directors, in part via a written audit report and in part via an oral presentation. The auditors attend at least one board meeting per year. The auditors report yearly to the Ministry of Finance.

External and internal rules and regulations

AP1-AP4 have jointly prepared accounting and valuation policies which aim to ensure that the AP Funds apply uniform accounting policies and that their annual reports are thereby comparable.

The document is updated on a regular basis and is discussed yearly with the external auditors. Since 2012 the AP Funds have a joint policy for remuneration, employee benefits, entertainment and business travel that has been adopted by the respective AP Funds' boards. This joint, overarching policy is complemented by AP4's more detailed internal employee and ethics-related policies and guidelines.

External and internal rules, regulations and documents that affect governance and operations:

- The National Pension Funds (the AP Funds) Act (Lagen (2000:192) om allmänna pensionfonder (AP-fonder))
- Laws such as the Administrative Procedures Act, the Public Procurement Act, and the principle on public access to information
- Views from external auditors
- The government's evaluation and report to Swedish Parliament
- The AP Funds' joint policy, and accounting and valuation policies
- AP4's internal policies and rules
- AP4's sustainability policy
- AP4's ownership policy
- The Swedish Corporate Governance Code

The Board's responsibilities and duties

The Board of Directors is ultimately responsible for AP4's organisation and the administration of AP4's capital. The Board has delegated the responsibility for the day-to-day administration to the CEO. The Board is also responsible for hiring and evaluating the CEO, taking positions on overarching strategic issues, ensuring that its decisions are executed, and checking and following up that the operations and its risks are managed in a suitable manner.

Important duties include adopting the following, among other things:

- Rules of Procedure for its work
- The CEO's instructions
- Policies, rules and guidelines for the operations, personnel (including principles for remuneration and terms of employment), financial and operational risks, and ethical guidelines for employees
- The focus of asset management through set return targets, the Dynamic Normal Portfolio (DNP), and risk mandate for the day-to-day asset management
- A yearly business plan for AP4

The Board's composition

AP4's board shall be made up of nine regular directors without deputies. The board members are appointed by the government. Of these, two are appointed based on a recommendation from the employer organisations and two are appointed based on a recommendation from the employee unions. The government appoints the Chair and Vice Chair from among the board members who were not nominated by the labour market parties.

The board members on 31 December 2019 were Sarah McPhee (Chair), Lars Åberg (Vice Chair), Sven Hegelund, Erica Sjölander, Katrin Stjernfeldt Jammeh, Maj-Charlotte Wallin, Ingrid Werner

and Göran Zettergren. Stefan Lundberg was replaced by Henrik Rättzén at the board meeting in May. Biographical information on AP4's directors is provided on page 82. The Board appointments apply until AP4's balance sheet and income statement for 2019 have been adopted.

The Board's three committees

The Board has established three committees — the Remuneration, Risk, and Audit Committees — which conduct drafting work on various matters for the Board.

Remuneration Committee

The Remuneration Committee is tasked with conducting drafting work and advising the Board on remuneration matters concerning the CEO and senior executives. The committee also conducts drafting work on other matters concerning AP4's remuneration principles and other terms of employment for all employees. The Remuneration Committee as per 31 December 2019 consisted of: Göran Zettergren (committee chair), Sven Hegelund and Maj-Charlotte Wallin.

Risk Committee

The Risk Committee shall serve as a drafting, oversight and advisory body for the Board with respect to AP4's governance, monitoring, and reporting of financial risks in the operations. The Risk Committee as per 31 December 2019 consisted of Lars Åberg (committee chair), Sven Hegelund and Ingrid Werner. Stefan Lundbergh was dismissed in May.

