An Roinn Coimirce Sóisialaí
Department of Social Protection

The SAFE-PSC-MyGovID Framework for Public Service Identity Management

A Cost-Benefit Analysis

Ciaran Judge and Ita McGennis

Investment Analysis Unit

November 2021

Table of Contents

1   About this report

This Spending Review is a Cost-Benefit Analysis (CBA) of the Public Service Identity management framework. The framework was introduced in 2010, and is administered by the Department of Social Protection (DSP) on behalf of the whole Public Service. It has three components: the Standard Authentication Framework Environment (SAFE), the Public Services Card (PSC), and the MyGovID online identity platform.

The core of this report is a quantitative comparison of the costs and benefits of the Public Service Identity management framework with the costs that would have been incurred in the counterfactual scenario where the initiative was not introduced – that is, the level and cost of Public Service Identity verification that would have been required to ensure secure delivery of public services through in-person and online channels, in the absence of the framework. The report also examines what further financial impacts are likely to exist beyond those captured in the main, conservatively scoped, quantitative model.

Alongside this, the report also includes a qualitative analysis, drawing on the results of the PSC Customer Experience survey 2019 as well as international evidence and insights from subject matter experts, to assess the framework across three key dimensions: implementation; impact on public service design and delivery; and wider impacts for people in Ireland.

The report has been prepared as a Spending Review Paper by the DSP Investment Analysis Unit (Ciaran Judge, senior statistician, and Ita McGennis, actuarial analyst). The Investment Analysis Unit is a part of the Irish Government Statistical Service, and this report has been compiled in compliance with the principles of the Irish Statistical System Code of Practice[1], in particular, the principle of statistical independence, along with the Cost-Benefit Analysis principles laid down in the Public Spending Code[2].

The authors would like to thank everyone who contributed background information, data, and comments to this report. We would like to express particular thanks to the DSP Client Identity Services team for their expert subject matter insights; to Mark Lee, DSP actuary, for his detailed technical review; and to the Spending Review Steering Group of the Department of Public Expenditure and Reform, for their helpful suggestions and peer review.

---

[1] Central Statistics Office, 'Irish Statistical System Code of Practice'.

[2] Department of Public Expenditure and Reform, 'The Public Spending Code'.

2 Summary and conclusions

The SAFE-PSC-MyGovID Public Service Identity management framework was a major strategic investment in a key element of public infrastructure. It is clear that this investment has been highly successful in both quantitative and qualitative terms.

Financially, we find that the investment paid for itself in less than five years, and the discounted Net Present Value of the initiative is highly positive at over €200 million. If the financial model were broadened to include further efficiency gains to the Department and other Public Service bodies, further control and customer contact savings accruing to the Department; and especially the value of time and cost savings for people using public services, the estimated Net Present Value of the initiative might be expected to increase by a further +€300 million to +€1 billion.

The initiative also generated substantial qualitative benefits, including efficiency gains in the design and delivery of public services; greater convenience in accessing services; minimisation of use of personal data by Public Service bodies; and enhanced social inclusion through the establishment of the Public Service Card and MyGovID as trusted tokens of public service identity available at no cost to everyone in Ireland.

2.1 Quantitative results

The discounted time to payback for the investment in the initiative was under five years, with a significantly positive discounted Net Present Value (NPV) of +€206 million.

➢ The main driver of this positive result is the savings that arise from not having to repeatedly re-verify people's identities: if the Public Service Identity management framework did not exist, then at least 17 million extra identity checks would be required from 2010 to 2030 to deliver the same level of public services.

➢ Like comparable investments in physical infrastructure, a large proportion of the lifetime costs of the initiative fell in its early years, from 2010 to 2019. However, even in this period, the benefits of the initiative, at €218 million, greatly exceeded its €98 million actual costs.

➢ Now, as a mature project with annual costs of about €10 million, the framework saves over one million identity checks every year, and yields direct annual savings of over €20 million.

Net present value

We estimate that the discounted NPV of DSP's investment in the Public Service Identity management framework is significantly positive at +€206 million. This NPV is calculated over the period from 2010 to 2030, a reasonable time-scale given the long-term strategic nature of the investment.

Even restricting the calculation to the rollout period of the initiative, from 2010 to 2019, we find a cumulative discounted saving of +€89 million versus the counterfactual scenario where the initiative was not introduced. These findings are summarised in Table 1.

Table 1 - Cumulative real and counterfactual costs and benefits in 2010 constant prices, 4% real discount rate

Up to year	Real discounted costs (€m)	Counterfactual discounted costs (€m)[3]	Net quantitative benefits (€m)[4]	Net cost (-) / saving (+) (€m)
2019	-77.9	+58.3	+109.0	**+89.4**
2030	-137.1	+152.9	+190.7	**+206.4**

In line with the Public Spending Code, these Net Present Value results are discounted by the Social Discount Rate of 4% in real terms, but the direction and magnitude of the results is not sensitive to this discount rate. On the contrary, if the discount rate were set to 0% – close to the current cost of Government borrowing – the NPV of the initiative would rise to +€120 million to end-2019, and +€331 million to end-2030. Even if an artificially high real discount rate of 6% were applied, the NPV would fall only slightly, to +€77 million to end-2019 and +€164 million to end-2030.

Equally, the direction and magnitude of the results are robust to sensitivity analysis of costs and benefits. In a 'high cost, low benefit' scenario, we estimate the discounted NPV of the initiative at +€47 million to end-2019, and +€99 million to end-2030. In a 'low cost, high benefit' scenario, we estimate the discounted NPV of the initiative at +€118 million to end-2019, and +€328 million to end-2030.

Discounted time to payback

From the project start in 2010, we estimate that the time to payback for the SAFE-PSC-MyGovID initiative was just under five years.

---

[3] Counterfactual costs are strictly limited to the cost of replacing the identity verifications that were actually carried out using the SAFE-PSC-MyGovID framework. This means that counterfactual costs start at zero in 2010 and 2011, and increase from 2012 to 2016 in direct proportion to the degree to which the initiative was actually rolled out.

[4] Quantitative benefits are shown in net terms throughout this report. In other words, the real benefits in each category presented here have been reduced by the value of counterfactual benefits (if any) in the same category. For example, benefits from increased customer contact due to the SAFE-PSC rollout are shown net of a gradual counterfactual 'catch-up' in customer contact that we assume would have taken place over the period from 2012 to 2019.

As shown in Figure 1, the cumulative discounted sum of the net benefits (+) and real costs (-) of the initiative – the point where the black 'actual' line crosses over the red 'counterfactual' line – became more positive than the counterfactual costs associated with ID verification by the end of 2014. This gap has continued to grow, and will continue to grow, in each subsequent year from then onwards.

Figure 1 - Cumulative discounted costs and benefits versus counterfactual, 2010-2030
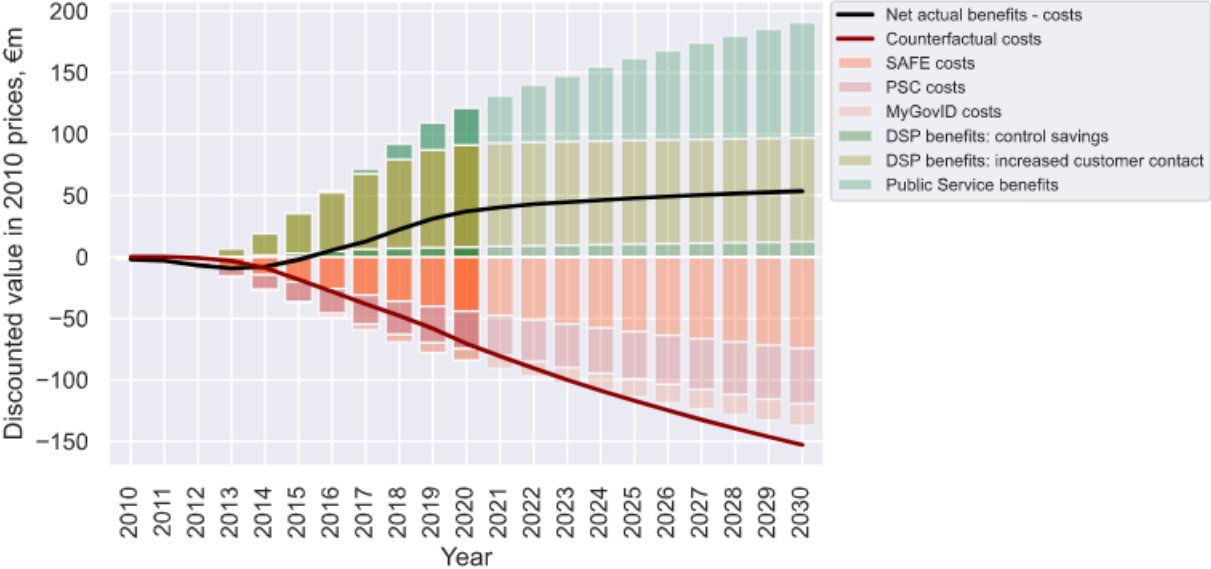
This finding is not sensitive to the discount rate used: on an undiscounted cash flow basis, we also estimate that the cumulative net real project costs and benefits became more positive than the equivalent counterfactual costs before the end of 2014. Equally, in the 'high cost, low benefit' scenario, the time to payback is only one year longer, reaching a net positive by end-2015; while in the 'low cost, high benefit' scenario, the time to payback is a little less than one year shorter, reaching a net positive in the first half of 2014.

Further financial impacts not included in quantitative model

We also identify further positive financial impacts beyond those captured in the main, conservatively scoped, financial results. These are principally further efficiency gains to DSP and its service delivery partners; further control and customer contact savings accruing to DSP; further efficiency gains accruing to other Public Service bodies; the value of time and cost savings accruing to people using public services; and the potential value of extending the use of the framework beyond the Public Service. While we do not include an estimate of the financial impact of these further savings in the quantitative results of this report, we suggest that their impact would increase the estimated Net Present Value of the investment in the Public Service Identity management framework by between +€300 million and +€1 billion.

2.2   Qualitative impacts

We find that the initiative has been highly successful across three major qualitative dimensions:

1. *Implementation:* The initiative has been successfully implemented, with clear institutional responsibility, secure and well-designed systems, and efficient, crisis-responsive service provision with high customer satisfaction.
2. *Impact on Public Service design and delivery*: The initiative has enabled both greater efficiency in the delivery of existing Public Services, and innovation in the design and delivery of new and reformed Public Services, including better crisis response capacity as well as minimisation of the use of personal data by Public Service bodies.
3. *Wider impacts:* By improving the efficiency and security of Public Service delivery, the initiative has enhanced trust in Ireland's Public Services, while the pervasive availability of a free, trusted Public Service identity and easier access to services has had a positive Social Inclusion impact.

2.3   Overall assessment

The SAFE-PSC-MyGovID Public Service Identity management framework represents a major strategic investment in a key element of public infrastructure, and it is clear that this investment has been highly successful in both quantitative and qualitative terms. Like comparable investments in physical infrastructure, a large proportion of the lifetime costs of the initiative were necessarily incurred in its early years, whereas now, as a mature project with modest annual costs, it continues to yield significant net benefits to DSP, the Public Service, and all the people of Ireland.

3 The Public Service Identity management framework

Public identity management is defined by the United Nations as "the issuance of a proof [of] legal identity to each individual by a government authorized entity and the maintenance of systems for managing information and documents associated with such identity"[5],

In Ireland, a person's Public Service Identity is defined as their Personal Public Service (PPS) number, plus a number of identity fields (see Appendix A for details). Under the Social Welfare Consolidation Act 2005, DSP is responsible for securely managing people's Public Service Identities on behalf of the Public Service, so that where an approved public service body – for example, DSP itself or the Passport Office – has a transaction with a person, the public service identity information held by DSP can be used to verify the person's identity.

The framework used by DSP to manage Public Service Identities consists of three components: first, and most important, the registration processes and IT systems comprising the Standard Authentication Framework Environment (SAFE); second, the Public Services Card (PSC), which provides a physical token of a person's SAFE-verified Public Service Identity, and finally, MyGovID, which provides an online token of a person's SAFE-verified Public Service Identity. These three components of the Public Service Identity management framework are briefly introduced in the next section, and the history of the framework is outlined in section 3.3.

---

[5] United Nations Legal Identity Expert Group and Mrkić, 'United Nations Strategy for Legal Identity for All'.

3.2   SAFE, PSC and MyGovID

3.2.1 The Standard Authentication Framework Environment (SAFE)

SAFE is the set of registration processes and IT systems used by the Department of Social Protection to establish, verify, and securely record a person's identity, in order to be sure that the person is the person they claim to be, that nobody else is using that person's identity, and that the person is not using a different identity; and to minimise the requirement for people to provide the same identity information repeatedly when accessing different services. This SAFE standard has four levels, of which the third, SAFE 2, is the authentication level used by DSP to "provide assurance at the level of substantial assurance" of a person's identity. (For simplicity, SAFE 2 is referred to as 'SAFE registration' throughout this report where not otherwise noted).

3.2.2 The Public Services Card (PSC)

The purpose of the SAFE registration process is to authenticate a person's identity to a substantial level of assurance. The purpose of the PSC is to act as a physical token that can be presented by a person attesting to the fact that their identity has been authenticated using SAFE, and in this way it enables that person to gain access to public services more efficiently. Once a person has a PSC, they no longer have to submit the same information to authenticate their identity each time they apply for public services provided by bodies who accept the PSC.

The electronic information encoded on the PSC as a result of the SAFE 2 process is used as a mechanism to support some DSP service transactions. This includes the payment of welfare benefits such as pensions, jobseekers' payments, carers, disability payments and child benefit made at Post Offices. Where a customer presents with a PSC, the An Post agent can swipe the magnetic strip on the back of the card through a card reader. This calls up customer details and the payment amount on the computer screen of the An Post agent. Where the agent is satisfied that the PSC is that of the person presenting the card, no further photographic ID is required and payment can be made to the customer.

The PSC has replaced other identity and entitlement tokens including the Social Services Card (SSC), the Pension Book, and the paper Free Travel pass with one convenient identity token. A number of public bodies are entitled, under legislation, to use the PSC as a means of authenticating identity. These bodies are "specified bodies" as set out in Schedule 5 of the Social Welfare Consolidation Act 2005.

3.2.3 MyGovID online SAFE ID verification

MyGovID is a secure online identity and access management service provided by the Department on a 'whole of Government' basis to public service bodies.

Table 2 - Public Services available with basic and verified MyGovID account, 2021

Service provider	Services available with *basic* or SAFE2-verified MyGovID
JobsIreland	*Search and apply for jobs.*
MyWelfare	*Book PPS number and Public Services Card appointments* *Request contribution records and Treatment Benefit eligibility* *Manage COVID-19 Pandemic Unemployment Payment, and payments for Self-Isolation or COVID-19 diagnosis* Book appointments Apply for and manage jobseeker, maternity and paternity benefit claims Request a payment statement View claims, statements, and PRSI records'
Revenue	Access PAYE services and My Enquiries, and add a job or pension record Manage Local Property Tax Apply for a home improvement grant or Apply for a tax clearance certificate
Road Safety Authority	Apply for, update, and renew learner permits and driving licences Apply for and book driving tests
National Childcare Scheme	Apply for a childcare subsidy
SUSI	Apply for, manage, and receive payment of student grants
Voter.ie	Check the Register of Electors, register to vote, change address, update and remove registrations
Digital Postbox	Access Government communications
Department of Agriculture, Food and the Marine	Access and manage Basic Payment Scheme, Animal Identification and Movement System, Forestry Services, Financial Self-Services, Nitrates Derogation applications, and veterinary medicine licence applications

Just as the PSC provides a physical token attesting to the fact that a person's identify has been securely audited through the SAFE process, MyGovID is an electronic token attesting to a person's identity as verified through SAFE. It operates by confirming to a service provider that a person logging in to their service has had their online identity credentials authenticated and, in

the case of verified accounts, linked to their SAFE2 registration[6]. This means that each service provider does not have to separately create and maintain customer authentication details. A verified MyGovID now enables access to a wide variety of public services, as shown in Table 2.

---

[6] There are two levels of MyGovID accounts; a basic account and a verified account. A basic MyGovID digital identity, not linked to SAFE registration, can be set up using a name and email address, but this does not offer assurance as to the true identity of a person. Some services can be accessed using basic account logins, while others require a higher level of identity authentication. It is a matter for each service provider to determine which of their services should be accessible using basic account logins and which require verified account logins. In this report, however, where not otherwise stated, 'MyGovID' means 'MyGovID verified to a SAFE 2 level", since this is the standard required by the Department of Social Protection to allow a person to access Social Welfare services securely online through MyWelfare, and is the *de facto* standard for secure access to other Public Services.

A person verifying their MyGOVID account must, for the purposes of registration, provide information that is unique to them and which is known by the Department of Social Protection. They must also be able to confirm possession of a 'token' that only they can hold. Towards this end, a person verifying their MyGovID account is required to provide their Personal Public Service Number (PPSN), their PSC number, and a PIN code which is issued to a mobile phone that has been verified as being in their possession or has been issued by post to their address, as held by the Department.

3.4　History of the Public Service Identity framework

The 1996 Interdepartmental Report on the Development of an Integrated Social Services System[7] formed the basis for legislative provisions introduced in the Social Welfare Act 1998[8] to provide for:

    i.   the standardisation of the Revenue and Social Insurance number (RSI Number) as a Personal Public Service Number ("the PPSN"); and

    ii.   the replacement of the Social Services Card (SSC) with a public service card which would show the person's name, PPS Number and the card number.

The Government made clear at the time that both the PSC and the PPSN were to be used widely across the public service to assist people in their dealings with Public Service organisations. Subsequent Governments progressed this policy and introduced a number of further legislative amendments providing, for example, that the Minister would not issue a PSC unless he or she was satisfied as to the identity of the person to whom a card[9] was to be issued and that the person's photograph and signature would be included on the card[10].".

Following a Government decision of 29 June, 2004 (S290/05/25/0025), to progress the development of a standard for a PSC, the then Department of Social and Family Affairs (DSFA) developed, in conjunction with a number of other Government Departments, the specifications for a PSC under the Standard Authentication Framework Environment, or SAFE, Programme. The specifications were established under the aegis of an Interdepartmental Group jointly chaired with the Department of Finance.

In July 2005, the Government noted that the Department was developing the PSC, based on the inter-departmentally agreed SAFE standard, to replace the existing Social Services Card with a view to issuance commencing in 2007. The necessary legislative provisions were included in Section 32 of the Social Welfare and Pensions Act 2007[11], though project implementation was

---

[7] Government of Ireland, *Inter-Departmental Report on the Development of an Integrated Social Services System*.

[8] Oireachtas na hÉireann, Social Welfare Act 1998, sec. 14.

[9] Section 15 of the Social Welfare and Pensions Act 2012 (link) amended ss. 241, 262 and 263 of the Social Welfare Consolidation Act 2005 ("SWCA2005") and also inserted s. 263B into that Act. (Social welfare legislation was consolidated in 1993 and again in 2005. References to Acts other than consolidation Acts in these footnotes refer to amending legislation.)

[10] Section 32(c) of the Social Welfare and Pensions Act 2007 (link) amended s. 263 of the SWCA2005

[11] Oireachtas na hÉireann, Social Welfare and Pensions Act 2007.

delayed by the financial crisis. Sections 8 and 9 of the Social Welfare and Pensions Act 2010[12] provided for a number of amendments to this legislation including the addition of place of birth and nationality to the dataset encoded on the chip contained on the PSC.

Delivery of SAFE and PSC was piloted in 2011, and full rollout of these elements of the initiative commenced in 2012. Meanwhile, the national eGovernment Strategy for 2012 to 2015[13] included a list of actions aimed at improving the way the Government conducts its business and serves the public by using new technologies, including the following;

> ➤ Action 15: "The Department of Public Expenditure and Reform will, using the Public Services Card, develop a common facility where Public Service customers can view their information and access services."

> ➤ Action 34: "The Department of Public Expenditure and Reform will examine the best way of using the Public Services Card and its underlying registration facilities and data services as the means of accessing public services over electronic channels."

> ➤ Action 36: "The Department of Public Expenditure and Reform will ensure that there is a common mechanism to allow customers to authenticate themselves for public services."

In 2015, the Public Service ICT Strategy[14] recognised that "*In implementing any strategy, existing infrastructure and services such as the Single Customer View and Public Services Card should be utilised in creating an infrastructure to allow citizens to engage in a secure but integrated manner across the wider Public Service.*" and committed to implementing " *… the necessary infrastructure to allow aggregation and facilitate sharing of common data on a Public Service wide basis to support new digital services and secure authentication to existing services. This would leverage existing systems and services such as Public Services Card to provide a more integrated citizen experience.*"

In line with these commitments, DSP commenced development of the MyGovID online ID verification element of the SAFE-PSC-MyGovID initiative in 2014. Rollout of MyGovID for MyWelfare services commencing in 2016, with JobsIreland access added shortly afterwards. A verified MyGovID now enables access to a wide variety of public services, as shown in Table 2 above.

---

[12] Oireachtas na hÉireann, Social Welfare and Pensions Act 2010.

[13] Department of Public Expenditure and Reform, 'Supporting Public Service Reform: EGovernment 2012 - 2015'.

[14] Department of Public Expenditure and Reform, 'Public Service ICT Strategy'.

4 Sources and Methods

Data sources

➢ Actual historical costs are exact figures, obtained from DSP administrative sources and consistent with the audited accounts of DSP[15].

➢ Actual historical volumes are exact figures, obtained from the DSP Annual Statistics Report[16] and other DSP administrative sources.

➢ Data extraction for this report was performed in the third and fourth quarters of 2020. Thus, for 2020, volumes and costs are on a 'forecast outturn' basis, using information about the year to date combined with an outturn projection for the rest of the year.

Cost-Benefit Analysis

➢ Classically, Cost Benefit Analysis (CBA) endeavours to assist decision makers in making choices concerning scarce resources. In a private corporation, the aim of a CBA is to determine which policies and operations maximise expected future profits as measured on a Net Present Value (NPV) basis. By contrast, in public projects such as the SAFE-PSC-MyGovID initiative, policymakers are instead motivated by the goal of maximising the overall public good while minimising net project costs[17].

➢ In line with international best practices[18], we have accordingly adapted the principles of the NPV method to compare the actual costs and wider quantifiable benefits of the initiative to the costs that would have necessarily been incurred in the counterfactual scenario where the initiative was not undertaken, in order to be able to assess which option has a lower quantifiable net present cost (NPC). This broader analytic approach is sometimes also referred to as a 'Cost-Effectiveness Analysis' (CEA), and the costs and benefits may be split between 'financial' and 'economic' categories. For simplicity, however, we use the terms CBA and NPV rather than CEA and NPC throughout this report.

➢ Because many of the elements of the overall public benefit of the initiative are not readily

---

[15] Accounts for the Social Insurance Fund and the DSP Vote are published separately by the Comptroller and Auditor-General. A consolidated historical time series derived from these accounts is published in DSP's Annual Statistics Report[16].

[16] Department of Social Protection, 'Statistical Information On Social Welfare Services: Annual Report 2019'.

[17] Mishan and Quah, *Cost-Benefit Analysis*.

[18] European Commission, *Guide to Cost-Benefit Analysis of Investment Projects*; European Commission, *Better Regulation Guidelines and Toolbox*; Florio, Morretta, and Willak, 'Cost-Benefit Analysis and European Union Cohesion Policy'; Tan-Torres Edejer and World Health Organization, *Making Choices in Health*.

quantifiable, we have also included a qualitative impact analysis in this report.

Accounting conventions

➢ All actual costs are on a cash basis, in line with Exchequer accounting standards[19]. For most costs and benefits, there is no material impact of choosing this accounting basis over relevant accrual accounting standards.[20] However, on this cash basis, capital expenditure is recorded upfront as a cash outflow rather than depreciated over the lifetime of assets: this results in higher upfront expenditure and a degree of lumpiness.

➢ All cash-flows are on an after-tax basis, in line with Public Spending Code[21] and European Commission guidance[22].

➢ As recommended by the Public Spending Code[21], an additional 25% is added to all direct staff costs, in order to represent indirect staff costs such as corporate support services, office premises and IT equipment.

Price deflators

➢ All monetary figures are expressed in constant 2010 prices. The deflators used were as follows:

  – Direct staff and labour costs: Ireland public sector pay price index.[23]

  – IT and software development costs: Ireland computer services index.[24]

  – All other costs (e.g. card production, hardware, office supplies): Ireland manufacturing index.[25]

Discount rate

➢ Discounting, where applicable, is at the 4% annual Social Discount Rate specified in the Public Spending Code[21]. This is a real discount rate and is applied *after* price deflation.

➢ Undiscounted – or equivalently, 0% discounted – figures are also used throughout the

---

[19] Department of Public Expenditure and Reform, *Public Financial Procedures*.

[20] International Public Sector Accounting Standards Board, *Handbook of International Public Sector Accounting Pronouncements*; Statistical Office of the European Communities and European Commission, *European System of Accounts*.

[21] Department of Public Expenditure and Reform, 'The Public Spending Code', Central Technical References and Economic Appraisal Parameters.

[22] European Commission, *Better Regulation Guidelines and Toolbox*, sec. 61.

[23] Eurostat, 'Labour Cost Index by NACE Rev. 2 Activity - Nominal Value, Annual Data'.

[24] Eurostat, 'Service Producer Prices - Annual Data'.

[25] Eurostat, 'Producer Prices in Industry, Total - Annual Data'.

report, including as a sensitivity check on the 4% discounted results.

Sensitivity analysis of costs and benefits

➢ Historical actual costs of the initiative are exact figures. Figures for historical counterfactual costs and benefits, and for actual and counterfactual projected costs and benefits, are provided on three bases: a central estimate, a 'high cost, low benefit' scenario, and a 'low cost, high benefit' scenario.

  − For the 'high cost, low benefit' scenario, all projected actual costs are one standard deviation higher than our central estimate, and all counterfactual costs and quantitative benefits are one standard deviation lower than our central estimate[26].

  − The reverse applies to the 'low costs, high benefits' scenario: projected actual costs are one standard deviation lower than our central estimate, while counterfactual costs and quantitative benefits are one standard deviation higher.

➢ Assuming that the principal categories of costs and benefits can vary independently, we estimate that this approach approximates an 85% credible interval for the overall net present value of the initiative, within the limits of the quantitative model used.

➢ The undiscounted results, in constant 2010 prices, are used as a discount rate sensitivity check on the central results.

Counterfactual assumptions

➢ It is a fundamental requirement for all public bodies to ensure that public services such as social protection payments are provided only to the people who are eligible to receive them. In line with this requirement, identity verification requirements prior to the introduction of SAFE were equivalent to, and no less rigorous than, the SAFE 2 standard of "substantial assurance" of ID verification[27]. In this document, therefore, we assume that for the period

---

[26] Hamby, 'A Comparison of Sensitivity Analysis Techniques'.

[27] For example, section 181 of Statutory Instrument 142 of 2007 requires every claimant of a benefit to 'furnish such certificates, documents, information and evidence as may be required by an officer of the Minister, for the purposes of deciding the claim'. Similarly, S.I. No. 412 of 2007 Part 5, Articles 18 and 19 state that a claimant of Supplementary Welfare Allowance (SWA, at that time administered by the Health Service Executive (HSE)) has a responsibility to provide any certificates, documents, information and evidence that are required by the HSE for the purpose of deciding the claim. Section 2.2 of version 2 (2008) of the HSE Community Welfare Service Best Practice Manual then provides three pages of detailed operational guidelines as to how a claimant's identity must be verified as part of the SWA claim decision process. The guidelines in that Manual in turn refer to section 3 of the 2008 Department of Social and Family Affairs (DSFA) Circular on the Consolidation of Personal Public Service Number Registration Procedures, which provides detailed guidance on the documents and procedures needed to prove a person's identity, and states that a PPS application 'should not be registered until the customer's identity has been confirmed. The basic principle of "NO VALID DOCUMENTS – NO NUMBER" should generally apply.'

2010 to 2030, counterfactual ID verification standards would have continued to meet this 'no less rigorous' standard.

➢ We also assume that, if the SAFE-PSC-MyGovID initiative had not existed, DSP and other relevant public service bodies would nonetheless have aimed to implement all their other policies and operations. For example, we assume that DSP would have rolled out digital access to its services, but that this would have required the creation and implementation of a standalone ID verification infrastructure if SAFE were not already in place.

Unit cost calculation for ID verifications

➢ A key question that naturally arises in calculating counterfactual ID verification costs is, what is the unit cost of performing one ID verification?

➢ It follows from the 'no less rigorous' ID verification assumption above that this unit cost should be similar to the unit cost of performing one SAFE 2 ID registration, measured in terms of the monetary value of the staff time taken to conduct one registration.

➢ The average time to conduct one SAFE registration is estimated by DSP officials as 20 minutes. We assume that this is similar to the time taken to perform a counterfactual ID verification, with the exception of the time taken for the photographic element of SAFE.

➢ The principal reason for including a photographic element in the SAFE 2 registration process and the PSC is to enable re-use of the identity established through this process for multiple public services. If identity were instead re-verified individually for each public service, the photographic element might not be necessary. The time taken for this element – estimated at 2 out of the 20 minutes needed to perform one SAFE 2 identity verification – has therefore been prudentially excluded from counterfactual costs throughout, reducing the counterfactual processing time by 10 percent compared to the SAFE 2 process.

➢ For simplicity, we exclude any possible extra costs resulting from the lack of dedicated SAFE verification centres in the counterfactual scenario, such as physical checks to confirm identity. This means that counterfactual costs are likely understated, since no account is taken of the efficiency gains arising from this centralisation, nor of subsequent costs.

