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Sustainable and responsible management of central banks' pension and own portfolios

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Summary

Central banks are increasingly looking to align their operations with sustainability objectives within the constraints of their mandates. This agenda mainly originated in central banks within the broader remit of financial stability, in their capacity as supervisors. However, some central banks have also begun to explore and act on the sustainability implications for their identity as managers of investment portfolios, including sustainable and responsible investment of their pension and own portfolios. The drivers for doing so range from managing sustainability-related risks to aligning their activities with wider government policies and commitments, including with net-zero emissions targets. This challenges the conventional approach that calls for investments to be guided by the trinity of objectives of 'liquidity, safety and return', which overlooks the value of an environmental, social and governance (ESG) approach as a means to identify risks and opportunities.

Yet central banks' progress on this agenda to date has been relatively muted compared with their peers from the wider public investor community such as pension funds and sovereign wealth funds. Only a few central banks are signatories to the UN-supported Principles for Responsible Investment, have climate-related targets, or have made their responsible investment principles public. Low rates of adoption may be due to challenges relating to the availability of data, information and resources, to the particular characteristics of a typical central bank portfolio, or to issues of institutional independence and mandates.

Central banks can learn from their peers from the central banking community that are more advanced in this process, as well as from the wider public investor community in implementing sustainable and responsible investment through strategies including active ownership, ESG integration, impact investing, screening and thematic investing. This paper identifies a recommended course of action for central banks in sequence across the different phases from developing and implementing relevant policy, to monitoring and reporting outcomes, to identifying further adjustments to the policy and its implementation.

This paper is part of a toolbox designed to support central bankers and financial supervisors in calibrating monetary, prudential and other instruments in accordance with sustainability goals, as they address the ramifications of climate change and other environmental challenges. The papers have been written and peer-reviewed by leading experts from academia, think tanks and central banks and are based on cutting-edge research, drawing from best practice in central banking and supervision.

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1. Introduction

This paper presents an overview of current practices on sustainable and responsible management of central bank portfolios and provides recommendations for central banks on how to introduce sustainable, responsible or ESG (environmental, social and governance) aspects to those portfolios. Central banks have already begun to make this introduction, motivated by a better understanding of the benefits of responsible investing, the need to address the vulnerabilities of their portfolios in the face of climate-related financial risk and their responsibility to supporting policy efforts to achieve net-zero. Financial market participants are also increasingly looking at the impact their investments are creating. This is reflected in the growing number of institutions committing to align their portfolios with net-zero.

Box 1: Understanding the terminology

Responsible and sustainable investment is a field full of acronyms and definitions. Undefined terminology can cause confusion and become a barrier to change. However, there is no universal definition for responsible or sustainable investment. The largest global investor organisation, the UN-supported Principles for Responsible Investment (PRI), uses 'responsible investing' (RI) to describe investment activities that take ESG factors and strategies into consideration. The Network for Greening the Financial System (NGFS) on the other hand uses the term 'sustainable and responsible investment' (SRI), which it describes as "comprising a broad range of sustainable investment strategies including environmental, social and governance (ESG) criteria" (NGFS, 2019). The EU uses 'sustainable financing' when discussing similar themes, which it says "refers to the process of taking environmental, social and governance (ESG) considerations into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects" (European Commission, 2022).

Historically, RI has sometimes been confused with ethical investing. Ethical investing relies very heavily on active decision-making by excluding sectors or individual issuers/companies. Ethical investors are not willing to support undesirable activities nor to benefit financially from them. This can potentially lead to inferior returns due to, for example, limited diversification.

In this paper the emphasis is more broadly on ESG and sustainability rather than covering only climate aspects. The terms ESG, RI, SRI and sustainable finance are used interchangeably depending on the source. However, preference is given to RI, as SRI can be confused with its earlier definition as 'socially responsible investment' (rather than sustainable and responsible investment).

We highlight the following drivers for responsible investment:

- Climate change considerations and supporting wider government policies may be within the central bank's mandate.
- Systemic risks such as climate change are changing the operating environment.
- The process of identifying risk factors as part of risk management is exposing the vulnerability of portfolios to sustainability-related risks.
- The search for better risk adjusted returns in the face of growing understanding of climate-related risks is incentivising shifts in portfolio management.
- There is now more research available on how to incorporate RI and ESG.
- Stakeholder expectations may include RI.
- A central bank's organisational values may support this change.
- Legislation or guidelines may require RI.

Some of these drivers may be easier to incorporate in own portfolio management compared with pension portfolios, as they allow for own target setting and flexibility on RI objectives, which are more closely tied to fiduciary duty and regulatory restrictions. Pension funds tend to have a much longer investment horizon and greater allocation to private and/or real assets, which emphasises the use of RI as a risk mitigation function. Growing stakeholder expectations and wanting to act as a catalyst or as an example can also be significant drivers for both portfolios. Introducing RI elements has many benefits but developing the processes and implementing them within central bank portfolio management requires resources such as specialised expertise and data. Central banks, like any organisations, face many internal and external forces when developing and implementing RI principles.

"Central banks, like any organisations, face many internal and external forces when developing and implementing RI policies."

Structure of the paper

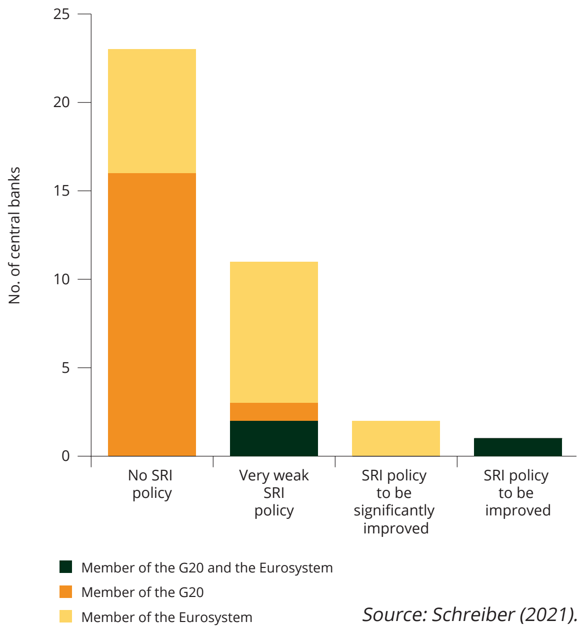
Section 2 reviews the current state of practice. Section 3 discusses the conventional approach taken by central banks, which can be described as an investment approach without sustainability aspects. How to incorporate these aspects is presented in more detail in Section 4. The lessons learned to date, including barriers and constraints, form Section 5. Section 6 presents recommendations.