Audit Committee

The Audit Committee is tasked with serving in a drafting, oversight and advisory role for the Board with respect to AP4's external financial reporting, accounting, the effectiveness of the Fund's internal control, external audit, monitoring of AP4's management of operational risks, and compliance. AP4's external auditors attend the meeting at which the final audit is addressed. The Audit Committee as per 31 December 2019 consisted of Maj-Charlotte Wallin (committee chair), Göran Zetterberg and Erica Sjölander. In May, Stefan Lundbergh was replaced by Henrik Rättzén, who formally joins the committee in 2020.

Directors' fees

Directors' fees are set by the government. The full-year fee is SEK 100,000 for the Chair of the Board, SEK 75,000 for the Vice Chair, and SEK 50,000 for each of the other directors. The government has also set a yearly budget of SEK 100,000 for committee assignments.

Board work in 2019

Seven meetings documented by minutes

During the 2019 financial year the Board held seven meetings at which minutes were recorded. As shown in the table below, directors' attendance remained high, averaging 95%. Attendance at board meetings included, in addition to the board members, the CEO, AP4 executives in a presenting role, and AP4's General Counsel, who also serves as company secretary.

Board meetings in 2019

	Remuneration Committee	Risk Committee	Audit Committee	Attendance/total no. meetings	Fee (SEK 000s)
Sarah McPhee, Chair				7/7	100,000
Lars Åberg, Vice Chair		X		7/7	85,000
Stefan Lundbergh (dismissed in May)		X	X	2/2	27,500
Henrik Rättzén (co-opted as from May)				5/5	25,000
Erica Sjölander			X	7/7	60,000
Sven Hegelund	X	X		6/7	70,000
Maj-Charlotte Wallin	X		X	7/7	70,000
Göran Zettergren	X		X	7/7	65,833
Ingrid Werner		X		7/7	60,000
Katrin Stjernfeldt Jammeh				5/7	50,000

Focus areas in 2019

In addition to its regular work areas, the focus of the Board's work in 2019 was mainly on decisions related to extensive development work during the year, including:

- The new legislation regarding the new investment rules that took effect on 1 January 2019
- Sustainability
- Review and decisions on the Dynamic Normal Portfolio (DNP)

Evaluation of the Board's work

The Board's work is evaluated yearly. At the end of 2019 the Board conducted the annual evaluation of its work, in which all board members participated. The evaluation was conducted with the assistance of an external consultant, after which the evaluation report served as documentation for a discussion within the Board on how its work can be further developed.

Risk management at AP4

Well balanced active risk-taking based on set level of risk is a central component in AP4's successful asset management.

Risk management in three steps

To achieve its set return targets, AP4 must take well considered risks. Adept risk management is necessary for successful asset management. It must be possible to foresee risks prior to an investment and to subsequently control them. Risk management can be broken down into three steps:

- 1 Risk governance
- 2 Continuous risk management
- 3 Monitoring and control

Step 1. Risk governance – framework for risk tolerance

The Board of Directors has overarching responsibility for AP4's operations and adopts an investment policy and risk management plan for AP4's operations every year. Together with the Swedish National Pension Funds (the AP Funds) Act (Lagen (2000:192) om allmänna pensionfonder (AP-fonder)), these governing documents provide the framework for AP4's risk tolerance. To manage the various aspects of risk governance, the Board has established a Risk Committee and an Audit Committee with three members each. The Risk Committee serves in an advisory, oversight and drafting role for the Board with respect to AP4's governance, monitoring and reporting of financial risks in the operations. The Audit Committee is tasked with overseeing the external financial reporting and the effectiveness of AP4's internal controls. Its duties include overseeing the work on monitoring management of operational risks and monitoring compliance. AP4's risk and investment strategy has been formulated in accordance with the overall objective to generate the highest possible return over time and thereby contribute to the pension system's financial strength. The investment policy describes, among other things, the focus of asset management based on return targets and the Dynamic Normal Portfolio (DNP), which takes its starting point from AP4's ALM (Asset Liability Management) process. In addition, the investment policy describes the Fund's risk mandate for the continuing asset management. The risk management plan describes the division of responsibility and authority for the investment operations, the principal risks in the operations and how these risks are to be controlled and followed up. The main risks are financial and operational risks. A more detailed description of risks is provided in Note 20.

