# The Economic Footprint of the Pension Protection Fund

March 2025

# Introduction

Frontier Economics has been commissioned by the Pension Protection Fund (PPF) to assess the economic footprint of their UK based equity and debt financing investments.

Led by Frontier's financial services team, our work demonstrates the economic reach of the PPF's investments, including the resulting footprint across the UK's industries, sectors and regions.

## THE PPF PROTECTS MILLIONS OF THE NATION'S DEFINED BENEFIT PENSIONS

The PPF takes on management of Defined Benefit pensions where the employer has become insolvent and there are insufficient funds in the scheme.

The PPF manages assets worth more than £30 billion on behalf of nearly 300,000 members. It invests in a wide range of areas of the UK and global economy.

## UK ECONOMIC FOOTPRINT OF THE PPF'S INVESTMENTS

In this analysis, we explore the economic impact of the PPF's investments in both equity and debt financing in the UK. The PPF's equity portfolio includes investments in companies, infrastructure, and real estate. The PPF's debt financing activity involves corporate lending, as well as UK Government lending through gilts.

Our analysis covers both the direct and indirect contributions of these investments. Direct contributions include their share of GDP, economic activity, employment creation, and government revenue generation. Indirectly, these investments enhance economic capacity and influence the broader economy by stimulating growth and innovation.

# Headline findings

The PPF manages assets worth more than £30bn on behalf of nearly 300,000 members.

As of March 2024, the PPF had £15.0bn (just below 50% of its total portfolio) invested in the UK.

The companies and assets that the PPF invests in make a significant contribution to the UK's economic output, employment and taxes.

The economic footprint of the PPF's UK investments is £38.8bn, or around **2% of the UK economy**. Over 70% of this footprint comes from the PPF's equity investments and almost 30% is supported by its corporate and Government lending.

The PPF's UK investments support **460,000 jobs** across the UK and contribute **£7.5bn in corporate and employee taxes**.

The economic **footprint is spread widely across the country** and makes up the largest share of the economy in regions including Wales (3.2%) Northern Ireland (3.1%) and the North East (3.1%).

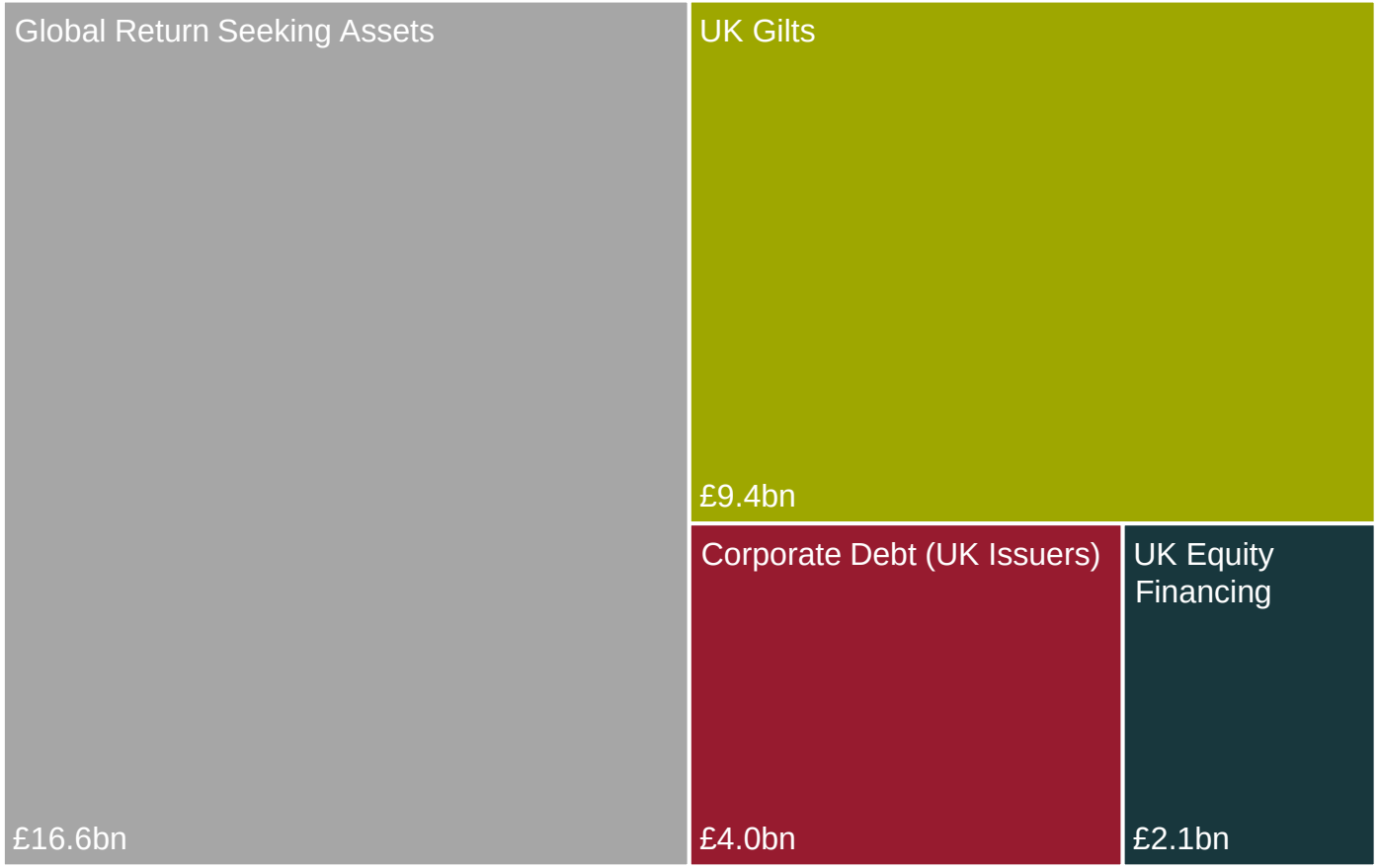
**Manufacturing and construction, infrastructure and public sector lending and investment comprise most of the PPF's footprint** (£28.7bn). Infrastructure investments include major projects such as Thames Tideway.

# The PPF's portfolio

The PPF supports the UK economy through both debt and equity-based finance. As of March 2024, the PPF had £15.5bn (just below 50% of its total portfolio) invested in the UK. The PPF has £2.1bn invested in equity-based finance and around £13.4bn invested in UK Government and UK corporate debt.

As well as the UK assets that we assess in this report the PPF has a global portfolio that allows it to diversify its risk.

## Breakdown of the PPF's investments



# Our approach

Although both equity and debt play productive roles in the economy, there is no debt without equity finance. Equity is exposed to the first loss. It acts as a buffer for debtholders, providing safety to invest. Equity plays a particularly essential role in any plan to boost economic growth.

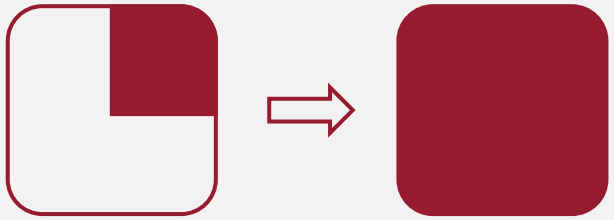
To estimate the impact of the PPF's economic footprint we use ONS multipliers, which show how a £1 increase in spending in an industry impacts the wider UK economy.

Further details of our methodology can be found in the annex.

## Methodology

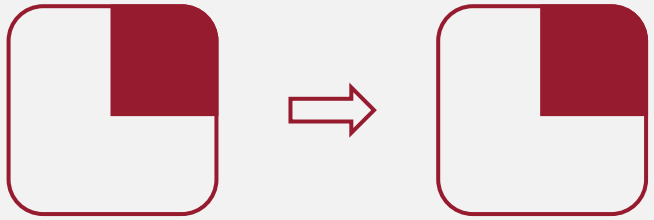
### Equity

We assess the total economic activity of companies and assets in which the PPF has equity investments.




### Debt

We assess only the direct economic activity supported by the financing, equal to the PPF's debt holdings.



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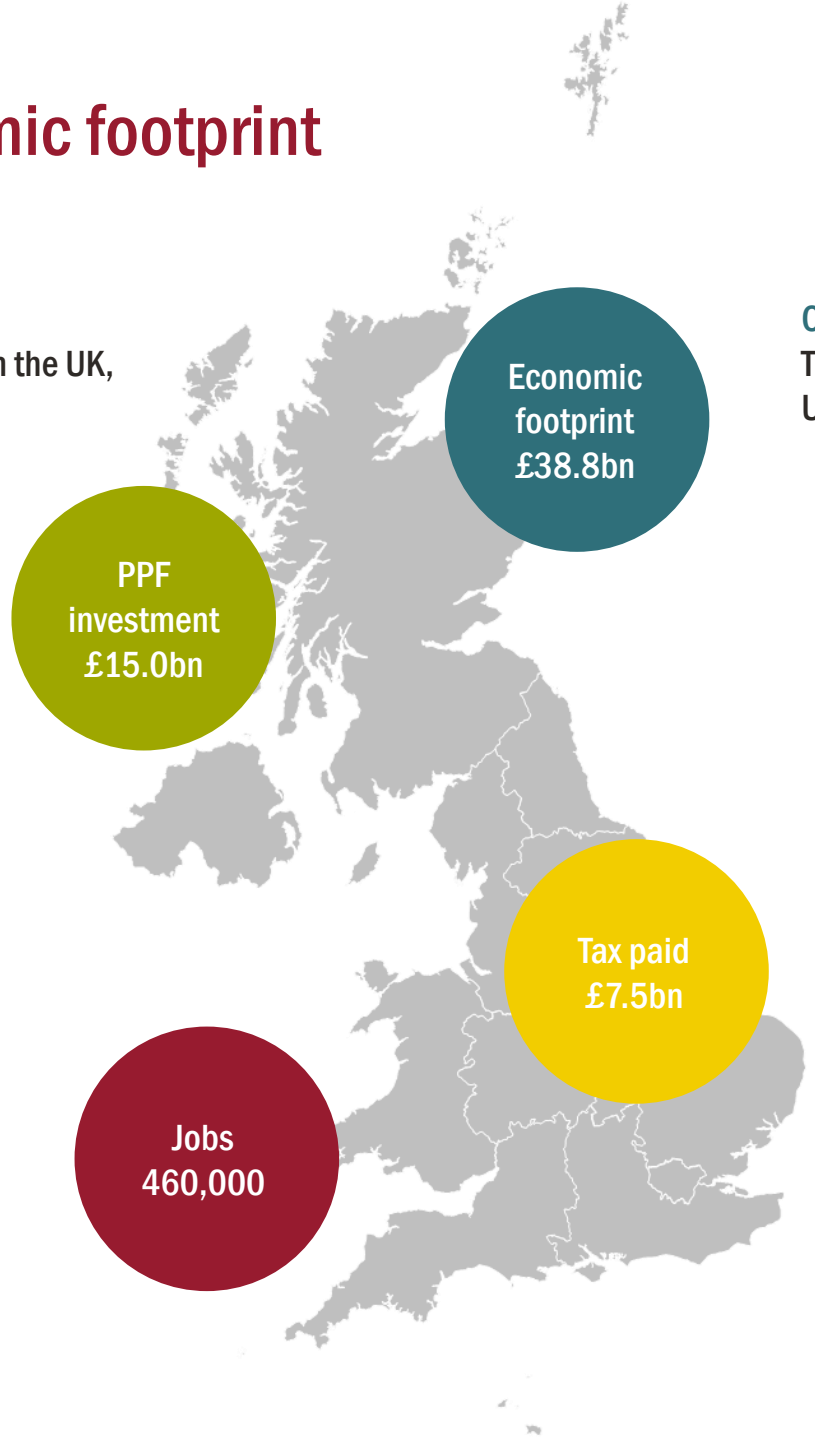
# The PPF's national economic footprint