➢ Under these assumptions, direct counterfactual staff costs can then be estimated as follows, where *Total SAFE staff costs* (in constant 2010 prices) and *Number of SAFE ID verifications* are both actual cumulative totals for the period 2010-2019:

$$ID\ verification\ direct\ staff\ unit\ cost$$
$$= \frac{Total\ SAFE\ staff\ costs}{Number\ of\ SAFE\ ID\ verifications} x \frac{ID\ verification\ time\ without\ photo}{ID\ verification\ time\ including\ photo}$$
$$= \frac{€36,000,000}{3,200,000\ verifications} x \frac{18\ minutes}{20\ minutes} = €10.15\ /\ ID\ \text{verification}$$

➢ Indirect staff costs are then estimated at 25% of direct costs (€2.54 per ID verification).

Rollout adjustment for counterfactual costs

Table 3 - PSC and SAFE rollout completion for Social Welfare claimants, 2012-2019 (denominators are highlighted for new claims (2016) and existing claims (2019))

Year	Actual	Actual	Actual	Actual	Actual
	PSC issuances	PSC issuances	PSC issuances		
	Volume	Volume	Volume	Proportion	Proportion
	In year	Mid-year cumulative	End-year cumulative	Rollout completion (new)	Rollout completion (existing claims)
2012	83,774		83,774	5%	2%
2013	376,458	272,003	460,232	15%	11%
2014	667,090	793,777	1,127,322	45%	26%
2015	629,307	1,441,976	1,756,629	82%	40%
2016	602,481	2,057,870	2,359,110	100%	54%
2017	675,486	2,696,853	3,034,596	100%	69%
2018	602,825	3,336,009	3,637,421	100%	83%
2019	515,804	3,895,323	4,153,225	100%	95%

➢ No counterfactual costs are recorded in 2010 and 2011, as the initiative had not yet begun to be rolled out. Similarly, counterfactual costs increase in direct proportion to the degree to which the initiative was actually rolled out over the following years.

➢ Because Social Welfare customers were the initial focus of the SAFE-PSC rollout, we assume that the rollout process for *new* Social Welfare claims was substantially completed by 2016, such that from that year onwards all eligible claimants[28] must have been SAFE verified and issued with a PSC in order to make their claim.

➢ In Table 3, *Rollout completion (new)* is the SAFE-PSC rollout proportion for each period for these *new* claims. It is estimated as the cumulative number of PSCs issued up to a given year, divided by the cumulative number of PSCs issued by the time the rollout for new claimants is estimated to have been substantially completed (end-2016). To avoid overstating the completion proportion over the rapid four-year rollout period, the numerator for years 2013-2015 is the mid-year cumulative total.

➢ Similarly, *Rollout completion (existing claims)* is the proportion of existing claimants who are SAFE-PSC registered. The rollout period for this group was longer, with a notional completion date of end-2019, so that here we use end-year cumulative totals, and exclude some 5% of claimants who will never be in a position to SAFE register.[28]

---

[28] While most Social Welfare customers must be SAFE 2 registered in order to make a Social Welfare claim, this requirement does not apply to non-resident customers or those in certain vulnerable groups. Where relevant, these customers have been excluded from both the 'actual' and 'counterfactual' sides of the analysis in this report.

5 Actual vs counterfactual direct costs

In this section, we present an analysis of the historical and projected actual and counterfactual costs of the SAFE-PSC-MyGovID initiative. The analysis is broken down between the three major components of the initiative: SAFE ID verification, the PSC as a physical token of SAFE registration, and MyGovID as an electronic token of SAFE registration. Each of these major components of the initiative is in turn made up of a number of subcomponents. For each of these subcomponents, we first present the actual historical costs that were incurred on the project, and then show how we have estimated the equivalent counterfactual costs.

An overview of how these actual and counterfactual costs relate to each other is shown in Figure 2 and in more detail in Table 4. Note that, throughout this report, counterfactual costs are strictly limited to the cost of replacing the identity verifications that were actually carried out using the SAFE-PSC-MyGovID framework. This means that counterfactual costs start at zero in 2010 and 2011, and increase from 2012 to 2016 in direct proportion to the degree to which the initiative was actually rolled out. To illustrate the size of this 'rollout adjustment', Figure 2 also shows indicative levels of counterfactual costs, unadjusted for the rollout of SAFE, PSC, and MyGovID.

Figure 2 – Undiscounted annual SAFE-PSC-MyGovID costs, by component, vs counterfactual
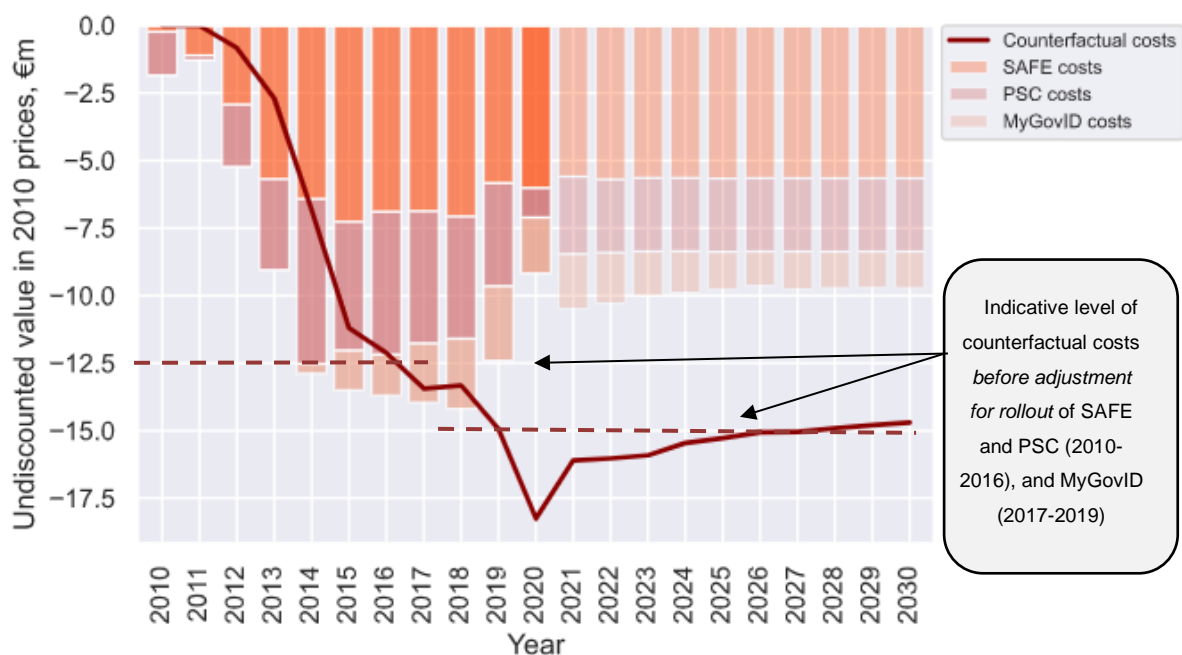
Overall, actual costs were higher in the early years of the initiative, as the initiative was

19

developed and rolled out. However, without SAFE-PSC-MyGovID, each new Social Welfare claim or PPS number allocation would have required a separate ID verification, and this inefficiency leads to counterfactual costs becoming considerably higher than actual costs over time.

Table 4 - SAFE-PSC-MyGovID: Actual vs counterfactual costs by component

Year	Actual vs counterfactual Constant 2010 €m ID verification	Actual vs counterfactual Constant 2010 €m ID card development, production & issuance	Actual vs counterfactual Constant 2010 €m 'My DSP ID' development & production	Actual vs counterfactual Constant 2010 €m Total costs
2010	0.2	1.6	0.0	**1.8**
2011	1.1	0.2	0.0	**1.3**
2012	2.2	2.1	0.0	**4.4**
2013	3.3	3.0	0.0	**6.3**
2014	0.7	5.4	0.0	**6.0**
2015	-1.6	3.7	-0.2	**1.9**
2016	-2.8	4.1	0.1	**1.3**
2017	-3.1	3.6	0.1	**0.7**
2018	-1.1	3.3	-1.4	**0.8**
2019	-2.4	2.6	-2.8	**-2.6**
2020	-2.8	-0.1	-6.2	**-9.1**
2021	-2.8	1.7	-4.5	**-5.6**
2022	-2.8	1.5	-4.5	**-5.8**
2023	-2.9	1.5	-4.5	**-5.9**
2024	-2.8	1.5	-4.3	**-5.6**
2025	-2.8	1.5	-4.2	**-5.5**
2026	-2.8	1.5	-4.1	**-5.5**
2027	-2.8	1.5	-4.0	**-5.3**
2028	-2.8	1.5	-3.9	**-5.2**
2029	-2.8	1.5	-3.8	**-5.1**
2030	-2.8	1.5	-3.7	**-5.0**

5.1.1 Actual costs overview

As shown in Table 5, the actual cumulative cost of the SAFE-PSC-MyGovID initiative was €98 million over the ten years to end-2019[29], corresponding to a cumulative discounted cost of €78 million. By 2030, the total cumulative cost is projected to grow to €206 million (undiscounted) or €167 million (discounted). Emphasising its central role in the overall initiative, SAFE registration accounts for more than half of total costs over the ten years to 2019, and about 55% of total costs from 2010 to 2030.

Table 5 - SAFE-PSC-MyGovID: Actual costs, by component

Year	*Actual* *Constant 2010* *€m* SAFE ID verification	*Actual* *Constant 2010* *€m* PSC development, production & issuance	*Actual* *Constant 2010* *€m* MyGovID development & production	*Actual* *Constant 2010* *€m* **Total costs**
2010	0.2	1.6	0.0	**1.8**
2011	1.1	0.2	0.0	**1.3**
2012	2.9	2.3	0.0	**5.2**
2013	5.7	3.4	0.0	**9.1**
2014	6.4	6.1	0.4	**12.9**
2015	7.3	4.8	1.5	**13.5**
2016	6.9	5.3	1.5	**13.7**
2017	6.9	4.9	2.2	**14.0**
2018	7.1	4.5	2.6	**14.2**
2019	5.8	3.8	2.8	**12.4**
2020	6.0	1.1	2.1	**9.2**
2021	5.6	2.9	2.0	**10.5**
2022	5.7	2.7	1.9	**10.3**
2023	5.6	2.7	1.6	**10.0**
2024	5.6	2.7	1.5	**9.9**
2025	5.7	2.7	1.4	**9.8**
2026	5.7	2.7	1.3	**9.6**
2027	5.7	2.7	1.4	**9.8**
2028	5.7	2.7	1.4	**9.7**
2029	5.7	2.7	1.3	**9.7**
2030	5.7	2.7	1.4	**9.7**

---

[29] This figure is in constant 2010 prices. However, because price changes over this ten-year period were very small, the sum of costs at historical current prices is almost identical: €98.1 million in constant 2010 prices vs €98.4 million in historical current prices.

5.1.2 Counterfactual costs overview

The estimated counterfactual costs of the SAFE-PSC-MyGovID initiative are summarised in Table 6.

Table 6 - Counterfactual costs, 2010-2030, by principal component

Year	Counterfactual Constant 2010 €m ID verification	Counterfactual Constant 2010 €m ID card development, production & issuance	Counterfactual Constant 2010 €m 'My DSP ID' development & production	Counterfactual Constant 2010 €m Total costs
2010	0.0	0.0	0.0	**0.0**
2011	0.0	0.0	0.0	**0.0**
2012	0.7	0.2	0.0	**0.9**
2013	2.4	0.4	0.0	**2.7**
2014	5.8	0.7	0.4	**6.9**
2015	8.8	1.1	1.7	**11.6**
2016	9.7	1.2	1.5	**12.4**
2017	10.0	1.3	2.1	**13.3**
2018	8.2	1.2	4.0	**13.4**
2019	8.2	1.2	5.6	**15.0**
2020	8.8	1.2	8.3	**18.3**
2021	8.4	1.2	6.5	**16.1**
2022	8.5	1.2	6.4	**16.1**
2023	8.5	1.2	6.2	**15.9**
2024	8.5	1.2	5.8	**15.5**
2025	8.5	1.2	5.6	**15.3**
2026	8.5	1.2	5.4	**15.1**
2027	8.5	1.2	5.4	**15.1**
2028	8.5	1.2	5.2	**14.9**
2029	8.5	1.2	5.1	**14.8**
2030	8.5	1.2	5.0	**14.7**

Because of their nature as the counterfactual replacement of the actual costs of ID verification under the initiative, counterfactual ID verification and card issuance costs rise in proportion to the actual rollout of the initiative over the years 2012-2015. Card issuance costs remain low throughout the rest of the period from 2016 to 2030; however, ID verification costs stabilise at a high level, due to the counterfactual cost of repeated separate ID checks for Social Welfare claims, PPS number allocations, and Free Travel inspections. Costs of Digital ID verification in the absence of MyGovID ('My DSP ID'), are initially very similar to actual MyGovID costs, but rise rapidly once programme rollout starts: with no existing SAFE identity management system, a new identity verification would have been needed for each new 'My DSP ID' user.

5.2   SAFE vs counterfactual ID verification costs

Figure 3 - SAFE actual vs counterfactual costs, by total and subcomponent, constant 2010 prices, 2010-2030
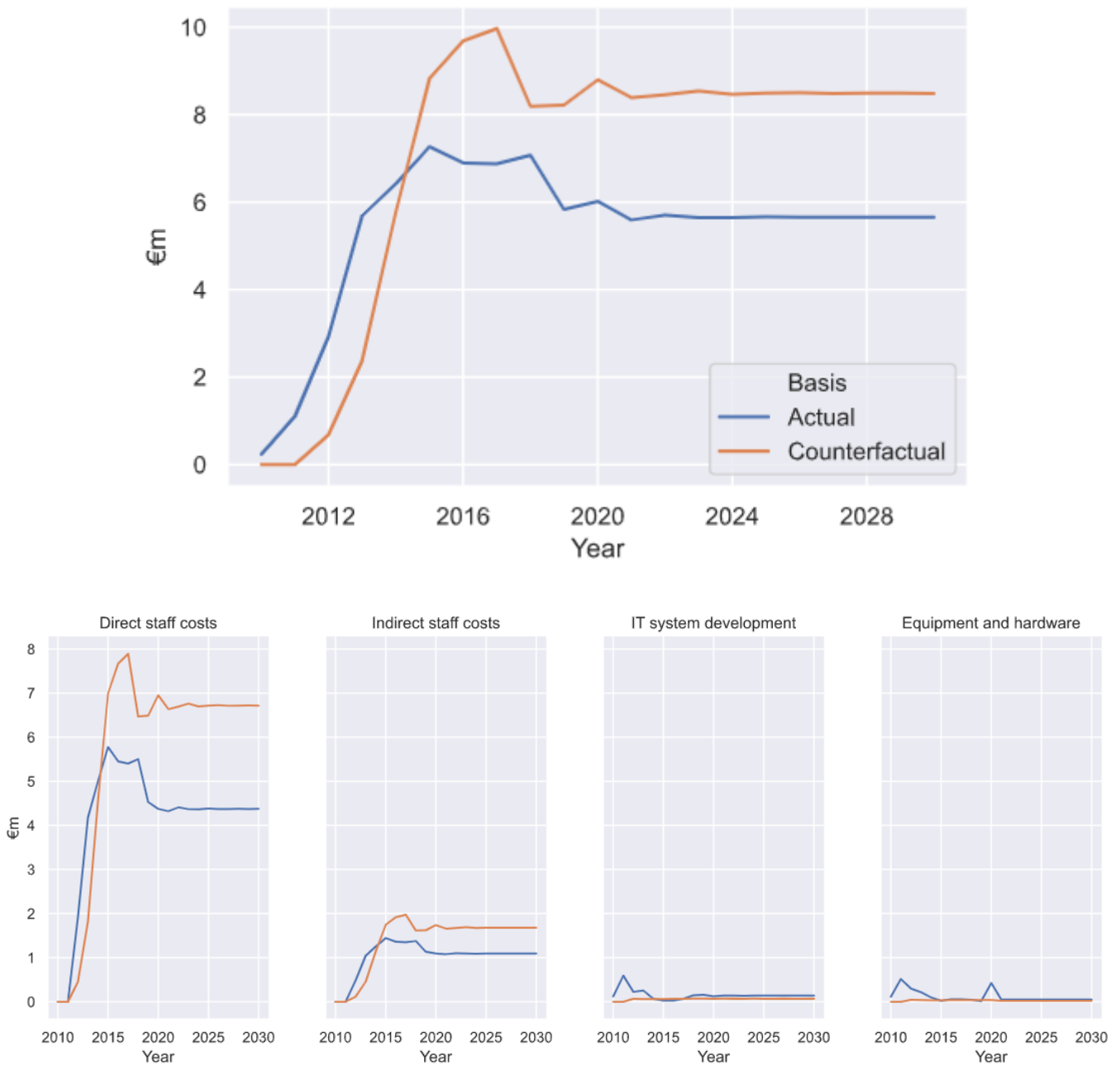
Both actual and counterfactual costs rise rapidly over the early years of the initiative, due to the mirroring effect imposed by limiting counterfactual costs to the degree that SAFE was actually rolled out in each period. Actual costs are higher during the development and rollout period, but thereafter, counterfactual costs stabilise at a significantly higher rate. As expected, the largest component of both SAFE and counterfactual ID verification costs is the direct and indirect staff costs associated with actually verifying people's identities.

5.2.1 Actual SAFE costs

Table 7 - Actual SAFE costs, by sub-component, 2010-2030

Year	*Actual* *Constant 2010* *€m* Direct staff costs	*Actual* *Constant 2010* *€m* Indirect staff costs	*Actual* *Constant 2010* *€m* IT system development	*Actual* *Constant 2010* *€m* Equipment and hardware	*Actual* *Constant 2010* *€m* **Total**
2010	0.0	0.0	0.1	0.1	**0.2**
2011	0.0	0.0	0.6	0.5	**1.1**
2012	1.9	0.5	0.2	0.3	**2.9**
2013	4.2	1.0	0.3	0.2	**5.7**
2014	5.0	1.3	0.1	0.1	**6.4**
2015	5.8	1.4	0.0	0.0	**7.3**
2016	5.5	1.4	0.0	0.1	**6.9**
2017	5.4	1.4	0.1	0.1	**6.9**
2018	5.5	1.4	0.1	0.0	**7.1**
2019	4.5	1.1	0.2	0.0	**5.8**
2020	4.4	1.1	0.1	0.4	**6.0**
2021	4.3	1.1	0.1	0.0	**5.6**
2022	4.4	1.1	0.1	0.0	**5.7**
2023	4.4	1.1	0.1	0.0	**5.6**
2024	4.4	1.1	0.1	0.0	**5.6**
2025	4.4	1.1	0.1	0.0	**5.7**
2026	4.4	1.1	0.1	0.0	**5.7**
2027	4.4	1.1	0.1	0.0	**5.7**
2028	4.4	1.1	0.1	0.0	**5.7**
2029	4.4	1.1	0.1	0.0	**5.7**
2030	4.4	1.1	0.1	0.0	**5.7**

Actual costs of the SAFE-PSC-MyGovID initiative are summarised in Table 7. All historical costs were directly obtained from DSP administrative sources; 2020 figures are on a forecast outturn basis; and projections for 2021 to 2030 are calculated on a simple 3-year moving average basis.

Direct staff costs are based on the numbers of Full-Time Equivalent (FTE) DSP staff assigned to SAFE registration, by grade, in each month from the inception of the programme onwards, multiplied by the average pay cost for each grade. Indirect staff costs are estimated at 25% of this figure, in line with Public Spending Code guidance. These costs peak in the years of nationwide rollout of SAFE and PSC, before slowly declining.

As expected for a project of this nature, system development, equipment and hardware costs peaked in the earliest years of SAFE, declining steeply thereafter. The lumpiness of cash outflows on these project elements in later years results from the timing of system upgrades and service provider contract changeovers.

5.2.2 Counterfactual ID verification costs

The composition of counterfactual ID verification costs is outlined in Table 8. The calculation of each element of these costs for years 2010-2019 is described in the remainder of this section, and costs for future years are on a 3-year moving average basis.

Table 8 - Counterfactual ID registration costs, by sub-component, 2010-2030

Year	*Counterfactual* *Constant 2010* *€m* Direct staff costs	*Counterfactual* *Constant 2010* *€m* Indirect staff costs	*Counterfactual* *Constant 2010* *€m* IT system development	*Counterfactual* *Constant 2010* *€m* Equipment and hardware	*Counterfactual* *Constant 2010* *€m* **Total**
2010					**0.0**
2011					**0.0**
2012	0.5	0.1	0.1	0.0	**0.7**
2013	1.8	0.5	0.1	0.0	**2.4**
2014	4.5	1.1	0.1	0.0	**5.8**
2015	7.0	1.7	0.1	0.0	**8.8**
2016	7.7	1.9	0.1	0.0	**9.7**
2017	7.9	2.0	0.1	0.0	**10.0**
2018	6.5	1.6	0.1	0.0	**8.2**
2019	6.5	1.6	0.1	0.0	**8.2**
2020	7.0	1.7	0.1	0.0	**8.8**
2021	6.6	1.7	0.1	0.0	**8.4**
2022	6.7	1.7	0.1	0.0	**8.5**
2023	6.8	1.7	0.1	0.0	**8.5**
2024	6.7	1.7	0.1	0.0	**8.5**
2025	6.7	1.7	0.1	0.0	**8.5**
2026	6.7	1.7	0.1	0.0	**8.5**
2027	6.7	1.7	0.1	0.0	**8.5**
2028	6.7	1.7	0.1	0.0	**8.5**
2029	6.7	1.7	0.1	0.0	**8.5**
2030	6.7	1.7	0.1	0.0	**8.5**

IT system development, equipment and hardware

These costs are estimated as equal to 50% of the equivalent ongoing actual costs, averaged over years from 2015 onwards to avoid including the high initial development costs for SAFE. This severe 50% reduction is to account for the assumed, but hard to quantify, smaller scale and lower sophistication of counterfactual ID verification systems. It is likely to be an underestimate of counterfactual costs, as it does not take into account the cost of duplication across different ID verification systems for different Social Welfare schemes, PPS allocation and so on.

Direct and indirect counterfactual staff costs

Table 9 - Calculation of counterfactual ID verification direct and indirect staff costs

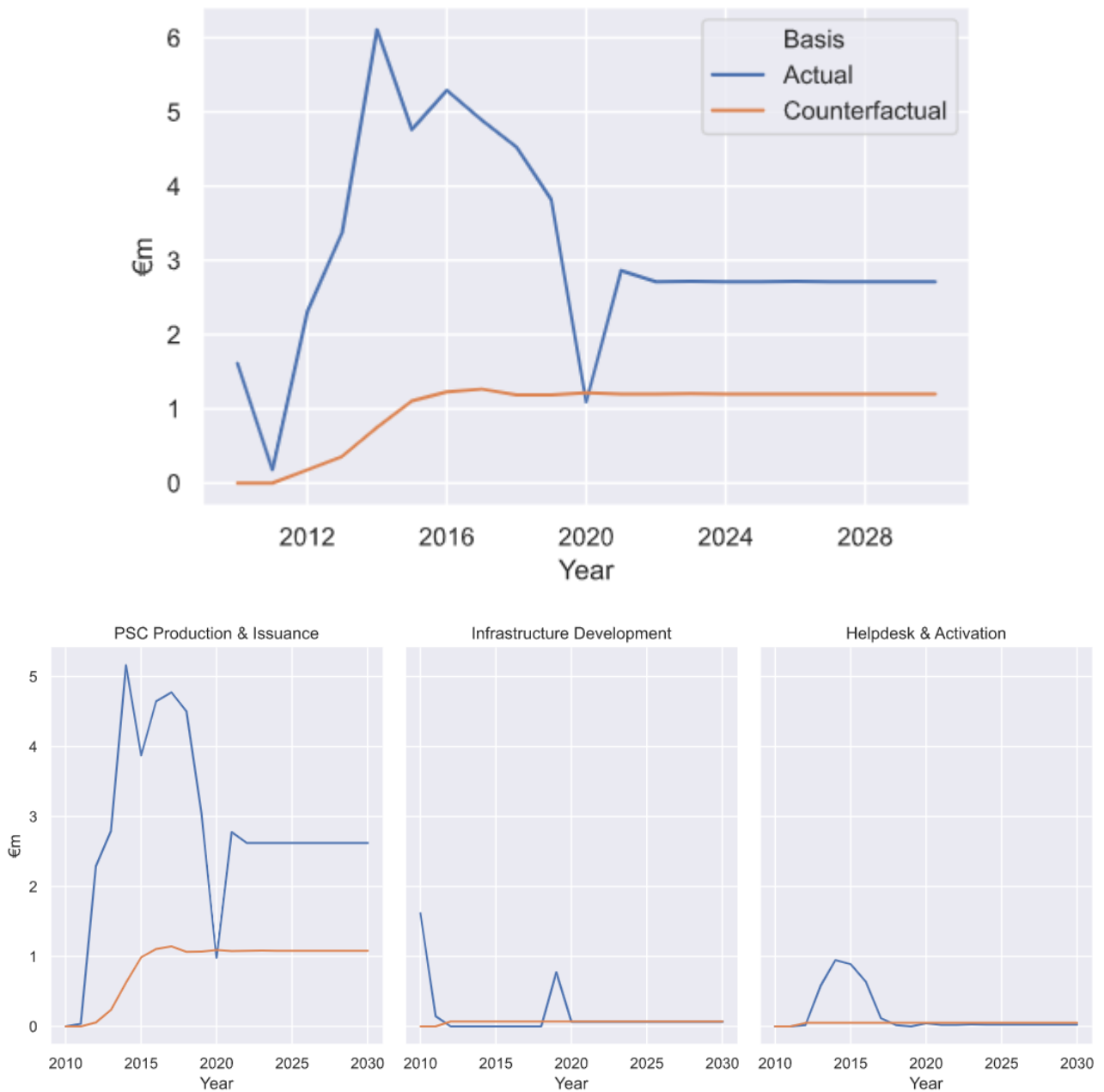| Year	Counterfactual	Actual	Actual	Actual	Counterfactual	Counterfactual
	Volume	*Proportion*	*Unit cost €*	*Unit cost €*	*€m*	*€m*
	ID verifications	SAFE-PSC rollout factor	Unit direct staff cost	Unit indirect staff cost	Direct staff costs	Indirect staff costs
	D	E	F	G	H = D x E x F	I = D x E x G
2010	916,301	0%	10.15	2.54	0.0	0.0
2011	970,771	0%	10.15	2.54	0.0	0.0
2012	901,114	5%	10.15	2.54	0.5	0.1
2013	895,224	20%	10.15	2.54	1.8	0.5
2014	813,420	55%	10.15	2.54	4.5	1.1
2015	765,149	90%	10.15	2.54	7.0	1.7
2016	755,700	100%	10.15	2.54	7.7	1.9
2017	777,647	100%	10.15	2.54	7.9	2.0
2018	637,468	100%	10.15	2.54	6.5	1.6
2019	639,594	100%	10.15	2.54	6.5	1.6

The calculation of counterfactual historical staff costs (direct and indirect) is shown in Table 9. The SAFE PSC rollout factor and ID verification costs are explained in Section 4, and the calculation of the number of ID verifications required each year is shown in Table 10. *DSP claims awarded requiring ID validation* is a conservative estimate of the number of full claim-related ID verifications that DSP staff would have conducted each year in the absence of SAFE-PSC: Appendix B shows how this estimate is derived.

Table 10 - Calculation of counterfactual ID verification volumes (See 8.4.2Appendix B for details of the DSP claims awarded requiring ID validation calculation)

Year	Actual	Actual	Estimated	Counterfactual
	Volume	*Volume*	*Volume*	*Volume*
	DSP claims awarded requiring ID validation	New adult PPS numbers	Free Travel verifications	ID verifications required
	A	B	C	D = A + B + C
2010	801,307	78,994	36,000	916,301
2011	855,754	79,017	36,000	970,771
2012	782,131	82,983	36,000	901,114
2013	763,996	95,228	36,000	895,224
2014	672,252	105,168	36,000	813,420
2015	624,974	104,175	36,000	765,149
2016	602,516	117,184	36,000	755,700
2017	614,515	127,132	36,000	777,647
2018	467,947	133,521	36,000	637,468
2019	467,213	136,381	36,000	639,594

5.3 PSC vs counterfactual Social Welfare card costs

Figure 4 - PSC actual vs counterfactual costs, by total and subcomponent, constant 2010 prices, 2010-2030

PSC card development, production, and support is the only major SAFE-PSC-MyGovID component where actual costs are significantly higher than counterfactual costs over the whole period from 2010 to 2030. This is to be expected: by their nature, PSCs carry a photograph and incorporate chip technology, and are thus more technologically advanced than Social Security Cards (SSCs), Pension Books, and Free Travel Passes.

5.3.1 Actual PSC costs

Actual PSC costs are shown in Table 11. All historical costs were directly obtained from DSP administrative sources; 2020 figures are on a forecast outturn basis; and projections for 2021 to 2030 are calculated on a simple 3-year moving average basis.

The cash outflows display some year-to-year volatility due to the timing of system upgrades and contractual payment schedules with external service providers.