Step 2. Continuous risk management

AP4's daily risk management and control activities are decentralised to all operating aspects of the organisation and are conducted in accordance with the three lines of defence principle. This principle distinguishes between the functions that own the risks (the first line of defence), functions for monitoring, control and

compliance (the second line of defence), and functions for independent review (the third line of defence).

Three lines of defence

The first line of defence for risk management and control lies in the direct business operations, which includes every administrative unit in the investment operations as well as business support functions, such as Finance, Back Office and Legal.

The second line of defence consists of defined functions in IT & Risk (Risk Control and Risks & Systems) and Compliance. Compliance and defined functions in IT & Risk are units that are independent from the investment operations and report directly to the CEO and Board of Directors.

The third line of defence rests with internal audit. Each year the Board decides on the scope and the areas for which internal audit is to be conducted. Such assignment is carried out by an external auditing firm. In 2019 an external accounting firm was hired through a tendering process for such an internal audit assignment.

Financial and operational risks

In the continuing risks management, risks are broken down into financial and operational risks. Financial risks consist mainly of market, credit and liquidity risks. The CEO delegates the risk mandate received from the Board for financial risks to the various asset management units. The respective asset managers are responsible for risk management within their respective mandates. Risk management within a mandate is conducted through calculated risk-taking, which can have both positive and negative outcomes. AP4's financial risks have their starting point in the Board's decision on the overall asset allocation in the Dynamic Normal Portfolio (DNP) as well as in the Fund's risk mandate for the continuing asset management. As documentation for AP4's continuing work on optimising risk-taking, risk forecasts are used for the respective asset management areas, instruments, risk factors, and so on. AP4 plans strategic risk-taking with the help of stress tests and various scenario analyses. Operational risks at AP4 are to be managed through an established Fund-wide process and methodology. In the day-to-day activities all managers and employees shall maintain an awareness of risks in the business and their key controls, and act in such a way to ensure that the operations, assets or trust in the Fund among parties in the external operating environment are upheld.

Step 3. Monitoring and control

The IT & Risk unit is responsible for monitoring the Fund's financial and operational risks. This involves checks to ensure compliance in the operations with statutory investment rules, targets and guidelines, the requirements of the risk management plan and the CEO's decisions. The IT & Risk unit's work includes closely measuring and analysing risk and returns as well as reporting

on these daily, both in absolute figures and relative to benchmark indexes, and reporting any breaches of applicable rules or regulations. IT & Risk is organised into three different functions: Risks & Systems, Risk Control and IT. Of these, the Risk & Systems and Risk Control functions are part of AP4's risk management. The Risks & Systems function is responsible for the valuation principles for all instruments as well as daily analysis, control and reporting of returns, risks (forecast and outcome), and risk-adjusted returns. The Risk Control function is responsible for monitoring limits based on prevailing rules and control of financial risks. The Risk Control function is also responsible for monitoring operational risks in the investment operations and for ensuring compliance with rules governing operational risks. Operational risks in AP4 are to be managed through an established Fund-wide process and methodology. This process includes process mapping, identification and valuation of risks, and shall be conducted for all identified processes at least yearly. Key controls shall be in place for all material risks, which as far as possible reduces the

likelihood of risks materialising or mitigates the consequences when undesirable events occur despite all. In the valuation of risks, existing key controls shall be quality-assured to ensure they have the desired functionality and are effective. As part of the operational risk management process it is especially important to evaluate change processes and their effects on the operations. Operational risks are evaluated specifically in connection with the implementation of new products, system changes and organisational changes. To minimise operational risks, a clear division of responsibilities and authorities shall be documented in written instructions. Applicable processes and routines shall ensure good internal control and be documented in relevant instructions. The so-called four-eyes principle is applied consistently. The Compliance function reviews the operations with respect to compliance with laws, regulations and other guidelines, policies, instructions and internal rules, including ethical guidelines. Its responsibility includes providing support to the operations on compliance issues and analysing compliance risks in the operations.