### THE PPF'S INVESTMENT

As of March 2024, the PPF has £15.0bn invested in the UK, supporting economic activity.

### OUTPUT

The PPF's investments have a £38.8bn (2%) footprint in the UK's economy.




### EMPLOYMENT

The PPF's investments support 460,000 jobs.

### GOVERNMENT REVENUE

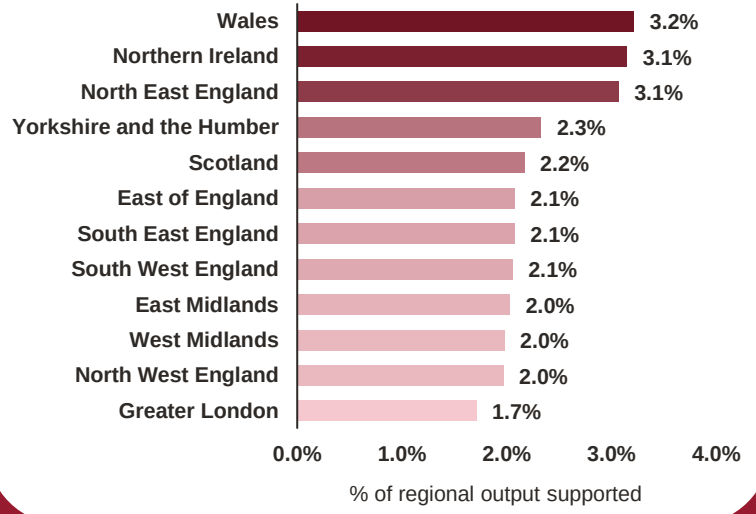
The PPF's investments and lending support £7.5bn per year in tax revenue to the UK government. This includes tax paid by companies and by employees.

# Regional footprint

The footprint of the PPF's investments is spread across the UK, contributing around 2% of output in each region.

The footprint is largest in regions outside of Greater London, particularly in Northern Ireland and Wales.

Proportion of regional economy supported by the PPF's investment portfolio




## Footprint of the PPF's investments across the UK

*Source: Frontier analysis of the PPF's portfolio*

**Scotland**
2.2% of the economy (£3.1bn)

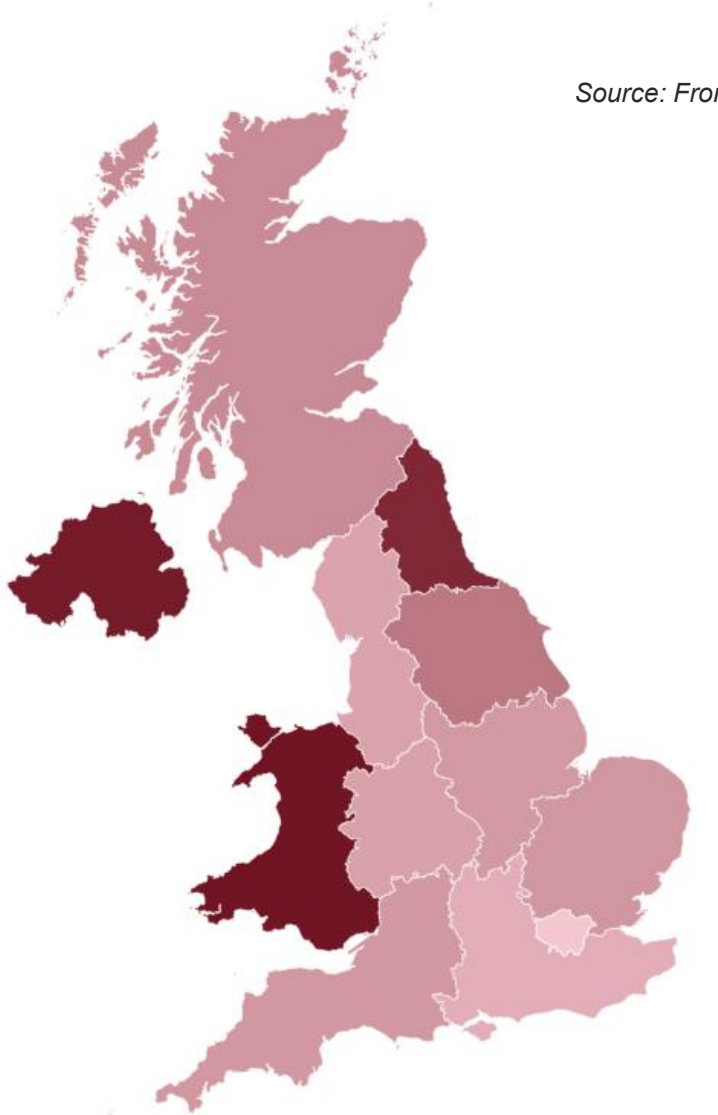
**Northern Ireland**
3.1% of the economy (£1.3bn)

**North West England**
2.0% of the economy (£3.6bn)

**West Midlands**
2.0% of the economy (£2.7bn)

**Wales**
3.2% of the economy (£2.1bn)

**South West England**
2.1% of the economy (£2.9bn)



**North East England**
3.1% of the economy (£1.6bn)

**Yorkshire and the Humber**
2.3% of the economy (£2.9bn)

**East Midlands**
2.0% of the economy (£2.2bn)

**East of England**
2.1% of the economy (£3.3bn)

**Greater London**
1.7% of the economy (£7.5bn)

**South East England**
1.9% of the economy (5.5bn)

Investments with a smaller share of the regional economy

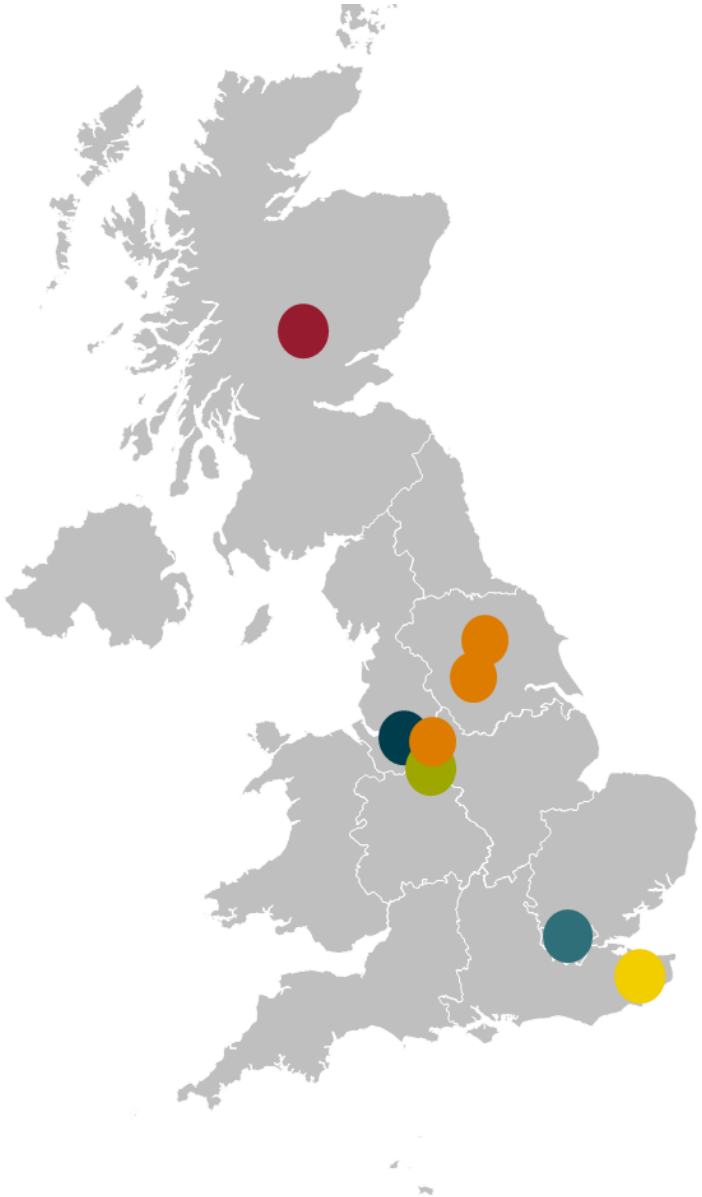
Investments with a larger share of the regional economy

# Examples of the PPF's local investments

### Scottish Reforestation
Ownership of over 21,000 hectares of sustainably managed forest, and an explicit strategy to acquire land to establish newly planted forests which act as a source of carbon sequestration.