Table 11 - Actual PSC costs, 2010-2030

Year	*Actual* *Constant 2010* *€m* PSC Production & Issuance	*Actual* *Constant 2010* *€m* Infrastructure Development	*Actual* *Constant 2010* *€m* Helpdesk & Activation	*Actual* *Constant 2010* *€m* **Total**
2010	0.0	1.6	0.0	**1.6**
2011	0.0	0.1	0.0	**0.2**
2012	2.3	0.0	0.0	**2.3**
2013	2.8	0.0	0.6	**3.4**
2014	5.2	0.0	0.9	**6.1**
2015	3.9	0.0	0.9	**4.8**
2016	4.6	0.0	0.6	**5.3**
2017	4.8	0.0	0.1	**4.9**
2018	4.5	0.0	0.0	**4.5**
2019	3.0	0.8	0.0	**3.8**
2020	1.0	0.1	0.0	**1.1**
2021	2.8	0.1	0.0	**2.9**
2022	2.6	0.1	0.0	**2.7**
2023	2.6	0.1	0.0	**2.7**
2024	2.6	0.1	0.0	**2.7**
2025	2.6	0.1	0.0	**2.7**
2026	2.6	0.1	0.0	**2.7**
2027	2.6	0.1	0.0	**2.7**
2028	2.6	0.1	0.0	**2.7**
2029	2.6	0.1	0.0	**2.7**
2030	2.6	0.1	0.0	**2.7**

5.3.2 Counterfactual Social Welfare card costs

The composition of counterfactual Social Welfare card costs is outlined in Table 12. The calculation of each element of these costs for years 2010-2019 is described in the remainder of this section, and costs for future years are on a 3-year moving average basis.

Table 12 - Counterfactual Social Welfare card costs, 2010-2030

Year	*Counterfactual* *Constant 2010* *€m* Card production & Issuance	*Counterfactual* *Constant 2010* *€m* Infrastructure Development	*Counterfactual* *Constant 2010* *€m* Helpdesk & Activation	*Counterfactual* *Constant 2010* *€m* **Total**
2010				**0.0**
2011				**0.0**
2012	0.1	0.1	0.1	**0.2**
2013	0.2	0.1	0.1	**0.4**
2014	0.6	0.1	0.1	**0.7**
2015	1.0	0.1	0.1	**1.1**
2016	1.1	0.1	0.1	**1.2**
2017	1.1	0.1	0.1	**1.3**
2018	1.1	0.1	0.1	**1.2**
2019	1.1	0.1	0.1	**1.2**
2020	1.1	0.1	0.1	**1.2**
2021	1.1	0.1	0.1	**1.2**
2022	1.1	0.1	0.1	**1.2**
2023	1.1	0.1	0.1	**1.2**
2024	1.1	0.1	0.1	**1.2**
2025	1.1	0.1	0.1	**1.2**
2026	1.1	0.1	0.1	**1.2**
2027	1.1	0.1	0.1	**1.2**
2028	1.1	0.1	0.1	**1.2**
2029	1.1	0.1	0.1	**1.2**
2030	1.1	0.1	0.1	**1.2**

Infrastructure development, helpdesk and activation

The three counterfactual Social Welfare card types (SSC, Pension Book, and Free Travel Pass) are much simpler than the PSC, but they would each nonetheless have required at least some level of infrastructure development and maintenance costs, and staff costs for customer support (labelled 'Helpdesk & Activation' for consistency with actual costs). In the absence of a firmer basis for these costs, we conservatively estimate that Infrastructure Development costs for each card type would have been 15% of average actual costs, and Helpdesk & Activation costs for each card type would have been 10% of average actual costs. With three card types, this equates to an overall 45% of actual costs for Infrastructure Development, and 30% of actual costs for Helpdesk & Activation. We note that costs under these headings never exceed a combined €0.2 million per year.

Counterfactual Social Welfare card volume and cost calculation

This is the sum of estimated counterfactual costs for each of the three Social Welfare card types (SSC, Pension Book, and Free Travel Pass). Estimated costs for each card type are calculated by first estimating the volume of cards needing to be produced in each year, then multiplying this volume estimate first by the PSC rollout factor (see section 4), and then by the unit cost of producing a card of this type. This can be expressed as:

$$Card\ production\ \&\ Issuance_{year}$$

$$= \sum_{card=1}^{3} Volume_{card,year} \times PSC\ rollout\ factor_{year} \times Unit\ Cost_{card}$$

The counterfactual cost calculation for the production and issuance of **Social Services Cards (SSCs)** is summarised in Table 13. Prior to the introduction of SAFE/PSC, SSCs were issued to new Social Welfare claimants, and to adults upon allocation of a new PPS number. The volume of SSCs required is thus estimated as the number of new SSCs to be issued to (a) new unique Social Welfare claimants and (b) adults newly receiving a PPS number in the year, plus the number of replacement SSCs required.

Table 13 – Social Services Card (SSC) counterfactual Production & Issuance cost calculation, 2010-2019. See following table for details of 'Total SSCs required' volume calculation.

	Counterfactual	Actual	Actual	Actual	Counterfactual
	SSC	SSC	SSC	SSC	SSC
	Volume	Proportion	Unit cost €	Unit cost €	€m
	Total SSCs required	PSC rollout factor	Card production	Postage and processing	**Production & Issuance**
Year	E	F	G	H	I = E x F x (G+H)
2010	407,799	0%	0.20	2.00	**0.0**
2011	392,493	0%	0.20	2.00	**0.0**
2012	371,711	5%	0.20	2.00	**0.0**
2013	377,790	20%	0.20	2.00	**0.2**
2014	357,447	55%	0.20	2.00	**0.4**
2015	340,491	90%	0.20	2.00	**0.7**
2016	345,843	100%	0.20	2.00	**0.8**
2017	359,561	100%	0.20	2.00	**0.8**
2018	317,939	100%	0.20	2.00	**0.7**
2019	320,150	100%	0.20	2.00	**0.7**

➤ The *new adult PPS numbers* figures are identical to those used in section 5.2.2 for estimating the number of ID verifications required as the counterfactual of SAFE.

➤ However, *DSP new unique claimants* is not the same as the 'DSP claims awarded requiring ID verification' series in that section, since in this case we assume that when a person first makes a Social Welfare claim, they receive an SSC, but they will not receive

another SSC if they make a subsequent social welfare claim.

➢ *Replacement SSCs required* is estimated as one tenth of the moving average number of new SSCs issued, on the basis of a ten-year lifespan for any given card.

Table 14 - Social Services Card (SSC) production volume calculation, 2010-2019

	Actual	*Actual*	*Counterfactual*	*Counterfactual*	*Counterfactual*
					SSC
	Volume	*Volume*	*Volume*	*Volume*	*Volume*
	DSP new unique claimants	New adult PPS numbers	**Total new SSCs cards required**	Replacement SSCs required	**Total SSCs required**
Year	A	B	C = A + B	D	E = C + D
2010	291,732	78,994	370,726	37,073	**407,799**
2011	277,132	79,017	356,149	36,344	**392,493**
2012	253,290	82,983	336,273	35,438	**371,711**
2013	247,417	95,228	342,645	35,145	**377,790**
2014	217,706	105,168	322,874	34,573	**357,447**
2015	202,395	104,175	306,570	33,921	**340,491**
2016	195,122	117,184	312,306	33,536	**345,843**
2017	199,008	127,132	326,140	33,421	**359,561**
2018	151,543	133,521	285,064	32,875	**317,939**
2019	151,305	136,381	287,686	32,464	**320,150**

The unit cost for each card produced is split between €0.20 for *card production* and €2.00 for *postage and processing*. Card production is the actual historical cost of producing one SSC in the years immediately before its replacement by the PSC, while postage and processing is equal to €1 per card for postage and a further €1 per card for packing and all other related administration costs.

The counterfactual cost calculation for **Pension Books** is summarised in Table 15. The volume estimate is based on the historical level of Pension Book issuances prior to their replacement by the PSC, trended forwards based on the actual change in the number of DSP Pension recipients in the years 2012-2019.

As with SSCs, Pension Book unit production costs are based on actual historical values for the most recent years of Pension Book production prior to their replacement by the PSC. Because PPO Books were not posted to the customer (they were instead issued to Post Offices twice a year for distribution to customers by the Post Office staff at the counter) postage costs are set to zero, while processing unit costs are estimated at €1 per card for packing and all other related administration costs.

Table 15 - Pension Books counterfactual Production & Issuance cost calculation, 2010-2019

| Year	Estimated Pension Books Volume Total Pension Books A	Actual Pension Books Proportion PSC rollout factor B	Actual Pension Books Unit cost € Card production C	Actual Pension Books Unit cost € Postage and processing D	Counterfactual Pension Books €m Production & Issuance E = A x B x (C+D)
2010	50,309	0%	0.20	1.00	0.0
2011	51,174	0%	0.20	1.00	0.0
2012	51,684	5%	0.20	1.00	0.0
2013	56,218	20%	0.20	1.00	0.0
2014	56,600	55%	0.20	1.00	0.0
2015	55,341	90%	0.20	1.00	0.0
2016	55,343	100%	0.20	1.00	0.1
2017	56,669	100%	0.20	1.00	0.1
2018	58,679	100%	0.20	1.00	0.1
2019	58,313	100%	0.20	1.00	0.1

Finally, the counterfactual cost calculation for the production and issuance of **Free Travel Passes** is summarised in Table 16. As with Pension Books, the volume estimate is based on the historical level of Free Travel Pass issuances prior to their replacement by the PSC, trended forwards in this case based on the actual change in the number of DSP Pension and Illness and Disability recipients in the years 2012-2019. As with SSCs and Pension Books, unit production costs are based on actual historical values for the most recent years of Free Travel Pass production prior to their replacement by the PSC. Postage and processing unit costs are again estimated at €1 per card for postage and a further €1 per card for packing and all other related administration costs.

Table 16 - Free Travel Passes counterfactual Production & Issuance cost calculation, 2010-2019

Year	Estimated Free Travel Volume Total Free Travel cards A	Actual Free Travel Proportion PSC rollout factor B	Actual Free Travel Unit cost € Card production C	Actual Free Travel Unit cost € Postage and processing D	Counterfactual Free Travel €m Production & Issuance E = A x B x (C+D)
2010	89,606	0%	0.11	2.00	0.0
2011	94,013	0%	0.11	2.00	0.0
2012	96,700	5%	0.11	2.00	0.0
2013	107,972	20%	0.11	2.00	0.0
2014	108,706	55%	0.11	2.00	0.1
2015	106,288	90%	0.11	2.00	0.2
2016	106,291	100%	0.11	2.00	0.2
2017	108,838	100%	0.11	2.00	0.2
2018	112,699	100%	0.11	2.00	0.2
2019	111,996	100%	0.11	2.00	0.2

5.4 MyGovID vs counterfactual 'My DSP ID' costs

Figure 5 - MyGovID actual and counterfactual costs, by component, 2010 constant € million
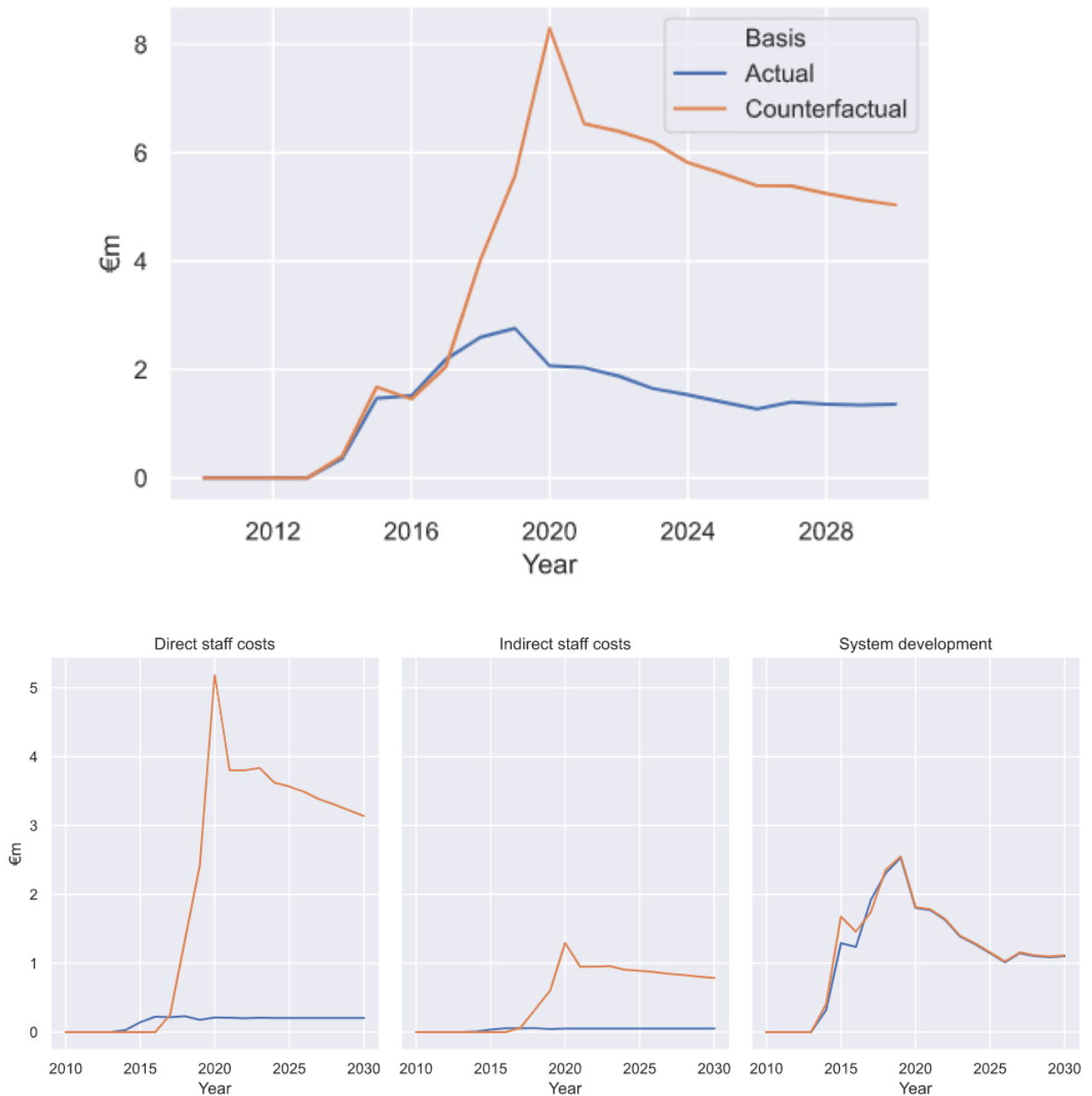
Development of the MyGovID component commenced in 2014, approximately four years after development started on SAFE and PSC. Actual costs for MyGovID are concentrated heavily in the IT system development costs for the project, peaking in 2019. In the actual scenario, direct and indirect staff costs remain very low throughout, since the SAFE ID verifications required for MyGovID are already accounted for under the costs of SAFE itself. However, counterfactual staff costs are much higher, since a dedicated ID verification would be required for each new 'My DSP ID' issued.

5.4.1 Actual MyGovID costs

Actual MyGovID costs are shown in Table 17. All historical costs were directly obtained from DSP administrative sources; 2020 figures are on a forecast outturn basis; and projections for 2021 to 2030 are calculated on a simple 3-year moving average basis.

Table 17 - Actual MyGovID costs, 2010-2030

Year	*Actual* *Constant 2010* *€m* Direct staff costs	*Actual* *Constant 2010* *€m* Indirect staff costs	*Actual* *Constant 2010* *€m* System development	*Actual* *Constant 2010* *€m* **Total**
2010	0.0	0.0	0.0	**0.0**
2011	0.0	0.0	0.0	**0.0**
2012	0.0	0.0	0.0	**0.0**
2013	0.0	0.0	0.0	**0.0**
2014	0.0	0.0	0.3	**0.4**
2015	0.1	0.0	1.3	**1.5**
2016	0.2	0.1	1.2	**1.5**
2017	0.2	0.1	1.9	**2.2**
2018	0.2	0.1	2.3	**2.6**
2019	0.2	0.0	2.5	**2.8**
2020	0.2	0.1	1.8	**2.1**
2021	0.2	0.1	1.8	**2.0**
2022	0.2	0.1	1.6	**1.9**
2023	0.2	0.1	1.4	**1.6**
2024	0.2	0.1	1.3	**1.5**
2025	0.2	0.1	1.1	**1.4**
2026	0.2	0.1	1.0	**1.3**
2027	0.2	0.1	1.1	**1.4**
2028	0.2	0.1	1.1	**1.4**
2029	0.2	0.1	1.1	**1.3**
2030	0.2	0.1	1.1	**1.4**

5.4.2 Counterfactual 'My DSP ID' costs

The composition of counterfactual 'My DSP ID' costs is outlined in Table 18. The calculation of each element of these costs for years 2010-2019 is described in the remainder of this section, and costs for future years are on a 3-year moving average basis.

Table 18 - Counterfactual 'My DSP ID' costs, 2010-2030

Year	Counterfactual Constant 2010 €m Direct staff costs	Counterfactual Constant 2010 €m Indirect staff costs	Counterfactual Constant 2010 €m System development	Counterfactual Constant 2010 €m Total
2010	0.0	0.0	0.0	**0.0**
2011	0.0	0.0	0.0	**0.0**
2012	0.0	0.0	0.0	**0.0**
2013	0.0	0.0	0.0	**0.0**
2014	0.0	0.0	0.4	**0.4**
2015	0.0	0.0	1.7	**1.7**
2016	0.0	0.0	1.5	**1.5**
2017	0.3	0.1	1.7	**2.1**
2018	1.3	0.3	2.4	**4.0**
2019	2.4	0.6	2.6	**5.6**
2020	5.2	1.3	1.8	**8.3**
2021	3.8	1.0	1.8	**6.5**
2022	3.8	1.0	1.6	**6.4**
2023	3.8	1.0	1.4	**6.2**
2024	3.6	0.9	1.3	**5.8**
2025	3.6	0.9	1.2	**5.6**
2026	3.5	0.9	1.0	**5.4**
2027	3.4	0.8	1.2	**5.4**
2028	3.3	0.8	1.1	**5.2**
2029	3.2	0.8	1.1	**5.1**
2030	3.1	0.8	1.1	**5.0**

Counterfactual system development costs for 'My DSP ID'

The actual MyGovID was designed from the start to be usable by authorised bodies across the Public Service, including DSP. In contrast, the counterfactual 'My DSP ID' is assumed to be designed and used only by DSP itself. However, DSP's own digital services are diverse and complex, and require extremely high standards in security design:

➢ MyWelfare gives access to PPS number applications, Social Welfare claims, personal records, statements, refunds, and appointments.

➢ JobsIreland gives access to the national online Public Employment Service.

➢ Both MyWelfare and JobsIreland require users to be able to securely access their personal data, and MyWelfare furthermore enables users to make and manage Social

Welfare claims, resulting in actual monetary payments.

These features of DSP's own digital services mean that it is unlikely that IT system development costs would have been significantly lower in the counterfactual 'My DSP ID' scenario compared to the actual cost of developing MyGovID.

Thus, we assume that actual and counterfactual costs directly related to online ID verification are equal, with one exception: in reality, some extra system development work was needed to develop an Application Programming Interface (API) that enables authorised Public Service bodies to securely access the MyGovID platform. These additional costs were modest, at €0.2 million in 2017 and approximately €0.01 million each year thereafter.

The actual MyGovID IT development costs relate only to the cost of building an online ID authentication platform that makes use of the underlying SAFE ID management system. However, in the counterfactual scenario, the SAFE platform would not exist. That means that it would also have been necessary to invest in dedicated equipment and hardware for identity management as part of overall 'MyDSP ID' system development.

How much would this cost? We can estimate an answer based on the equivalent costs for the actual SAFE ID verification platform (excluding all costs related to photographic IDs). Because it would only serve this single purpose, it's reasonable to expect that the counterfactual costs of this 'MyDSP ID' 'SAFE-like' equipment and hardware would have been lower than the actual SAFE development costs; for this report, we assume that counterfactual costs would have been 75% of actual costs.

Counterfactual direct and indirect staff costs for 'My DSP ID'

A MyGovID is simply a digital token attesting to the fact that a person's ID has been verified through SAFE. This means that the staff costs related to the verification of that person's ID are already captured under the costs of the SAFE component of the SAFE-PSC-MyGovID initiative, and do not need to be included in the actual cost estimates for MyDSP ID.

However, in the counterfactual scenario, no equivalent of SAFE would exist, so that development of a secure 'My DSP ID' system would require not only development of the system itself, but also assignment of staff to verify the IDs of applicants for MyGovID.

As elsewhere in this report, we assume that the 'no less rigorous' ID verification standard applies to the proof of identity that would be required for customers to be able to securely

access 'My DSP ID' services. Thus, we calculate direct and indirect staff costs for 'My DSP ID' by assuming that the number of 'My DSP ID' verifications required is equal to the number of unique SAFE 2 verified MyGovIDs actually issued, and then multiplying this volume by the direct and indirect staff costs derived in section 4. This is the same calculation as used for SAFE counterfactual staff costs in section 5.2.2, except that there is no need to apply a rollout factor here, since 'My DSP ID' is assumed to roll out over the same timeframe as the actual MyGovID.

This calculation is shown in Table 19. The rapid increase in registrations in 2020 is a forecast outturn based on the very high registration levels in the year to date; note that this very rapid growth has required the introduction of a -5% per year downward smoothing factor to the moving average estimate for years 2021-2030.

Table 19 - Counterfactual staff costs for 'My DSP ID', 2010-2020

	Actual	Actual	Actual	Counterfactual	Counterfactual
	MyGovID			My DSP ID	My DSP ID
	Volume	Unit cost €	Unit cost €	€m	€m
	New unique digital IDs	Unit direct staff cost	Unit indirect staff cost	Direct staff cost	Indirect staff cost
Year	A	C	D	E = A x B x C	I = D x E x G
2010	0	10.15	2.54	0.0	0.0
2011	0	10.15	2.54	0.0	0.0
2012	0	10.15	2.54	0.0	0.0
2013	0	10.15	2.54	0.0	0.0
2014	0	10.15	2.54	0.0	0.0
2015	0	10.15	2.54	0.0	0.0
2016	0	10.15	2.54	0.0	0.0
2017	24,641	10.15	2.54	0.3	0.1
2018	131,814	10.15	2.54	1.3	0.3
2019	239,054	10.15	2.54	2.4	0.6
2020	510,334	10.15	2.54	5.2	1.3

These counterfactual costs would have been incurred by DSP alone, in support of a 'MyDSP ID' serving DSP alone. Equally, all the other Public Service bodies which make use of MyGovID would have faced similar costs in setting up their own digital services – we make an estimate of the net benefit from avoiding these extra costs in section 7.2.3 below.

6 Quantitative net benefits

While many of the impacts of the SAFE-PSC-MyGovID initiative are not readily quantifiable, it is nonetheless possible to identify three broad areas where the initiative has yielded quantifiable monetary benefits for DSP and the wider Public Service:

1. DSP Control savings arising directly from SAFE and PSC;
2. Indirect savings to DSP from regularisation of incorrect benefit payments in response to the increased level of customer contact arising from the SAFE-PSC rollout; and
3. Benefits to the wider Public Service from using the SAFE-PSC-MyGovID infrastructure.

These benefits are presented, where applicable, in net terms – in other words, as actual benefits versus counterfactual benefits. The analysis in this section is restricted to the financial impact of the SAFE-PSC-MyGovID initiative on DSP and other Public Service bodies: this means, for example, that a quantitative estimate of the wider benefit to people in Ireland arising from not having to repeatedly re-verify their identity is out of scope here (but see discussion in 7.2 below).

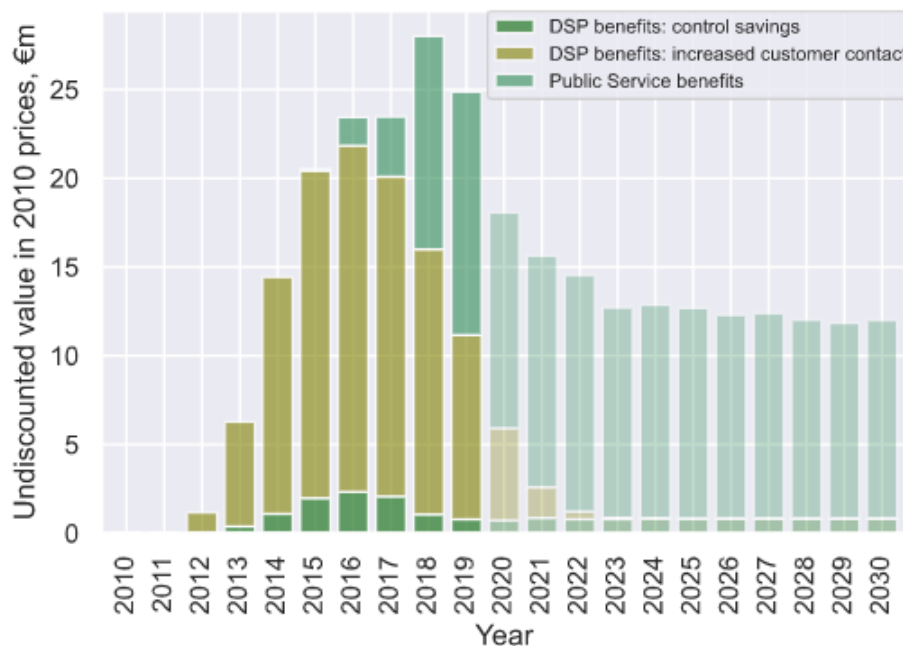*Figure 6 – Undiscounted SAFE-PSC-MyGovID benefits by type, 2010-2030*

Table 20 – Quantitative net benefits of SAFE-PSC-MyGovID, by type, 2010-2030

Year	*Actual* Constant 2010 €m DSP benefits: control savings	*Estimated* Constant 2010 €m DSP benefits: increased customer contact	*Counterfactual* Constant 2010 €m Public Service benefits	*Estimated* Constant 2010 €m Total benefits
2010				**0.0**
2011				**0.0**
2012		1.2		**1.2**
2013	0.4	5.9		**6.3**
2014	1.1	13.3		**14.4**
2015	2.0	18.4	0.1	**20.5**
2016	2.3	19.5	1.6	**23.4**
2017	2.1	18.0	3.4	**23.5**
2018	1.1	14.9	12.0	**28.0**
2019	0.8	10.4	13.7	**24.9**
2020	0.7	5.2	12.2	**18.1**
2021	0.9	1.7	13.0	**15.6**
2022	0.8	0.4	13.3	**14.5**
2023	0.8	0.1	11.8	**12.7**
2024	0.8	0.0	12.0	**12.9**
2025	0.8	0.0	11.9	**12.7**
2026	0.8	0.0	11.5	**12.3**
2027	0.8	0.0	11.6	**12.4**
2028	0.8	0.0	11.2	**12.0**
2029	0.8	0.0	11.0	**11.8**
2030	0.8	0.0	11.2	**12.0**

6.1 DSP benefits: control savings

Control savings related to SAFE-PSC-MyGovID are taken directly from DSP's administrative data, and are consistent with the control savings recorded in DSP's Annual Report.

These savings correspond to the savings arising from cases where a DSP official has specifically recorded one of the following as the reason for closing or reducing a claimant's Social Welfare payment:

1. Identity and claim issues detected during the SAFE-PSC registration process or as a result of SAFE-PSC registration.
2. Issues detected through facial matching of the photograph captured during the SAFE-PSC registration process with all photographs held on DSP's database.

These savings include cases where a claim was withdrawn or rejected after DSP officials detected and recorded one of these issues. In contrast, *unrecorded* savings related to incorrect claims which would have been made but for the existence of SAFE are not included here. This includes:

- incorrect claims that were voluntarily withdrawn by a claimant without DSP officials becoming explicitly aware that the withdrawal was connected with a SAFE identity issue; and
- incorrect claims that were never made in the first place, because the potential claimant believes that an identity issue would be detected by the SAFE verification framework.

These unrecorded, and unrecordable, savings are excluded because of the difficulty in estimating the effect size in the absence of data. However, this conservative approach means that the overall level of control savings may be materially underestimated.

6.2 DSP benefits: increased customer contact

The rollout of SAFE-PSC required DSP to contact and register hundreds of thousands of people each year from 2012 to 2019, and the scale of this rollout required additional resources that otherwise would not have been available to DSP due to the financial crisis. This meant that people claiming Social Welfare payments with low levels of customer engagement by DSP – such as those in the Pensions, Illness and Disability categories – were much more likely to be contacted by DSP over this period than they would have been without the SAFE-PSC rollout.

Did this increased customer contact – either in the form of invitations to register for SAFE-PSC, or in the form of the actual SAFE-PSC registration process itself – lead to a lower level of incorrect Social Welfare payments for claimants of 'low contact' schemes?

We examine this question in detail in Appendix C, and the results are summarised in the remainder of this section: in section 6.2.1, we show how use the results of Control Surveys conducted over the rollout period can be used to estimate the size of the 'Customer Contact effect' for each surveyed scheme, and then in section 6.2.2 we translate these results into annual financial impact estimates.

6.2.1 Estimating customer contact effect using Control Surveys

Control Surveys during the SAFE-PSC rollout period

Control Surveys are regular statistical surveys, overseen by the Statistics unit of DSP, which estimate the level of incorrectly overpaid social benefits for a given social welfare scheme. During the SAFE-PSC rollout period, eight Control Surveys were conducted for five 'low contact' social welfare schemes[30] – State Pension (Contributory), State Pension (Non-Contributory), Illness Benefit, Invalidity Pension, and Carer's Allowance[31]. These surveys consistently show lower average overpayment levels for SAFE-registered claimants (Table 21).

---

[30] Separate medical and non-medical surveys were conducted for the three schemes with a medical eligibility criterion (Illness Benefit, Invalidity Pension, and Carer's Allowance).