Remuneration at AP4

AP4's role as a manager of Swedish national pension funds requires that the remuneration levels for the Fund's employees, including the CEO, are reasonable, justifiable and explainable.

In general AP4 strives to ensure that its employees' remuneration on the whole is in line with the market and enables AP4 to attract and retain talented employees. AP4 shall not be a salary leader, however.

AP4's board of directors

AP4's board is responsible for addressing remuneration issues in a purposeful, responsible and transparent way. Each year the Board adopts the principles governing remuneration and other terms of employment for AP4's employees. In addition, the Board conducts an annual follow-up of how these principles have been applied at AP4 during the preceding year, and verifies and certifies that the government's guidelines on terms of employment for senior executives of the AP Funds have been adhered to. As part of this work, with the support of external consultants the Board regularly conducts comparisons of AP4's remuneration levels for both members of the Executive Management and other employees using salary statistics from relevant, comparable employers in the market.

Remuneration Committee

The Remuneration Committee is a committee appointed by the Board and is composed of three board members. The committee serves in an advisory, monitoring and drafting role for the Board for remuneration matters concerning the CEO and senior executives of AP4. The Remuneration Committee conducts drafting work for important remuneration decisions in addition to handling other related duties delegated to it by the Board. The committee also conducts drafting work for other matters concerning AP4's remuneration principles and other terms of employment for all employees, and is responsible for monitoring application of these principles. Finally, the committee conducts drafting work behind the assessment of AP4's compliance with the government's guidelines for terms of employment for senior executives of the AP Funds.

The AP Funds' joint policy

A joint policy for remuneration principles, employee benefits, entertainment and business travel for the First, Second, Third, Fourth, Sixth and Seventh AP Funds was formulated in 2012 and was adopted by AP4's board. This joint, overarching policy is complemented by AP4's more detailed employee-related policies and guidelines, including AP4's remuneration policy. The policies and guidelines referred to above are subject to annual review.

AP4's remuneration policy

According to AP4's remuneration policy, an employee's total remuneration consists of a fixed salary, variable salary, pension and other benefits. No variable salary is payable to the CEO, senior executives, the Head of Risk Control and the Head of Compliance.

Fixed salary

Fixed salary shall be in line with the market and competitive, but not market-leading. Salaries are set on an individual basis and are commensurate with the level of responsibility and degree of difficulty of the work involved, as well as with the competence and capacity required for each employee's work.

Variable salary

Each year the Board of Directors approves a plan for variable remuneration for all of AP4's employees. No variable salary is payable to the CEO, senior executives, the Head of Risk Control or the Head of Compliance. The plan provides an opportunity to receive a maximum of two months' salary based on the achievement of predetermined targets based on objective criteria. The targets included in the plan are designed to balance collective achievements with the individual employees' contributions to and responsibility for AP4's overall performance during a rolling three-year period. A variable remuneration award is paid out only if AP4 posts a positive net result in absolute terms for year that the variable remuneration pertains to.

Pension

AP4 applies the so-called BTP plan under applicable collective agreements with BAO (the Employers Organisation of Swedish Banking Institutions) and SACO (the Swedish Confederation of Professional Associations) for all employees except for the CEO. Employees hired after 1 April 2008 with salaries higher than 10 times the Income Base Amount receive Alternative BTP, a defined contribution pension solution whereby pension premiums are paid in an amount corresponding to 30% of the employee's salary that is higher than 7.5 times the Income Base Amount. For other employees, unless otherwise agreed a mainly defined benefit retirement pension applies, according to the BTP plan. The CEO is entitled to retirement at 65 years of age and receives pension provisions corresponding to 30% of his salary.

Salary exchange/enhanced occupational pension

All employees are entitled to exchange a portion of their gross salary for pension contributions in way that is cost-neutral for AP4.