### BES Group, Manchester
Carve out of the Engineering Inspection division of RSA Plc. Additional equity investment to support the growth of the business that today employs over 1,500 highly trained engineers.

### Thames Tideway, London
Funded construction of the new independent £4.5bn super sewer in London. It will intercept sewerage overflows in the ageing system and divert them away for treatment, significantly improving water quality.



### Solar120, Lancashire
Funded the construction of one of the most ambitious sustainable warehouses in the UK. The building is over 120k sq. ft in size, has a roof with 85% coverage of solar panels and qualifies as a zero-emission building.

### Riverside EfW, Kent
Waste plant which diverts non-recyclable waste from landfill and uses it to generate electricity. Funding expansion which will save up to 300k tonnes of CO2/year in comparison to landfill. Plans to install one of the first carbon capture projects in the UK.

### Harworth Group
A leading UK land and property regeneration company managing 14,000 acres across 100 sites in the North of England and the Midlands. The company employs over 100 employees and aims to deliver 800,000 square feet of industrial space and 2,000 residential plots annually.

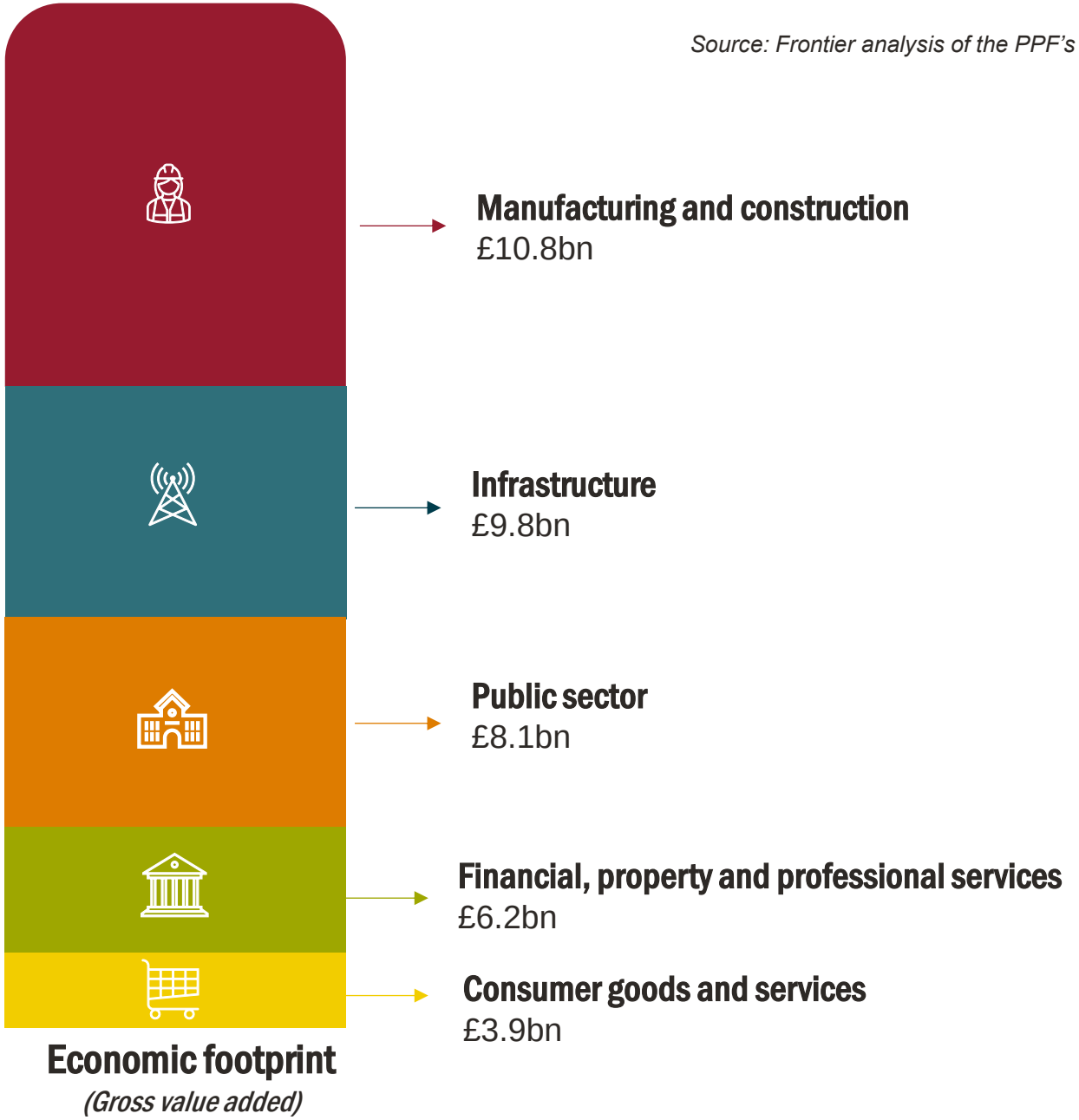
# Sectoral footprint

The economic footprint of the PPF's investments is wide-ranging across different sectors in the UK.

The footprint of the PPF's portfolio is particularly significant in manufacturing and construction, infrastructure and public sector.

The economic footprint is measured as gross value added (GVA). GVA is a standard measure of economic activity in a specific sector of the economy. The commonly used GDP is the sum of each sectors' GVA plus taxes and less subsidies.

*Source: Frontier analysis of the PPF's portfolio*

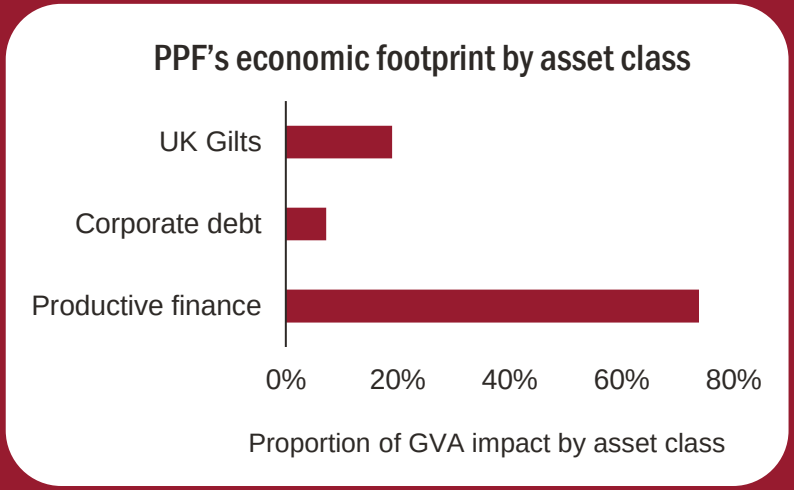


# Types of the PPF's investments

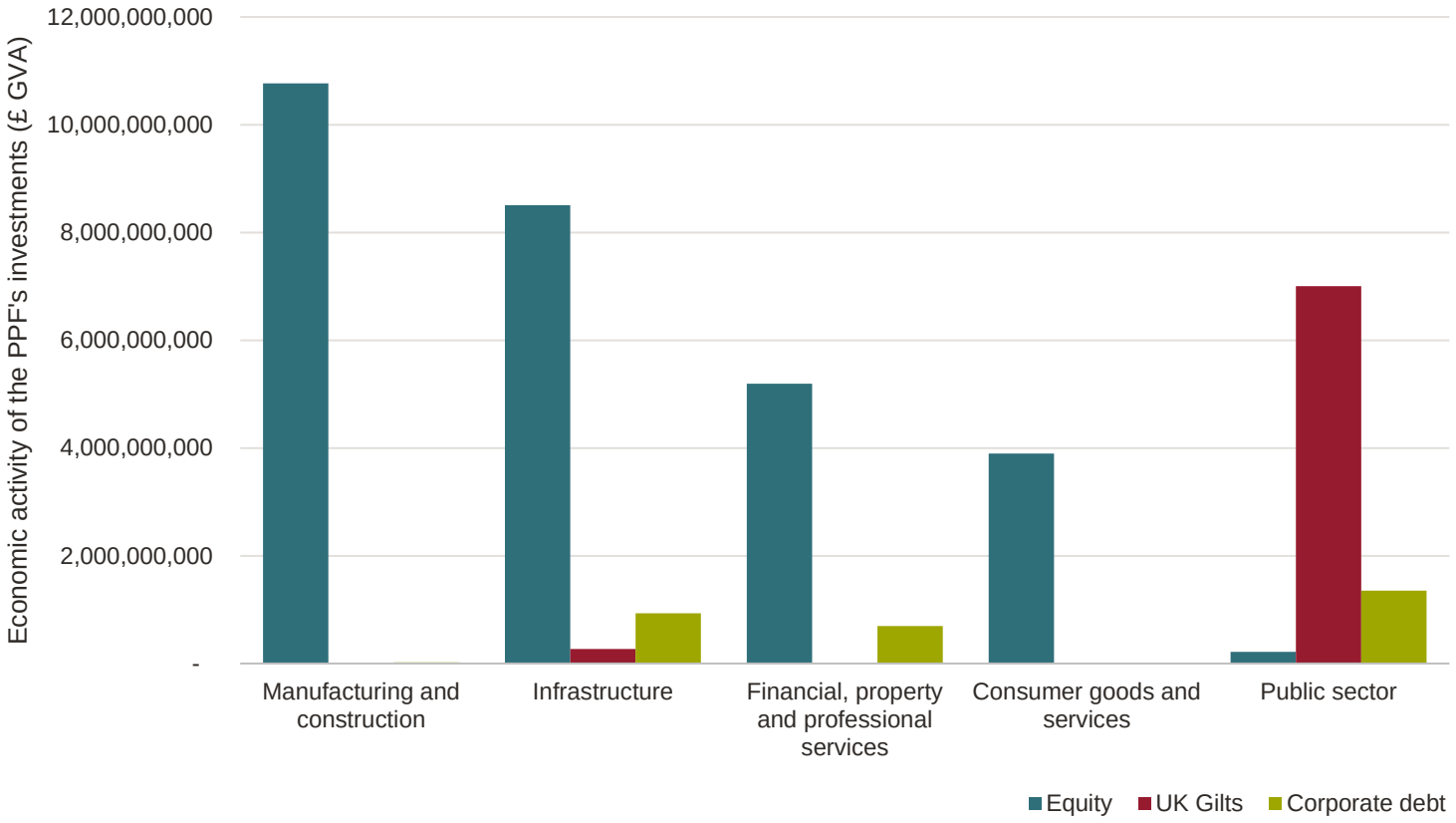
Over 70% of the PPF's economic footprint comes from its equity investments and almost 30% is supported by its corporate debt and Government lending.