2. The current state of practice

Compared with peers from across the financial ecosystem, including public investment institutions such as public pension funds, central banks' progress in this area has been, until now, relatively muted. This is highlighted for example by the small number of central bank signatories to the UN-supported Principles for Responsible Investment (PRI) and the few central banks with extensive, public responsible investment principles or climate-related targets.

Reclaim Finance, a non-governmental organisation (NGO), published a report on G20 and Eurosystem central banks' SRI policies in November 2021 (Schreiber, 2021). The research covered 37 central banks (members of the G20 and/or the Eurosystem) and indicated that 23 central banks had no SRI policy, and most of the rest had a "very weak SRI policy" (see Figure 1). The best performer (France) was still categorised as "SRI policy to be improved".

Figure 1. Sustainable and responsible investment (SRI) policy adoption by central banks in the G20 and Eurosystem



Source: Schreiber (2021).

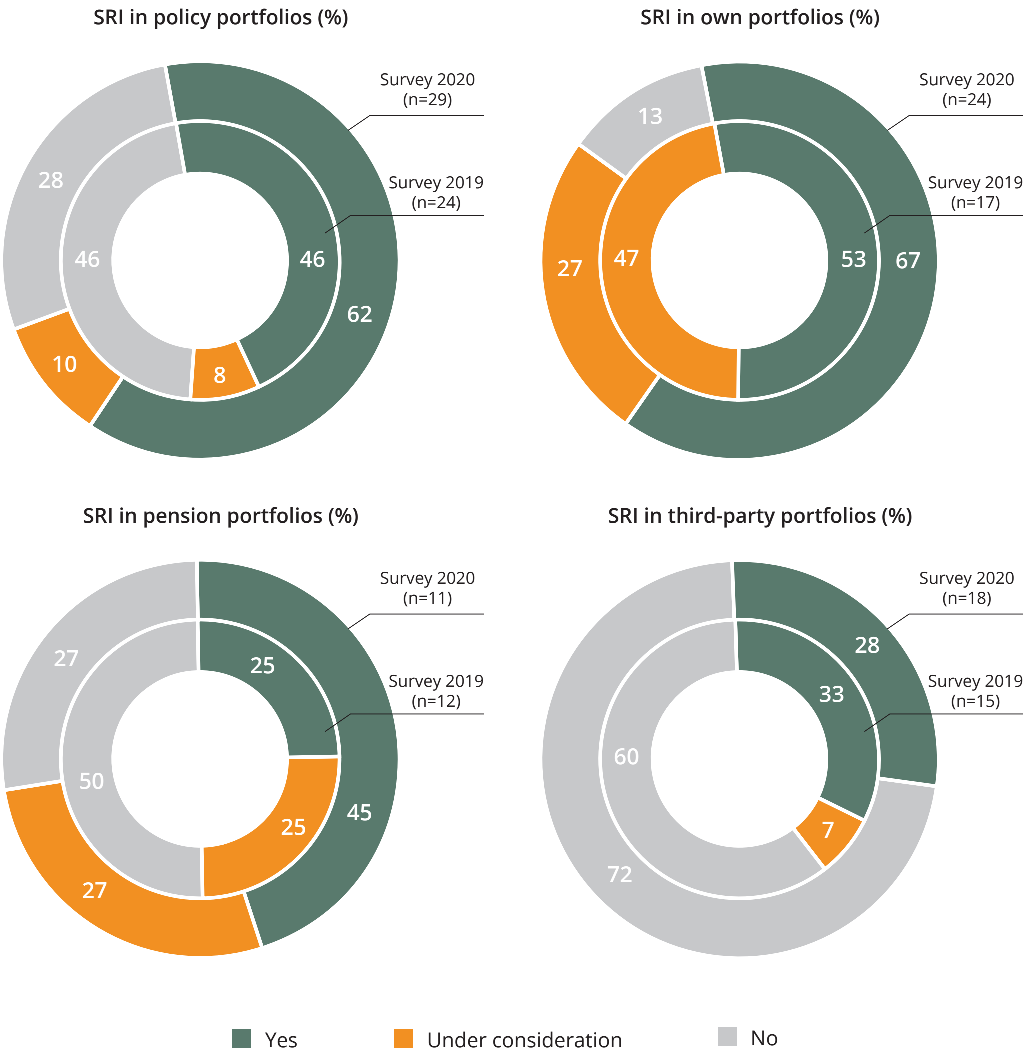
This slow pace of incorporating ESG into investment processes can partly be explained by the widely differing needs between the various central bank portfolios. Monetary policy portfolios have very different objectives compared with pension portfolios, for example.[1]

Although central banks have been slower than other parts of the financial system to incorporate RI elements into investment decision-making, there seems to be a growing trend in central banks interested in these topics, which is highlighted by the increasing number of public RI principles and policies. Interest in setting ESG-related targets including climate-related targets for investments seems to be growing too, as shown by recent central bank statements (such as Bank of Finland, 2021 and Danmarks Nationalbank, 2021).

The most recent NGFS trend survey also reveals this increasing interest (NGFS, 2020) – see Figure 2. The survey investigates whether central banks are implementing or consider implementing SRI in (i) policy portfolios, (ii) own portfolios, (iii) pension portfolios and (iv) third-party portfolios. It should be noted that the number of respondents is quite low and varies between portfolio types and survey years.

"The slow pace of incorporating ESG into investment processes can partly be explained by the widely differing needs between the various central bank portfolios."

Figure 2. Sustainable and responsible investment (SRI) practices in central banks' portfolios, from NGFS survey, 2020



Note: The number of respondents varies by portfolio type and year, as indicated.
Source: NGFS (2020).

[1]This paper covers pension funds and own fund portfolios. Policy portfolios are not covered in detail. Other barriers and constraints are discussed more in detail in Section 4 of this paper.

Looking ahead, recent developments suggest it is reasonable to expect future surveys to show further progress in implementation: during 2021, the NGFS grew stronger in membership and activity; the Eurosystem issued a joint declaration on non-monetary policy portfolios' climate risk disclosures and data procurement (ECB, 2021a); and the European Central Bank (ECB) strategy review highlighted climate change as a critical element (ECB, 2021b).

The changes between the NGFS's 2020 and 2019 surveys indicate progress in the implementation of SRI, particularly among the pension portfolios. Only one in four central banks said it implemented SRI in its pension portfolios in 2019 – the lowest out of all portfolio types. This increased to 45% in the 2020 survey (albeit the change was observed within a relatively small sample).