Other benefits

The combined value of other benefits is of limited value in relation to employees' total remuneration. Examples of other benefits include supplementary health insurance, group insurance and a fitness subsidy. AP4 encourages its employees to take advantage of their parental leave benefits and therefore compensates part of the difference between salary and the parental leave benefit. AP4 has four parking spaces that the employees can use, for which they are taxed as an employment benefit.

Notice period/severance pay

A notice period for end of employment applies in accordance with the rules of the collective agreement between BAO and SACO for all employees except for the CEO. For the CEO, a mutual notice period of six months applies. In the event AP4 serves notice, the CEO may also be entitled severance pay of 18 months' salary. Upon new employment or for income earned from an own business, the remuneration during the notice period or severance pay is to be reduced by an amount equivalent to the new income.

The Board's follow-up of salaries in 2019

During the year, the Board commissioned a salary survey for all employees based on the guidelines of the Discrimination Act as well as an external market comparison. The salary survey that was conducted from a gender equality perspective showed in summary that there are no significant differences in salary with respect to equal work, work of equal value, or in female-dominant work categories. The external market comparison that was conducted covered all of AP4's employees including the Fund's senior executives. The market comparison was conducted of salaries for equivalent positions in the financial sector in Sweden working with long-term asset management. One of the aims of the market comparison is to ensure that AP4's salaries are in line with the Fund's remuneration policy and the government's guidelines for terms of employment for senior executives of the AP Funds, and thus to ensure that AP4's remuneration levels are reasonable and justifiable without being market-leading, at the same time that they are in line with the market and competitive. The comparison, analysis and compilation of the external market salary comparison were performed by the external consulting firm Willis Towers Watson, whereby the documentation was obtained from its annual salary and benefits survey for the financial sector in Sweden. Each employee's remuneration was compared with corresponding positions of a group of financial sector actors in Sweden that work with long-term asset management. These are judged to compete for personnel with corresponding responsibilities, experience and expertise required by AP4 for fulfil its mission. After review of the comparative analysis results, the Board could conclude that AP4 applies remuneration levels that are within established guidelines and that AP4's salaries are competitive, reasonable and justifiable without being market-leading. In addition, it was determined that remuneration of senior executives is in accordance with the guidelines for terms of employment for senior executives of the AP Funds.

Board of Directors

Sarah McPhee

Chair of the Board since 2016
Born 1954
B.A., M.A., M. Sc. Business and Economics

Other assignments

Chair: SNS, Houdini AB
Director: Klarna AB, Axel Johnson Inc., Bure Equity AB, Royal Swedish Academy of Engineering Sciences



Lars Åberg

Vice Chair since 2017
Born 1953
B. Sc. Econ.

Other assignments

Director: Trygg-Stiftelsen, Gamla Livförsäkringsaktiebolaget SEB TryggLiv



Sven Hegelund

Director since 2012
Born 1947
M. Pol. Sc.

Other assignments

Chair: Nordiska Investeringsbanken (NIB)



Henrik Rättzén

Director since 2019
Born 1965
B. Sc. Econ.

Other assignments

Executive Vice President and CFO, SJ AB



Erica Sjölander

Director since 2012
Born 1971
M. Econ.

Other assignments

Cabinet Secretary, Swedish Unions within Industry
Director: Exportkreditnämnden (EKN)



Katrin Stjernfeldt Jammeh

Director since 2017
Born 1974

Other assignments

Municipal board chair, City of Malmö

Chair: Malmö Stadshus AB
Director: Malmö Municipal Council, SKR's Board and Social Democrat Party Board



Maj-Charlotte Wallin

Director since 2014
Born 1953
B. Sc. Econ.