The PPF's productive finance and debt financing portfolios span a range of industries. The PPF invests heavily in the UK's public sector, particularly through UK Gilt holdings.

In addition to its UK Gilt holdings, around 40% of the PPF's corporate debt portfolio supports public sector services.




## Economic footprint by asset class and sector




*Source: Frontier analysis of the PPF's portfolio*

*Note: The economic footprint of UK Gilt holdings is based on the components of UK Government spending (breakdown shown on page 38).*

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# University of Hertfordshire student housing

This 50-year PPP Project consists of the design, build, refurbishment, financing and operation of a 3,011 room, student residence.

The University of Hertfordshire's student housing, accommodating over 2,899 students, has been certified as Outstanding by BREEAM for its environmental credentials. The housing consumes 25.1% less electricity and 20% less water per bed space compared to the average consumption at other accommodation sites.

The University of Hertfordshire student housing project has over 50 employees and has an annual turnover of over £20m.

## Manufacturing & construction

# Panorama St Paul’s

Panorama St Paul's is a redevelopment project transforming the former BT headquarters near St Paul's Cathedral in London. This project will create 556,000 sq. ft of premium office space, featuring 45,000 sq. ft flexible floorspace and 50,000 sq. ft of building amenities.

By retaining and reusing 70% of the existing structure, the development is projected to save 282kg/CO2/sqm compared to a new build, equivalent to preserving approximately 120,000 trees.

Panorama St Paul’s employs around 500 people as it undergoes construction.

## Manufacturing & construction

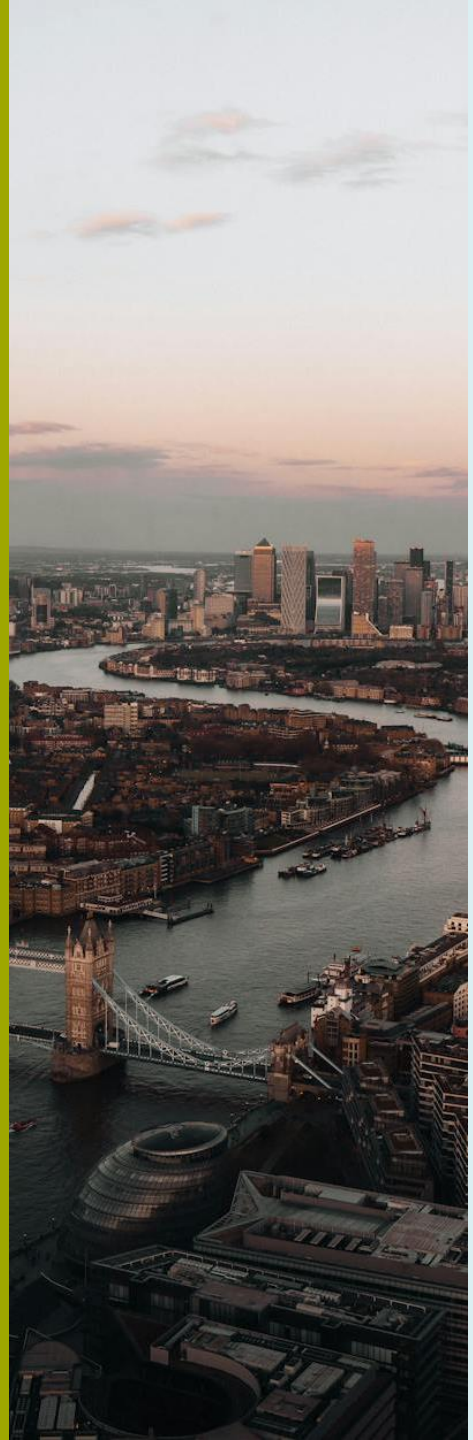
# Thames Tideway

The PPF is a shareholder in Thames Tideway, investing approximately £125 million in the company responsible for constructing a new super sewer beneath London. The PPF also provides debt financing to Thames Tideway.

The city is reliant on a Victorian sewerage system designed for a much smaller population, and due to years of underinvestment, raw, untreated sewage is regularly dumped into the River Thames.

Thames Tideway was formed as a new company to build a £4.5bn, 25km super sewer to intercept these sewage overflows, and pump them away for treatment. Construction is now largely complete and is now in testing ahead of operation in 2025.

## Infrastructure



# Thameslink

In 2020, the PPF acquired an equity stake in Cross London Trains (XLT), the UK's largest single train fleet. XLT, a rolling stock leasing company, operates 115 electric trains on the Thameslink rail franchise, which serves the critical North-South London commuter corridor. Carrying over 82 million passengers annually, XLT is a key transport infrastructure asset in London.

Thameslink, in operation since 1988, is part of a government-funded initiative aimed at reducing congestion in London and the South East.

The PPF’s investment is currently valued at £75m.

The PPF also provides debt financing to Thameslink.

## Infrastructure

# Cory Riverside

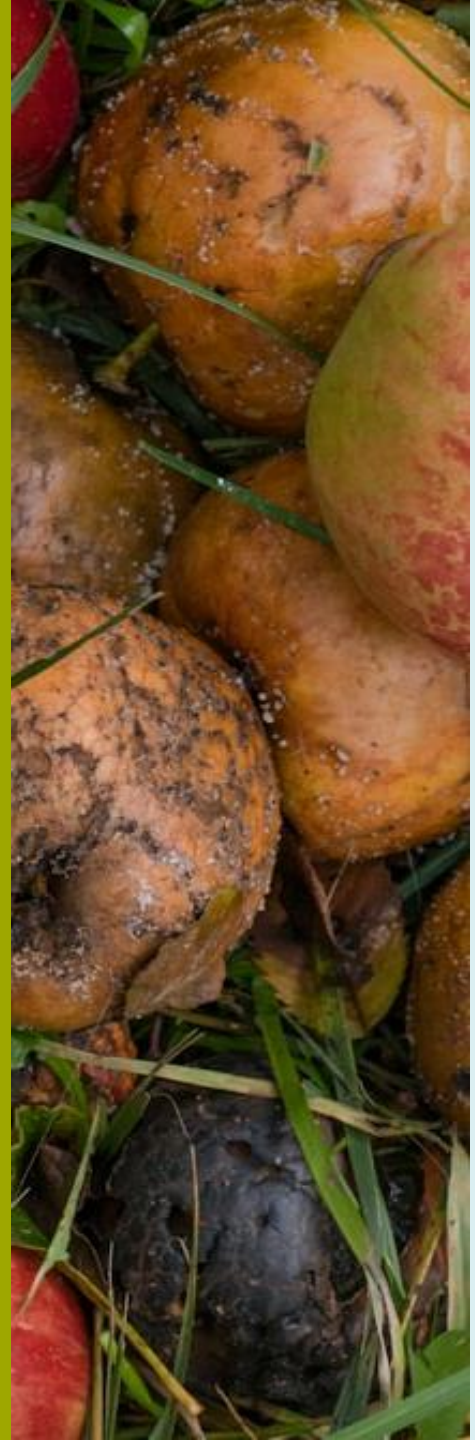
The PPF is one of the shareholders of the Riverside Energy from Waste (EfW) plant in Kent. The PPF also provides debt financing to Cory Riverside.

EfW forms an important part of the circular economy by diverting non-recyclable waste that would otherwise have gone to landfill, where it would release significantly more harmful greenhouse gases, and instead using it to generate electricity.

A £900m expansion project at the plant will bring capacity up to 1.5m tonnes of non-recyclable waste p.a. by 2026, saving up to 300,000 tonnes of $CO_2$ p.a. vs landfilling.

The plant is planning to be one of the first in the UK to invest in carbon capture and storage technology which will capture c.90% of emissions from the plant and has been designated by the UK Government as a Nationally Significant Infrastructure Project.

Infrastructure



# Edinburgh Airport

According to the Civil Aviation Authority, Edinburgh Airport is the busiest airport in Scotland, with over 14.4 million passengers passing through in 2023.

By 2030, the airport is planning for annual passenger numbers to grow by one third to 20 million.

Up until 2024, the PPF also held an equity stake in Edinburgh Airport.