3. The conventional approach

A 'conventional approach' to investment activities is one that does not give any consideration to ESG. Central banks oversee distinct sets of portfolios including policy portfolios, foreign exchange reserves, pension portfolios and own investments. All have distinctive characteristics and investment objectives. The objectives of *liquidity, return and safety* are so commonly used that they are referred to as the 'trinity approach'. The weighting of these three objectives may vary, depending on the portfolio in question. With foreign exchange reserves, liquidity and safety have traditionally been the main objectives whereas returns and safety are given more weight in the pension portfolio management, for example. Responsibility or sustainability has been viewed as an additional element without direct links to these investment objectives, rather than as an investment objective in itself. Therefore, some central banks have not regarded RI as being within their mandate or their fiduciary duty.

"A lack of research on the risks and/or impacts can deter some central banks from adopting a more sustainability-enhanced approach."

This conventional approach can be applied to all portfolios and all asset classes. Typically, central banks have significant allocation to sovereign assets as part of their foreign reserve portfolios as these are very liquid in nature. Trying to exert change, for example on climate change matters, over a (foreign) sovereign issuer can be seen as being outside a central bank's mandate. These holdings can also be short term, depending on market conditions or situations. Pension portfolios on the other hand are deemed longer term. They tend to include a wider variety of assets, including equities, private and/or real assets to generate returns. A longer-term investment horizon coupled with investments in non-government entities may allow for easier sustainability considerations.

This conventional approach overlooks ESG as a means to identify risks and opportunities. Using various RI approaches investors can gain additional perspectives, identify mispriced risks and opportunities, and avoid unintentional biases such as carbon biases in portfolios. However, RI as we currently know it has been introduced to the financial markets in the past decade or two. There is a limited number of long-term academic studies on how RI impacts the investment objectives, especially from a central bank perspective. Industry surveys are trying to highlight these issues, although the comparability can be difficult due to differences in definitions and survey respondents. A lack of research on the risks and/or impacts can deter some central banks from adopting a more sustainability-enhanced approach and can mean they hold onto the conventional approach. Furthermore, using RI approaches and ESG data requires resources such as human capital, data and support from the organisation. For these reasons, including the debate about whether or not RI is part of fiduciary duty, some investors, including some outside central banks, have preferred to wait for legislation or broadly applied guidelines such as sustainable financial disclosure regulation (SFDR) or those of the Task Force on Climate-related Financial Disclosures (TCFD),[2] before incorporating ESG into

[2]Paper 3 in this series examines how central banks are applying the TCFD's recommendations (Kyriakopoulou et al., 2022).

investment decision-making and reporting. However, this fiduciary duty discussion is changing – in some cases partly due to regulatory nudges (e.g. US pension funds).

Central banks, as with almost all other organisations, are very keen to avoid reputational risks. Actively participating in financial markets outside monetary policy interventions, publicly excluding issuers or sectors, voting at AGMs or engaging with companies seem to have been seen as riskier or outside the central banking mandate compared with a more passive and withdrawn approach. With increasing pressure from different stakeholders, central banks are also facing reputational risks stemming from inaction.

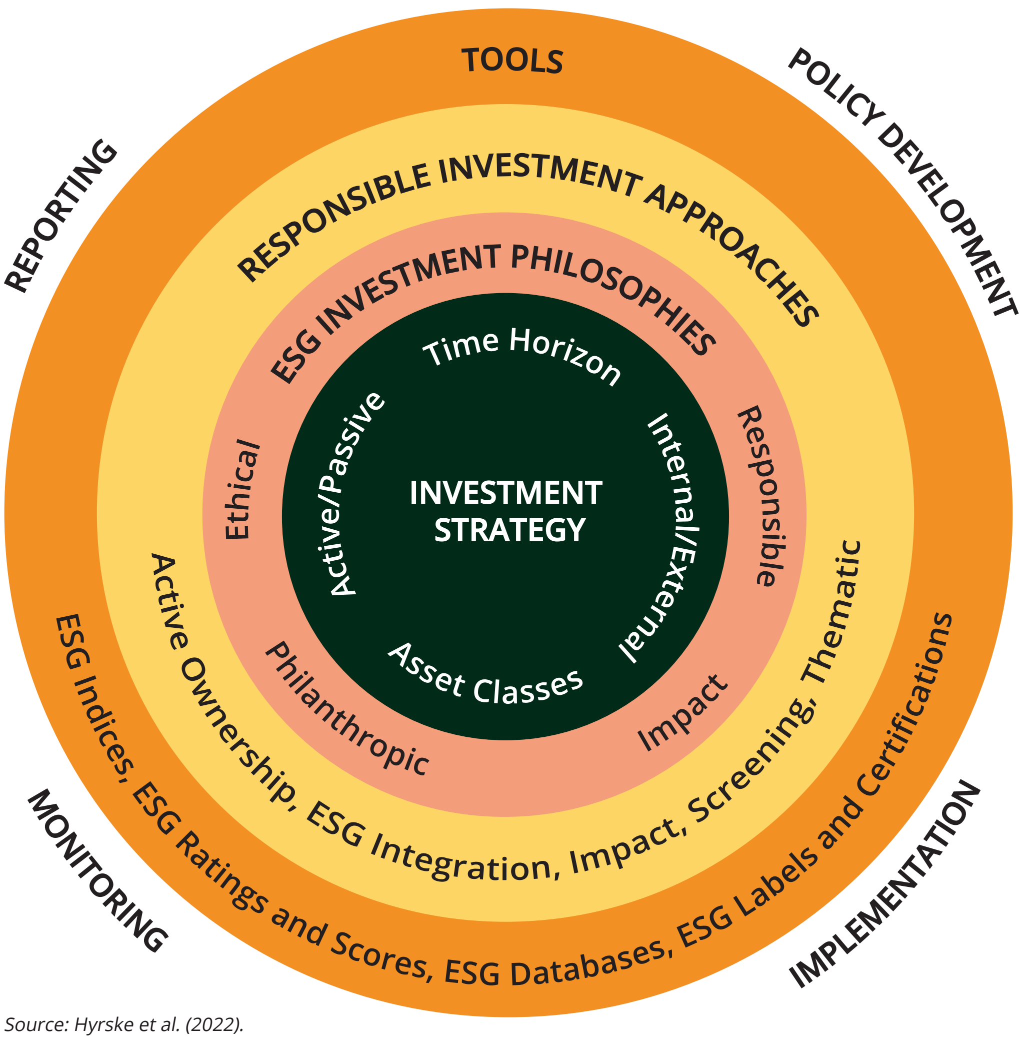
"With increasing pressure from different stakeholders, central banks are facing reputational risks stemming from inaction."