[31] A total of 17 Control Surveys covering 14 social welfare schemes were conducted in the period 2012-2019. Four surveys took place in 2012 and 2013, too early in the SAFE-PSC rollout process for them to be included here, and one survey took place too late, in 2019. Surveys of Farm Assist and the Working Family Payment schemes were excluded because their annual renewal process makes them 'high contact' schemes, and the survey of Household Benefits Package recipients was excluded as this package is not a primary social welfare benefit. See Table 31 in Appendix C for further details.

Table 21 - Sample size, SAFE-registered proportions, and unweighted average overpayment levels for selected Control Surveys (2014-2017).

	Actual	*Actual*	*Actual unweighted*	*Actual unweighted*	*Actual unweighted*
	Sample size	*Sample size*	*Mean over-payment*	*Mean over-payment*	*Mean over-payment*
	Number	*Proportion*	*€ per week*	*€ per week*	*€ per week*
Scheme	Sample size	SAFE registered	SAFE registered	Not SAFE registered	Overall
Invalidity Pension (Medical)	300	11%	5.86	5.22	5.29
Invalidity Pension (Non-Medical)	1000	11%	1.28	1.12	1.14
Illness Benefit (Medical)	300	33%	5.17	15.07	11.80
Illness Benefit (Non-Medical)	1000	33%	0.37	1.00	0.80
Carer's Allowance (Medical)	300	74%	3.32	5.16	3.80
Carer's Allowance (Non-Medical)	600	86%	23.67	29.13	24.44
State Pension (Contributory)	525	76%	4.04	8.50	5.12
State Pension (Non-Contributory)	576	90%	13.66	18.51	14.14
Memo: Working Family Payment	*600*	*62%*	*5.63*	*1.87*	*4.18*

Causal model for customer contact effect

The pattern of lower overpayment rates for SAFE-registered claimants is clear and consistent. But to show that this is caused by SAFE customer contact, we must first show how customer contact can cause this pattern, and second, identify and correct for potential confounding factors that might affect both SAFE registration and overpayment levels. SAFE customer contact includes all interactions between DSP and a social welfare claimant in relation to SAFE-PSC registration – from the initial invitation to register to the registration process itself. This may cause lower overpayments for SAFE-registered claimants in a given Control Survey in two ways:

➢ First, and most important, if a claimant *closes their incorrect claim before the survey date* due to customer contact, then that claim no longer 'survives' to count towards incorrect overpayments for SAFE-registered people at the time of the survey. The absence of this claim then reduces the average overpayment level for SAFE-registered claimants.

➢ Secondarily, if customer contact causes a claimant to supply *corrected information that reduces their payment rate*, then that claim will be present in the survey population – but the lower payment rate will marginally reduce average overpayments for SAFE-registered claimants.

Note that using SAFE registration status as a proxy for the impact of customer contact means that we are likely underestimating the true customer contact effect, since we are therefore missing the customer contact benefits from cases where the claimant closes their incorrect claim in response to customer contact, without subsequently registering for SAFE-PSC.

Figure 7 - Direct causal effect of SAFE-PSC customer contact. Arrows indicate causal links.
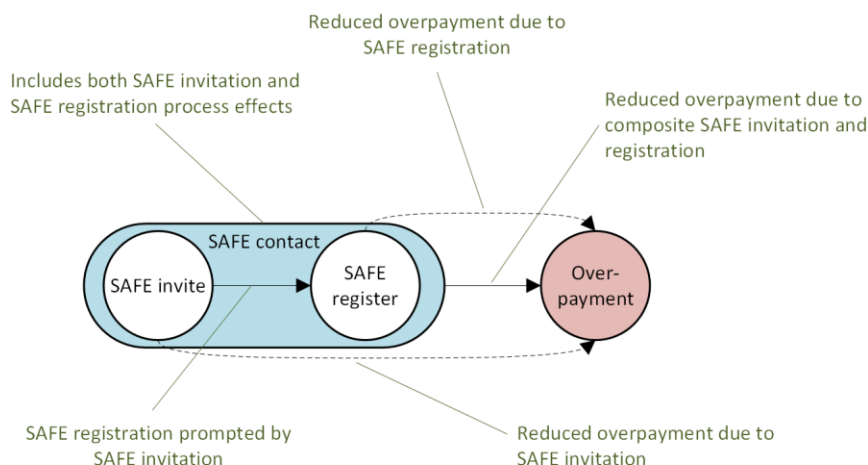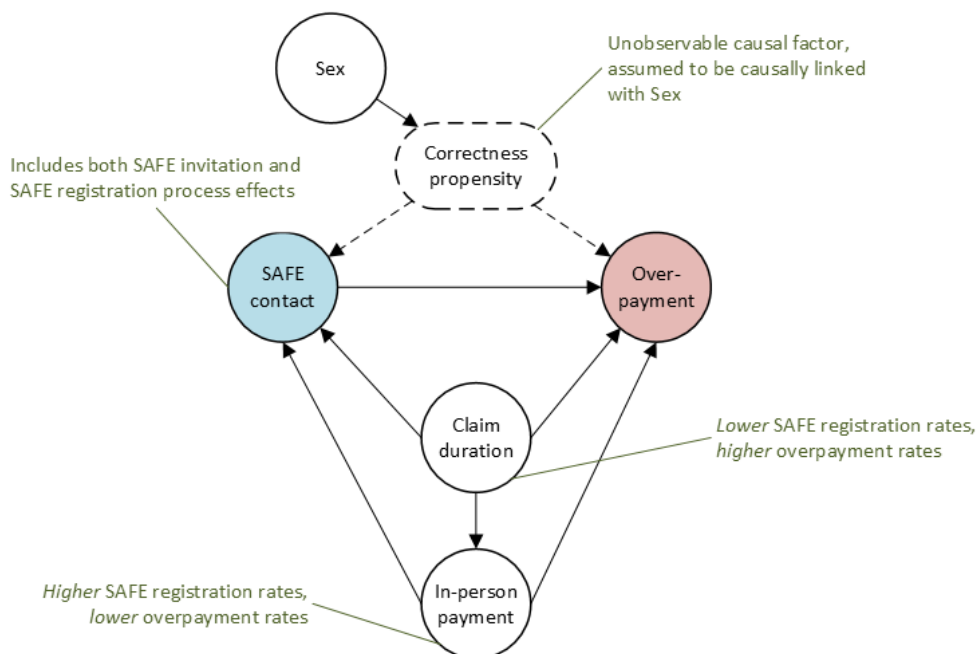
Reduced overpayment due to
SAFE registration

Includes both SAFE invitation and
SAFE registration process effects

Reduced overpayment due to
composite SAFE invitation and
registration

SAFE contact

SAFE invite

SAFE
register

Over-
payment

SAFE registration prompted by
SAFE invitation

Reduced overpayment due to
SAFE invitation

Figure 8 – Full causal model for SAFE-PSC customer contact effect. Arrows indicate causal links.

Sex

Unobservable causal factor,
assumed to be causally linked
with Sex

Includes both SAFE invitation and
SAFE registration process effects

Correctness
propensity

SAFE
contact

Over-
payment

Claim
duration

Lower SAFE registration rates,
higher overpayment rates

Higher SAFE registration rates,
lower overpayment rates

In-person
payment

This direct causal effect, summarised in Figure 7, shows that SAFE customer contact *can* cause a reduction in overpayment rates – but to show that it *does* cause this effect, we must identify and correct for confounding factors that may impact on both. The resulting causal model is shown in Figure 8, and includes three such factors:

1. *Claim duration:* longer claims tend to be associated with both *higher* overpayment and *lower* SAFE registration rates.

2. *In-person payment*: there is a slight tendency for claimants who collect their payments in person to have *lower* overpayment and *higher* SAFE registration rates.

3. *Correctness propensity*: if some people are more internally motivated than others to comply with official requirements, then this could lead to both *lower* overpayment and

higher SAFE registration rates. This is unobservable, but it is unlikely to be significant, especially once we include *Sex* as a partial proxy for any effect that may exist[32].

Causal model outcomes

We used the causal model summarised above, combined with individual-level survey results and administrative data on SAFE status at the time of each survey, to estimate the size of the SAFE customer contact effect[33].

Figure 9 - Average difference in incorrect overpayment of Social Welfare claims by SAFE registration status, after Inverse Probability Weighting, € per week, ordered by mean difference.
Dots are point estimates of mean overpayment difference for each survey group (not-SAFE-registered minus SAFE registered): a negative value means that overpayment levels are lower for SAFE-registered claimants than for not-SAFE-registered claimants.
Bars are bootstrapped non-parametric 95% confidence intervals. If the bar for a survey does not cross zero, then the result for that survey may be said to be statistically significant at a < 0.05 confidence level[34].
Overall weighted average (excluding Working Family Payment) is shown as red vertical line.
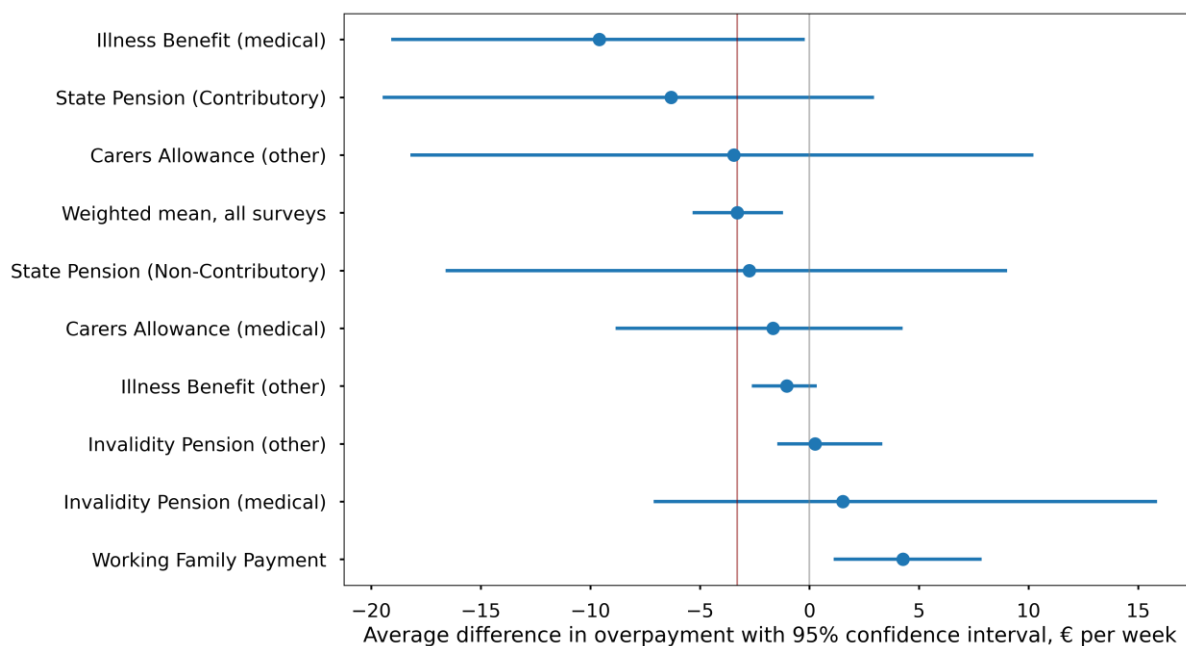
Across all surveys, SAFE-registered people tend to have lower overpayment levels compared to

---

[32] As discussed in Appendix C, if correctness propensity is an important causal factor, then it should lead to an association between lower overpayment and higher SAFE registration for both low- and high-contact schemes. But the survey of Working Family Payment – excluded from this analysis because it is a high contact scheme – shows the exact opposite pattern: in contrast to all the low-contact schemes, SAFE-registered claimants have *higher* overpayment levels. This result strongly implies that correctness propensity is *not* an important confounding causal factor, and can be safely ignored.

[33] As detailed in Appendix C, we used an Inverse Probability Weighting (IPW) model for each survey to correct for the identified confounding factors in order to isolate the causal effect of SAFE customer contact.

people who are not SAFE-registered, and in fact the weighted effect size is somewhat stronger than the unweighted effect size. The weighted average weekly saving per claim across all surveys is an -€3.30 lower overpayment for SAFE-registered claimants, and this result is highly statistically significant at a < 0.01 confidence level (red vertical line)[34].

We next need to translate these weekly average savings per claim into an annual SAFE customer contact impact per claim. As shown in Table 22, this is done by combining medical and non-medical impacts (where applicable), then multiplying by 52 and applying a residency adjustment[35].

Table 22 – Savings per claim related to SAFE status for selected Social Protection schemes

	Estimated actual	Estimated actual	Estimated actual	Estimated actual	Estimated actual
	Saving per claim	Saving per claim	Saving per claim	Saving per claim	Saving per claim
	€	€	€	€	€
Source	State Pension (Non-Con.)	State Pension (Con.)	Carer's Allowance	Illness Benefit	Invalidity Pension
Medical survey			1.67	9.59	-1.52
Non-medical survey	2.74	6.32	3.45	1.03	-0.25
Weekly SAFE saving	2.74	6.32	5.12	10.62	-1.78
Unadjusted annual	142.70	328.48	266.40	552.32	-92.48
Residency adjustment[35]	100%	92%	100%	99%	98%
Adjusted annual SAFE impact per claim	**142.70**	**300.56**	**266.40**	**546.80**	**-90.63**

6.2.2 Estimating overall financial impact from model results

In order to transform the Customer Contact savings per claim shown in Table 22 into an estimate of the overall impact of these benefits on Social Protection spending for each year, we first need to multiply the saving per claim for each scheme by the number of claimants of that scheme. Then, to avoid overestimating the effect, we apply a composite adjustment factor with four components:

1. *SAFE rollout proportion*: The Customer Contact effect can only exist when claimants are actually contacted over the rollout period, so we need to adjust it down to just the proportion of existing claims that the SAFE-PSC rollout was completed for (as described

---

[34] Sample sizes for individual surveys mean that the number of SAFE-registered and/or non-SAFE-registered claimants is too low for the model result to be statistically significant.

[35] *Residency adjustment* that takes account of the fact that a proportion of claimants for some schemes are non-resident and are not liable to be SAFE registered.

in section 4 above).

2. *Current year timing impact*: For each year, we only include half of that year's increase in SAFE rollout when estimating the cumulative rollout proportion.

3. *Time since SAFE registration*: This takes account of the fact that the impact of a once-off SAFE-related customer contact will fade over time.

4. *Counterfactual catchup*: In the counterfactual scenario, as the public finances improved, more resources for contacting customers of longer-term Social Protection schemes would likely have become available. We assume here that counterfactual contact would have grown exponentially from 20% of SAFE contact in 2012 to 80% by 2019.

The details of this calculation are laid out in Appendix 0, and the results are summarised in Table 23. Table 23 also shows that the *Composite adjustment factor* (leftmost column) reduces the estimated Customer Contact effect very significantly in all years.

Table 23 – Estimated SAFE customer contact benefits by Social Protection scheme, 2012-2019

Saving per claim, €/yr		142.70	328.48	266.40	552.32	-92.48	
		Estimated actual	Estimated actual	Estimated actual	Estimated actual	Estimated actual	Estimated actual
		Constant 2010	Constant 2010	Constant 2010	Constant 2010	Constant 2010	Constant 2010
		€m	€m	€m	€m	€m	€m
Composite adjustment factor	Year	State Pension (Non-Con.)	State Pension (Con.)	Carer's Allowance	Illness Benefit	Invalidity Pension	**Total**
1%	2012	0.1	0.7	0.1	0.3	0.0	**1.2**
4%	2013	0.5	3.9	0.5	1.2	-0.2	**5.9**
8%	2014	1.1	8.9	1.2	2.5	-0.4	**13.3**
11%	2015	1.4	12.5	1.8	3.2	-0.5	**18.4**
11%	2016	1.5	13.3	2.0	3.2	-0.6	**19.5**
10%	2017	1.3	12.5	1.9	2.8	-0.5	**18.0**
8%	2018	1.0	10.3	1.6	2.4	-0.4	**14.9**
5%	2019	0.7	7.4	1.2	1.4	-0.3	**10.4**

Overall, the estimate of Customer Contact benefits is highly conservative, and is likely to underestimate the true effect size:

1. The model underpinning the individual-level estimate for each surveyed Social Protection scheme yields robust results that are in line with other research findings in this area. (The internal modelling margin of error is roughly symmetrical, so that it is as likely to underestimate the true effect size as to overestimate it.)

2. By using SAFE registration status as a proxy for the impact of SAFE customer contact, we are missing the customer contact benefits from cases where the claimant closes their

incorrect claim in response to customer contact, without subsequently registering for SAFE-PSC. Adding a reasonable estimate of these silently closed claims to the model might increase the overall effect size estimate by about 10%.

3. We have only estimated customer contact benefits for five low-contact schemes that happened to be surveyed during the SAFE-PSC rollout period. The consistent direction of the effect across the surveyed schemes means that it is highly likely that a similar effect existed for other major low-contact schemes that were not surveyed during the rollout period (e.g. Disability Allowance, One-Parent Family Payment). If these schemes were included, the overall estimated benefit would rise by about one quarter.

4. The adjustment factor *Counterfactual activity catch-up* assumes a very high level of customer contact in the later years of the counterfactual scenario – up to 80% of the cumulative SAFE-PSC-related customer contact by 2019. This assumes a very high level of counterfactual resourcing that is likely higher than would have been available in practice. If we assume instead that counterfactual customer contact activity would have reached a (still high) 50% of cumulative SAFE-PSC levels by 2019, this would increase the effect size estimate by over a half.

Adding an estimate for silently closed claims, extending the model to include similar non-surveyed schemes, and reducing counterfactual contact activity to a maximum of 50% of SAFE-PSC contact activity – all reasonable assumptions – would more than double the estimated SAFE-PSC customer contact effect size.

Finally, the customer contact benefit is large in relation to the cost of SAFE-PSC, but it is very small in relation to overall spending on Social Welfare benefits – and its impact is on the latter. The total impact of the customer contact effect from 2012 to 2019, at just over €100 million, was about half of one percent of all Social Welfare spending in that period.

6.3 Public Service net benefits

The Public Service Identity framework – SAFE, the PSC, and MyGovID – was designed from the start as an initiative for the whole Public Service. Since 2010, a number of authorised public service bodies have joined DSP in using the framework to facilitate service provision. In this section, we consider to what extent this has resulted in measurable financial benefits to those bodies – specifically, the Road Safety Authority, the Passport Office, the National Childcare Scheme (NCS), Revenue, and Student Universal Support Ireland (SUSI). We do not include any estimates for future use of SAFE, PSC, or MyGovID by any other public service bodies, nor do we attempt to make quantitative estimates of the impact on other bodies of the existence of the framework (for example, the cost savings to the Central Statistics Office (CSO) from using linked administrative datasets rather than conducting surveys).

We define financial benefits here as the value of cost savings to public service bodies from not having to verify people's identities. We assume that the same level of demand for the public services included here would still exist in the counterfactual scenario. This means that the same number of identity verifications would still have to be carried out for the same number of transactions, but each public service body would have to incur the extra cost of verifying each identity that is, in the actual scenario, verified by the SAFE-PSC-MyGovID framework. The methodology used to estimate these savings is similar to that used for estimating actual and counterfactual costs for DSP (section 5 above):

> ➢ We first make identity verification volume estimates by using administrative data to estimate the number of transactions for each body where a person's existing Public Service Identity was used to verify their identity.
> ➢ We then estimate counterfactual costs by multiplying these transaction volumes by the unit cost of each identity verification, plus the system development costs that would have required by each body in the absence of SAFE, the PSC, and MyGovID. These unit identity verification costs and system development costs are estimated using actual DSP data.
> ➢ There are no actual costs corresponding to these counterfactual costs, since all such costs are borne by DSP as the manager of the Public Service Identity framework.

We do not take any account of any counterfactual extra revenue that Public Service bodies might raise to defray their higher costs, in the form of higher charges for services such as passports or driving licences: this just transfers the inefficiency loss from taxpayers in general to service users in particular.

6.3.1 Identity verification volumes for Public Service Bodies

Table 24 - Public Service bodies ID verification volumes using SAFE-PSC-MyGovID, 2015-2030

	Actual	Actual	Actual	Actual	Actual	Actual
	Volume	Volume	Volume	Volume	Volume	Volume
	Road Safety Authority	Passport Office	National Childcare Scheme	Revenue	SUSI	Total ID verifications
Year	A	B	C	D	E	F = A+B+C+D+E
2015	0	8,367	0	0	0	8,367
2016	0	126,331	0	0	0	126,331
2017	0	208,265	0	16,791	0	225,056
2018	512,441	203,475	0	50,691	4,576	771,183
2019	675,806	98,104	15,206	136,838	8,694	934,648
2020	487,519	111,392	71,676	64,825	11,083	746,495
2021	558,589	103,745	59,638	63,343	4,454	789,769
2022	573,971	104,414	47,601	61,860	5,188	793,034
2023	540,026	106,517	35,564	60,378	5,960	748,445
2024	557,529	104,892	35,415	58,895	6,713	763,444
2025	557,175	105,274	35,266	57,413	7,464	762,593
2026	551,577	105,561	35,117	55,930	8,225	756,410
2027	555,427	105,242	35,333	54,448	8,979	759,429
2028	554,726	105,359	35,548	52,965	9,734	758,333
2029	553,910	105,387	35,763	51,483	10,492	757,035
2030	554,688	105,330	35,979	50,000	11,247	757,243

The number of identity verifications facilitated by the SAFE-PSC-MyGovID framework is estimated in Table 24. Estimates for outturn years were derived as follows:

1. *Road Safety Authority (driving licence and theory test applications):* The number of unique individuals for whom the Authority's IT system made a SAFE ID check request through the secure API between the Authority and DSP.
2. *Passport Office*: The number of unique individuals for whom the Passport Office made a SAFE ID check request through the secure API between the Office and DSP.
3. *National Childcare Scheme*: The number of online applications (which all require SAFE-MyGovID registration) made to the scheme.
4. *Revenue*: The number of new unique users accessing PAYE Online services using a MyGovID login.
5. *SUSI*: The estimated number of new SUSI users using a MyGovID login.

As with DSP transaction volumes, estimates for future years were made using a three-year moving average approach.

6.3.2 Public Service direct and indirect staff cost savings

To work out the level of direct and indirect staff costs that were saved as a result of public bodies' use of the SAFE-PSC-MyGovID framework, we multiply the overall volume estimate for each year by the same ID verification unit costs used for estimating counterfactual DSP ID verifications (see section 4).

Table 25 – Public Service bodies – estimated staff costs from counterfactual ID verification in absence of SAFE-PSC-MyGovID

	Actual	Estimated	Estimated	Counter-factual	Counter-factual
		Constant 2010	Constant 2010	Constant 2010	Constant 2010
	Volume	Unit cost €	Unit cost €	€m	€m
	Total ID verifications	Unit direct staff cost	Unit indirect staff cost	Direct staff cost	Indirect staff cost
Year	F	G	H	I = F x G	J = F x H
2010					
2011					
2012					
2013					
2014					
2015	8,367	10.15	2.54	0.1	0.0
2016	126,331	10.15	2.54	1.3	0.3
2017	225,056	10.15	2.54	2.3	0.6
2018	771,183	10.15	2.54	7.8	2.0
2019	934,648	10.15	2.54	9.5	2.4
2020	746,495	10.15	2.54	7.6	1.9
2021	789,769	10.15	2.54	8.0	2.0
2022	793,034	10.15	2.54	8.0	2.0
2023	748,445	10.15	2.54	7.6	1.9
2024	763,444	10.15	2.54	7.7	1.9
2025	762,593	10.15	2.54	7.7	1.9
2026	756,410	10.15	2.54	7.7	1.9
2027	759,429	10.15	2.54	7.7	1.9
2028	758,333	10.15	2.54	7.7	1.9
2029	757,035	10.15	2.54	7.7	1.9
2030	757,243	10.15	2.54	7.7	1.9

6.3.3 Online ID verification system development savings

Recording a customer's ID requires an IT system to capture and maintain secure access to the data. Revenue, SUSI, and the Passport Office all have their own IT systems for recording customers' identities and enabling online services. We have therefore assumed zero costs for these bodies in the counterfactual scenario. However, both the Road Safety Authority and the National Childcare Scheme would have needed to develop their own dedicated online ID

verification platforms if they could not make use of MyGovID; and additionally, the National Childcare Scheme, as a new initiative, would have needed to build a general ID management system. As shown in the following tables, the cost of developing these systems is estimated as a transaction-volume-reduced version of the system development costs faced by DSP for SAFE and MyGovID. There is an irreducible level of complexity and hence cost involved in developing any secure online ID verification system, so that projects with lower expected transaction volumes have relatively higher system development costs per ID verification. We capture this non-linear cost reduction by assuming that DSP's system development costs can be split 50-50 between fixed costs (that would be faced in developing any similar system) and variable costs (relating to the extra system development costs for systems that must cater to larger volumes).

Table 26 - Estimation factors for counterfactual Public Service ID verification system development costs

Development costs as % of DSP equivalents		*Counterfactual* *Proportion* RSA online ID verification	*Counterfactual* *Proportion* NCS general ID verification	*Counterfactual* *Proportion* NCS online ID verification
Fixed costs	A	100%	100%	100%
Volume adjustment	B	62%	7%	21%
Complexity adjustment	C	67%	67%	67%
Variable costs	D = B x C	41%	5%	14%
Total costs as % of DSP	**E = (A + D) / 2**	**71%**	**52%**	**57%**
Time adjustment vs DSP		3 years	7 years	3 years

Table 27 - Counterfactual Public Service system development costs in absence of SAFE-PSC-MyGovID

Year	*Counterfactual* *Constant 2010* *€m* RSA online ID verification	*Counterfactual* *Constant 2010* *€m* NCS general ID verification	*Counterfactual* *Constant 2010* *€m* NCS online ID verification	*Counterfactual* *Constant 2010* *€m* **System development costs**
2017	0.2	0.1	0.2	**0.5**
2018	0.9	0.6	0.7	**2.2**
2019	0.9	0.3	0.7	**1.9**
2020	1.4	0.2	1.1	**2.7**
2021	1.6	0.1	1.3	**3.0**
2022	1.8	0.0	1.4	**3.3**
2023	1.3	0.0	1.0	**2.3**
2024	1.2	0.1	1.0	**2.3**
2025	1.1	0.1	0.9	**2.2**
2026	1.0	0.1	0.8	**1.9**
2027	0.9	0.3	0.7	**1.9**
2028	0.8	0.1	0.7	**1.6**
2029	0.7	0.1	0.6	**1.4**
2030	0.8	0.1	0.7	**1.6**

7 Quantitative model: results, sensitivity analysis and exclusions

In this section, we summarise the results of the quantitative model developed in the previous sections; show that the results are robust both to the assumptions used to estimate costs and benefits, and to our choice of discount rate; and discuss further financial impacts of the SAFE-PSC-MyGovID Public Service Identity Management Framework that were excluded from the model.

7.1 Results and sensitivity analysis

Central estimate

Our central estimate of the quantitative costs and benefits of the SAFE-PSC-MyGovID initiative is summarised in Table 28 (for undiscounted cumulative and per-year costs and benefits, see Appendix E). The results show starkly that the initiative represents a highly successful investment in quantitative terms. The time to payback for the initiative was about four years, and the rate of growth in the NPV accelerated after that point, as the impact of direct efficiency gains is augmented first by the Customer Contact effect and later by the uptake of the framework by public service bodies beyond the Department of Social Protection, rising from an end-2019 NPV of +€89 million to an end-2030 NPV of €206 million.

Table 28 - SAFE-PSC-MyGovID cost-benefit summary, 2010-2030: central estimate (cumulative, discounted)

Year	*Actual* Constant 2010 discounted Cumulative €m — Actual costs (-)	*Counterfactual* Constant 2010 discounted Cumulative €m — Counterfactual costs not incurred (+)	*Actual vs counterfactual* Constant 2010 discounted Cumulative €m — Net benefits (+)	*Actual vs counterfactual* Constant 2010 discounted Cumulative €m — Net Cost (-) / Benefit (+)
2010	-1.8	0.0	0.0	-1.8
2011	-3.1	0.0	0.0	-3.1
2012	-7.9	0.8	1.1	-6.0
2013	-15.9	3.2	6.6	-6.1
2014	-26.9	9.1	18.9	1.1
2015	-37.9	18.6	35.6	16.3
2016	-48.6	28.2	54.0	33.6
2017	-59.1	38.2	71.6	50.7
2018	-69.3	47.9	91.8	70.4
2019	-77.9	58.3	109.0	89.4
2020	-84.0	70.5	121.1	107.5
2021	-90.7	80.7	131.0	121.1
2022	-97.0	90.6	139.9	133.5
2023	-102.9	100.0	147.4	144.5
2024	-108.5	108.7	154.7	154.9
2025	-113.8	117.0	161.6	164.8
2026	-118.8	124.8	168.0	174.0
2027	-123.7	132.4	174.2	182.8
2028	-128.4	139.5	179.9	191.1
2029	-132.8	146.4	185.4	198.9
2030	-137.1	152.9	190.7	206.4

Sensitivity to estimation of costs and benefits

As well as the central estimate of costs and benefits, we have also estimated costs and benefits in an adverse ('high cost, low benefit') and a positive ('low cost, high benefit') scenario. In each case, actual historical costs are exact figures and do not vary, whereas:

➢ For the adverse 'high cost, low benefit' scenario, all projected actual costs are one standard deviation higher than our central estimate, and all counterfactual costs and quantitative benefits are one standard deviation lower than our central estimate.

➢ The reverse applies to the positive 'low costs, high benefits' scenario: projected actual costs are one standard deviation lower than our central estimate, while counterfactual costs and quantitative benefits are one standard deviation higher.

The results of this sensitivity analysis are shown in Figure 10 and Appendix E:

➢ In the adverse 'high cost, low benefit' scenario, the time to payback is about one year longer than in the central estimate, reaching a net positive by end-2015. The discounted NPV of the initiative falls to +€47 million to end-2019, and +€99 million to end-2030.