Other assignments

Director: Specialfastigheter AB



Ingrid Werner

Director since 2017
Born 1961
Ph.D. Econ., Honorary Ph.D., Stockholm School of Economics

Other assignments

Martin and Andrew Murrer Professor of Finance
Chair: Swedish House of Finance (SHoF), Academic Advisory Board
Director: American Finance Association, FINRA Economic Advisory Committee, Mistra Financial Systems Board, Scientific Board for Danish Finance Institute and Dimensional Funds



Göran Zettergren

Director since 2015
Born 1958
Lic. Econ.

Other assignments

Senior Economist, TCO

Executive Management

Niklas Ekvall

CEO

Born 1963

Employed since 2016

Ph.D. Financial Economics, M. Sc. Industrial Engineering

Previous positions include Nordea, Carnegie, AP3, Handelsbanken and the Stockholm School of Economics.

Director: Vasakronan AB, Hans Dahlborgs Stiftelse för Bank- och Finansforskning, and The Royal Swedish Academy of Sciences Investment Committee



Jenny Askfelt Ruud

Head of Alternative Investments

Born 1973

Employed since 2018

M. Sc. Econ.

Previous positions include Enwise, Ratos, McKinsey & Company, Arts Alliance and Morgan Stanley.



Marcus Blomberg

Head of Strategic Allocation & Quantitative Analysis

Born 1974

Employed since 2017

M. Sc. Eng., M. Sc. Econ., CFA

Previous positions include AMF, LF and Alfred Berg.



Per Colleen

Head of Fundamental Equities

Born 1969

Employed since 2013

B. Sc. Econ.

Previous positions include SEB, DnB, MGA and AP3.



Theresa Einarsson

General Counsel

Born 1977

Employed since 2019

LL.B.

Previous positions include Apoteksgruppen i Sverige AB, Vinge, Davis Polk & Wardwell LLP and Hammarskiöld & Co.



Tobias Fransson

Head of Strategy & Sustainability

Born 1968

Employed since 2003

M. Sc. Econ.

Previous positions include ABB, SEB and Capto Financial Consulting.



Helene Lundkvist

Head of Finance & Business Operations

Born 1966

Employed since 2018

M. Sc. Econ.

Previous positions include Swedfund International, QleanAir Scandinavia, Deloitte Consulting and Deloitte Audit.



Nicklas Wikström

Head of IT & Risk

Born 1968

Employed since 2008

M. Sc. in Accounting and Financing, CEFA, AFA

Previous positions include AFA Insurance.



Anette Segercrantz

Head of HR

Born 1963

Employed since 2019

B.A.

Previous positions include Storebrand, SPP, AMF and Thomas Cook.

GRI Index

Abbreviations used in the GRI table:

AR = Annual Report 2019

CE = Council on Ethics of the AP Funds Annual Report 2018

H = Specification of holdings 2019

W = www.ap4.se

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102-4	Location of operations	AR cover
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103-2	Sustainability governance and its components	AR 45-49, 59
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Adapted TCFD table A1 with examples of climate-related risks

A central part of the TCFD's recommendations entails evaluating and reporting climate-related risks. The table below includes examples of risks that companies must take into account and manage in their operations and in investment analyses, and how the risks can be believed to affect an investment in companies/sectors/geographic markets. The risks are assessed with an investment horizon of up to ten years.