4. The sustainability-enhanced approach

There are many tools and approaches to incorporating ESG into investment decision-making. This enables central banks to exercise flexibility when adopting a sustainability-enhanced approach and implementing ESG.

The incorporation of ESG into investment decision-making starts with the overall investment strategy, including topics such as appetite for risk, investment time horizon, asset classes, active/passive and internal/external investment (Castelli and Gerlach, 2019). Only after clarifying these investment strategy elements can the RI framework be

Figure 3. The responsible investment 'sphere' from which to develop an RI framework



Source: Hyrske et al. (2022).

built around the overall investment strategy. Defining motivations for incorporating RI, identifying suitable responsible investment approaches and tools, and their implementation form the next phases of the RI policy framework. Figure 3 shows the different tools, investment approaches and philosophies that can be drawn upon to construct a responsible investment strategy from across reporting, policy development, implementation and monitoring.

4.1. The most common approaches

There are multiple approaches, also often referred to as RI strategies, to choose from, each with its benefits and limitations. Different approaches can be used simultaneously or in different parts of the portfolio to build an RI framework. What will be most suitable for each investor depends on the overall investment strategy, as the usefulness of these approaches is somewhat dependent on the asset classes chosen. The most common approaches are summarised in Table 1 and described in further detail below (see also Hyrske et al., 2022).

Each approach has benefits and limitations. The most suitable approach for each investor will depend on the overall investment strategy as the usefulness of these approaches is somewhat dependent on the asset classes chosen.

Active ownership

Active ownership can be achieved through voting, engaging and meeting with issuers/companies, for example. Engagement can be performed for most asset

Table 1. The most common approaches to responsible investment

RI approach/ SRI strategy	Short definition	Examples	Examples of data needed
Active ownership	Using ownership rights to exert power and/or to create change.	Voting, engaging and meeting with issuers/companies.	Detailed analysis on resolutions, corporate behaviour/activities.
ESG integration	Systematically integrating ESG research, outcomes and impacts within the investment decision-making process.	Portfolio managers incorporating ESG into valuation models.	Detailed information on production methods, emission levels, corporate structure, policies, past incidents, remedial actions taken.
Impact investing	Creating measurable positive societal impact through investments.	Portfolio manager investing in a project to create new infrastructure and employment opportunities (impacts to local community assessed pre-investment; impact would not be achieved without the investment).	Estimates on positive and negative impacts expected, means to reach positive impacts and mitigate negative impacts, methodology to measure impacts, external assurance mechanisms.
Screening – positive and negative	Using predetermined filters to define investable universe or to tilt portfolio weights.	Excluding issuers/sectors from the investment universe using international norms[1] or overweighting companies with high ESG ratings.	Revenue split between various economic activities, internal/external ESG scores/ratings, information on norm breaches.
Thematic investing	Selecting holdings that actively contribute to the chosen theme; all holdings must be linked to the theme.	Portfolio manager purchasing only green bonds for the portfolio.	External validation/assurance, use of proceeds, detailed data on impacts to the selected theme.

Note:

1. International norms can refer to treaties, voluntary guidelines such as the UN Global Compact principles, the OECD Guidelines for Multinational Enterprises, International Labour Organization (ILO) core conventions on workers' rights and international treaties relating to controversial weapons.

Source: Hyrske et al. (2022).

classes but voting is restricted to assets such as equities or other unit form investments. Implementation of active ownership is not suitable for investors who wish to remain neutral and to not take a direct, active role with investments. On the other hand, passive investments do not mean discarding RI activities.

ESG integration

Investors wishing to adopt this sustainability-enhanced approach, integrating ESG research, outcomes and impacts within the investment decision-making process, can select indices or investment products that have incorporated ESG into the methodology and investment decision-making. An example would be a listed equity exchange-traded fund (ETF) with strong voting policies, even if the underlying index is a broad market index, or selecting an ETF that follows an ESG index. ESG integration helps the investor to identify and quantify risks and opportunities stemming from ESG but requires significant internal or external resources (data and human interaction) to interpret it.

Impact investing

Creating measurable positive societal impact through impact investing requires intentionality, i.e. the intention to create positive and measurable impacts, pre-investment. Through impact investing the investor can contribute to positive change but measuring the impacts requires deep understanding of the topics at hand. For example, investing into an existing listed company that then expands its production and generates new job opportunities should not count as an impact investment as the investor has not financed the project, the project would have been done without the investor's share purchase through the stock market (without direct financing) anyway, and the investor had no impact intention prior to the investment being made.

"A lack of comparable data in usable formats and gaps in data coverage are significant barriers in some asset classes."

Screening

Screening – negative and positive – is often the first step for investors to incorporate RI approaches as it is relatively straightforward to implement and understand. It involves the use of predetermined filters to define an investable universe or to tilt portfolio weights. However, screening does not allow for more complex analysis as it is simply a means to define the investable universe either by opting in (positive screening) or opting out (negative screening/excluding). Through screening, investors have little flexibility to look at individual cases and their merits. Screening is therefore often complemented by other approaches, such as ESG integration or active ownership.

Thematic investing

Thematic investing, where holdings are selected that actively contribute to the chosen theme and all holdings are linked to the theme, allows the creation of positive impacts but with less stringent intentionality and measuring compared with impact investing; for example, a portfolio manager purchasing only green bonds for the portfolio. Using external assurances or certifications such as Green Bond Principles can be a useful tool to avoid unintentional greenwashing.

4.2. Applying the approaches and setting targets

Whichever approach is chosen, high-quality data will be required. A lack of comparable data in usable formats and gaps in data coverage are significant barriers in some asset classes. Supranational issuers, agencies and covered bonds are examples of asset classes meaningful to central banks in which data gaps still exist. Without detailed issuer-level and bond-level data, the impacts on portfolios and on the real economy are harder to quantify, leading to increased challenges in target-setting, too. Data and disclosures needed include backward-looking metrics and data points but also forward-looking data (Kyriakopoulou et al., 2021).

Typical backward-looking climate metrics used are absolute emissions, emissions intensity (for example, per unit of revenue or economic output) and avoided/reduced emissions. Forward-looking data can include implied temperature rise (ITR) or other indicators for alignment with the Paris Agreement, climate scenarios, decarbonisation pathways, ambition level of targets set, and so on. Relevant metrics can also include physical risk assessments and share of potentially stranded assets.