➢ In the positive 'low cost, high benefit' scenario, the time to payback is a little less than one year shorter than in the central estimate, reaching a net positive in early 2014. The discounted NPV rises to +€118 million to end-2019, and +€328 million to end-2030.

The three scenarios approximate an 85% credible interval for the overall net present value of the initiative, so that we can be confident that the direction of the results is robustly positive.

Figure 10 - Net Cost (-) / Benefit (+) of SAFE-PSC-MyGovID: central, 'low cost, high benefit', and 'high cost, low benefit' scenarios, 2010-2030

54
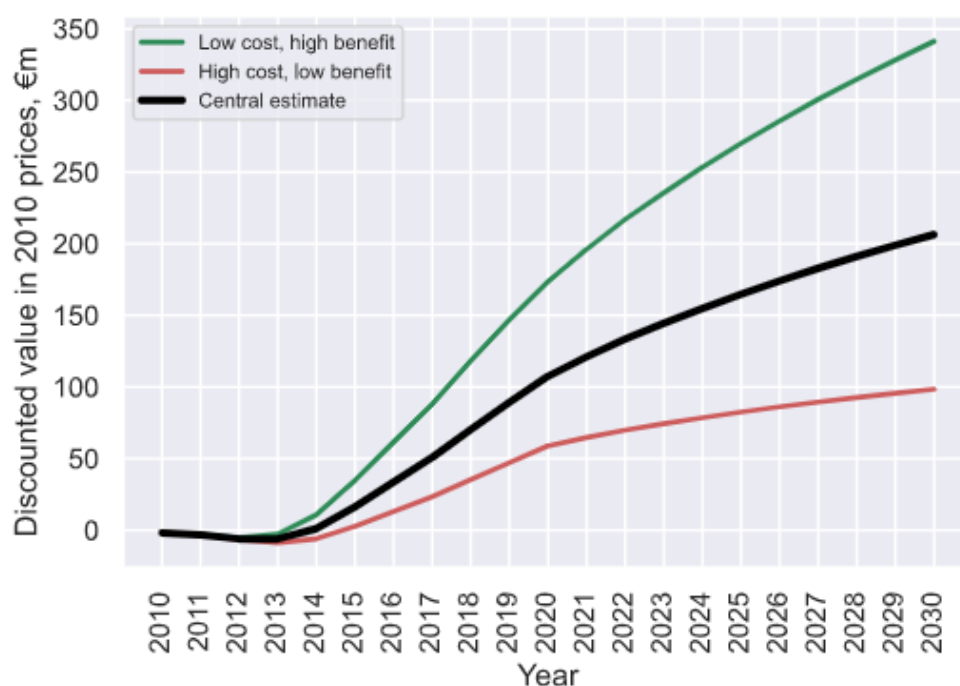
Sensitivity to discount rate

In line with Public Spending Code guidance, our central estimate is discounted at the Social Discount Rate of 4%. This relatively high 4% discount rate approximates the cost of borrowing to the State in 2010, while a zero discount rate approximates the cost of borrowing to the State ten years later. This means that the undiscounted – or, in other words, zero-discounted – results can be used as a discount rate sensitivity check on the central estimate. As Figure 11 shows, the positive direction of the results is not sensitive to the discount rate used: on an undiscounted cash flow basis, the initiative still reaches its break-even point before the end of 2014, and the undiscounted NPV of the initiative is higher than the discounted equivalent, at +€120 million to end-2019, and +€331 million to end-2030. Even if an artificially high real discount rate of 6% were applied, the NPV would fall only slightly, to +€77 million to end-2019 and +€164 million to end-2030.

Figure 11 - Net Cost (-) / Benefit (+) of SAFE-PSC-MyGovID: 0% vs 4% discount rate scenarios, 2010-2030
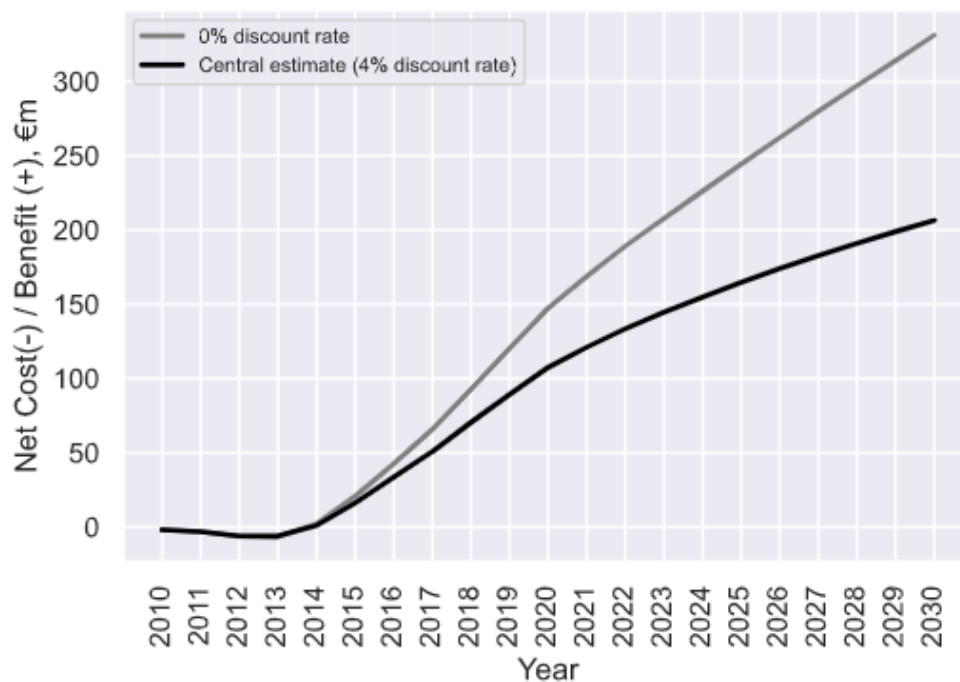
Range of estimates from model

Combining this interest rate variation with the adverse and positive scenarios described above yields a zero-discounted adverse scenario NPV of +€65 million, while the positive scenario NPV rises to €547 million. A reasonable range of estimates, then, for the NPV of the model varies from +€99 million to +€547 million, around the central estimate of +€206 million. And, as discussed in the next section, broadening the scope of the quantitative model might be expected to materially increase the NPV of the initiative.

7.2 Financial impacts not captured in quantitative model

In this section, we examine what further financial impacts are likely beyond those captured in the conservatively scoped quantitative model used in this report. These can be broken down into further efficiency gains to DSP and its service delivery partners; further control and customer contact savings accruing to DSP; further efficiency gains accruing to other Public Service bodies; the value of time and cost savings accruing to people using public services; and the potential value of extending the use of the framework beyond the Public Service. While we do not include an overall estimate of the financial impact of these further savings, in our core quantitative model, we suggest that this impact is likely to be both positive and material, such that including all of these further financial impacts would likely increase the NPV of the initiative by somewhere between +€300 million and +€1 billion.

7.2.1 Efficiency gains to DSP and its service delivery partners

We can divide the efficiency gains realised from the SAFE-PSC-MyGovID initiative into process efficiency gains (cheaper processing costs for each identity verification) and volume efficiency gains (savings from lower numbers of identity verifications needing to be performed). Both of these types of gains are included in the counterfactual cost model (section 5), which shows that the initiative generated very significant efficiency gains over time. However, if we were to expand the scope of this core model, further significant efficiency gains would arise.

Process efficiency

In relation to process efficiency, we note that the unit cost calculation for ID verifications described in Section 4 excludes any possible extra costs resulting from the lack of dedicated SAFE verification centres in the counterfactual scenario. These counterfactual costs may be expected to include the cost of a much higher level of repeated manual data entry, as well as additional home visits by Social Welfare Inspectors to verify the identities of new claimants of centrally processed Social Welfare benefits, at a direct unit cost of approximately €100 - €200 per visit. Further deadweight efficiency losses would arise from the time taken by claim processing staff to trigger this inspection visit, and then process the results This would in turn result in delays to claim processing times, which would cause still further losses due to the staff time required to deal with customer queries as to the progress of claims, as discussed in 8.2.

The quantitative model also excludes efficiency savings from the use of SAFE-PSC-MyGovID by

An Post and public transport operators. [36]

1. The PSC has replaced the Social Services Card (SSC) as the method by which customers can collect their social welfare payments at their Post Office. Because the PSC carries a photograph of the customer, it is not only a more secure way of delivering social welfare payments, but also reduces transaction costs for An Post, as the customer does not have to provide alternative means of identification when collecting their payment.

2. Equally, the PSC has replaced the Free Travel Pass as the token used by those who are entitled to free travel on public transport. This reduces transaction costs for public transport providers, as the customer does not have to provide alternative means of identification when availing of free travel – and, as noted in the following section, it has likely also increased fare revenue for public transport operators by significantly reducing inappropriate use of the Free Travel scheme.

In both cases, these savings have been excluded firstly because they are hard to quantify (both in unit cost and volume terms), and secondly because it is difficult to assess how much of the resulting financial gains should be assigned to DSP, and how much to the service delivery partner. Nonetheless, these savings are certain to exist, and are likely to be significant.

Volume efficiency

In the quantitative model, the counterfactual calculation of how many times people's identities would need to be verified (described in 5.2.3 and Appendix B) restricts these volume estimates to newly awarded claims only, and to one claim per person for people who have made multiple claims. This restriction is due to the difficulty in estimating what proportion of rejected or withdrawn new claims, and of maintenance activities on existing claims, would require identity verification without SAFE-PSC-MyGovID. Again, however, the volume and cost of counterfactual identity verifications in these categories is likely to be material.

Meanwhile, projected transaction volumes for future years have been estimated conservatively throughout this report, for example by the use of moving averages which tend to converge to a steady state over time. Construction of more sophisticated future demand models is beyond the scope of this report. However, given that Ireland's population is simultaneously growing and aging, it is likely that such models would imply significantly higher demand than is estimated here, and this is turn would tend to further increase the estimated net benefits of the initiative.

---

[36] We analyse these as process rather than volume savings, since it is a reasonable assumption that the same total number of eligibility/identification checks would have to be carried out by An Post and public transport providers in the counterfactual scenario as in reality.

7.2.2 Control and customer contact savings to DSP

The control savings and customer contact benefits included in the quantitative model are very significant, but are nonetheless likely to underestimate the impact of SAFE-PSC-MyGovID in helping to ensure that every social welfare benefit is paid in the correct amount to the correct person. In addition to the likely additional financial benefits described here, we suggest in section 8.4 that the improved correctness of social welfare benefit spending resulting from the implementation of the SAFE-PSC-MyGovID initiative has yielded non-quantifiable benefits by enhancing trust in the fairness and good functioning of the Social Protection system.

Control savings

In the quantitative model (section 6.1), control savings are based on actual recorded savings recorded by DSP officials arising from the detection of identity-related overpayments of social welfare payments. In contrast, savings relating to incorrect claims which were withdrawn or never made in the first place due to the existence of SAFE as a deterrent are excluded. This exclusion is due to the difficulty in estimating the effect size in the absence of data, but international evidence[37] shows that the effect is nonetheless likely to be material.

The quantitative model also excludes the positive impact of the initiative on the Free Travel scheme, beyond the direct reduction in the cost to DSP of responding to identity verification requests under the old system. The fact that the PSC carries a photograph of the customer has led to a significant reduction in the incidence of inappropriate use of the free travel scheme by individuals, realised as a reduction in DSP's Free Travel Scheme costs and/or an increase in revenue for public transport operators. As mentioned in 8.2, the full rollout of the Integrated Ticketing System along with PSC travel cards will enable better data collection on usage of Free Travel passes by transport providers, reducing dependence on periodic route surveys and helping to ensure that operators are paid correctly.

Customer Contact benefits

In the quantitative Customer Contact benefits model (section 6.2 and Appendix C), we note that making reasonable changes to three assumptions – adding an estimate for silently closed claims, extending the model to include similar non-surveyed schemes, and reducing counterfactual contact activity to a maximum of 50% of SAFE-PSC contact activity – would more than double the estimated SAFE-PSC customer contact effect size.

---

[37] International Public Sector Fraud Forum, 'Guide to Understanding the Total Impact of Fraud'.

7.2.3 Efficiency gains to Public Service bodies

The quantitative model for public service benefits from the SAFE-PSC-MyGovID initiative includes estimates of benefits for five programmes: Road Safety Authority driving licence and driver theory lest applications; Passport Office passport applications; the National Childcare Scheme; Revenue PAYE Online services; and the Student Universal Support Ireland (SUSI) student grant scheme. For each of these programmes, the model makes conservative assumptions about the number of unique SAFE identity verifications that have been performed, or will be performed in the future. Meanwhile, the model does not take account of the benefits to any other public service bodies which are currently benefiting from the Public Service Identity verification framework, such as the Central Statistics Office and the Irish Naturalisation and Immigration Service; nor does it include any estimate of the benefits which are likely to arise from future use of the framework by other public service bodies. The potential further financial gains from these three sources are discussed in this section.

Process and volume efficiency

The quantitative model assumes that each body would be able to verify each identity as cheaply, as is the case using SAFE-PSC-MyGovID. It is not clear that this would be true in practice: as discussed in the previous section in relation to DSP, it is likely that there would be materially higher unit costs for some of these bodies – especially the ones which would not otherwise have 'in-house' offline and online identity verification processes and platforms, such as the National Childcare Scheme.

In relation to volume estimates for identity verifications, we have assumed for the Road Safety Authority that only one counterfactual identity verification would be required for each unique person whose identity was verified using the secure SAFE API connection to DSP's systems. However, over the period 2018-2020, the total number of SAFE identity checks performed by the Authority was roughly three times higher than the number of unique people whose identities were checked. Because the Authority is the largest user of the SAFE framework outside of DSP, a second full counterfactual identity verification for even one third of RSA users would increase the *overall* volume of public service identity verifications by about one quarter, with a direct positive impact on the net quantitative benefits of the SAFE-PSC-MyGovID initiative.

Additionally, as with DSP transactions, projected transaction volumes for future years have been estimated conservatively, for example by the use of moving averages which tend to converge to a steady state over time. More sophisticated models would likely imply a higher service demand growth rate, again with a direct positive impact on the net benefits of the initiative.

Design and procurement efficiency

In the quantitative model, we have not taken account of the value to public service bodies from not having to allocate staff time to design and procure identity verification systems. These costs are likely relatively small in relation to the overall costs of the SAFE-PSC-MyGovID framework, but for an individual public service body, they may be very significant – to the point where, as discussed in section 8.2, a project might not be possible without the existence of the framework.

Current use by other public service bodies

In addition to the five programmes included in the quantitative model, a number of other public service bodies also make direct or indirect use of the Public Service Identity framework.

1. MyGovID can already be used a proof of identity for online services offered by the Department of Agriculture, the Register of Electors, and the Digital Postbox for Government communications. Volume and cost estimates can in principle be made for all of these services.

2. Prior to the pandemic, the Irish Naturalisation and Immigration Service (INIS) and Garda National Immigration Bureau (GNIB) processed approximately 250,000 applications each year for visas, registrations of non-EEA nationals, residence permissions, international protection and citizenship. Identity verifications for a large proportion of these applications can be directly facilitated by the Public Service Card, but in this case it is not clear to what extent this actually reduces the identity verification burden for a particular application and so has been excluded.

3. As discussed in 8.2, the Public Service identity is a crucial foundation for the National Data Infrastructure. Linking administrative data that includes SAFE-verified PPS numbers can enable the Central Statistics Office to produce statistics at lower cost compared to traditional statistical surveys – for example, an 'Administrative Census' might in the future be usable as a partial replacement for the full Census. The cost savings here are again likely material but hard to quantify.

Future use by other public service bodies

While SAFE, the PSC, and MyGovID are already used in many high-transaction areas of the Public Service, it is clear that other public bodies could also make use of the framework in future. Some of the larger potential users of MyGovID include the Department of Education, Department of Health (Online Health Portal) and Local Authorities. All these potential future uses of the SAFE-PSC-MyGovID framework have been excluded from the quantitative model, which is constructed on a 'no policy change' basis. However, it is highly likely that other public sector bodies will start making use of the framework, and the same types of savings realised by public service bodies' existing use of the framework would equally apply in relation to all these

potential framework users. Equally, if policies change in the opposite direction, such that fewer public service bodies make use of the Public Service Identity framework, then the level of financial benefits arising from the framework would fall.

7.2.4 Value of time and cost savings by users of Public Services

Only the costs and benefits of the SAFE-PSC-MyGovID framework attributable to DSP and other Public Service bodies are captured in the quantitative model. However, the efficiency savings included in the core model also accrue to the people using the same public services. It is not straightforward to estimate the average time taken by a person to verify their identity for a particular public service, but any such estimate must take account not only of the direct interaction time with public service staff, but also the likely time needed to get to that point:

- time spent booking appointments or queueing for services;
- time spent filling out forms, and finding and checking documentation;
- time spent travelling to the service location or posting documents.

Overall, the time required is likely to be much longer than the 18 minutes of public service staff time that is used in the quantitative model. If the average time taken is conservatively estimated at one hour, and this time valued at minimum wage[38], this implies a unit cost to the customer of €10.20 for each identity verification, which is about two thirds of the unit cost estimated for service providers in section 4. If instead the average time taken is two hours, valued at average hourly earnings of €23.88[39], then the unit cost to the customer would rise to €48, more than three times the service provider unit cost. Inclusion of an estimate of other costs to the customer – for example, travel costs, postage, and childcare costs – would increase the customer unit cost estimate still further. If we assume, in line with the quantitative model, that an extra one million public service identity verifications per year would be needed without SAFE-PSC-MyGovID, this implies that the existence of the framework has yielded annual savings to customers of somewhere between €10 million and €60 million, with corresponding NPV impacts from 2010 to 2030 ranging from about +€110 million to +€640 million.

---

[38] https://www.citizensinformation.ie/en/employment/employment_rights_and_conditions/pay_and_employment/pay_inc_min_wage.html

[39] Earnings and Labour Costs Annual Data 2019 - CSO - Central Statistics Office

7.2.5 Value of potential use beyond the Public Service

In the future, if the PSC and MyGovID become usable as proof of identity beyond the Public Service, this will generate further efficiency gains – attributable to both service providers and customers. The 2019 SAFE-PSC Customer Survey shows that there is strong public support for such an extension[40], but it is unclear at this time both whether such an expansion will in fact take place, and also what volumes and unit cost savings would be realised.

---

[40] 84 % of respondents answered "Yes" to the question "Do you believe you should have the option to offer your Public Service Card as proof of identity when dealing with a non-government body?", while 8% answered "No" and 7% "Don't know".

8 Qualitative impacts

In this section, we review the qualitative impacts of the SAFE-PSC-MyGovID Public Service Identity management initiative, across a range of dimensions. We first examine the implementation of the SAFE-PSC-MyGovID framework (8.1), before looking at how the initiative supports the development and delivery of innovative and responsive public services (8.2), and finally considering the initiative's wider impact on people in Ireland (8.4). Overall, we judge that the initiative has delivered significant qualitative benefits in all the dimensions considered here.

8.1 Implementation of the SAFE-PSC-MyGovID framework

8.1.1 Institutional responsibility

By developing the SAFE-PSC-MyGovID framework, the Department of Social Protection is fulfilling its legal obligations under the Social Welfare Consolidation Act 2005, as amended, in respect of the authentication of identity, the issuing of PSCs and the sharing of public service identity data with specified public bodies for the purpose of authenticating the identity of a person transacting with that body[41]. It makes sense that DSP should have been given these obligations by Government, given the pervasiveness of its services both geographically and demographically – delivery of a comprehensive range of Social Welfare benefits; administration of PRSI; operation of the General Register Office (from 2007); and operation of the Public Employment Service (from 2011) – and its need for data sharing with other Public Service bodies like Revenue and SOLAS.

DSP thus not only holds clear institutional responsibility for developing and managing the Public Service Identity framework, but also has a clear functional alignment with achieving this goal on its own behalf and on behalf of the wider Public Service. The SAFE registration process, the issuance of PSCs and the MyGovID service are now integrated into the structure, functions and processes of DSP, and the Department is the data controller of the personal data processed when a person engages with these services.

8.1.2 Design, security, and appropriate use of personal data

Design

SAFE, the PSC and MyGovID were built from the start to be highly scalable and highly secure. The fact that they have been successfully used since 2012 at very high volumes all across Ireland, for a wide range of services in DSP and across the wider public service, without any instances to date of hacking of the data underlying the framework, is in itself strong evidence that this design was successful.

Under the current Public Spending Code, an *ex-ante* cost-benefit analysis of the design of a large project such as the SAFE-PSC-MyGovID initiative should have been carried out before project implementation. However, we note that the first version of the Public Spending Code was

---

[41] Sections 241, 247C, 262, 263, 263A and 263B of the SWCA2005

published in 2013, three years after project implementation had already commenced.

Security

The SAFE registration process takes place in carefully designed physical spaces in dedicated registration centres, helping to ensure that third parties cannot see or overhear personal data that is being given to the DSP staff member by the customer. Once a person's identity has been registered, the SAFE API allows secure identity verification systems to be built and used by a large and growing number of approved public service bodies

The PSC is a trusted identity token that can be accepted by specified public bodies. It thereby reduces transaction costs and uncertainty around identity, in the delivery of in-person public services. By providing their PSC when dealing with a body, the person is helping to reduce the potential for identity theft and to ensure their personal data is shared only with them; this helps protect their personal data and their rights under the GDPR and the Data Protection Acts.

Finally, MyGovID provides a person with a secure method of accessing online public services. It also means a person does not have to create and retain numerous usernames and passwords for each pubic service. This removes the barriers to that person using online public services and also reduces opportunities for online identity theft. Equally, it fosters the development and provision of high-value online services to customers by specified public bodies, secure in the knowledge that the person they are dealing with is who they say they are.

Appropriate use of personal data

The SAFE, PSC and MyGovID infrastructure help specified public bodies ensure they share personal data only with the data subject concerned:

- As noted above, the technical systems underpinning SAFE, the PSC, and MyGovID are highly secure, with no known data breaches at the time of writing.
- In addition, carefully designed physical spaces in SAFE registration centres ensure that third parties cannot see or overhear personal data that is being given to the DSP staff member by the customer. In contrast, design and resource limitations in the multiple environments where identities would need to be verified without SAFE-PSC-MyGovID would lead to higher risks of such data leaks.
- Furthermore, the sheer number of extra identity verifications that would be required in the absence of the framework must mean that data leaks would happen more often.

The design of the framework thus helps to minimise data breaches and to ensure that public service bodies fulfil their obligations as data processors under the General Data Protection Regulation (GDPR), and the Data Protection Act 2018, as amended.

8.1.3 Service delivery

The SAFE-PSC registration process is a unified nationwide service with dedicated centres, websites, and staff. The process was carefully developed at inception and has been iteratively improved over the subsequent decade. It aims to capture the minimum amount of data needed to verify a person's Public Service Identity (see Appendix A) in a well-explained, secure, and dignified manner. As such, it is likely to offer a faster, safer and more convenient service than the counterfactual – where identity verification would be performed many more times in multiple places by multiple organisations, with possibly different documentary requirements.

Customer satisfaction with service quality

If registration for SAFE-PSC is a well-functioning process, then this should be reflected in high levels of customer satisfaction. And this is indeed the case: the 2019 SAFE-PSC customer survey showed extremely high levels of customer satisfaction with the SAFE-PSC registration process. 96% of respondents were satisfied with the process overall; nearly 9 out of 10 felt the interview and face-to-face registration process was very easy; and over 98% of customers were happy with the friendliness, efficiency, and knowledge of the dedicated SAFE registration staff.

Figure 12 – 2019 SAFE-PSC customer survey: Overall customer satisfaction with registration process
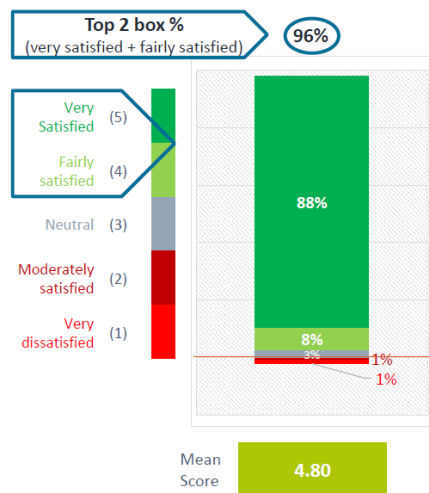
*Q. In order to get your Public Services Card, you attended one of the Department's offices and went through a face-to-face registration, which is called SAFE (Standard Authentication Framework Environment). How would you rate your **overall satisfaction** with the SAFE registration process?*

By Age	Top 2 box %	Mean score	👥
Under 25*	88%	4.69	26
25-39	95%	4.76	337
40-59	96%	4.81	398
60+	96%	4.85	240

By Gender	Top 2 box %	Mean score	👥
Female	95%	4.78	473
Male	96%	4.82	528

* Caution small base

8.3 Impact on design and delivery of public services

8.3.1 Enhanced efficiency in public service delivery

Without the Public Service Identity framework, a person's identity would need to be verified many more times, since most new social welfare claims and many other transactions with the Department and other public service bodies would require a new identity verification.

In addition to the direct burden in time and money this would impose on both service providers and customers, the need for these additional identity verifications would also lead to slower and less efficient provision of the public services themselves.

For example, if a person made a new claim for a centrally processed Social Welfare benefit, this might require the DSP official processing the claim to request an identity verification via a home visit by a Social Welfare Inspector. This would not only directly consume the time of both the original official and the Social Welfare Inspector, but would also indirectly delay the overall processing time of the claim, due to:

– waiting time before the inspection visit can take place; and
– waiting time for the inspection result to be processed.

And if these delays cause the customer to contact the Department, enquiring about the progress of their claim, this extra contact volume would in turn slow the processing of all claims in that business area. Similarly, if a customer were missing documentation required to verify their identity when they applied for a public service, this could delay the provision of that service by hours, days, or weeks.

The nature of public services is such that delays in their provision can lead to real hardship. The Public Service Identity framework, by making the delivery of public services significantly more efficient, has therefore made a significant positive contribution to the quality of many people's lives.

8.3.2 Enabler of new services: innovation and crisis response

In this report, we have assumed up to now that – with or without the Public Service Identity framework – Public Service bodies would have aimed to deliver, and succeeded in delivering, the same range, quality, and volume of public services. This assumption is necessary in order to be able to make like-for-like comparisons between actual and counterfactual costs, and to avoid the need to include estimates of the very large opportunity costs associated with programmes

and services that could not be delivered without the framework.

However, in reality this is unlikely to be the case: without this trusted framework, some public services would likely still have been developed, but much more slowly; while others might not have been developed at all, or would lack crucial quality elements. Some examples are considered in the remainder of this section.

Improved crisis response capacity

The utility of the SAFE /PSC/MyGovID programme was also apparent in the Department's response to the Covid-19 pandemic. In response to the pandemic the Department had to develop a new income support payment, the Pandemic Unemployment Payment (PUP), which is available to both employees and self-employed workers and, by June 2021, the Department had received 1.7m applications from 927,000 individuals. Approximately 870,000 people have received at least one PUP payment and expenditure stands at over €8 billion to date. In the four week period from 13 March 2020 alone, the Department received and processed over 800,000 claims which is equivalent to a normal jobseeker claim load of over 4 years. The vast majority of claims were processed and put into payment within a week of receipt, so providing people who were laid-off work with a replacement income in a timely manner and in so doing buttressing public support for the necessary public health restrictions.

In responding to this unprecedented level of claims the Department relied heavily on MyGovID as a means of assurance as to the identity of claimants and, by extension, the legitimacy of the claims received.

In addition, the fact that the Department had already verified, via SAFE registration, the identity of over 3.2m people (which ultimately translated into about 600,000 (69%) of the individuals claiming PUP) meant that the Department could have a higher degree of confidence than would otherwise have been the case in designing and rolling out the PUP at high speed. In the absence of this high level of SAFE registrations it is highly unlikely that the Department could have responded as quickly, and in the manner it did, to develop and implement the PUP scheme.

MyGovID as enabler of online service delivery

Technological and societal changes over the last number of years have increased the demand from customers for online services, and the national e-Government Strategy commits to the development of such services, noting the central importance of MyGovID to this development:

_*"We will develop our existing e-ID capability […] as a means to protecting our*

people and our businesses against fraud; improving the overall user experience, avoiding the requirement for the public to provide the same information to Government numerous times; and helping Public Service fully align with Data Protection principles and legislation.

This is echoed in the National Data Strategy, which calls for "rollout and adoption across the Public Service of the PSC [and] MyGovID":

[MyGovID provides] citizens with a safe secure online identity for accessing Irish Government services. It is built on the Public Services Card and an individual's PPSN, linking a 'real world' identity to an online identity and gives citizens a secure identity for accessing online Government services."

Without SAFE and MyGovID, it is likely that the delivery of digital services across the public service would have been significantly delayed.

Integrated ticketing system

The introduction of the Integrated Ticketing System along with PSC travel cards provides assurance to transport operators as to the *bona fides* of PSC/Free Travel Pass holders availing of public transport services.

National Data Infrastructure

The *National Data Infrastructure (NDI)* means the consistent use of permanent unique identifiers on public data sources so as to enable linkage of data sets and creation of a system of integrated base registers. It is at the centre of both the national statistics strategy and the national data strategy.

The three key identifiers needed for the National Data Infrastructure to be effective are the PPS number for interactions between the individual and the public sector; the Eircode to identify location of the respective individual/business; and unique business identifier, to enable improvements in service delivery, and policy formulation and analysis for businesses when interacting with the public sector.