	Climate-related risks	Potential financial impact	AP4
TRANSITION RISKS	Regulatory risks		
	<ul style="list-style-type: none"> Higher pricing of GHG emissions Higher demands on climate reporting Higher regulations governing products and services Higher exposure to lawsuits 	<ul style="list-style-type: none"> Higher operating expenses (e.g., costs for compliance, insurance premiums) Depreciation, impairment losses and early phase-out of existing assets due to regulatory changes Higher costs and/or lower demand for products and services as a result of fines and rulings Reputation risk that affects demand and pricing 	<p>Since 2012 AP4 has been investing in a way that reduces climate risk in its assets. Today a global platform for investments in low-carbon strategies is used. These investments reduce climate risk in AP4's assets by reducing exposure to companies with the relatively largest CO₂ emissions and fossil fuel reserves. This is done under limited risk-taking and while maintaining anticipated returns relative to benchmark indexes. AP4 has successively increased the share of its investments under low-carbon strategies over time. AP4 has also divested companies active in fossil energy sources with high CO₂ intensity, such as thermal coal and oil sand. These investments are judged to reduce climate risk in the portfolio. During 2019 AP4 further developed its low carbon strategies in global equities. In addition to the portfolio companies' own, direct CO₂ emissions, the strategies now also take into account direct emissions from the companies' subcontractors. By taking subcontractors' CO₂ emissions into account, a broader analysis of climate risk in the value chain is achieved. This is expected to lead to better company selection in low carbon strategies.</p>
	Technical risks		
	<ul style="list-style-type: none"> Substitution of current products and services with alternatives with lower CO₂ emissions Unsuccessful investments in new technology Costs for transition to low-carbon technologies 	<ul style="list-style-type: none"> Depreciation and early phase-out of existing assets Lower demand for products and services Costs for research and development of new and alternative technologies Investments in technical development Costs for adapting/using new methods and processes 	<p>AP4 has a long-term investment horizon, which enhances opportunities to include sustainability factors in its investment assessments. Technology and consumption shifts can be expected during the transition to a low-fossil fuel society. AP4's assessments regarding when in time and how fast technology and consumption patterns will change and to what are an essential part of investment analyses. This applies for technologies, products and services in all asset classes, sectors, companies and securities.</p>
	Market risks		
<ul style="list-style-type: none"> Changes in customers' preferences Uncertainty in market signals Rising costs for raw materials 	<ul style="list-style-type: none"> Lower demand for products and services due to changed customer preferences Rising production costs due to changed commodity prices and requirements for waste management Sudden and unexpected changes in energy costs Changed revenue mix, leading to lower revenue Changed pricing of assets (e.g., fossil fuel reserve, land and securities) 	<p>Market risks are managed in a corresponding way as for technical risks above.</p>	
Reputation risks			
<ul style="list-style-type: none"> Changed consumption preferences Stigmatisation of sector Higher worries from stakeholders or negative feedback from stakeholders Higher exposure to lawsuits 	<ul style="list-style-type: none"> Lower revenues due to lower demand for products/services Lower revenues due to reduced production capacity (e.g., delayed permitting, disruptions in supply chain) Lower revenues due to negative impact on e.g., ability to attract and retain employees Lower access to capital 	<p>AP4 believes that over time companies cannot be successful and give their owners a stable return unless sustainability aspects are given adequate and prioritised attention by their respective boards and managements. Brand risk is therefore a significant sustainability risk. Reputation risks are managed in a corresponding way as for technical risks above.</p>	

	Climate-related risks	Potential financial impact	AP4
PHYSICAL RISKS	Acute risks	<ul style="list-style-type: none"> • Lower revenues due to reduced production capacity (e.g., delayed permitting, disruptions in supply chain) • Lower revenues and higher costs due to negative impact on employees (e.g., health, safety, absenteeism) • Depreciation and early phase-out of existing assets (e.g., damage to property or assets in high-risk areas) • Rising operating expenses (e.g., water shortages at hydro power plans and cooling water for fossil-based and nuclear power plants) 	Physical climate risks apply for all asset classes and investments.
	Enduring risks	<ul style="list-style-type: none"> • Changes in precipitation patterns and extreme variations in weather patterns • Rising average temperature • Rising ocean levels • Higher capital costs (e.g., damage to production plants) • Lower revenues due to lower sales/production • Rising insurance premiums and risk for lower access to insurance of assets in high-risk areas 	

Adapted TCFD table A2 with examples of climate-related opportunities

A central part of the TCFD's recommendations entails evaluating and reporting climate-related opportunities. These are reported in accordance with the proposed structure in table A2 below. The table includes examples of opportunities that companies are to take into account in their operations. In its investment analyses, AP4 takes into account how such opportunities are managed and how they can be believed to affect an investment in companies/sectors/geographic markets. The assessment is made with an investment horizon of up to ten years.