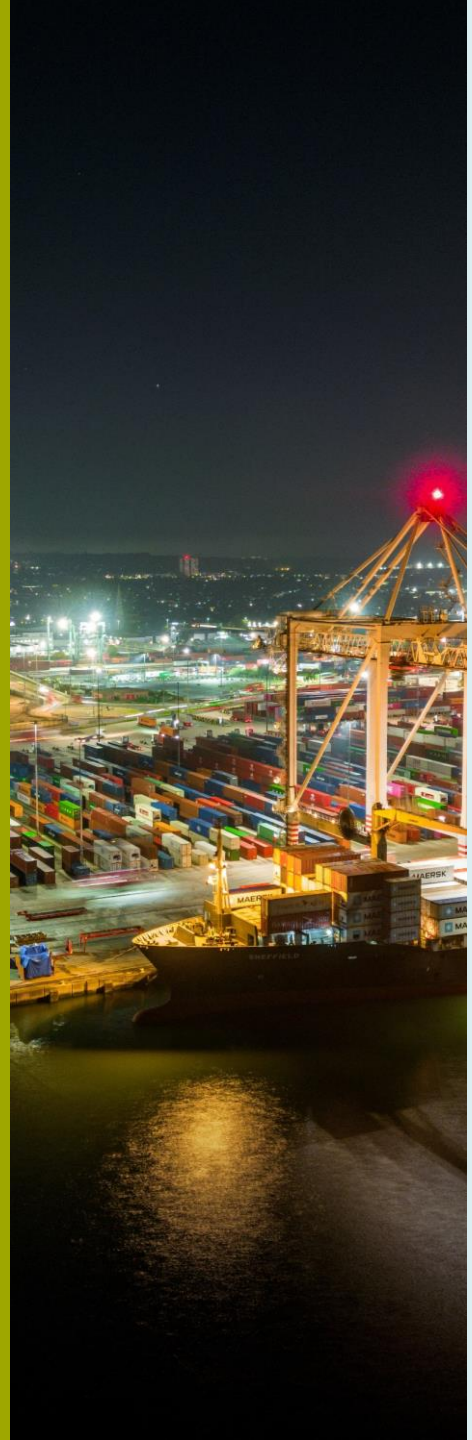
Infrastructure

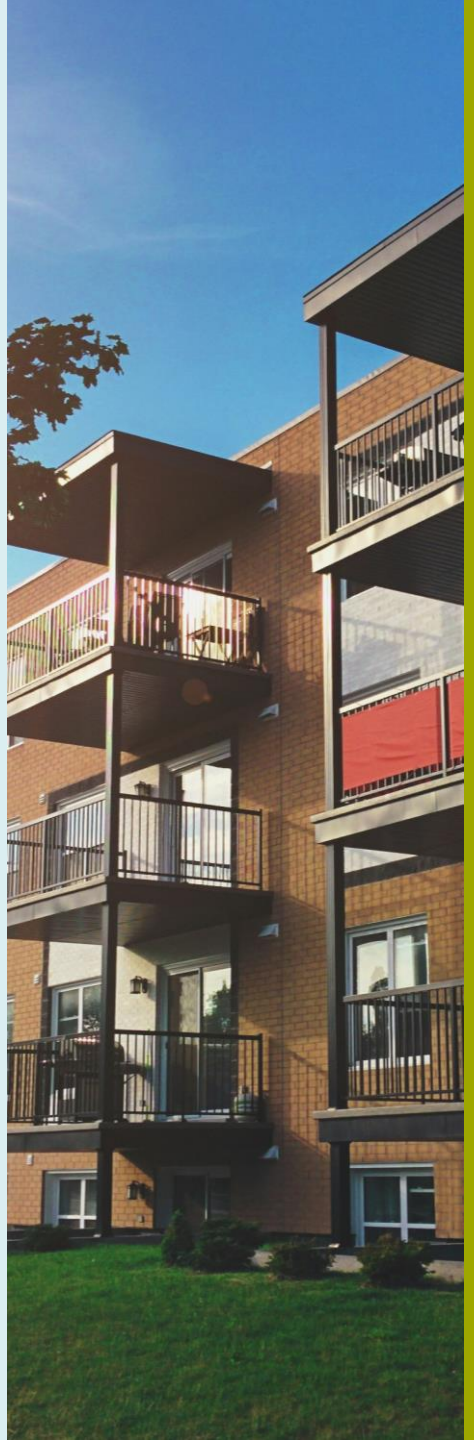
# Peel Ports

Peel Ports is the 2nd largest port company in the UK and handles around 15% of the UK's total port traffic, owning and/or operating 8 ports strategically located across Mersey, the South East and Scotland.

The PPF provides both debt and equity financing to Peel Ports. Most recently, it offered debt financing in 2024 as part of a wider refinancing package with a value of £375m.

**Infrastructure**





# WHP2

WHP2 is a partnership between four Welsh housing associations, set up to deliver high quality housing and affordable rents with support from the Welsh Government. The partnership comprises of Hendre, Pobl, Coastal Housing and Grwp Cynefin.

The PPF's investment was part of a broader £68m refinancing package.

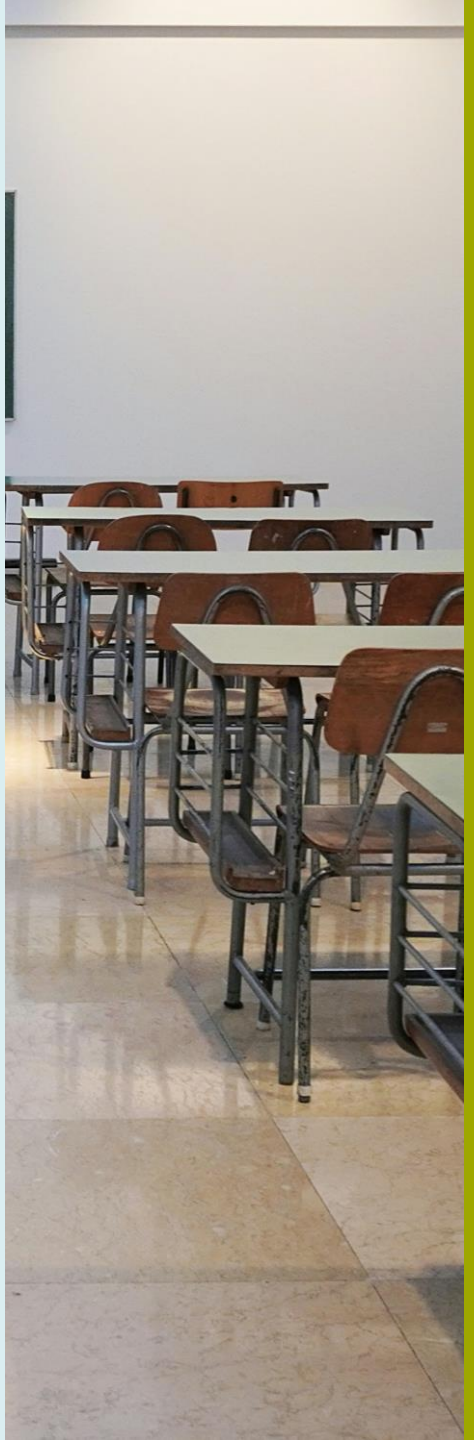
**Public sector**

# Monmouthshire social housing

The Monmouthshire Housing Association (MHA) was established in 2008 with the mission of providing and managing affordable homes for those who need them. Currently, MHA oversees approximately 3,600 homes, along with 270 leasehold properties, garages, and land within its estates.

In 2021, the PPF invested in refinancing MHA's debt aimed at supporting MHA's long-term objectives and bolstering its financial stability. This funding demonstrates the PPF's commitment to the UK social housing sector.

Public sector



# Welsh Education Partnership

The project is part of Wales' 21st Century Schools Programme, aimed at meeting the growing demand for education, enhancing teaching and learning environments, and developing highly energy-efficient schools with a focus on achieving Net Zero Carbon in both construction and operation.

Welsh Education Partnership (WEPCo) is a platform to efficiently plan, design, procure, build, finance and maintain schools and other community-based facilities in Wales.

Public sector

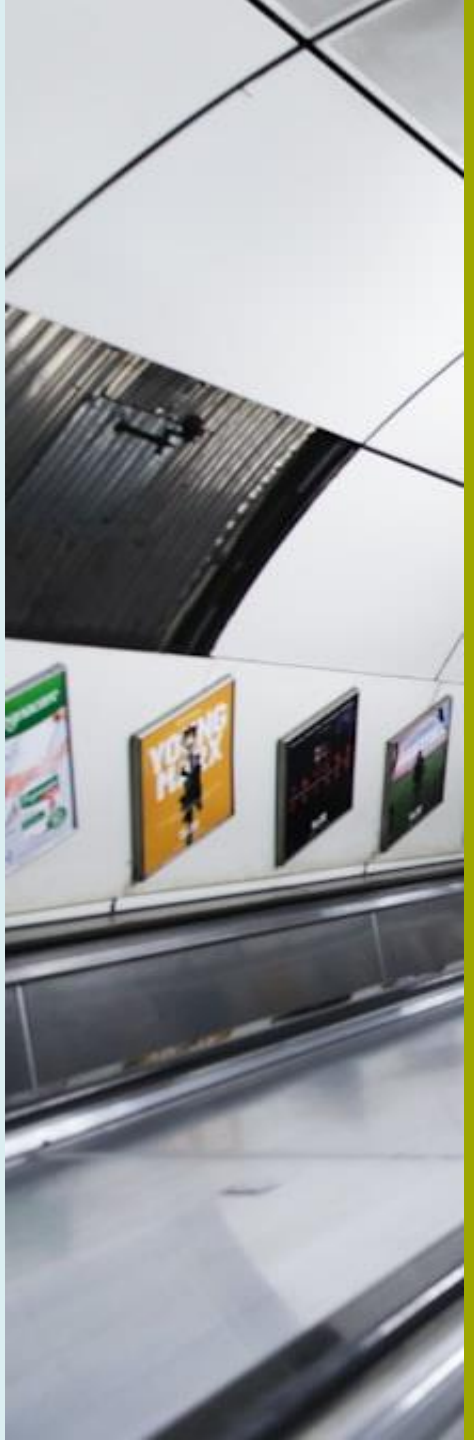
# Harworth Group

Based in Rotherham, and with offices in Birmingham, Leeds and Manchester, the Harworth Group is one of the leading land and property regeneration companies in the UK, owning and managing approximately 14,000 acres across 100 sites in the North of England and the Midlands.

The company creates long term value by developing sustainable places where people want to live and work, delivering thousands of new jobs and homes in the regions.

The PPF's has a 20% stake in the company. Its involvement began back in 2015, through an equity restructure, which resulted in the creation the Harworth Group. In the intervening years, the company has grown to over 100 employees and targets the delivery of 800,000sqft of industrial space and 2,000 residential plots per annum.

**Financial, property & professional services**



# Talon Outdoor

Talon is an independent global Out of Home (OOH) advertising agency, founded in 2012 in the UK.

OOH advertising refers to any advertisements that reaches consumers when they are outside their homes, encompassing a wide variety of formats such as billboards, transit ads, and place-based ads in public spaces.