In relation to the value of the National Data Infrastructure for statistics and research, the Statistics Act, 1993 gives the CSO the authority to assess the statistical potential of the records maintained by other public authorities and to ensure that this potential is realised. CSO has implemented an Administrative Data Centre to facilitate the use of administrative data in its statistical programs, to enable the organisation to fill more information needs about Irish society, economy and environment; to reduce response burden and costs imposed by surveys; and to

improve data quality and timeliness. For example:

- Linking administrative data using pseudonymised PPS numbers enables improved information on social welfare recipiency in the Survey on Income and Living Conditions (EU-SILC).
- Linking administrative data from DSP, Revenue, and the Higher Education Authority, using pseudonymised PPS numbers, has enabled the production of the Higher Education Outcomes statistical release.
- A project is underway to examine the feasibility of replacing the traditional Census with a Census based on administrative data, facilitated by linking administrative records based on pseudonymised PPS numbers.

And secure linking of administrative data under the National Data Infrastructure using PPS numbers is valuable not only within CSO but also to statisticians and researchers throughout the Irish Government Statistical Service (IGSS) and Irish Government Economic and Evaluation Service (IGEES). For example, DSP has used pseudonymised PPS numbers to link administrative data from DSP, Revenue, and SOLAS (under a dedicated research and statistics data sharing agreement) to produce the Jobseekers Longitudinal Database (JLD), which has in turn formed the basis of a suite of econometric impact evaluations of labour market programmes.

Beyond the usefulness of the Public Service Identity for statistics and research, it is also an enabler of improved operational coordination and innovation by public service bodies. For example, secure sharing of information by SOLAS with DSP, using SAFE-verified PPS numbers as a common key, allows enhanced coordination of labour market activation measures.

As described in section 8.1.1, development of the Public Service Identity as a trusted, secure, and universal person identifier is considerably more advanced than the development of the other two pillars of the National Data Infrastructure – the Eircode for identifying places, and the Universal Business Identifier for identifying businesses and other organisations. This means that it is not yet possible to realise the same benefits from these other identifiers as from the Public Service Identity, whether in the production of statistics and research or as an enabler for enhanced public service delivery.

8.4 Wider impacts

8.4.1 Trust and reputation of public services

The PSC and MyGovID help to unify the branding of public services, and to foster confidence and trust in customers that they are dealing with the public service of the State. As discussed above, the Public Service Identity framework enables the delivery of better, more efficient, and more secure public services, with fewer opportunities for fraud, error, or identity theft. This directly increases customer satisfaction with the services provided, but also assures the people of Ireland that the civil and public service are using the resources assigned to them in an efficient and customer-focused way.

The 2019 SAFE-PSC customer survey examined public confidence in the programme.

Figure 13 -2019 SAFE-PSC customer survey: Should specified Public Service bodies be able to use SAFE information provided to confirm your identity in the future when you access their service?
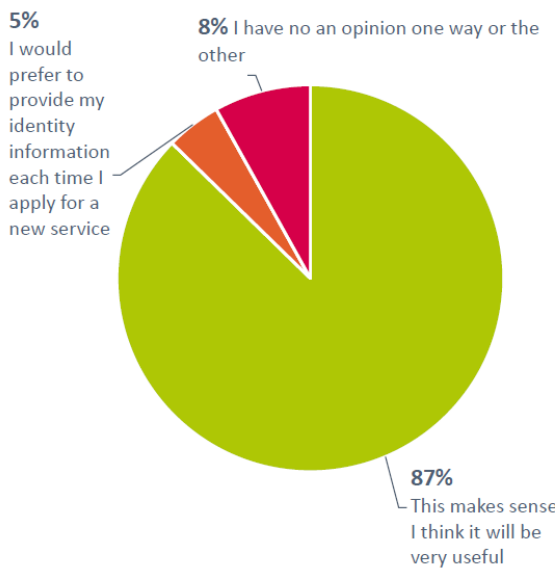
Figure 14 -2019 SAFE-PSC customer survey: Should DSP retain the information you provided, including scanned copies of documents, in its secure computer systems?

5% I would prefer to provide my identity information each time I apply for a new service

8% I have no an opinion one way or the other

87% This makes sense I think it will be very useful

13% I understand the requirement but would prefer if my documents were not retained

10% I have no an opinion one way or the other

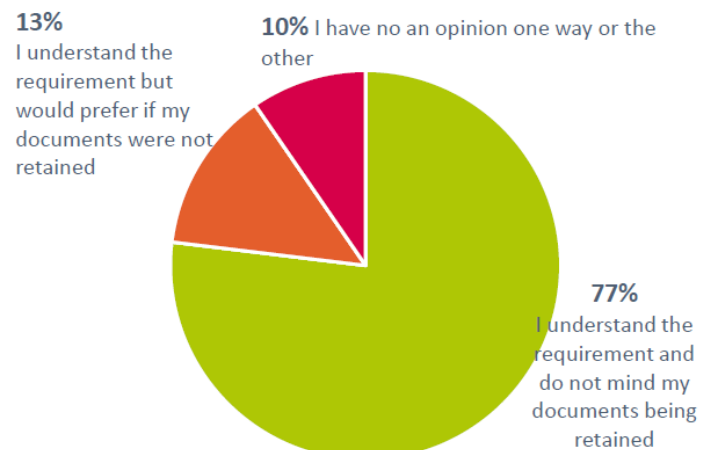77% I understand the requirement and do not mind my documents being retained

Figure 13 shows that an overwhelming majority of people – 87% - would like specified Public Service bodies to be able to use SAFE information to confirm their identity in future, while Figure 14 shows that more than three quarters of people are happy for their documents to be retained in the secure SAFE database system. Additionally, as shown in Figure 15, nearly 9 in 10 people felt that they had access to sufficient high-quality information about the purpose of SAFE and PSC.

Figure 15 - Satisfaction with information about purpose of SAFE-PSC
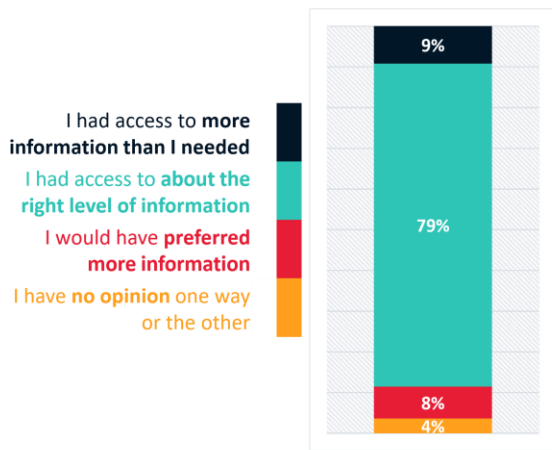
*Q. Thinking back to the registration process how do you feel about **the level and quality of information** available to you in respect of the purpose of SAFE/Public Services Card?*

By Age	I had access to **more information than I needed**	I had access to about **the right level of information**	I would have **preferred more information**	I have **no opinion** one way or the other	👥
Under 25*	8%	77%	8%	8%	26
25-39	14%	73%	10%	3%	337
40-59	7%	82%	8%	3%	398
60+	7%	83%	5%	5%	240

By Gender	I had access to **more information than I needed**	I had access to about **the right level of information**	I would have **preferred more information**	I have **no opinion** one way or the other	👥
Female	9%	79%	8%	4%	473
Male	9%	81%	6%	4%	528

* Caution small base

Meanwhile, as described in section 0, people's use of SAFE-PSC-MyGovID framework to access public services outside DSP continues at high levels, even in the case of services where mandatory use of the framework has been suspended or not yet introduced. In response to an independently conducted survey, public support for the use of SAFE, the PSC and the MyGovID service remains very strong indeed.

As a counterfactual, we suggest that the necessarily less secure, slower and more inefficient public services that would be available without SAFE, PSC and MyGovID might be expected to cause a much greater negative impact on popular trust in the Public Service. International evidence shows[42] that this, in turn, would likely make people reluctant to share their personal information with public service bodies; would reduce public confidence in the government's ability to deliver programs or policies; and would lead to the Public Service being seen as a soft target for further exploitation and to a decrease in legal compliance.

8.4.2 Social Inclusion

The United Nations Sustainable Development Goals recognise that a trusted form of public identity for all people is key to advance the 2030 Agenda commitment to "leave no one

---

[42] International Public Sector Fraud Forum, 'Guide to Understanding the Total Impact of Fraud'.

behind"[43] – so much so that '*legal identity for all, including birth registration, by 2030*" is an high-level Sustainable Development Goal target (16.9)[44]. Moreover, the internationally endorsed *Principles on Identification for Sustainable Development[45]* states that "vulnerable and marginalized groups are often the least likely to have proof of their identity, but [are] also the most in need of the protection and services linked to identification. People who are unable to obtain or easily use identification are therefore at greater risk of being left behind when strict identification requirements must be met to access services. […] While these risks are present in any identification system, they may be amplified by digitization."

In Ireland, the PSC and MyGovID are trusted, secure proofs of a person's Public Service Identity, acceptable as forms of identification when transacting with specified public bodies. This means the customer does not have to provide other forms of identification to those bodies; this was the key rationale for the introduction of the PSC, from its conception in 1996.

And, crucially from a Social Inclusion perspective, the PSC and MyGovID are available free of charge to everyone in the country. This is in contrast to passports and driving licences, for which there is an issuance fee that may be burdensome to economically marginalised people, which are only required by people who have access to motor vehicles or international travel, and which in any case are not directly linked to a person's Public Service Identity.

Thus, the existence of the PSC and MyGovID – and the underlying Public Service Identity verified through SAFE – have given thousands of people access to trusted photographic and digital proofs of identity for the first time.

Moreover, the SAFE-PSC and MyGovID registration processes are well designed in accordance with good accessibility practices, and supported by dedicated face-to-face and helpdesk staff.

Finally, many people find interactions with pubic services stressful, and repeated form-filling and document provision for identity verification poses a particular challenge for people with low literacy or with physical or mental disabilities. Here again, the SAFE-PSC-MyGovID

---

[43] United Nations Legal Identity Expert Group and Mrkić, 'United Nations Strategy for Legal Identity for All'.

[44] 'THE 17 GOALS | Sustainable Development'.

[45] World Bank, 'Principles on Identification for Sustainable Development : Toward the Digital Age'.

framework reduces this burden and lowers barriers to accessing public services, both by making it much easier for people to verify their identity when they are dealing with public services, but also by greatly reducing the number of identity verifications that people must go through in the first place.

Appendix A   Public Service Identity dataset

Section 262 of the Social Welfare Consolidation Act states that a person's public service identity consists of the person's PPS number, together with the following information:

- surname;
- forename;
- date of birth;
- place of birth;
- sex;
- all former surnames (if any);
- all former surnames (if any) of his or her mother;
- address;
- nationality;
- date of death;
- certificate of death, where relevant;
- where required, a photograph of the person, except where the person is deceased;
- where required, the person's signature, except where the person is deceased;
- any other information as may be required for authentication purposes that is uniquely linked to or is capable of identifying that person;
- any other information that may be prescribed which, in the opinion of the Minister, is relevant to and necessary for the allocation of a personal public service number.

Appendix B   ID verification volume estimates

Table 29 - Calculation of counterfactual ID verification volumes (See following table for the calculation of the highlighted 'DSP claims awarded requiring ID validation' in 2015)

	Actual	Actual	Estimated	Counterfactual
	Volume	Volume	Volume	Volume
	DSP claims awarded requiring ID validation	New adult PPS numbers	Free Travel verifications	ID verifications required
Year	A	B	C	D = A + B + C
2010	801,307	78,994	36,000	916,301
2011	855,754	79,017	36,000	970,771
2012	782,131	82,983	36,000	901,114
2013	763,996	95,228	36,000	895,224
2014	672,252	105,168	36,000	813,420
2015	624,974	104,175	36,000	765,149
2016	602,516	117,184	36,000	755,700
2017	614,515	127,132	36,000	777,647
2018	467,947	133,521	36,000	637,468
2019	467,213	136,381	36,000	639,594

Under Social Welfare legislation, it is a condition of any person's right to any benefit that they authenticate their identity [46] In general, we can then assume that each new Social Welfare claim requires an ID verification process. For this volume estimate, we include only these *newly awarded Social Welfare claims,* and exclude ID verifications in all other contexts:

➢ *Rejected* and *withdrawn* claim decisions are excluded, for two reasons: first, while ID verifications would have been conducted for some rejected or withdrawn claims, it is difficult to estimate this proportion. Second, some claims which were initially rejected or withdrawn may ultimately be awarded after submission of further documentation by the customer, or transfer of the claim to another scheme. Excluding all rejected and withdrawn claims avoids a partial double-count of this ID verification effort.

➢ We exclude any estimate of ID verifications that may also be required at other stages in the life-cycle of a Social Welfare claim (such as a change in means or additional allowances for adult or child beneficiaries), due to the difficulty of estimating the proportion of such activities that would require a full ID verification.

➢ No estimate is included of the effort required by An Post to verify customers' identities

---

[46] Section 241(1) of the Social Welfare Consolidation Act 2005, as amended by s. 15(1) of the Social Welfare and Pensions Act 2012

when collecting Social Welfare payments in Post Offices, nor of the Free Travel inspection effort incurred by CIÉ or other ticket inspectors.

Table 30 - Example volume calculation for DSP new claims requiring ID verification, 2015 data (the highlighted cell corresponds to the similarly highlighted cell in Table 10 above)

Scheme	Volume Claims awarded (2015)	Volume 2015 awards requiring ID verification	Proportion ID check percentage
State Pension (Non-Contributory)	7,675	7,675	100%
State Pension (Contributory)[47]	24,662	21,949	89%
State Pension (Transition)	217	193	89%
Widow/er's or Surviving Civil Partner's Pension (Con.)[47]	5,916	5,561	94%
Jobseeker's Allowance	152,807	152,807	100%
One Parent Family Payment	8,905	8,905	100%
Basic Supplementary Welfare Allowance	186,002	186,002	100%
Jobseeker's Benefit	124,152	124,152	100%
Maternity Benefit[48]	44,740	14,764	33%
Treatment Benefit	508,202	0	0%
Disability Allowance[49]	15,814	14,233	90%
Carer's Allowance	14,378	14,378	100%
Domiciliary Care Allowance	4,186	2,093	50%
Illness Benefit[50]	154,692	15,469	10%
Interim Illness Benefit	10,182	1,018	10%
Invalidity Pension	7,691	6,845	89%
Carer's Benefit	2,234	2,234	100%
Child Benefit - Domestic & Formerly Resident Abroad	30,592	3,059	10%
Child Benefit - EU regulation	3,730	0	0%
Child Benefit - Over 16	68,871	6,887	10%
Child Benefit - Additional Child	35,703	3,570	10%
Working Family Payment - New Claims	21,779	21,779	100%
Working Family Payment - Claim Renewals[51]	31,130	0	0%
Household Benefits)[52]	52,088	5,209	10%
Living Alone Allowance and Island Allowance	13,090	0	0%
Free Travel (*excluding claimants of other schemes*)	6,191	6,191	100%
Total	**1,535,629**	**624,974**	**41%**

As well as restricting our volume estimate for claim-related ID verifications to just newly awarded claims, we apply an *ID check percentage* factor to the claim awards for each

---

[47] Excluding non-residents.

[48] Most applications certified by employer.

[49] Some claimants may not be in a position to SAFE register.

[50] Most applications certified via medical certificate from GP.

[51] Working Family Payment claims only last for one year, so these renewals are included in the table as they are technically 'new' claims. However, in practice a full ID verification is not required for simple renewals.

[52] About 90% of Household Benefits package claimants are also claimants on other schemes.

scheme. For most schemes, the ID verification requirement established in legislation means that this proportion is 100%. However, there are important exceptions: for example, State Pension (Contributory) claims by non-residents, and Treatment Benefit or Illness Benefit claims certified by medical providers. The table above shows the calculation of this requirement for newly awarded claims in 2015, according to the following equation:

$$DSP\ claims\ awarded\ requiring\ ID\ validation_{year}$$

$$= \sum_{scheme=1}^{n} Claims\ awarded_{scheme,year} \times ID\ check\ percentage_{scheme}$$

Appendix C   Customer Contact effect model

C.1   Background and motivation

The rollout of the SAFE-PSC initiative was a very significant event in the history of DSP. 4.2 million PSCs were issued between the start of the rollout in 2012 and the end of 2019 (see Table 3 in section 4 above), with over 600,000 PSCs issued every year from 2014 to 2018.

Moreover, the start of the SAFE-PSC rollout in 2012 came at an extremely challenging time for DSP. Due to the financial crisis, the year saw an average of nearly 450,000 people on the Live Register[53], placing a heavy administrative burden on DSP even as the impact of the crisis imposed severe limits on staffing. At the same time, DSP, having taken over the Public Employment Service from FÁS in 2011, was also engaged in the reorganisation of Jobseeker and Activation services into the modern Intreo service.

It was in this context that dedicated staff and system development resources were approved by the Department of Public Expenditure and Reform for DSP's rollout of SAFE-PSC, as a Public Service-wide initiative. Given the very limited public financial resources available at the time, it is reasonable to assume that no comparable resources would have been provided to DSP in the absence of the initiative. In particular, we assume that large-scale, dedicated resources would not have been available to DSP at this time for contacting claimants on traditionally low-customer engagement Social Welfare schemes such as those in the Pensions, Illness and Disability categories.

At the time of the peak SAFE-PSC rollout (2014-2017), one of the principal tasks of dedicated SAFE-PSC staff in DSP was to invite DSP's new and existing customers across Ireland to get a SAFE-verified ID and a PSC. This meant contacting customers across a range of schemes, including Pensions, Illness and Disability claimants who otherwise would have been more likely to remain uncontacted during this period.

Now, there is considerable evidence from the Behavioural Economics literature[54] that priming and other forms of contact cause improved individual compliance levels in relation to public

---

[53] Central Statistics Office, 'LRM01 - Persons on Live Register'.

[54] OECD, *OECD Behavioural Insights Toolkit and Ethical Framework*.

goods[55] such as taxation[56] and social protection[57]. Given the scale of the SAFE-PSC rollout, and the size of the resulting difference in customer contact levels between the actual and counterfactual scenarios, it is then reasonable to ask: did this increased customer contact – either in the form of invitations to register for SAFE-PSC, or in the form of the actual SAFE-PSC registration process itself – lead to a lower level of incorrect Social Welfare payments ?

In this report, we estimate the answer to this question by matching the results of Control Surveys of relevant Social Welfare schemes conducted during the SAFE-PSC rollout period with the SAFE registration status of surveyed claimants on the date of each survey.

---

[55] Drouvelis, Metcalfe, and Powdthavee, 'Can Priming Cooperation Increase Public Good Contributions?'

[56] European Commission. Directorate General for Taxation and Customs Union., *Behavioural Economics and Taxation.*

[57] Alm et al., 'Can Behavioral "Nudges" Improve Compliance? The Case of Colombia Social Protection Contributions'.

C.2 Control Surveys during the SAFE-PSC rollout period

Control Surveys[58] are conducted by the Statistics Unit and Control Division of DSP to establish baseline incorrect benefit levels for social welfare schemes, with a view to designing processes and control measures specifically targeted to minimise the level of future risk. In a typical Control Survey, Social Welfare Inspectors and Deciding Officers review a representative random sample of claims in payment for a particular scheme on a particular date, in order to assess recipients' compliance with the rules of the scheme. Where one or more of the eligibility conditions for receipt of a Social Welfare benefit, or the rate of benefit in payment, are not being met, the resulting payment change is recorded as an overpayment[59] in the survey results. Table 31 shows the Control Surveys that have been conducted and published since the start of the SAFE-PSC rollout period in 2012.

Table 31 - Control Surveys by year and inclusion criteria, 2012-2018

Scheme	Survey year	Time	Primary weekly scheme	Low contact scheme	In scope
Child Benefit	2012	Too early	No	Yes	No
Jobseekers Allowance	2012	Too early	Yes	No	No
Rent Supplement	2013	Too early	No	No	No
Widow(er)s Contributory Pension	2013	Too early	Yes	Yes	No
Illness Benefit (Medical)	2014	OK	Yes	Yes	Yes
Illness Benefit (Non-Medical)	2014	OK	Yes	Yes	Yes
Invalidity Pension (Medical)	2014	OK	Yes	Yes	Yes
Invalidity Pension (Non-Medical)	2014	OK	Yes	Yes	Yes
Farm Assist	2015	OK	Yes	No	Yes
Household Benefits (partial)	2015	OK	No	Yes	No
Carer's Allowance (Medical)	2016	OK	Yes	Yes	Yes
Basic Supplementary Welfare	2016	OK	Yes	No	No
Working Family Payment	2016	OK	Yes	No	No
Carer's Allowance (Non-Medical)	2017	OK	Yes	Yes	Yes
State Pension (Contributory)	2016	OK	Yes	Yes	Yes
State Pension (Non-Contributory)	2017	OK	Yes	Yes	Yes
Back to Work Enterprise Allowance	2018	Too late	Yes	No	No

---

[58] Control Surveys are published by DSP and collated at https://www.gov.ie/en/policy-information/25588d-control-surveys/. Individual surveys are referenced in the Bibliography.

[59] Claim reviews may also identify underpayments – cases where the rate of payment was lower than the claimant's entitlement. However, only overpayments are considered in the present report, for two reasons: First, on average, underpayments are rarer and smaller than overpayments for the schemes considered here, so that it would be difficult to make statistically valid estimates of the underpayment effect size (and the effect size is unlikely to be material). Second, any financial loss to DSP resulting from extra detection of underpayments is by definition offset by an equal and opposite gain to the claimant.

Details of sample sizes and average overpayment levels for the surveys included in this analysis (including WFP as a memorandum item for comparison), are shown in Table 32.[60]. Whether or not a survey is in scope for this report is based on the following criteria:

1. **Time**: Only surveys conducted in years 2014-2017 are included. Valid statistical comparisons are only possible where a survey includes sufficient numbers of both SAFE-registered and non-SAFE-registered claimants, and this is not the case for any survey before the Illness Benefit (IB) and Invalidity Pension (IP) surveys in 2014, nor for any survey after the 2017 State Pension (Non-Contributory) (SPNC) survey. In fact, as shown in Table 32 below, the numbers of SAFE-registered claimants in the 2014 IP (Medical) survey, and non-SAFE-registered claimants in the 2017 SPNC survey, were only just high enough to allow their inclusion here.

2. **Primary weekly scheme**: Only surveys of primary weekly social welfare payment schemes are included, to ensure that results from the different surveys included in this analysis are readily comparable. In fact, only one survey that does not meet this criterion was conducted during the 2014-2017 period: a survey of the segment of Household Benefits package recipients who are not claimants of any primary weekly scheme.

3. **Low contact scheme**: Only schemes where there is not already a high degree of contact (at least once per year) between the claimant and DSP are included. Three 'high contact' schemes were surveyed during the 2014-2017 period and are thus excluded: Farm Assist and Basic Supplementary Welfare Allowance (BASI) are administered through direct in-person customer contact in Intreo offices, while Working Family Payment (WFP, formerly Family Income Supplement) is centrally administered but requires annual renewal of claims with supporting documentation.

As expected, the proportion of claimants who are SAFE registered on the survey date consistently increases over time, from 11% for IP in 2014 up to 90% for SPNC in 2017. However, across the whole period, SAFE-registered claimants tend to show lower overpayment levels compared to not-SAFE-registered claimants, and this effect does not appear to change over time. In the next sections, we use Causal Inference techniques[61], to

---

[60] Throughout this report, survey dates refer to the date on which scheme claimants were sampled, rather than the date on which survey results were published.

[61] Pearl, Glymour, and Jewell, *Causal Inference in Statistics*; Hernán and Robins, *Causal Inference: What If*; Suzuki, Shinozaki, and Yamamoto, 'Causal Diagrams'.

develop a model to explain this pattern, and examine what confounding causal factors must be taken into account in estimating the true effect size.

Table 32 - Sample size, SAFE-registered proportions, and unweighted average overpayment levels for selected Control Surveys (2014-2017)

	Actual	*Actual*	*Actual unweighted*	*Actual unweighted*	*Actual unweighted*
			Mean over-payment	*Mean over-payment*	*Mean over-payment*
	Sample size	*Sample size*			
	Number	*Proportion*	*€ per week*	*€ per week*	*€ per week*
Scheme	Sample size	SAFE registered	SAFE registered	Not SAFE registered	Overall
Invalidity Pension (Medical)[62]	300	11%	5.86	5.22	5.29
Invalidity Pension (Non-Medical)[62]	1000	11%	1.28	1.12	1.14
Illness Benefit (Medical)[62]	300	33%	5.17	15.07	11.80
Illness Benefit (Non-Medical)[62]	1000	33%	0.37	1.00	0.80
Carer's Allowance (Medical)[63]	300	74%	3.32	5.16	3.80
Carer's Allowance (Non-Medical)[63]	600	86%	23.67	29.13	24.44
State Pension (Contributory)[64]	525	76%	4.04	8.50	5.12
State Pension (Non-Contributory)[65]	576	90%	13.66	18.51	14.14
Memo: Working Family Payment[66]	*600*	*62%*	*5.63*	*1.87*	*4.18*

---

[62] The medical and non-medical surveys of IP and IB were conducted simultaneously, and in each case the 300-case medical sample is a sub-sample of the 1,000-case non-medical sample.

[63] The medical and non-medical surveys of CA were conducted as separate exercises approximately one year apart. The medical sample is not a sub-sample of the non-medical sample.

[64] Only Irish-resident SPC claimants are included in this analysis: non-resident claimants do not typically require SAFE registration.

[65] For the published SPNC survey, a complex sample was used to enable production of results by nationality grouping. In this report, to simplify analysis, only the cohort with 'Irish' nationality is included. As this cohort accounts for 93% of all SPNC claimants, this restriction is not material.

[66] Working Family Payment is excluded from this analysis because it is a 'high contact' scheme, but Included as a memorandum item here for comparison (see discussion of 'correctness propensity' below)..

C.3 Causal model for the SAFE customer contact effect

Direct causal effect of SAFE-PSC customer contact

We propose two mechanisms for how the SAFE-PSC rollout caused a reduction in incorrect overpayment of Social Welfare payments:

1. **SAFE invitation effect**: *Receiving an invitation to register for SAFE and PSC* prompts a claimant to close their incorrect claim, or to supply updated information that leads to a corrected payment at a lower rate (e.g. a change in means).

2. **SAFE registration process effect**: *Interaction with DSP officials during the SAFE-PSC registration process* prompts a claimant to close their incorrect claim, or to supply updated information that leads to a corrected payment at a lower rate.

Table 33 - SAFE-PSC customer contact causal outcomes by original payment rate type, SAFE invitation, and SAFE status at time of survey. Arrows indicate a causal relationship.

No.	Original payment rate before contact	Invited to register for SAFE-PSC	SAFE registered on survey date	Not SAFE registered on survey date
1	Incorrect	Invited	SAFE invitation → Correct (closed and **not in sample**)	
2			SAFE invitation → Correct (in sample, reduced rate)	
3			SAFE registration process → Correct (closed and **not in sample**)	Still incorrect (in sample, after invitation but no registration)
4			SAFE registration process → Correct (in sample, reduced rate)	
5			Incorrect (in sample, after invitation and registration)	
6		Not invited	*Assume equivalent outcomes for voluntary as for invited SAFE registrations (3, 4, 5)*	Still incorrect (in sample, no invitation, no registration)
7	Correct	Invited	Correct (in sample, rate unchanged)	
8		Not invited		

Table 33 shows that, if these effects exist, then the SAFE-registered and not-SAFE-registered sub-populations of any survey sample are not equivalent. The numbered rows of this table represent possible combinations of original claim status (with or without an incorrect overpayment), SAFE invitation (invited or not invited), and outcome by SAFE registration status, on the date the survey sample was drawn up. Reviewing each row in turn:

1. Missing from both SAFE-registered and not-SAFE-registered populations, and from the analysis in this report, are claims where the initial SAFE invitation caused a claimant to close their claim before the survey date (whether or not the ex-claimant also registered for SAFE before that date). Assuming that this 'invitation only' effect has a non-zero impact, this means that the real SAFE-PSC customer contact effect is

larger than estimated in our analysis.

2. Claims where the initial invitation prompted the claimant to supply information that led to a corrected but reduced rate of payment still exist in both the SAFE-registered and not-SAFE-registered populations.

3. Claims which were closed in response to interaction with DSP officials during the SAFE registration process are missing from the SAFE-registered population. Crucially, however, equivalent claims still exist in the not-SAFE-registered population.

4. Claims where the SAFE registration process causes a corrected but reduced rate of payment exist in the SAFE-registered population. In the not-SAFE-registered population, equivalent claims exist but continue to be incorrectly overpaid.

5. A claimant may continue to have an incorrect payment even after SAFE invitation and registration, and such claimants are included in the SAFE population. Similar non-SAFE-registered claimants are also included in the population.

6. Where a claimant with an incorrect payment rate is not contacted by DSP at all, and does not spontaneously SAFE register before the survey date, that claimant will remain in the non-SAFE-registered population with the same incorrect benefit as before. Claimants who, without an invitation from DSP, spontaneously register for SAFE before the survey date are assumed to have equivalent outcomes to those described in 3, 4, and 5 above for people who were invited to register.

7. People whose original payment was correct, and who were invited to SAFE register, remain in the SAFE or non-SAFE registered population with no changes.

8. Similarly, people whose original payment was correct, and who were not invited to SAFE register, remain in the SAFE or non-SAFE registered population with the same correct benefit payment.