Climate-related opportunities	Potential financial impact	AP4
Resource efficiency		
<ul style="list-style-type: none"> • Use of more efficient transports • Use of more efficient production and distribution processes • Recycling • Relocation to more energy-efficient buildings • Reduced water use and water consumption 	<ul style="list-style-type: none"> • Lower operating expenses (e.g., through efficiency gains and cost reductions) • Increased production capacity, which leads to higher revenues • Growth in value of fixed assets (e.g., energy-efficient properties) • Benefits for employees (e.g., improved work environment with respect to health and safety, more satisfied employees), which leads to lower costs 	In 2019 AP4 completed a thematic climate analysis and based on its conclusions developed broader equity strategies with focus on resource efficiency related to water and waste, and developed and implemented an equity strategy in line with the transition from internal combustion engines to electric vehicles.
Energy sources		
<ul style="list-style-type: none"> • Use of lower-emitting energy sources • Policies that support the transition • Use of new technologies • Participation in CO₂ emissions markets • Decentralised electric power generation 	<ul style="list-style-type: none"> • Lower manufacturing costs • Reduced exposure to rising prices for fossil-based energy • Reduced exposure to greenhouse gas emissions and therefore less sensitivity to higher costs for CO₂ emissions • Return on investment in low-emitting technologies • Greater access to capital (due to more investors preferring low-emitting producers) • Improved reputation, leading to higher demand for products/services 	In 2019 AP4 further developed its low-carbon strategies in global equities, which now in addition to the portfolio companies' direct CO ₂ emissions also take into account subcontractors' direct emissions. Also taking subcontractors' CO ₂ emissions into account allows for a broader analysis of climate-related risks and opportunities in the value chain. It is believed that this will lead to even better company selection in the low-carbon strategies.
Products and services		
<ul style="list-style-type: none"> • Development and/or expansion of products and services with low emissions • Development of solutions for climate adaptation and insurance solutions • Development of new products through research and development • Ability to diversify business activities • Changes in consumption preferences 	<ul style="list-style-type: none"> • Higher revenues through greater demand for products and services with lower CO₂ emissions • Higher revenues by meeting new needs that arise in the transition (e.g., insurance solutions) • Improved competitive position that reflects changed consumption patterns and leads to higher revenues 	AP4 searches for, evaluates and makes thematic, proactive investments in specific sustainability areas. Examples of such investments are green bonds, alternative investment funds with a pronounced sustainability focus, and directly owned companies with a distinct sustainability focus as part of their business strategies, such as in real estate and infrastructure. In alternative investments, a commitment was made to a fund that invests in sustainable infrastructure in Africa. AP4 also established the company Polhem Infra together with AP1 and AP3. Polhem Infra will focus on sustainable infrastructure investments.
Markets		
<ul style="list-style-type: none"> • Access to new markets • Use of public sector incentives • Access to new assets and places that need insurance protection 	<ul style="list-style-type: none"> • Higher revenues through access to new and emerging markets (e.g., through partnerships with governments and development banks) • Greater diversity of financial assets (e.g., green bonds and infrastructure) 	AP4 searches for and invests in dedicated sustainability investments in various markets and asset classes that can contribute to and benefit from the ongoing climate transition. Over time these may give rise to significant opportunities in the portfolio.
Resilience and ability to recover		
<ul style="list-style-type: none"> • Participation in renewable energy programmes and application of more energy-efficient methods • Replacement/diversification of various resources 	<ul style="list-style-type: none"> • Higher market value through planning for management of climate-related risks (e.g., infrastructure, land, buildings) • Greater reliability in supply chain's ability to work under varying conditions • Higher revenues through new products and services for addressing climate change and its risks 	See above



AP4's long-term perspective, responsibility as owner and great commitment to sustainability create opportunities for high returns at a low cost. In this way AP4 works for more secure pensions.