Talon specialises in outdoor media planning, buying, and creativity, and has established itself as the largest independent OOH agency in the UK, holding over 30% of the market share.

Talon has an annual turnover of around £600m and employs over 300 people.

**Financial, property & professional services**

# Equistone Partners Europe fire and electrical safety services

Equistone acquired a majority stake in RGE Services, a provider of fire and electrical safety services.

RGE Services provides planned preventative maintenance, remedial and reactive fire and safety services in London, the Southeast and the East of England. RGE Services focuses primarily on the social housing market and serves over 90,000 residential properties for housing associations and local authorities.

RGE’s services are essential for fire safety and include installation, maintenance and certification of fire alarms, smoke control, sprinkler, gas suppression, and fire extinguishing systems, as well as electrical installation, inspection, and certification.

**Financial, property & professional services**

# GAIL’s Bakery

The PPF invested in GAIL’s Bakery in 2022. This investment supports a company that has been providing artisanal baked goods to communities since 2005. GAIL’s has over 100 retail bakeries in the UK.

GAIL's is committed to sustainability and social responsibility, sourcing 80% of its ingredients locally, actively reducing food waste by reusing ingredients, and donating over 90% of its edible surplus to local charities.

GAIL’s has over 2,000 employees and has an annual turnover of around £230m.

**Consumer goods & services**

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# The PPF's manufacturing and construction investments

PPF investment
£400m

Economic footprint
£10.8bn

Jobs
150,000

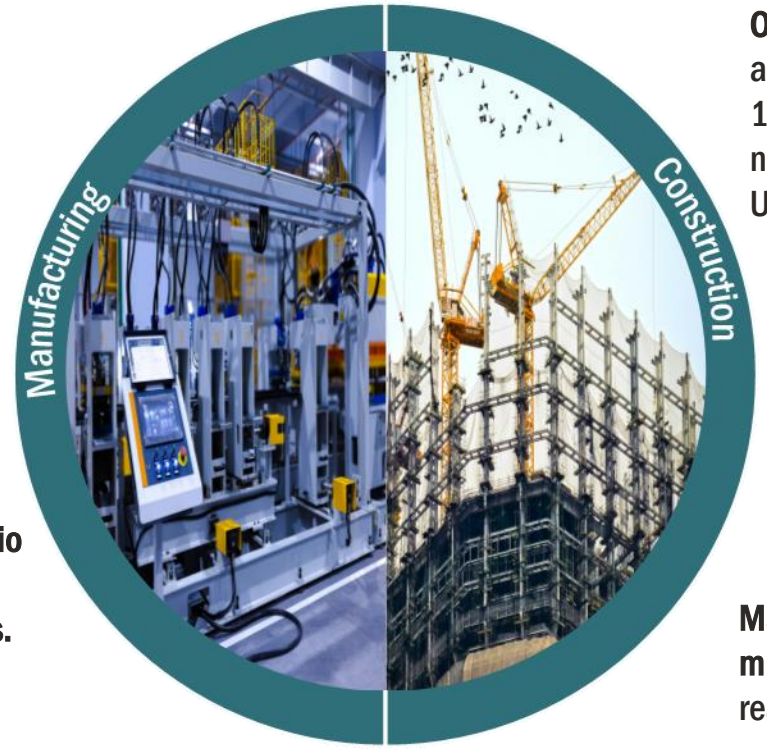
Tax paid
£900m

The PPF's construction and manufacturing investment supports 3.6% of these sectors' economic activity.

## Examples of the economic contribution made by the PPF's equity investments

**Owns 25.2 million square** feet of industrial space.

**Produces a portfolio of over 4 million industrial products.**




**Owns over 400 cranes,** amounting to around 10% of the estimated number of cranes in the UK

**Maintains over 30 million square feet** of real estate.

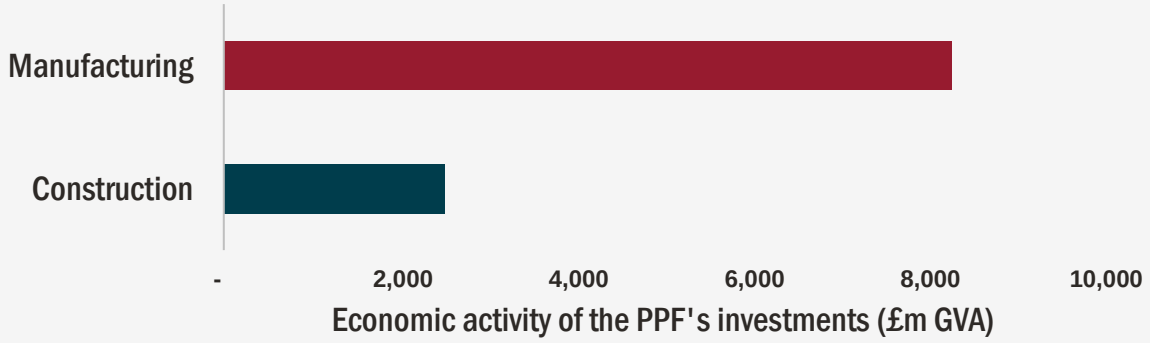
# Economic footprint of manufacturing and construction investments

The PPF has a range of manufacturing and construction investments in the UK.

The direct and indirect economic activity in manufacturing supported by the PPF amounts to £8.3bn. The PPF's investment in construction companies supports around £2.5bn in GVA.

The PPF's manufacturing and construction activities support around 150,000 jobs.

## Economic footprint




## Employment footprint

The PPF's investments in manufacturing and construction support 150,000 jobs

*Source: Frontier analysis of the PPF's portfolio*

# The PPF's infrastructure investments

PPF investment
£2.3bn

Economic footprint
£9.8bn

Jobs
80,000

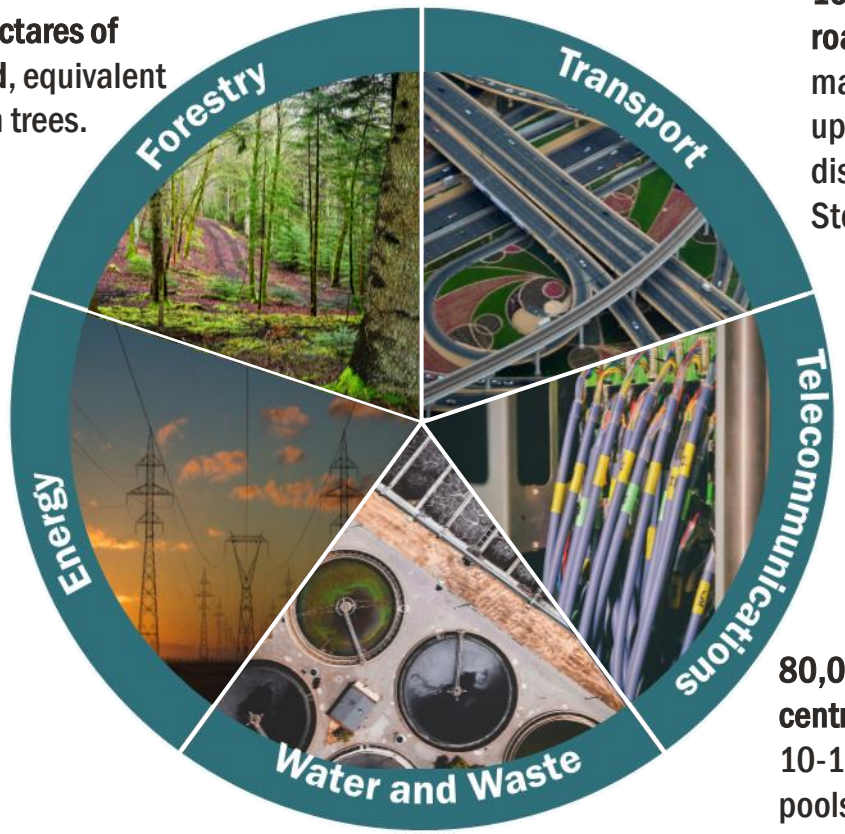
Tax paid
£4.4bn

The PPF's infrastructure investments supports 6.5% of this sectors' economic activity.

## Examples of the economic contribution made by the PPF's equity investments

**21 thousand hectares of forest preserved**, equivalent to over 2 million trees.

**109 kilometers of roads** owned, maintained or upgraded, which is the distance of London to Stonehenge.




**15 million homes to be powered**, equivalent to over 50% of UK households.

**80,000 square feet of data centre space**, or around 10-12 Olympic swimming pools.

**420 kilotons of waste processed**, or 33,600 waste trucks.

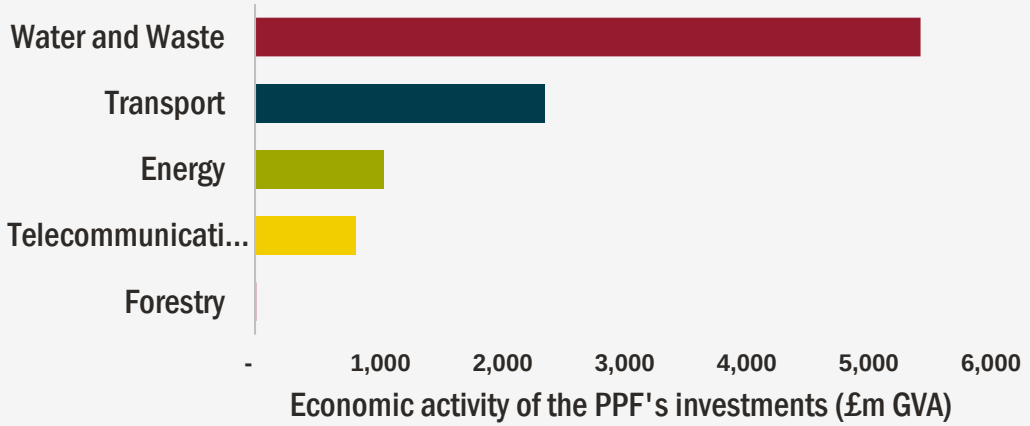
# Economic footprint of infrastructure investments

The PPF's investments provide a range of infrastructure to the UK.