Overall, this means that there are several categories of originally incorrect benefit (3, 4, and part of 6) which still exist – and are still incorrect – in the not-SAFE-registered population, but which are absent from, or corrected in, the SAFE-registered population.

The consistently lower level of overpayments observed for SAFE-registered claimants, then, is due to the absence of these incorrectly overpaid claims from the SAFE-registered population. The absence of these claims is in turn caused by some combination of the SAFE invitation effect and the SAFE registration process effect.

This causal model, summarised in Figure 16, can reasonably explain the observed data. However, before we can reach any confident conclusions about the existence and size of a

reduction in overpayment levels caused by SAFE-PSC customer contact, we must first consider, and if possible adjust for, potential confounding factors.

Figure 16 - Direct causal effect of SAFE-PSC customer contact
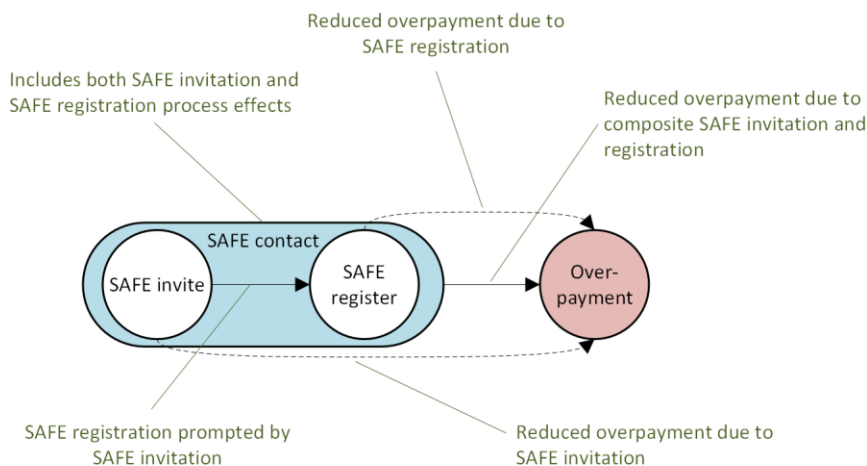
Confounding factors: claim duration:

At the point in time when a social welfare claim is awarded, the personal circumstances relevant to the claimant's eligibility are verified by the Deciding Officer in DSP. However, some of these circumstances may change over time – for example, employment income level, family composition, or medical status – in ways that reduce or eliminate the claimant's entitlement to the social welfare payment. While most such changes are reported by the claimant to DSP, some are not. Other things being equal, it is then likely that, for a given scheme, longer claim durations will be associated with higher overpayment levels – in fact, this is implicit in the direct causal model for the customer contact effect outlined in the previous section.

This is borne out by examining the survey results: on average, people with an incorrect overpayment on their claim have a claim duration that is significantly higher than for people who do not have such an overpayment. This is true for every scheme except the excluded Working Family Payment, which is a high-contact scheme because of the annual recertification process.

Meanwhile, it may be that longer-duration claimants are less likely to be SAFE-registered – mainly because new claimants *must* SAFE register, and also because longer duration claimants are likely to be older, to face more physical limitations, and to be further distant from DSP. Again, this is borne out by examining the survey results: on average, SAFE-

86

registered people have a claim duration that is significantly lower than for people who are not registered. The two exceptions are Illness Benefit and the excluded Working Family Payment.

Overall, as Figure 17 shows, this implies that claim duration is a confounding factor which is likely associated with *higher* overpayment and *lower* SAFE registration rates.

Figure 17 - Claim duration as confounding factor for SAFE customer contact causal model
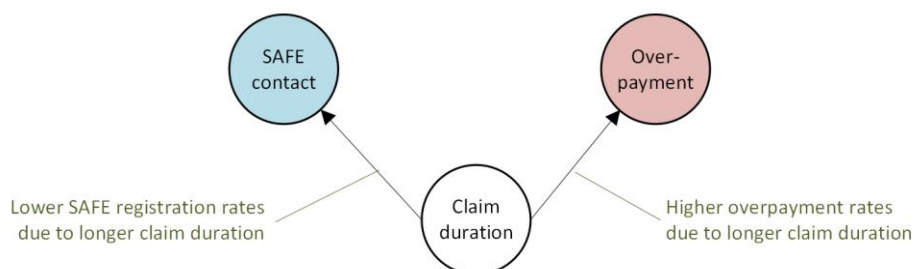
Because this is an observable confounder, it is possible to correct for it in our final causal model.

Confounding factors: in-person payment

In general, claimants on Social Welfare schemes may choose to receive their payments in person in a post office, or electronically. The proportion of in-person payments varies from scheme to scheme, and is also higher for people with longer claim durations. For example, almost all recipients of Illness Benefit are paid electronically, while more than half of State Pension (Non-Contributory) claimants receive their payments in person.

Of course, weekly collection of a social welfare payment from a post office does not constitute 'customer contact' in the sense of direct contact with DSP officials: An Post acts purely as a payment agent for DSP, and its staff have no role whatsoever in deciding on claim entitlements. Nonetheless, An Post staff must verify the identity of the person claiming the payment, and by the end of the SAFE-PSC rollout period, this required the claimant to produce a valid PSC.[67] Moreover, DSP information is available in post offices, and during the rollout period this included promotional material about the incoming mandatory PSC requirement for in-person payments. Thus, from the point of view of a claimant, collection of

---

[67] In this report, we do not include any estimate of the cost savings to An Post – and, indirectly, to DSP – that accrued from the use of PSCs to verify claimants' identities.

an in-person payment may be experienced as indirect contact with DSP.

Figure 18 - In-person payment as confounding factor in SAFE customer contact causal model
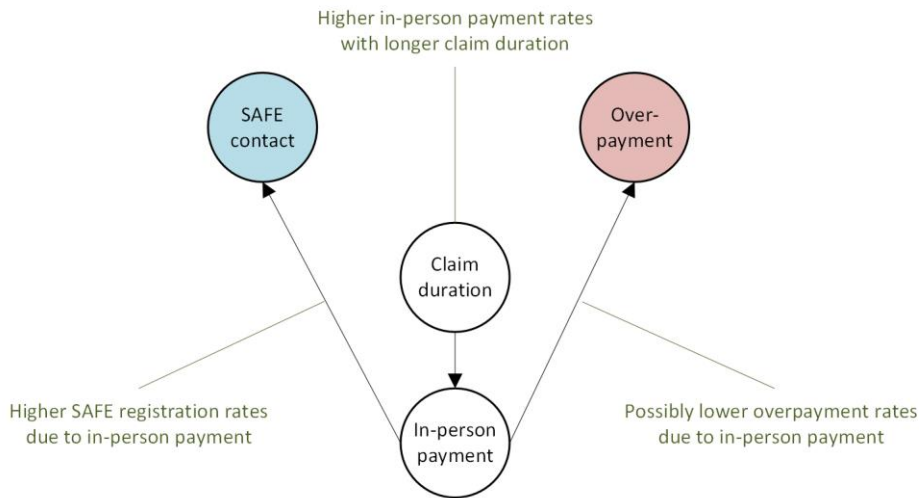
As Figure 18 shows, we might then expect that receipt of in-person payments will be associated with *higher* SAFE-PSC contact and registration rates, as PSC presentation became mandatory by the end of rollout period. It could also be that in-person payment is associated with *lower* overpayment levels, due to higher indirect contact levels with DSP, and (by the end of the rollout period) the mandatory use of a PSC to collect cash payments. Claim duration is an important confounding factor, since it is also causally associated with both SAFE contact and overpayment levels.

Both the *higher SAFE* and the *lower overpayment* effects are seen in the observed survey data, though the lower overpayment effect is not statistically significant for any individual survey.

Confounding factors: correctness propensity

It is possible that some people are inherently more internally motivated than others to ensure that they are fully in compliance with legal requirements and other public service recommendations. We can label this unobservable tendency 'correctness propensity': it is reasonable to imagine that, if it exists, it will be associated with *higher* SAFE registration and *lower* overpayment rates. As Figure 19 shows, we can partially correct for this unobservable factor by assuming that correctness propensity varies in line with an observable causal factor

– specifically, the claimant's sex[68].

Figure 19 - Correctness propensity as unobservable confounding factor in SAFE customer contact model
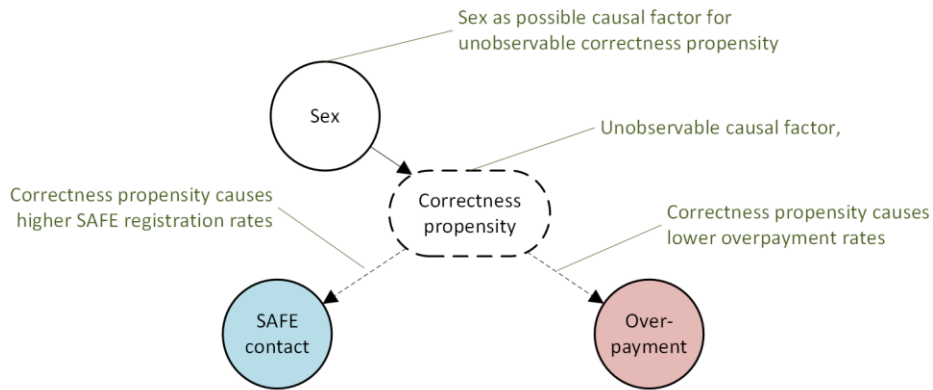
Beyond this, the Working Family Payment survey provides a natural test of whether correctness propensity is a materially significant confounding factor in this analysis. Correctness propensity is our label for a person's inherent motivation for compliance with official rules, so by definition it should not be affected by external factors like customer contact. In other words, if it is indeed a significant driver of both higher SAFE registration rates and lower overpayment rates, then this pattern should be visible in both 'low customer contact' and 'high customer contact' schemes.

Now, Working Family Payment is excluded from our results precisely because its annual recertification requirement makes it a 'high customer contact' scheme. If internal correctness propensity is a significant causal factor for higher SAFE registration and lower overpayment rates, then that relationship should still hold here. Yet the opposite is the case: entirely unlike all the low-contact schemes, for this high-contact scheme, SAFE-registered claimants show significantly *higher* overpayment levels than non-SAFE-registered claimants (see Figure 24 and Table 34 below). Thus, unless Working Family Payment recipients have markedly different inherent correctness propensity levels from those of the claimants of all other schemes, this implies that the putative 'correctness propensity' is not in fact a materially significant common causal factor for SAFE registration and claim overpayment rates.

---

[68] Sex was chosen here as there is some (limited and inconclusive) evidence from Control Surveys of sex differences in overpayment rates. For a brief discussion of other potential causal factors which were not used here, see the next section.

The complete causal model

The complete causal model is shown in Figure 20. In addition to the observable causal factors included in the model, two other factors – claimant age and marital status – were also considered for inclusion but not used. There is no clear evidence from Control Surveys of a relationship between these variables and overpayment levels or SAFE registration, beyond that already explained by the correlation of these same variables with claim duration and sex, nor are the results of the model sensitive to the inclusion or exclusion of these variables.

Figure 20 – Causal model for SAFE-PSC customer contact effect. Arrows indicate causal links.
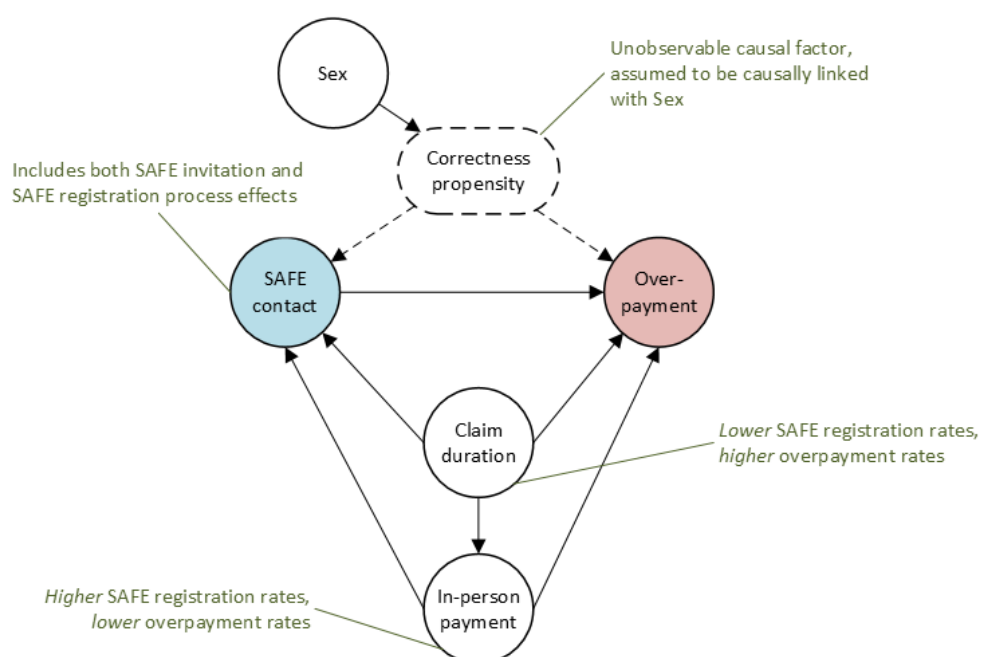
C.4   Implementing the causal model

In order to isolate the causal effect of SAFE customer contact for a given population, we need to simulate a randomised experiment by building an Inverse Probability Weighting model to create an uncontacted 'control' group that looks as much like the contacted 'treatment' group as possible.

Choice of separate versus pooled models

We built a separate model for each survey, rather than pooling survey results into one single model. This was necessary because the characteristics of claimants across the surveyed populations do not overlap enough for a pooled model to yield meaningful results. In other words, because each Social Protection scheme is designed to address a specific social risk or need, the populations for the schemes are too different for it to make sense to match, say, a State Pension (Non-Contributory) recipient with an Illness Benefit recipient. In addition to this violation of the common support or unconfoundedness assumption, it is also easier to reason about results from individual survey models and relate them to expenditure impacts.

Note that, instead of working with one pooled *model*, we can instead pool the *results of the individual per-survey models* to verify the overall significance of the results.

Inverse Probability Weighting model details

For each survey, we used an Inverse Probability Weighting model with stabilised weights to construct a 'pseudo-population' in which there is no association between the 'treatment' (SAFE customer contact) and the observable confounding factors[69]. The steps in this model are as follows:

1. Create a standard individual-level dataframe (including survey results, SAFE registration status on survey date and all observable confounding variables), using

---

[69] Hernán and Robins, *Causal Inference: What If*; Naimi et al., 'Constructing Inverse Probability Weights for Continuous Exposures'; Linden, 'A Comparison of Approaches for Stratifying on the Propensity Score to Reduce Bias'; Austin, 'An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies'; Imai and Ratkovic, 'Robust Estimation of Inverse Probability Weights for Marginal Structural Models'; Caliendo and Kopeinig, 'Some Practical Guidance for the Implementation of Propensity Score Matching'.

Python[70] and Pandas[71].

2. For each individual, compute a predicted probability of being 'treated'[72] (i.e. SAFE-registered), using a cross-validated logistic regression classifier[73] in scikit-learn[74].

3. Assign each 'treated' individual a weight of 1, and assign weights to 'control' individuals based on the inverse of their propensity scores, such that the sum of these stabilised 'control' weights is equal to the sum of the 'treated' weights.

4. Using the stabilised weights, produce a weighted central estimate and 95% confidence interval for the target variable (overpayment), and observable covariates.

Impact of weighting model on covariates

Figure 21 and Figure 22 show that this weighting model greatly reduces the differences in potentially confounding covariates between the 'treatment' (SAFE-registered) and 'control' (not-SAFE-registered) populations for all surveys.

---

[70] Van Rossum and Drake Jr, *Python Reference Manual*.

[71] Reback et al., *Pandas-Dev/Pandas*; McKinney, 'Data Structures for Statistical Computing in Python'.

[72] Wilhelm, 'Causal Inference and Propensity Score Methods'.

[73] We used a cross-validation scheme with 5 splits and 2,000 repeats, in order to generate 10,000 sets of propensity scores for the individuals in each survey. These scores were then used to calculate both a central propensity estimate for each individual and a confidence interval for this estimate.

[74] Pedregosa et al., 'Scikit-Learn: Machine Learning in Python'.

*Figure 21 - Balancing of potential confounding variables, before and after weighting*

93

Figure 22 - Differences (SAFE minus not SAFE registered) in covariates included in IPW model, before and after weighting.
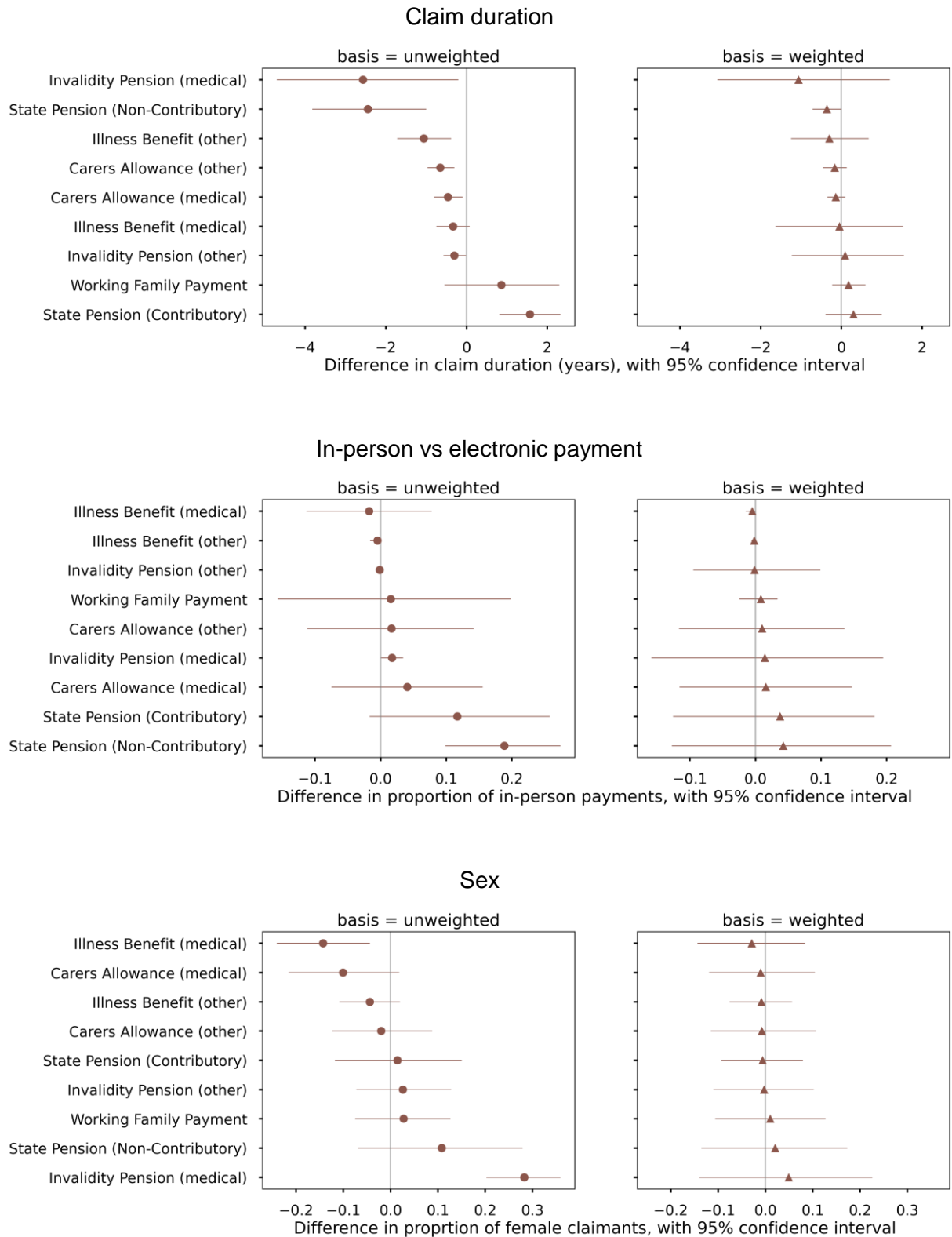
Age at start of claim and *Marital status*, two covariates that were excluded from the model, are nonetheless significantly more balanced between the 'treatment' (SAFE-registered) and 'control' (not-SAFE-registered) populations after weighting – as shown in Figure 23, post-weighting 95% confidence intervals for the difference include zero for almost all surveys. This is consistent with the rationale for their exclusion from the model discussed above (that they are correlated with the included covariates, do not add to the model's explanatory power, and do not materially change the model results).

Figure 23 – Differences (SAFE minus not SAFE registered) in covariates not included in IPW model, before and after weighting.

Age at start of claim

Marital status
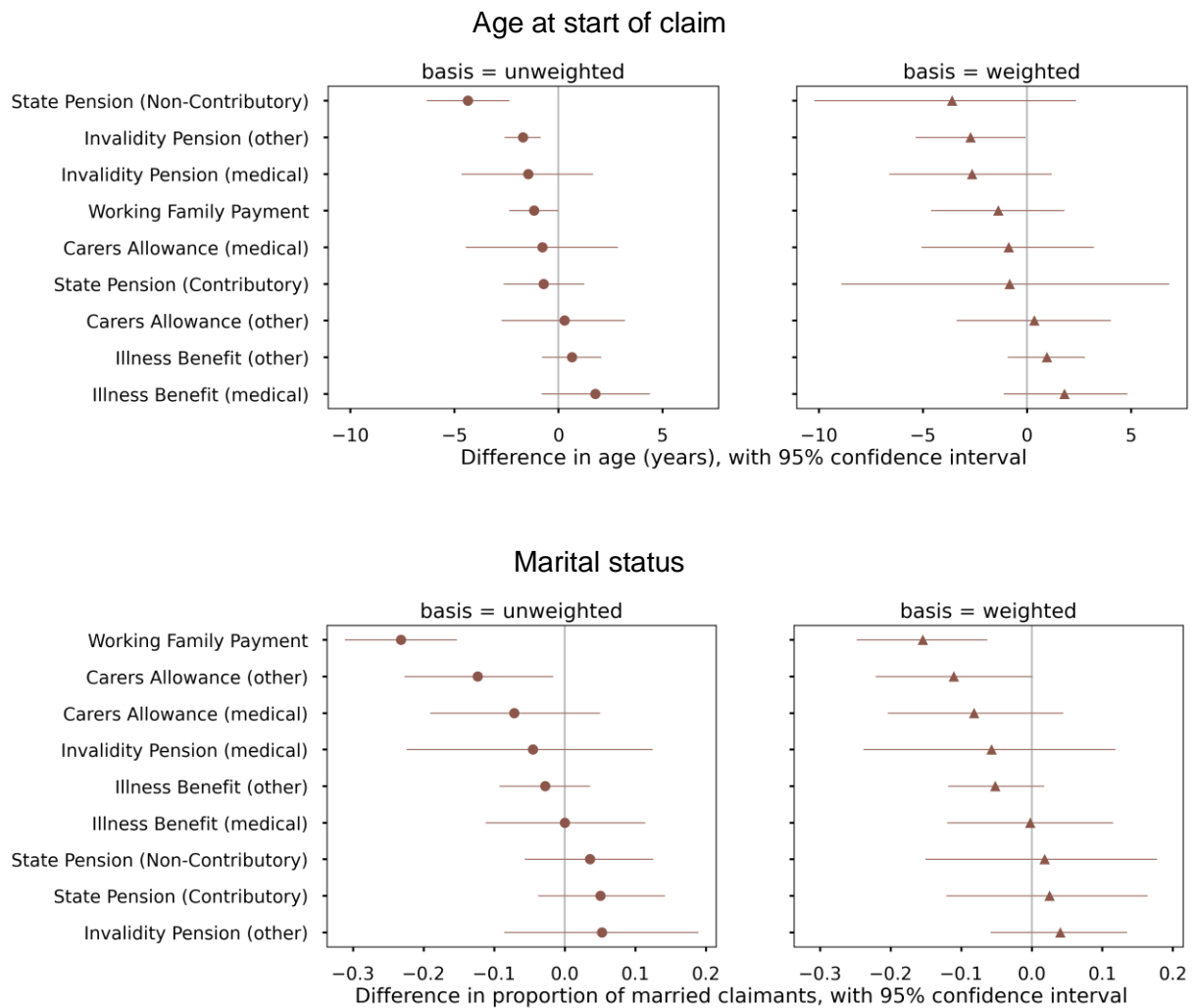
Model results

The results show that SAFE-registered people have significantly lower overpayment levels compared to people who are not SAFE-registered. This effect is clear both before and after correcting for potentially confounding factors by applying the weighting model. In fact, the weighted effect size is somewhat stronger than the unweighted effect size (Figure 25).

Figure 24 - Unweighted and weighted overpayment levels, by SAFE status and survey, € per week, ordered by difference in weighted overpayment.
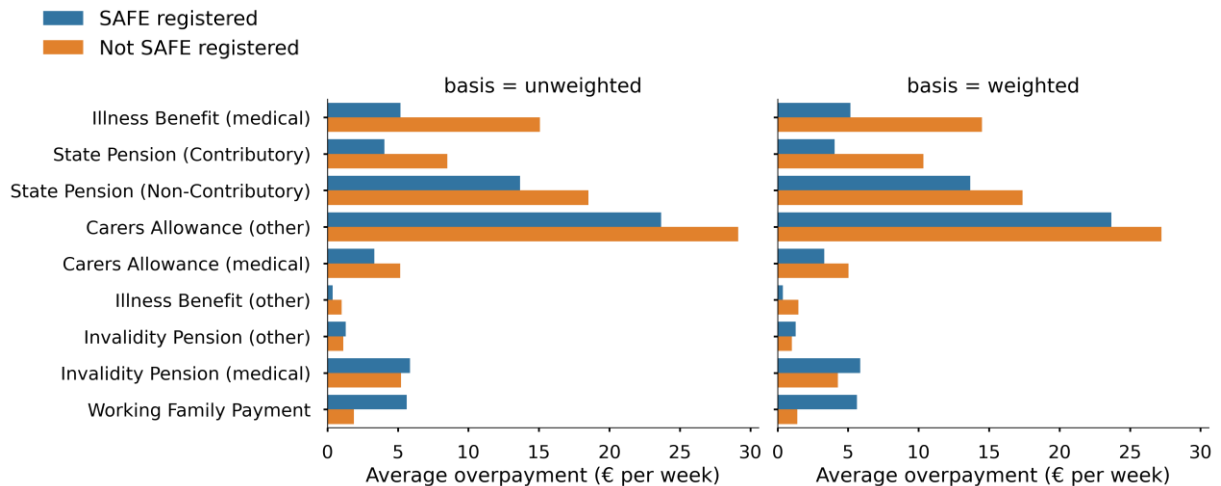
Figure 25 - Average difference in incorrect overpayment of Social Welfare claims by SAFE registration status, after Inverse Probability Weighting, € per week, ordered by mean difference.
Dots are point estimates of mean overpayment difference for each survey group (not-SAFE-registered minus SAFE registered): a negative value means that overpayment levels are lower for SAFE-registered claimants than for not-SAFE-registered claimants.
Bars are bootstrapped non-parametric 95% confidence intervals.
Overall weighted average (excluding Working Family Payment) is shown as red vertical line.

96

Figure 10 and Table 34 show the average differences between weighted overpayment levels for SAFE-registered and non-SAFE-registered p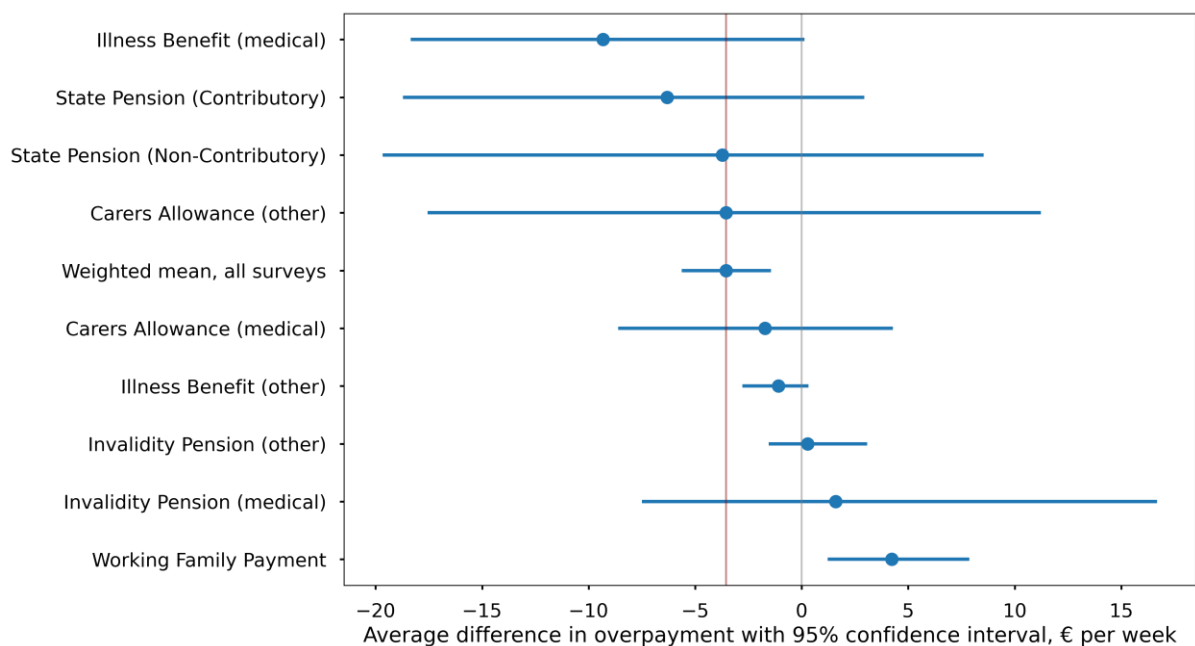eople, by survey. The weighted average difference across all surveys is an average -€3.30 lower overpayment for SAFE-registered claimants, and this result is significant at a < 0.01 confidence level (red vertical line in Figure 10 and highlighted 'Weighted Average' in Table 34). This significant difference also holds true if we consider the SAFE versus non-SAFE proportion of cases with an overpayment (rather than the value of overpayments as shown here).