Target setting can be applied at the level of asset classes or portfolios. Targets can be qualitative and/or quantitative in nature. To avoid greenwashing or unintentional misunderstandings it is important to define the coverage, i.e. if the target relates to the entire portfolio or a subset. For example, the Banque de France has a 2 degree alignment target for its equity investments, covering both its own and its pension portfolios. Danmarks Nationalbank has set a Paris alignment target for its reserve management portfolio. Bank of Finland has set a net-zero target for its entire own investment portfolio (including pension investments), apart from gold investments.[3]

When setting a target it is important to understand the impacts it may have. For example, greening a portfolio by excluding energy, utilities and mining companies can lead to a rapid reduction in portfolio-related emissions levels but would have a very limited impact on real economy emissions levels without engagement or other activities to reduce corporate emissions.

"Subjectivity in applying climate considerations when supporting wider government policies can result in different outcomes by central banks with regard to RI themes."

5. Lessons learned to date

Overall, our assessment of the current portfolio management practices of central banks shows that the integration of RI principles in own and pension portfolios remains a limited but growing practice within the central bank community. While sustainability has climbed up the agenda of central banks,[4] progress in the area of RI has been relatively more muted compared with other functions (e.g. supervision). In response to the 2020 NGFS SRI portfolio management survey of 11 pension portfolios, 45% said that they have adopted SRI principles and a further 27% were considering doing so at the time. Adoption has been more advanced in the case of own portfolios: out of 24 portfolios examined by the NGFS, 67% have adopted SRI and a further 21% were considering doing so. The relatively small number of survey respondents and of central banks with RI policies (see Figure 2 above), and the very small number of central banks within the PRI signatory base,[5] are for the time being signs of relatively low RI adoption rates by central banks.

Subjectivity in applying climate considerations when supporting wider government policies can result in different outcomes by central banks with regard to RI themes. Section 5.1 presents the experiences of those central banks that are starting to push this agenda forward and draws lessons from them, while section 5.2 discusses the reasons why central banks may be hesitant to get engaged with RI. Section 5.3 explores the barriers constraining the scale-up of RI adoption as well as some of the lessons learnt from the experiences of central banks' peers in the broader public investment community.

5.1. Central banks incorporating responsible investment

The experience of the few central banks that have begun to integrate RI considerations into their pensions and own portfolios can provide valuable lessons to others embarking on this journey. Table 2 summarises the approaches followed by selected central banks so far. It shows that the motivations and objectives are broadly aligned, with most seeking to protect their portfolios from climate-related risks and to contribute to sustainable economic development. Some also specifically cite the importance of leading by example. For instance, the ECB's executive board member Isabel Schnabel stated in July 2020 that "The ECB can contribute [to the

[3] There is no international standard for calculating the carbon footprint of a gold deposit.

[4] This is evidenced, for example, by the growth of the NGFS from eight founding members to over 100 members in just four years.

[5] So far, the following central banks are signatories to the PRI: Bank of Finland, De Nederlandsche Bank, Hong Kong Monetary Authority, and Norges Bank (Government Pension Fund Global). Institutional considerations, in addition to motivation to progress SRI adoption, may determine a central bank's willingness to join the PRI.

Table 2. Examples of responsible investment approaches taken by central banks

Central bank	Portfolio	Asset class	Strategies	Objective
European Central Bank	• Pensions (since 2017)	• Equities	• Exclusions (limited exclusion list based on the UN Global Compact and other Treaties and Conventions). • Active ownership (proxy voting guidelines for external managers). • Investment integration (replacing equity benchmark indices with their low-carbon equivalents).	• Extra-financial objectives ("to minimise the carbon footprint of the portfolio").
	• Own funds	• Fixed income	• Thematic or impact investing (e.g. green bonds).	• Extra-financial objectives ("to contribute, within its mandate, to global efforts to promote environmental objectives and to combat climate change").
Bundesbank	• Pensions[1] (since 2017)	• Equities	• Exclusions (based on the UN Global Compact and other selective exclusion approaches). • Best-in-class.	• Set example/create standard for others to follow.
Banque de France	• Own funds • Pensions	• Equities (own funds; for pension fund, application is planned for 2022) • Fixed income	• Exclusions (norm-based and sector-based for fossil fuels). • Best-in-class. • Active ownership (engagement and exercise of voting rights). • Investment integration. • Thematic or impact investing (e.g. green bonds or thematic funds).	• Financial returns ("limit the exposure of its assets to climate risks"). • Extra-financial objectives ("take account of the impact of its investments on the environment" / "align investments with France's climate commitments").
Banca d'Italia	• Own funds (since 2019)	• Equities	• Exclusions (norm-based exclusion based on the UN Global Compact). • Investment integration. • Selection of external managers.	• Improving risk-adjusted returns ("Strengthening the management of financial and reputational risks" – NGFS, 2020). • Extra-financial objectives ("Contributing to sustainable economic development and promoting corporate social responsibility" – NGFS, 2020).
De Nederlandsche Bank	• Own funds	• Equities • Fixed income	• Exclusions (norm-based exclusion based on the UN Global Compact and other Treaties and Conventions). • Investment integration. • Active ownership (thematic engagement or engagement in response to violations of ethical standards).	• Manage risks ("minimise ESG risks, next to the financial risks, of its assets in the long term"). • Extra-financial objectives ("contribute to sustainable prosperity in the Netherlands").
Bank of Finland	• Own funds	• Fixed income • Equities • Real estate	• Exclusions (norm-based exclusion based on the UN Global Compact, ILO core conventions, OECD). • Fossil fuel restrictions (to be implemented during 2022). • ESG integration. • Selection of external managers. • Thematic investments. • Carbon neutrality target.	• Financial returns and risk management ("better identification of investment opportunities and risks"). • Setting an example. • Supporting wider national/EU level target when within the central bank mandate.

Note:
1. The Bundesbank manages the pension portfolio both of its own staff as well as other civil servants on behalf of the Federal Government of Germany and German federal states (NGFS, 2020).
Sources: Central banks' annual reports (see 'further reading'); NGFS (2019; 2020); authors' research.

fight against climate change] by ensuring that we ourselves are an environmentally mindful and responsible investor. We are doing this already for our pension fund investments and are now exploring options for other non-monetary policy portfolios" (Schnabel, 2020).

Central banks apply RI across a range of asset classes, primarily equities. Almost all apply some form of exclusion, with the UN Global Compact a popular framework guiding norm-based exclusions. Sector-based exclusions are applied in a more discretionary manner, as explored in Sections 5.2 and 5.3. In addition to exclusions, thematic investments in the form of green bond purchases are a popular practice among central banks in our sample. Some follow active ownership in their equity portfolios, in some cases in the form of proxy voting. Many also cite sustainability as a factor in selecting external managers.