The direct and indirect economic activity in infrastructure supported by the PPF amounts to £9.8bn, representing approximately 6.5% of the industry.

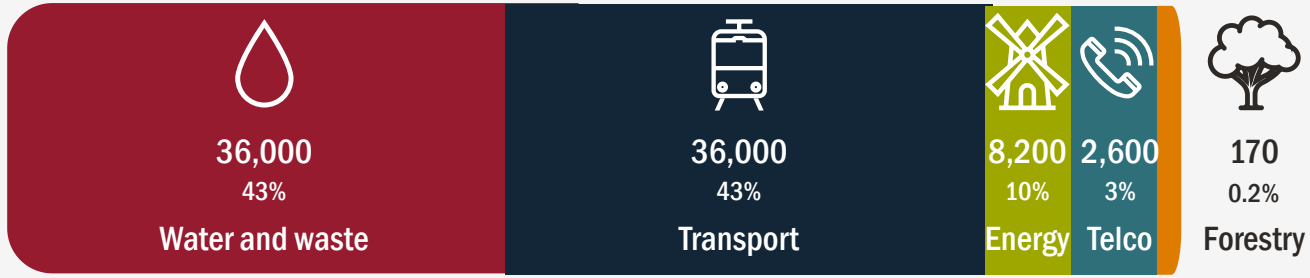
The PPF's infrastructure activities support over 80,000 jobs.

## Economic footprint




## Employment footprint

The PPF's investments in infrastructure support 80,000 jobs




*Source: Frontier analysis of the PPF's portfolio*

# The PPF's public sector investments

PPF investment
£10.1bn

Economic footprint
£8.1bn

Jobs
120,000

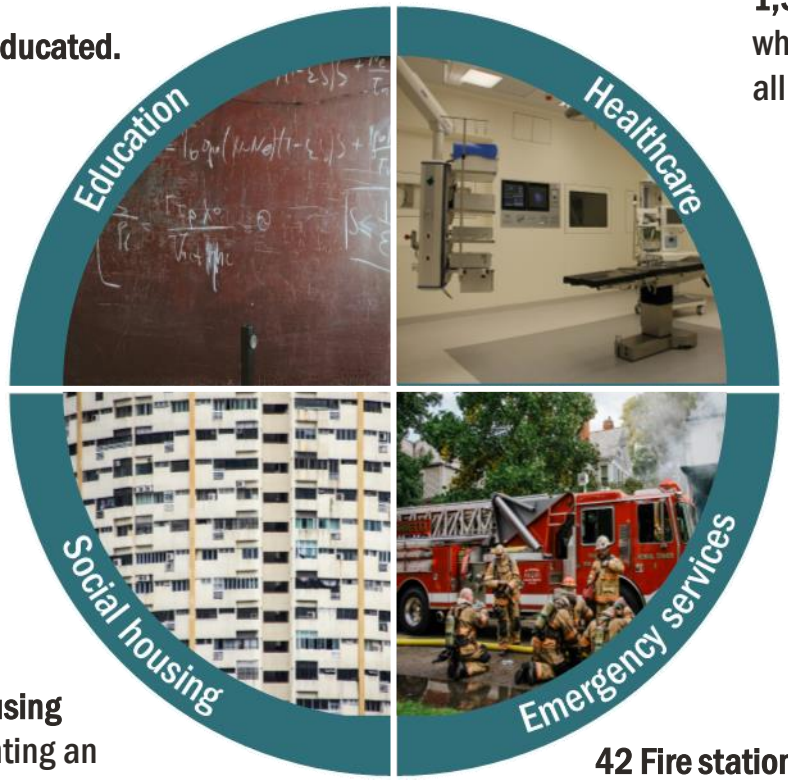
Tax paid
£1.5bn

PPF's infrastructure investment supports 2.7% of this sector's economic activity.

## Examples of the economic contribution made by the PPF's equity investments

**56,000 students educated.**

**1,500 hospital beds**, which is about 1% of all NHS hospital beds.




**250 social housing units**, representing an investment of £230 million.

**42 Fire stations**, including all fire stations in Cornwall and one-third of the fire stations in Stoke and Staffordshire.

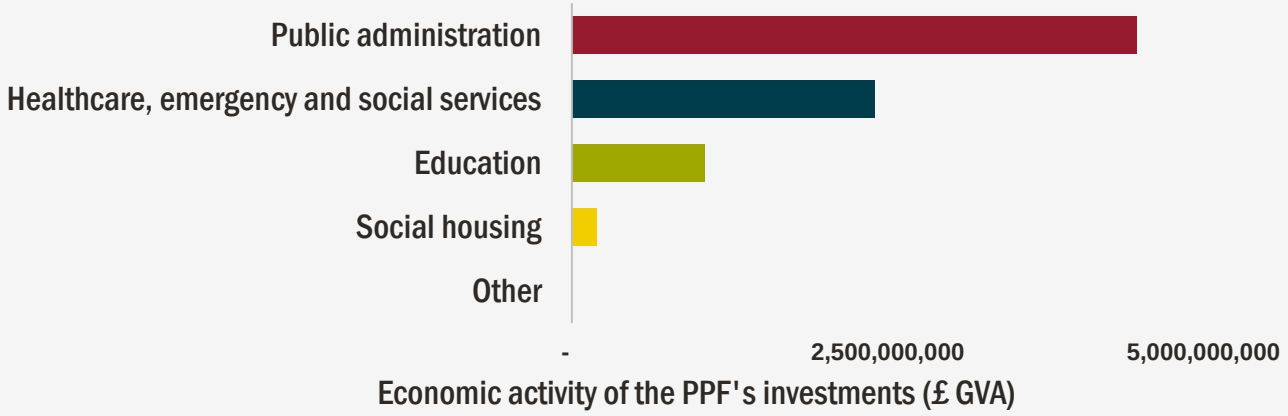
# Economic footprint of public service investments

The PPF's investments support a range of public services in the UK.

The direct and indirect economic activity in public administration supported by the PPF amounts to £4.7bn. The PPF's investments support a further £2.4bn of direct and indirect economic output in the healthcare, emergency and social services sectors.

The PPF's public sector activities support over 120,000 jobs.

## Economic footprint




## Employment footprint

The PPF's investments in the public sector support 120,000 jobs

*Source: Frontier analysis of the PPF's portfolio*

# The PPF's financial, property and professional services investments

PPF investment
£1.9bn

Economic footprint
£6.2bn

Jobs
50,000

Tax paid
£360m

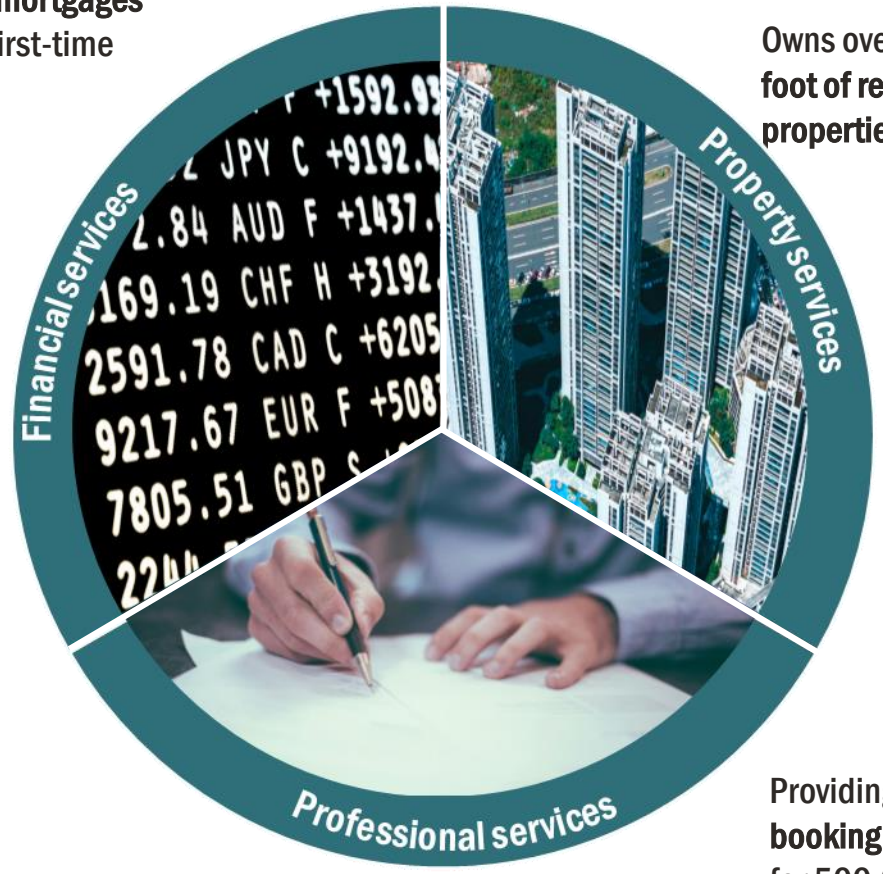
The PPF's financial, property and professional services investment supports 1.1% of these sectors' economic activity.

## Examples of the economic contribution made by the PPF's equity investments

Providing **mortgages** to 3,200 first-time buyers.

Owns over **9 million square foot of residential properties.**

Providing **financial education and advice** to thousands of employees.




Providing **automated online booking and rental management** for 500,000 rental vehicles to 230 UK companies.