At the individual survey level, the 95% confidence intervals in Figure 10 and Table 34 show that this difference is not statistically significant for any individual surveys except Illness Benefit (medical) and the excluded Working Family Payment (a clear outlier, where the effect is in the opposite direction from all other surveys). This is to be expected, given the relatively small sample sizes (300 to 1,000) of individual surveys, and the low numbers of SAFE-registered people for early surveys (IB, IP) and non-SAFE-registered people in the latest surveys (especially SPNC).

Table 34 – Average weighted weekly overpayment, by SAFE status and survey, with 95% Confidence Intervals (Cis), ordered by weighted overpayment difference.
The highlighted column represents the difference between average overpayment for SAFE-registered claimants and non-SAFE-registered claimants: a negative value indicates that there is a lower overpayment level for SAFE-registered claimants.
Light green cells indicate results that are significant at a 95% confidence level; dark green cells indicate results that are significant at a >99% confidence level.
Working Family Payment is not included in the highlighted 'Weighted average' row, but is shown as a memorandum item.

Survey scheme	Survey type	Actual weighted Average overpayment € per week SAFE registered	Actual weighted Average overpayment € per week Not SAFE registered	Actual weighted Average overpayment € per week Difference (SAFE minus not-SAFE)	Actual weighted Lower 95% CI € per week Difference (SAFE minus not-SAFE)	Actual weighted Upper 95% CI € per week Difference (SAFE minus not-SAFE)
Invalidity Pension	Medical	5.86	4.34	1.52	-7.12	15.86
	Non-Medical	1.28	1.02	0.25	-1.46	3.33
Illness Benefit	Medical	5.17	14.77	-9.60	-19.09	-0.21
	Non-Medical	0.37	1.41	-1.03	-2.63	0.33
Carer's Allowance	Medical	3.32	4.98	-1.67	-8.85	4.25
	Non-Medical	23.67	27.12	-3.45	-18.22	10.23
State Pension (Non-Contributory)		13.66	4.04	10.35	-6.31	-19.48
State Pension (Contributory)		4.04	13.66	16.41	-2.75	-16.61
Weighted average		*n/a*	*n/a*	**-3.30**	**-5.33**	**-1.21**
Working Family Payment		*5.63*	*5.63*	*1.36*	*4.27*	*1.10*

Sensitivity analysis

Sensitivity analysis of the weighting model shows that the results are not sensitive to the inclusion or exclusion of *Marital status* or *Age at claim start*[75], and that the average overpayment difference is only slightly lower if we include WFP.

---

[75] This applies to all surveys, in the case of *Age at claim start* for State Pension (Contributory), where the fact that most claimants start at the same State Pension age leads to an implausibly large effect size when this variable is included in the weighting model.

C.5 Relating model results to monetary impact

So far, we have shown that a SAFE-related customer contact effect exists, and estimated its size in terms of a reduction in average weekly overpayment levels for schemes surveyed over the SAFE-PSC rollout period. We must next express these results in terms of the annual monetary impact of SAFE customer contact.

We estimate this impact (*Customer contact benefits* – see Table 38) as a weighted sum of the number of recipients for each scheme for each year (*Recipients* – see Table 37) multiplied by the estimated annualised SAFE customer contact saving per claimant (*SAFE impact* – described below) and by an adjustment factor (*Adjustment* – described below), using the following formula:

$$Customer\ contact\ benefits_{year}$$

$$= \sum_{scheme=1}^{5} Recipients_{scheme,year} \times SAFE\ impact_{scheme} \times Adjustment_{year}$$

SAFE impact (Table 35) is calculated as the weekly average overpayment difference attributable to SAFE (summing medical and non-medical impacts if applicable), annualised and multiplied by a *Residency adjustment* that takes account of the fact that a proportion of claimants for some schemes are non-resident and are not liable to be SAFE registered. In other words:

$$SAFE\ impact_{scheme} = Weekly\ SAFE\ impact_{scheme} \times 52 \times Residency\ adjustment_{scheme}$$

Table 35 – Savings per claim related to SAFE status for selected Social Protection schemes

Source	Estimated actual Saving per claim € State Pension (Non-Con.)	Estimated actual Saving per claim € State Pension (Con.)	Estimated actual Saving per claim € Carer's Allowance	Estimated actual Saving per claim € Illness Benefit	Estimated actual Saving per claim € Invalidity Pension
Medical survey			1.67	9.59	-1.52
Non-medical survey	2.74	6.32	3.45	1.03	-0.25
Weekly SAFE saving	2.74	6.32	5.12	10.62	-1.78
Unadjusted annual	142.70	328.48	266.40	552.32	-92.48
Residency adjustment	100%	92%	100%	99%	98%
Adjusted annual SAFE impact per claim	**142.70**	**300.56**	**266.40**	**546.80**	**-90.63**

The composite *Adjustment* factor (Table 36) is estimated as:

99

$$Adjustment_{year}$$

$$= SAFE\ rollout\ proportion \times Current\ year\ timing\ impact$$
$$\times Time\ since\ SAFE\ registration \times Counterfactual\ catchup$$

Table 36 - Adjustment factors for claim savings related to SAFE status, 2012-2019

Year	Estimated actual	Estimated actual	Estimated actual	Estimated actual	Estimated actual
	Proportion	Proportion	Proportion	Proportion	Proportion
	SAFE rollout (existing claimants)	Current year timing impact	Time since SAFE registration	Counterfactual activity catchup	**Composite adjustment factor**
2012	2%	47%	100%	80%	**1%**
2013	11%	57%	80%	74%	**4%**
2014	26%	69%	66%	67%	**8%**
2015	40%	81%	55%	59%	**11%**
2016	54%	87%	47%	49%	**11%**
2017	69%	88%	40%	39%	**10%**
2018	83%	91%	35%	29%	**8%**
2019	95%	93%	31%	19%	**5%**

SAFE rollout proportion is the SAFE rollout factor for existing claimants (see section 4), included here to take account of the fact that the customer contact effect can only apply to the extent that claimants were actually contacted over the rollout period.

Current year timing impact is introduced to avoid overstating the completion proportion over the rapid rollout period, by only including a mid-year increase in SAFE rollout.

Time since SAFE registration is a rapid exponential decay factor that takes account of the fact that the impact of a once-off SAFE-related customer contact will fade over time.

Counterfactual catchup takes account of the fact that, in the counterfactual scenario, over time, as the public finances improved, more resources for contacting customers of longer-term Social Protection schemes would be likely to have become available. We assume here that counterfactual contact would have grown exponentially from 20% of SAFE contact in 2012 to 80% by 2019.

All these factors are strictly proportions with values between zero and one. Their product, the *Composite adjustment factor*, therefore greatly reduces the estimated effect size, down to only 1% of the unadjusted effect size in 2012, rising to 11% in the peak years of SAFE-PSC rollout before falling again to 5% in 2019.

Table 37 - Recipient numbers of selected Social Protection schemes, 2012-2019

Year	Actual Recipients Volume State Pension (Non-Con.)	Actual Recipients Volume State Pension (Con.)	Actual Recipients Volume Carer's Allowance	Actual Recipients Volume Illness Benefit	Actual Recipients Volume Invalidity Pension
2012	96,126	312,314	52,209	64,429	50,053
2013	95,801	329,531	57,136	58,990	53,196
2014	95,570	346,420	59,380	57,024	54,223
2015	95,179	361,725	63,003	55,540	55,115
2016	95,221	377,062	70,459	54,492	55,532
2017	95,140	394,378	75,264	52,809	57,504
2018	95,263	411,660	79,914	55,995	57,768
2019	94,854	431,224	84,028	49,313	58,168

Table 38 – Estimated SAFE customer contact benefits by Social Protection scheme, 2012-2019

Composite adjustment factor	Saving per claim, €/yr	142.70	328.48	266.40	552.32	-92.48	
	Year	Estimated actual Constant 2010 €m State Pension (Non-Con.)	Estimated actual Constant 2010 €m State Pension (Con.)	Estimated actual Constant 2010 €m Carer's Allowance	Estimated actual Constant 2010 €m Illness Benefit	Estimated actual Constant 2010 €m Invalidity Pension	Estimated actual Constant 2010 €m **Total**
1%	2012	0.1	0.7	0.1	0.3	0.0	**1.2**
4%	2013	0.5	3.9	0.5	1.2	-0.2	**5.9**
8%	2014	1.1	8.9	1.2	2.5	-0.4	**13.3**
11%	2015	1.4	12.5	1.8	3.2	-0.5	**18.4**
11%	2016	1.5	13.3	2.0	3.2	-0.6	**19.5**
10%	2017	1.3	12.5	1.9	2.8	-0.5	**18.0**
8%	2018	1.0	10.3	1.6	2.4	-0.4	**14.9**
5%	2019	0.7	7.4	1.2	1.4	-0.3	**10.4**

C.6 Discussion

The customer contact benefits estimated here are large in relation to the cost of SAFE-PSC, but it is important to note that the peak year impact (about €20 million in 2016) was only 0.1% of total Social Welfare payment spending in that year (or about 0.25% of expenditure for the schemes included in the model). This is not an implausibly large effect size; moreover, as described above, it is robust to potentially confounding causal factors; and is in line with other research findings on the impact of customer contact and priming.

It is also important to note that the estimated effect is artificially confined to just five schemes that were the subject of Control Surveys over the SAFE-PSC rollout period. It is highly likely that a similar effect existed for other major low-contact schemes (e.g. Disability Allowance, One-Parent Family Payment), which, if included, would increase the overall estimated benefit by about one quarter.

Finally, we note that the adjustment factor *Counterfactual activity catch-up* assumes a very high level of customer contact in the later years of the counterfactual scenario – up to 80% of the very large cumulative SAFE-PSC-related customer contact by 2019. In line with the overall conservative approach taken in this report, this assumes a very high level of counterfactual resourcing that is likely higher than would have been available in practice. If we assume instead that counterfactual customer contact activity would have reached a (still high) 50% of cumulative SAFE-PSC levels by 2019, this would more than double the estimated SAFE-PSC customer contact effect size.

Overall, because the uncertainty in the model SAFE-PSC customer contact effect model itself is roughly symmetrical, the coverage and counterfactual activity catch-up factors mean that the estimated monetary impact is likely an underestimate.

Appendix D 2019 SAFE-PSC customer survey

DSP carries out survey research to provide a comprehensive review of customer experience, in order to ensure that the Department's services continue to be accessible, intuitive and efficient. In 2018, DSP engaged the customer research company W5 to measure and evaluate the customer experience of people who have recently been SAFE registered and received a Public Services Card (PSC)[76].

Specifically, the survey assessed:

- ➢ Overall satisfaction with the SAFE registration process
- ➢ Easiness of interview and face-to-face registration
- ➢ Satisfaction with staff
- ➢ Views of PSC holders on accessing their information in the future by other government service providers
- ➢ Views on using PSC for proof of identity when dealing with a non-government body (e.g. bank, mobile phone provider).

In November 2018, the Statistics Unit of DSP produced a random sample of 5,000 people, stratified by age band and sex, drawn from a population consisting of everyone aged over 18 who had been issued a PSC in September 2018. A pre-survey letter was sent by the Chief Statistician to all 5,000 people, informing them about the survey. After an opt-out period, the Statistics Unit provided W5 with a name, telephone number, age band, and sex for each potential survey respondent,

Table 39 - Age and Gender distribution of SAFE-PSC customer survey respondents. Percentages are representative of the equivalent population distributions.

Age	Number	Percentage
Under 25	26	3%
25-39	337	34%
40-59	398	40%
60 +	240	24%

Sex	Number	Percentage
Female	473	47%
Male	528	53%

---

[76] W5 Powering customer experience, 'Customer Survey on the Public Services Card'.

The survey was then carried out between 4th and 18th December 2018 by W5 using Computer-Assisted Telephone Interviews, and was completed once responses were obtained from enough people in each stratum to ensure statistical validity of the results. In total, 1,001 people supplied a response, implying a 3% margin of error for the survey results obtained. All survey responses were confidential, and respondents were made aware that their responses could only ever be used for statistical purposes.

The key results from this survey were as follows:

➢ Very strong positive assessment of PSC registration process. 96% of PSC holders who attended one of the Department's offices and went through the face-to-face registration were fairly or very satisfied with the SAFE process. 98% felt the process was fairly or very easy. The small proportion (2%) who were dissatisfied complained mostly of delayed appointments.

➢ Staff were praised. Overwhelming majority of PSC holders completely agreed that staff who carried out their SAFE registration/PSC interview were friendly, efficient and knowledgeable.

➢ Nearly 8 out of 10 PSC holders felt they had the right level and quality of information in respect of the purpose of SAFE/PSC during the interview. Just a little over one third asked a question during the interview and majority felt the answer fully addressed their query.

➢ The most frequently claimed single reason for obtaining a PSC was to access a PPS number followed by driving licence, travel card and passport. Over one third claimed to have obtained the PSC to access another government service.

➢ Majority believe they should have the option to offer their PSC as proof of identity when dealing with a non-government body.

➢ Almost 9 out of 10 agree it would be very useful if certain government departments were able to use the provided information to confirm their identity in the future thus avoiding the need for the applicant to provide the same information again.

➢ In order to ensure that the customer's identity is protected and that services can continue to be provided, nearly 8 out of 10 PSC holders said they do not mind their documents being retained and understand the requirement.

Appendix E Quantitative results tables

E.1 Central Estimate: cumulative, undiscounted

Table 40 - SAFE-PSC-MyGovID cost-benefit summary, 2010-2030: central estimate (cumulative, undiscounted)

Year	Actual Constant 2010 Cumulative €m Actual costs (-)	Counterfactual Constant 2010 Cumulative €m Counterfactual costs not incurred (+)	Actual vs counterfactual Constant 2010 Cumulative €m Net benefits (+)	Actual vs counterfactual Constant 2010 Cumulative €m Net Cost (-) / Benefit (+)
2010	-1.8	0.0	0.0	-1.8
2011	-3.1	0.0	0.0	-3.1
2012	-8.4	0.9	1.2	-6.3
2013	-17.4	3.6	7.4	-6.4
2014	-30.3	10.5	21.9	2.1
2015	-43.8	22.1	42.4	20.7
2016	-57.5	34.5	65.8	42.8
2017	-71.5	47.8	89.3	65.6
2018	-85.7	61.2	117.3	92.8
2019	-98.1	76.2	142.2	120.3
2020	-107.3	94.5	160.3	147.5
2021	-117.7	110.6	175.9	168.8
2022	-128.0	126.7	190.4	189.1
2023	-138.0	142.6	203.2	207.7
2024	-147.9	158.1	216.0	226.2
2025	-157.7	173.4	228.7	244.4
2026	-167.4	188.5	241.0	262.1
2027	-177.1	203.6	253.4	279.8
2028	-186.9	218.5	265.4	297.1
2029	-196.6	233.3	277.3	314.0
2030	-206.3	248.1	289.3	331.0

E.2 Central estimate: per year, undiscounted

Table 41 - SAFE-PSC-MyGovID cost-benefit summary, 2010-2030: central estimate (per year, undiscounted))

Year	Actual Constant 2010 Per year, €m Actual costs (-)	Counterfactual Constant 2010 Per year, €m Counterfactual costs not incurred (+)	Actual vs counterfactual Constant 2010 Per year, €m Net benefits (+)	Actual vs counterfactual Constant 2010 Per year, €m Net Cost (-) / Benefit (+)
2010	-1.8	0.0	0.0	-1.8
2011	-1.3	0.0	0.0	-1.3
2012	-5.2	0.9	1.2	-3.2
2013	-9.1	2.7	6.3	-0.1
2014	-12.9	6.9	14.4	8.5
2015	-13.5	11.6	20.5	18.6
2016	-13.7	12.4	23.4	22.1
2017	-14.0	13.3	23.5	22.8
2018	-14.2	13.4	28.0	27.2
2019	-12.4	15.0	24.9	27.5
2020	-9.2	18.3	18.1	27.2
2021	-10.5	16.1	15.6	21.3
2022	-10.3	16.1	14.5	20.3
2023	-10.0	15.9	12.7	18.6
2024	-9.9	15.5	12.9	18.5
2025	-9.8	15.3	12.7	18.2
2026	-9.6	15.1	12.3	17.8
2027	-9.8	15.1	12.4	17.7
2028	-9.7	14.9	12.0	17.2
2029	-9.7	14.8	11.8	17.0
2030	-9.7	14.7	12.0	17.0

E.3   High-cost, low benefit scenario: cumulative, discounted

Table 42 - SAFE-PSC-MyGovID cost-benefit summary, 2010-2030: <u>high cost, low benefit</u>

	Actual	*Counterfactual*	*Actual vs counterfactual*	*Actual vs counterfactual*
	Constant 2010 discounted	*Constant 2010 discounted*	*Constant 2010 discounted*	*Constant 2010 discounted*
	Cumulative €m	*Cumulative €m*	*Cumulative €m*	*Cumulative €m*
Year	Actual costs (-)	Counterfactual costs not incurred (+)	Net benefits (+)	Net Cost (-) / Benefit (+)
2010	-1.8	0.0	0.0	**-1.8**
2011	-3.1	0.0	0.0	**-3.1**
2012	-7.9	0.6	0.8	**-6.5**
2013	-15.9	2.4	5.0	**-8.6**
2014	-26.9	6.7	14.2	**-6.0**
2015	-37.9	13.6	27.0	**2.7**
2016	-48.6	20.8	40.9	**13.1**
2017	-59.1	28.1	54.3	**23.3**
2018	-69.3	35.2	69.4	**35.3**
2019	-77.9	42.9	82.2	**47.1**
2020	-84.0	51.8	91.1	**58.9**
2021	-93.1	59.4	98.5	**64.7**
2022	-101.7	66.6	105.0	**69.9**
2023	-109.7	73.5	110.5	**74.3**
2024	-117.3	79.9	115.9	**78.5**
2025	-124.5	86.0	120.9	**82.4**
2026	-131.3	91.8	125.6	**86.1**
2027	-138.0	97.3	130.2	**89.5**
2028	-144.3	102.6	134.4	**92.7**
2029	-150.4	107.6	138.4	**95.6**
2030	-156.3	112.4	142.3	**98.5**

E.4 Low cost, high benefit scenario: cumulative, discounted

Table 43 - SAFE-PSC-MyGovID cost-benefit summary, 2010-2030: low costs, high benefits

Year	*Actual* Constant 2010 discounted Cumulative €m — Actual costs (-)	*Counterfactual* Constant 2010 discounted Cumulative €m — Counterfactual costs not incurred (+)	*Actual vs counterfactual* Constant 2010 discounted Cumulative €m — Net benefits (+)	*Actual vs counterfactual* Constant 2010 discounted Cumulative €m — Net Cost (-) / Benefit (+)
2010	-1.8	0.0	0.0	-1.8
2011	-3.1	0.0	0.0	-3.1
2012	-7.9	1.1	1.5	-5.4
2013	-15.9	4.4	8.9	-2.7
2014	-26.9	12.4	25.2	10.7
2015	-37.9	25.2	47.4	34.8
2016	-48.6	38.4	71.7	61.5
2017	-59.1	52.0	95.1	88.0
2018	-69.3	65.1	122.3	118.1
2019	-77.9	79.3	145.6	146.9
2020	-84.0	95.8	161.7	173.5
2021	-88.9	109.8	175.3	196.2
2022	-93.6	123.2	187.4	217.0
2023	-97.9	135.9	197.6	235.6
2024	-102.0	147.8	207.5	253.3
2025	-105.9	159.1	216.8	270.0
2026	-109.6	169.8	225.5	285.7
2027	-113.2	180.0	234.0	300.8
2028	-116.6	189.8	241.8	315.0
2029	-119.9	199.1	249.2	328.4
2030	-123.1	207.9	256.4	341.3

Bibliography

Alm, James, Laura Rosales Cifuentes, Carlos Mauricio Ortiz Niño, and Diana Rocha. 'Can Behavioral "Nudges" Improve Compliance? The Case of Colombia Social Protection Contributions', 2019, 23.

Austin, Peter C. 'An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies'. *Multivariate Behavioral Research* 46, no. 3 (May 2011): 399–424. https://doi.org/10.1080/00273171.2011.568786.

Caliendo, Marco, and Sabine Kopeinig. 'Some Practical Guidance for the Implementation of Propensity Score Matching'. *Journal of Economic Surveys* 22, no. 1 (February 2008): 31–72. https://doi.org/10/fdp2px.

Central Statistics Office. 'Irish Statistical System Code of Practice'. Government of Ireland, 2013. https://www.isscop.ie/.

———. 'LRM01 - Persons on Live Register'. CSO PxStat, 1 August 2021. https://data.cso.ie/table/LRM01.

Department of Public Expenditure and Reform. *Public Financial Procedures*. Dublin: Government of Ireland, 2018. https://govacc.per.gov.ie/public-financial-procedures-booklet-by-section/.

———. 'Public Service ICT Strategy'. Government of Ireland, January 2015. https://ictstrategy.per.gov.ie/.

———. 'Supporting Public Service Reform: EGovernment 2012 - 2015'. Government of Ireland, April 2012. https://egovstrategy.gov.ie/wp-content/uploads/2012/04/eGovernment-2012-2015.pdf.

———. 'The Public Spending Code'. Government of Ireland, 5 August 2020. https://www.gov.ie/en/publication/public-spending-code/.

Department of Social Protection. 'Carer's Allowance Control Survey 2017/2018'. Social Protection Control Surveys. Dublin: Department of Social Protection, October 2018. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'Family Income Supplement 2015 Fraud & Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, November 2017. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'Farm Assist Fraud & Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, October 2016. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'Household Benefits Fraud & Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, October 2016. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'Illness Benefit Fraud and Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, August 2015. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'Invalidity Pension Fraud and Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, August 2015. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'State Pension (Contributory) 2016 Fraud & Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, June 2017. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'State Pension (Non-Contributory) Control Survey 2017/2018'. Social Protection Control Surveys. Dublin: Department of Social Protection, January 2019. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

———. 'Statistical Information On Social Welfare Services: Annual Report 2019', August 2020. https://www.gov.ie/en/publication/02f594-annual-sws-statistical-information-report/.

———. 'Supplementary Welfare Allowance (BASI) 2016 Fraud & Error Survey'. Social Protection Control Surveys. Dublin: Department of Social Protection, November 2017. https://www.gov.ie/en/policy-information/25588d-control-surveys/.

Drouvelis, Michalis, Robert Metcalfe, and Nattavudh Powdthavee. 'Can Priming Cooperation Increase Public Good Contributions?' *Theory and Decision* 79, no. 3 (2015): 479–92.

European Commission. *Better Regulation Guidelines and Toolbox*. Luxembourg: Publications Office of the European Union, 2017. https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox/better-regulation-toolbox_en.

———. *Guide to Cost-Benefit Analysis of Investment Projects: Economic Appraisal Tool for Cohesion Policy 2014 - 2020*. Dec. 2014. Luxembourg: Publ. Office of the Europ. Union, 2015.

European Commission. Directorate General for Taxation and Customs Union. *Behavioural Economics and Taxation.* LU: Publications Office, 2014. https://data.europa.eu/doi/10.2778/32009.

Eurostat. 'Labour Cost Index by NACE Rev. 2 Activity - Nominal Value, Annual Data'. Eurostat Data Explorer, 15 September 2020. https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lc_lci_r2_a&lang=en.

———. 'Producer Prices in Industry, Total - Annual Data'. *Sts_inpp_a*. Eurostat Data Explorer, 28 January 2021. https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sts_inpp_a&lang=en.

———. 'Service Producer Prices - Annual Data'. *Sts_sepp_a*. Eurostat Data Explorer, 26 January 2021. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sts_sepp_a&lang=en.

Florio, Massimo, Valentina Morretta, and Witold Willak. 'Cost-Benefit Analysis and European Union Cohesion Policy: Economic Versus Financial Returns in Investment Project Appraisal'. *Journal of Benefit-Cost Analysis* 9, no. 1 (2018): 147–80.

Government of Ireland. *Inter-Departmental Report on the Development of an Integrated Social Services System*. [Catalogue Lists] (Ireland. Stationery Office) ; Dublin: Stationery Office, 1996.

Hamby, DM. 'A Comparison of Sensitivity Analysis Techniques'. *Health Physics* 68, no. 2 (1995): 195–204.

Hernán, Miguel A, and James M Robins. *Causal Inference: What If*. Boca Raton: Chapman & Hall/CRC, 2020.

Imai, Kosuke, and Marc Ratkovic. 'Robust Estimation of Inverse Probability Weights for Marginal Structural Models'. *Journal of the American Statistical Association* 110, no. 511 (3 July 2015): 1013–23. https://doi.org/10/f7z5mp.

International Public Sector Accounting Standards Board. *Handbook of International Public Sector Accounting Pronouncements*. 2020th ed. 3 vols. New York: International Federation of Accountants, 2020. https://www.ipsasb.org/publications/2020-handbook-international-public-sector-accounting-pronouncements.

International Public Sector Fraud Forum. 'Guide to Understanding the Total Impact of Fraud', 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/866608/2377_The_Impact_of_Fraud_AW__4_.pdf.

Linden, Ariel. 'A Comparison of Approaches for Stratifying on the Propensity Score to Reduce Bias'. *Journal of Evaluation in Clinical Practice* 23, no. 4 (August 2017): 690–96. https://doi.org/10/f9k9gt.

McKinney, Wes. 'Data Structures for Statistical Computing in Python', 56–61. Austin, Texas,

2010. https://doi.org/10.25080/Majora-92bf1922-00a.

Mishan, E. J., and Euston Quah. *Cost-Benefit Analysis*. Routledge, 2020.

Naimi, Ashley I., Erica E.M. Moodie, Nathalie Auger, and Jay S. Kaufman. 'Constructing Inverse Probability Weights for Continuous Exposures: A Comparison of Methods'. *Epidemiology* 25, no. 2 (March 2014): 292–99. https://doi.org/10/f5t939.

OECD. *OECD Behavioural Insights Toolkit and Ethical Framework*. OECD, 2019. https://doi.org/10.1787/9ea76a8f-en.

Oireachtas na hÉireann. Social Welfare Act 1998, Pub. L. No. 6 (1998). http://www.acts.ie/en.act.1998.0006.1.html.

———. Social Welfare and Pensions Act 2007, Pub. L. No. 8 of 2007 (2007). http://www.irishstatutebook.ie/eli/2007/act/8/enacted/en/print.html.

———. Social Welfare and Pensions Act 2010, Pub. L. No. 37 of 2010 (2010). http://www.irishstatutebook.ie/eli/2010/act/37/enacted/en/html.

Pearl, Judea, Madelyn Glymour, and Nicholas P. Jewell. *Causal Inference in Statistics: A Primer*. Chichester, West Sussex, United Kingdom: Wiley, 2016.

Pedregosa, F., G. Varoquaux, A. Gramfort, V. Michel, B. Thirion, O. Grisel, M. Blondel, et al. 'Scikit-Learn: Machine Learning in Python'. *Journal of Machine Learning Research* 12 (2011): 2825–30.

Reback, Jeff, Wes McKinney, Jbrockmendel, Joris Van Den Bossche, Tom Augspurger, Phillip Cloud, Gfyoung, et al. *Pandas-Dev/Pandas: Pandas 1.2.1* (version v1.2.1). Zenodo, 2021. https://doi.org/10.5281/ZENODO.3509134.

Statistical Office of the European Communities, and European Commission, eds. *European System of Accounts: ESA 2010*. Collection: Manuals and Guidelines. Luxembourg: Publications Office of the European Union, 2013. https://doi.org/10.2785/16644.

Suzuki, Etsuji, Tomohiro Shinozaki, and Eiji Yamamoto. 'Causal Diagrams: Pitfalls and Tips'. *Journal of Epidemiology* 30, no. 4 (5 April 2020): 153–62. https://doi.org/10.2188/jea.JE20190192.

Tan-Torres Edejer, Tessa and World Health Organization, eds. *Making Choices in Health: WHO Guide to Cost-Effectiveness Analysis*. Geneva: World Health Organization, 2003.

'THE 17 GOALS | Sustainable Development'. Accessed 3 September 2021. https://sdgs.un.org/goals.

United Nations Legal Identity Expert Group, and Srdjan Mrkić. 'United Nations Strategy for Legal Identity for All', 2019. https://unstats.un.org/legal-identity-agenda/documents/UN-Strategy-for-LIA.pdf.

Van Rossum, Guido, and Fred L Drake Jr. *Python Reference Manual*. Centrum voor Wiskunde en Informatica Amsterdam, 1995.

W5 Powering customer experience. 'Customer Survey on the Public Services Card', March 2019. https://www.gov.ie/en/press-release/6d0ca6-in-depth-customer-survey-finds-strong-satisfaction-with-public-servi/.

Wilhelm, Florian. 'Causal Inference and Propensity Score Methods'. Florian Wilhelm, 15 April 2017. https://florianwilhelm.info/2017/04/causal_inference_propensity_score/.

World Bank. 'Principles on Identification for Sustainable Development : Toward the Digital Age'. Working Papers. Washington, D.C. : World Bank Group., 2021. http://documents.worldbank.org/curated/en/213581486378184357/Principles-on-identification-for-sustainable-development-toward-the-digital-age.