"The impact RI has on investment objectives is difficult to measure in the short term as there are so many factors affecting market movements and asset prices."

We selected these examples based on case studies presented in NGFS reports and findings from several NGOs. As the selection clearly indicates, RI is more relevant to central banks that have sizable portfolios, such as the ones in the Eurosystem. Given the limited universe of central banks with sizable portfolios, the sample of relevant central banks for this part of the analysis has been constrained.

The impact RI has on investment objectives is difficult to measure in the short term as there are so many factors affecting market movements and asset prices. Norges Bank Investment Management's *Responsible Investment 2020* report highlights that risk-based divestments "have increased the cumulative return on the equity reference portfolio by around 0.41 percentage points" since 2012 (NBIM, 2020).

5.2. Constraints and challenges to integrating responsible investment into investment policies

Central banks face similar challenges when incorporating RI into investment policies and processes but also some particular constraints related to central bank duties and mandates. This section highlights the main reasons for low rates of adoption of RI by central banks, grouped under several categories.

Mandate-related constraints

These may occur where the central bank's mandate is interpreted in its narrowest form or there is real need for legislative or equivalent change to enable the adoption of RI practices. There is at times also a perception of conflict with other objectives. The management of central bank portfolios is typically governed by the principles of safety, liquidity and return. For pension portfolios, fiduciary duty can be perceived as being at odds with SRI objectives. For example, the NGFS states that, "With regard to the pension portfolios, the fiduciary duty dictates that beneficiaries are consulted if an extra-financial SRI objective could impact financial returns" (NGFS, 2019). However, there is increasing depth to the perceptions and understanding of the links and complementaries between aligning portfolios with sustainability objectives and enhancing the risk-return profile of portfolios in the face of growing climate-related physical and transition risks. In particular, it is becoming more and more accepted across the investment community (in central banks and beyond) that inaction may be even more at odds with fiduciary duty, particularly when it comes to managing climate-related risks (rather than having an impact).

Availability of data, information and resources

There is a general lack of relevant data, research and academic studies that form the basis of central banks' decision-making. Where the data do exist, there can be concerns around its cost or quality.

Moreover, there can be issues to do with confidentiality and a lack of knowledge around peer best practice, as SRI integration approaches also suffer from the lack of examples from peers. The special nature of central banks further leads to less transparent reporting and reduced capability for broader knowledge-sharing outside the peer group (for example, this could be due to reserve management confidentiality requirements, which may also indirectly influence the availability of channels for knowledge-sharing in the case of own and pension portfolios).

Additionally, central banks often lack specialised resources in terms of personnel with expertise in RI, and initial investment and training can be seen as discouraging set-up costs, especially for smaller institutions. Having said this, progress is being made, with the creation of the NGFS 'Bridging the Data Gaps' workstream, as well as a growing body of research from international organisations such as the Bank for International Settlements and the World Bank, and the work of industry-led initiatives such as the London Stock Exchange Group's Future of Sustainable Data Alliance.

Composition and size of portfolio

Central bank portfolios are often governed by quite restrictive rules around the asset classes in which they are able to invest (with liquidity and diversification as key variables). While this will be a weaker constraint for own and pension portfolios, it can be a relevant factor in central banks making a slower start than many other types of institutional investor. Specifically, central bank portfolios tend to be characterised by a high concentration of government bond securities, where RI application can be less relevant or possible. This means that there can be limits to the application of RI – at least in the beginning. For example, the European Central Bank has stated that, "Given the current lack of availability of reliable SRI (or low-carbon) benchmark indices for non-equity asset classes, the ECB decided to focus on replacing its equity benchmarks as a first step" (quoted in NGFS, 2020).

"The special nature of central banks leads to less transparent reporting and reduced capability for broader knowledge-sharing outside the peer group."

Additionally, given that typically central bank portfolios are relatively large, size can be a barrier to adopting RI, given that sustainable investments are often in small and illiquid asset classes. For example, the Banca d'Italia stated with regard to its strategy to select assets in line with its investment policy and ESG features that, "The selection posed some challenges, owing to the small size of ESG assets under management compared with the standard equity funds (in 2019, only a handful of ESG funds in the US had assets exceeding $1bn)" (quoted in NGFS, 2020).

Concern over reputational risks

Engaging in RI requires the acceptance of flexibility, and even some subjectivity, towards the values and norms adopted. While most central banks apply the UN Global Compact as a guide to norms-based exclusions for their pension portfolios, further exclusions can be based on values that are more closely aligned with the political preferences in the jurisdiction in which the institution operates. For example, the Bundesbank exclusion list includes "companies that make 5% or more of their revenues from the production of nuclear power or related components". While this is in line with German policy on nuclear power, it is not consistent with the practice followed elsewhere in the Eurosystem (or indeed the EU taxonomy for sustainable activities, which includes nuclear). Conversely, the Banque de France does not exclude nuclear.

Overall, our research shows that applying climate considerations in the management of own funds can be more subjective than with other elements of integrating climate into central banking, where actions have been conservatively applied and viewed through a risk lens. The Germany/France examples related to nuclear power, which explicitly reflect political priorities, are a clear example of this. They highlight the vulnerability of central banks to reputational risks and risks of politicisation as differences in interpretations of breaches of norms can vary. This relates both to the sectors involved and to the actions and strategies followed (what classifies as severe, what remedial actions are considered as adequate, whether to exclude or engage, and so on).

5.3. Constraints and challenges in scaling up responsible investment and lessons learnt from the wider public investment community

Given the relatively limited range of cases where central banks can learn from their direct peers in terms of integrating sustainable and responsible investment into their pension and own fund portfolios, central banks could engage and learn from their wider peers in the public investor community to plug some of this gap.

For example, in beginning to integrate RI into the management of their pension portfolios, central banks can learn from the experiences of pension funds of other civil servants and public sector employees. As with their pension portfolios, these are guided by fiduciary duty and in most cases would be similar in terms of composition and asset classes.

Some pension funds have been actively participating in and even developing their own net-zero initiatives. The UN-convened Net-Zero Asset Owner Alliance (NZAOA) is currently the best known. Similar net-zero alliances also exist for asset managers, the banking and insurance sectors, and service providers such as data services and ratings agencies.

As for their own fund portfolios, central banks can look to sovereign wealth funds as examples from which to learn. Like their own fund portfolios, sovereign wealth fund portfolios typically will be guided by the objective of generating return (within a given risk tolerance level) and will have quite a diverse asset mix that includes equities, corporate bonds and real assets. Table 3 below summarises the approaches followed by selected public pension and sovereign wealth funds to date.

As well as the challenges faced when starting to integrate RI into pension and own funds, there can be challenges further on in the process. In the early stages the focus should rightly be on creating the conditions to enable RI, but it is important that central banks are aware of and can anticipate and manage challenges that can materialise further on. Some examples are highlighted below.

Navigating the line between institutional independence and alignment with government policy

While most central banks have so far adopted a risk-orientated view of climate issues, some are beginning to explore the implications of secondary objectives to align with government net-zero objectives. The application of SRI in pension and own portfolios can be a relatively easier space to explore and introduce such alignment, compared with – for instance – the conduct of monetary policy. The example of the treatment of nuclear power in the portfolios of the central banks of Germany and France again acts as an illustration here.

> "Some central banks are beginning to explore the implications of secondary objectives to align with government net-zero objectives."

The experience of other public investors has shown that such alignment or the lack thereof is not always straightforward. For example, Australia's Future Fund was criticised for holding tobacco shares at a time when Australians were cheering their government for being a global leader in the fight against 'Big Tobacco', forcing the fund eventually to divest from these shares in 2013 following a year-long public campaign.

Conflict between managing risks and achieving impact

Linked to the above, as central banks begin to move beyond viewing climate change through the lens of risk and to explore additional lenses for their climate agenda, they will have to manage the challenges related to balancing across multiple objectives. Actions driven by the need to manage risks (such as divesting from fossil fuel assets) can become more complicated if there is the added motivation to support the transition (which would require *responsible* retirement of such assets, rather than simple retirement). Dutch pension fund ABP's decision to divest entirely from fossil fuels worth over €15 billion (ABP, 2020) prompted concerns that some of these assets may end up in the hands of investors that are less long-term minded.

A few weeks before the ABP decision was announced, an article in the *Financial Times* had reported that, "The move away from fossil fuels by big institutions" has driven a shift of these assets to "hedge funds, which face fewer pressures to conform to ESG norms than mainstream funds…" (Fletcher and Brower, 2021).

Managing pressures to circumnavigate SRI practices as a result of short-term financial pressures

Following a ban on tobacco investments in 2000, Californian pension fund CalPERS commissioned two studies in 2015 and 2021. It found that it had forfeited around $3.7 billion between 2001 and November 2020 in returns because of these divestments (CalPERS, 2021). This prompted the fund to reconsider the decision. Even though the board of CalPERS decided to maintain the ban following two votes, in 2016 and 2021, these incidents exposed the need for continuous commitment to RI principles and a long-term vision in the face of the possible risks of reversal (Diamond, 2021). The 2021 study also concluded that the fund had benefited by almost $900 million by not having invested in tobacco between 2017 and 2020 as tobacco stocks had inferior returns compared with the overall equity market performance.

Table 3. Examples of responsible investment approaches by public pension funds and sovereign wealth funds

(continued overleaf)

Pension Fund/ Sovereign Wealth Fund	Asset class	Strategies	Examples
ABP (Netherlands)	• Equities • Fixed income • Real assets (Real estate, infrastructure, commodities) • Private equity • Hedge funds	• Inclusions (leader/improver framework). • Exclusions – equities (norm-based on UN Global Compact and sector-based). • Exclusions – government bonds (for countries where the UN Security Council has imposed a binding arms embargo). • Active ownership (engagement and proxy voting). • Thematic investing.	• Sector-based exclusion of 156 listed companies producing: weapons prohibited according to treaties the Netherlands has signed; tobacco; parts of nuclear weapons. • Sustainable investment using the SDI Asset Owner Platform (together with other pension funds). • Aim for climate-neutral portfolio by 2050.
AP Funds (Sweden)	• Equities • Fixed income • Real assets • Private equity	• Exclusions (norm-based, sector-based and incident-based blacklisting). • Active ownership (engagement and proxy voting). • Thematic investing.	• AP2 sends letters to companies where it has voted against the board proposal. • AP4 is incorporating forward-looking data into low-carbon strategies to inform equity divestments. • AP7 identifies companies whose activities conflict with the Paris Agreement to inform climate-driven blacklisting.
Government Pension Investment Fund (Japan)	• Equities • Fixed income • Real assets • Private equity	• Investment integration. • ESG investing (e.g. in green bonds or ESG equity indices, tilted and best-in-class. • Selection of external managers.	• Passive investment in four domestic and three foreign ESG equity indices. • Dialogue and engagement with ESG ratings agencies. • Examination of prospective external managers' ESG initiatives as screening criteria.

Table 3. Examples of responsible investment approaches by public pension funds and sovereign wealth funds

(continued from previous page)

Pension Fund/ Sovereign Wealth Fund	Asset class	Strategies	Examples
CalPERS and CalSTRS (California, USA)	• Equities • Fixed income • Real assets • Private equity	• Investment integration. • Active ownership (engagement, proxy voting, advocacy). • Partnerships.	• Backing of Engine No. 1's four director nominees to Exxon Mobil Corp's board in May 2021.[1] • Senate Bill No. 964 requiring Californian pension funds to analyse climate-related financial risks.
China Investment Corporation (China)	• Equities • Real assets • Private equity	• Screening (positive and negative). • Sustainable investment. • ESG integration.	• Launch of thematic equity mandate and invested in ESG indices and asset managers. • Management mandate to invest between 30-120bn kroner in dedicated environment-related mandates.
Government Employees Pension Fund of South Africa (RSA)	• Equities • Fixed income • Real assets • Private equity	• ESG integration (included in investment beliefs, objectives and policies. • Impact. • Active ownership (engagement, voting).	• Engagement conducted using service providers. • ESG performance development targets for external managers. • Key development indicators to measure impact.
Government Investment Corporation (Singapore)	• Equities • Fixed income • Real assets • Private equity	• Three-pronged approach of 'offence'/'defence'/'enterprise excellence'. • Development of proprietary data and analyses. • Development of set of climate scenarios to stress test portfolio. • Active ownership. • Screening.	• Launch of Sustainable Investment Fund in July 2020 as dedicated investment portfolio to accelerate sustainability integration across all asset classes. • Tracking of PropTech trends to identify energy usage in real estate portfolio. • In partnership with British Land, developed 100LPS, a net-zero carbon building in London.
New York public pension funds (New York (USA)	• Equities • Fixed income • Real assets • Private equity	• Investment integration. • Exclusions.	• New York Senate Bill S4783 would require New York state teachers' retirement system to divest of all fossil fuel assets.
Norges Bank Investment Management (Norway)	• Equities • Fixed income • Real assets	• Exclusions (product-based, conduct-based and risk-based). • Active ownership (engagement, voting). • Dedicated environmental investments.	• Divestment of around 150 companies across the global oil and gas supply chain. • Management mandate to invest between 30-120bn kroner in dedicated environment-related mandates • Green building certification for 82% of buildings in unlisted real estate portfolio.
Hesta Super Fund (Australia)	• Equities • Fixed income • Real assets • Private equity	• Exclusions (norm-based and sector-based). • Sustainable growth investing (e.g. in low-carbon or climate-resilient private equity investments).	• 'Sustainable Growth' portfolio with more advanced SRI policies than overall portfolio.

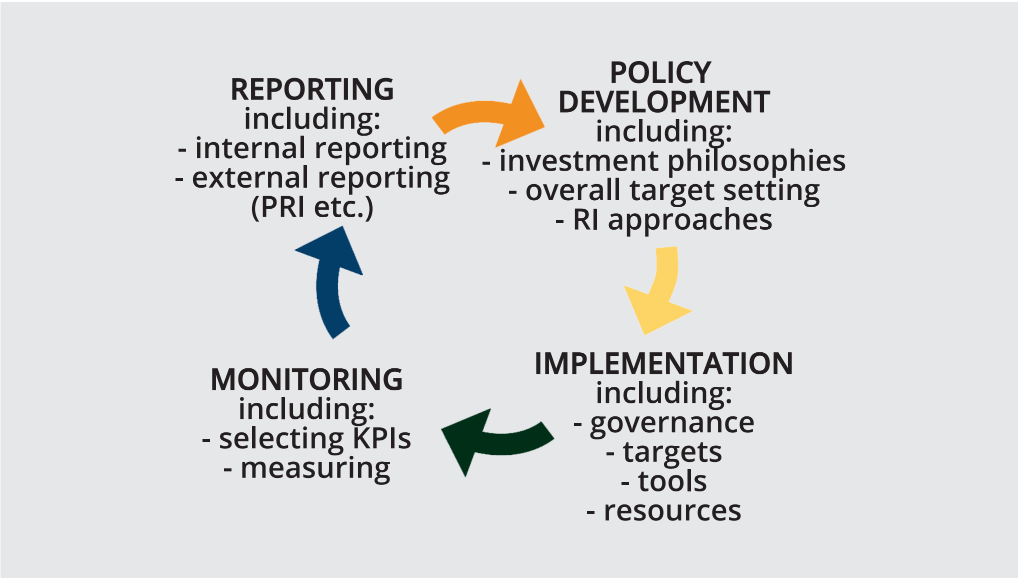
Note: 1. The Ontario Teachers Pension Plan also supported the action.
Sources: Pension funds' annual reports; sovereign funds' annual reports and websites (see 'further reading'); authors' research.

6. Recommendations

This paper has explored the ways in which central banks can begin to integrate responsible investment into the management of their pension and own fund portfolios.

The recommended course of action, to institutions new to this process and to those further along the development path, is one of a constant sequence, from developing the relevant policy and implementing it, to monitoring and reporting outcomes, to identifying further adjustments to the policy and its implementation – see Figure 4.

Figure 4. Building a framework for responsible investment: a continuous process



Source: Hyrske et al. (2022).

Overall, we would highlight the following as the recommended course of action for central banks embarking on or accelerating along the path to integrating responsible investment:

- **Reframe the 'trinity' approach to investment objectives:** Central banks' investment strategies are typically guided by the three objectives of *liquidity, safety and return*. As a first step in developing their SRI policies, central banks should consider reframing this framework and exploring the role of *responsibility* as an additional and linked objective.
- **Build a complete framework and set targets:** Given the interactions and interlinkages across strategies and the objectives of the broader portfolio, it would be advisable for central banks to build a complete framework rather than selecting individual strategies and approaches without due consideration to how they influence their overall investment strategy and objectives. In terms of sequencing, an approach of 'measure and report' then 'manage', as followed by the Banque de France and the Bank of England, can support an informed decision-making process. Central banks can also consider developing strategies guided by an overall target such as net-zero alignment (cf. the Net-Zero Asset Owners Alliance) or carbon neutrality that aligns with government strategy.
- **Embed RI into the choice of external managers:** In building capacity and developing know-how, central banks can work together with external managers to begin implementing RI policies. Sustainability criteria can also be used as ways to

"An approach of 'measure and report' then 'manage' can support an informed decision-making process."

appraise external managers, as done by Japan's Government Pension Investment Fund. Some central banks are already beginning to engage more actively with their external managers on RI themes, for example seeking to partner with asset managers who are part of PRI and/or the Net Zero Asset Managers initiative.

- **Assess options for risk management and impact when implementing positive or negative screening:** There are several strategies to restrict the investment universe either by opting out (e.g. through exclusion) or opting in (e.g. choosing best-in-class). Divesting can be done at the board level where a central bank divests entirely from a certain sector, or as a risk-based exclusion by the investment operations, just like any other investment decision. Central banks can use filters and thresholds to define the investable universe (e.g. Banque de France's decision to exclude at least 20% of issuers with the lowest ESG scores from its equity portfolio). Any exclusion or inclusion is easier to implement and monitor on direct holdings unless using mandates. For externally managed holdings the guidelines should be mandated where applicable to do so. Any exclusion or inclusion should be weighed against investment objectives to avoid unintended consequences and assess real economy impacts. Excluding highly polluting sectors may 'green' the portfolio without impacts on actual emissions levels or may negatively affect a company's ability to transform due to a lack of funding.
- **Broaden engagement beyond the central bank community:** While the NGFS is a helpful forum for engaging with peers, central banks recognise that when it comes to the management of their pension and own funds their peer group is broader than the central banking community. Broadening engagement can take the form of joining similar-minded investors' communities and initiatives. Signing up to the UN-backed PRI can be a first step. Other forums include Climate Action 100+, the Institutional Investor Group on Climate Change, Ceres, and national representatives of the Sustainable Investment Forum.
- **Cultivate the ability to tolerate uncertainty:** In its March 2020 report *Adapting central bank operations to a hotter world*, the NGFS recognised that the risks of inaction can be higher than the risks of acting with imperfect information. This applies also to the integration of responsible investment, where choices will need to be made in the face of uncertainty, data gaps and sparse research on ESG impacts and targets on investment objectives.

Overall, in integrating RI into the management of own and pension fund portfolios, central banks would benefit from letting go of old-fashioned notions of integrity in the face of new challenges. The urgency of the climate crisis requires taking bold steps, one at a time in the right direction. Central banks may prefer to act on one portfolio or asset class first before committing to wider RI policies. The key is to act and start incorporating RI into asset management now.

"The key is to act and start incorporating RI into asset management now."

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