Collecting, cleaning and **distributing over 4.5 million business records.**

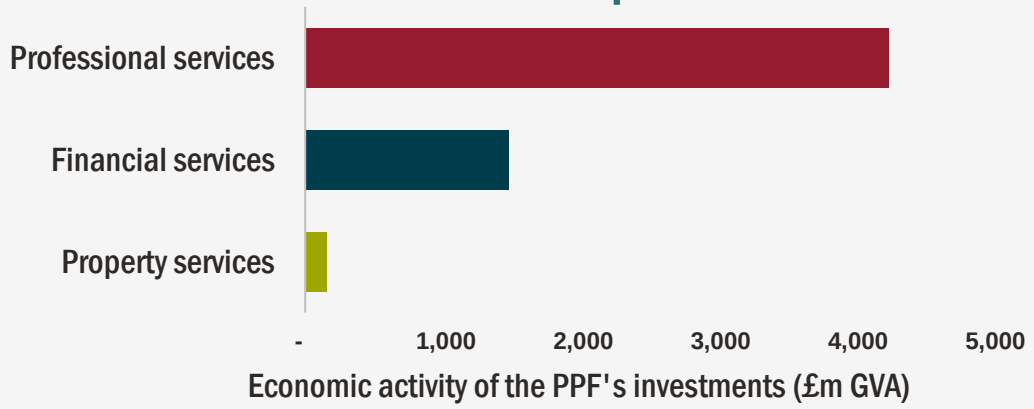
# Economic footprint of financial, property and professional services investments

The PPF's investments provide a range of financial, professional and property services.

The economic activity in professional services supported by the PPF's investments amounts to £4.2bn. The PPF's investments support a further £1.7bn of direct and indirect economic output in the financial services sector.

The PPF's financial, property and professional services investments support almost 50,000 jobs.

## Economic footprint




## Employment footprint

The PPF's investments in financial, property and professional services support 50,000 jobs

*Source: Frontier analysis of the PPF's portfolio*

# The PPF's consumer goods and services investments

PPF investment
£280m

Economic footprint
£3.9bn

Jobs
65,000

Tax paid
£350m

The PPF's consumer goods and services investment supports 2.0% of these sectors' economic activity.

## Examples of the economic contribution made by the equity PPF's investments

Leases, manages or operates a portfolio of over **4,000 pubs.**

Owns **210,000 square foot of warehouses.**

Owns **1,650 hotel rooms.**

Owns **4.8 million square foot of retail space.**

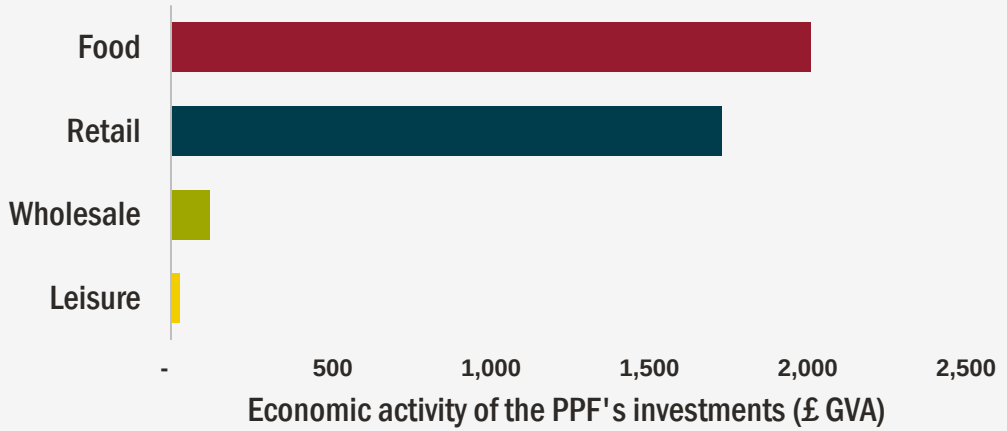
# Economic footprint of consumer goods and services investments

The PPF has a range of consumer goods and services investments in the UK.

The direct and indirect economic activity in consumer goods and services supported by the PPF amounts to £3.9bn, representing approximately 2.0% of the industry.

The PPF's consumer goods and services investments support over 65,000 jobs.

## Economic footprint




## Employment footprint

The PPF's investments in consumer goods and services support 65,000 jobs

*Source: Frontier analysis of the PPF's portfolio*

# Contents

1. Overview

2. Case studies

3. Sectoral breakdown

4. Methodology

# Methodology

Input-Output analysis is used to estimate the economic footprint of PPF's investment portfolio, assessing the portfolio's direct and indirect impacts on:

- Output (GVA),
- Employment (FTE), and
- Taxation.

## Definitions

- **Gross Value Added (GVA):** The value generated by a company or sector, calculated as output minus non-labour input costs, representing its contribution to the economy.
- **Direct GVA impact**: The GVA generated directly by companies in PPF's Productive Finance portfolio through their own operations.
- **Indirect GVA impact:** The GVA generated in the supply chains of PPF's portfolio companies.
- **Full time equivalent (FTE):** is a unit that represents the workload of an employed person in a way that makes workloads comparable across various contexts. One FTE is equivalent to one full-time worker, typically working 40 hours per week.

## Inputs

- Company level data provided by fund managers reflecting the PPF's portfolio as of March 2024;
- Standard Industrial Classification (SIC) lookup tables;
- ONS Input-Output tables with sector-specific effects and multipliers; and
- GDP deflators

## Assumptions

- Where available we use data specific to each asset provided portfolio managers. Where there is missing data on the regional distribution of revenue and employment, we apply ONS industry/regional averages. In particular:
  - **Employment:** estimated using the industry-specific ratio of GVA to employment.
  - **Regional**: we assume that the regional distribution of revenue and employment for each asset mirrors the industry averages.

# Estimating the PPF's equity footprint for all non-real estate assets

## 1. CATEGORIZATION

- Categorize assets' revenues by economic sector and UK region.
- Match SIC codes to Input-Output table industries.

## 2. DIRECT GVA

- Calculate direct GVA impact by multiplying assets' revenues (or expenditure) by corresponding GVA-to-output ratios and sum across sectors.

***Direct GVA = Revenues x GVA-to-output ratio***

## 3. INDIRECT GVA

- Calculate indirect GVA impact by multiplying each sector's direct GVA by its Type I multiplier minus 1 (to remove double-counting of direct effect).

***Indirect GVA = Direct GVA x (Type I multiplier - 1)***

## 4. FOOTPRINT

- Sum up direct and indirect GVA impacts to estimate total and sectoral impact.

**Annual revenues are used to estimate GVA when appropriate**. However, for pre-revenue companies or infrastructure assets where daily operations are separate from asset ownership (e.g., when the asset is operated by a different entity than the owner), the estimation is based on annual expenditure. In such cases, expenditure better reflects the asset's economic impact.

# Estimating PPF's equity portfolio on UK employment and taxation for non-real estate assets

## EMPLOYMENT

- Employment multipliers are used to estimate the total number of jobs created or supported in the economy as a result of the PPF's investments. These multipliers account for two types of employment effects:
  - **Direct employment**: Jobs directly created or supported by investments in the portfolio
  - **Indirect employment**: Jobs created or supported in the supply chain because of the investments' activities
- Industry-specific employment multipliers are sourced from Input-Output tables.
- The total employment impact is calculated by summing the direct and indirect employment effects.
- Where FTE is missing, we calculate the average industry employment/GVA ratio and estimate using GVA.
- We then adjust for inflation using ONS GDP deflators.

## COMPENSATION

- Compensation multipliers are used to estimate the aggregate wages supported in the economy because of the PPF's investments.

## TAXATION

- The taxation impact is estimated by aggregating the taxes paid by each asset within the Productive Finance portfolio.
  - Tax paid by companies: The ONS publishes taxation multipliers, which we use to estimate tax paid by companies
  - Income tax paid by employees: we estimate national insurance and tax contributions using industry average pay.

# Estimating the PPF's equity asset's footprint for all real estate assets

**To analyse the economic impact of the PPF's real estate assets, we estimate the economic activity of each property using CBRE estimates and ONS multipliers. The steps are outlined below:**

## ECONOMIC ACTIVITY

CBRE has provided us with estimates to determine the relationship between a property's square footage and key financial metrics: capital expenditure (CapEx), operational expenditure (OpEx), and Full-Time Equivalent (FTE) employees.

This estimation is provided for different property types, including residential, hotel, office, retail, and industrial properties.

## PROPERTY SERVICES FOOTPRINT

We estimate the property services footprint of the PPF by multiplying each asset's estimated OpEx by the relevant multipliers for "Buying and selling, renting and operating of own or leased real estate, excluding imputed rent".

## CONSTRUCTION FOOTPRINT

We estimate the construction footprint of the PPF's real estate portfolio by multiplying each asset's estimated capital expenditure by the relevant construction multipliers.

## SECTOR FOOTPRINT

We estimate the economic footprint of the tenants of the real estate portfolio by applying industry-level ratios that correlate expenditure to the number of workers. These figures are then adjusted using the appropriate multipliers to reflect the broader economic impact.

# Regional Analysis: Estimating the regional impact of the portfolio

01 → 02 → 03

## DETERMINE REGIONAL REVENUES

- Use asset-specific regional revenue data where available.
- If not available, estimate regional revenue by applying national revenue weighted by regional GVA distribution.

## ESTIMATE REGIONAL GVA FOR EACH ASSET

- Multiply regional revenues by sectoral effects:
  - Direct GVA = regional revenues x GVA-per-output
  - Indirect GVA = Direct regional GVA x (Type I multiplier - 1)
  - Total GVA = regional Revenues x Type 1 effect

## CALCULATE REGIONAL IMPACT

- Sum PPF GVA for each region.
- Provide PPF's GVA as a percentage of total regional GVA.

*Employment follows the same approach using FTE data and employment multipliers*

# Estimating the economic impact of the PPF's corporate debt financing portfolio

**To estimate the economic impact of the PPF's debt financing portfolio, we use a similar process for the equity portfolio, but only consider the expenditure enabled by the PFF's debt financing, not the total economic footprint of the asset. These steps are set out below:**

## 1. CATEGORIZATION

- Categorize company by economic sector and UK region.
- Match SIC codes to Input-Output table industries.

## 2. DIRECT GVA

- Calculate direct GVA impact by multiplying the amount of PPF's direct finance by corresponding GVA-to-output ratios. Sum across sectors.

***Direct GVA = PPF's debt finance x GVA-to-output ratio***

## 3. INDIRECT GVA

- Calculate indirect GVA impact by multiplying each sector's direct GVA by its Type I multiplier minus 1 (to remove double-counting of direct effect).

***Indirect GVA = Direct GVA x (Type I multiplier - 1)***

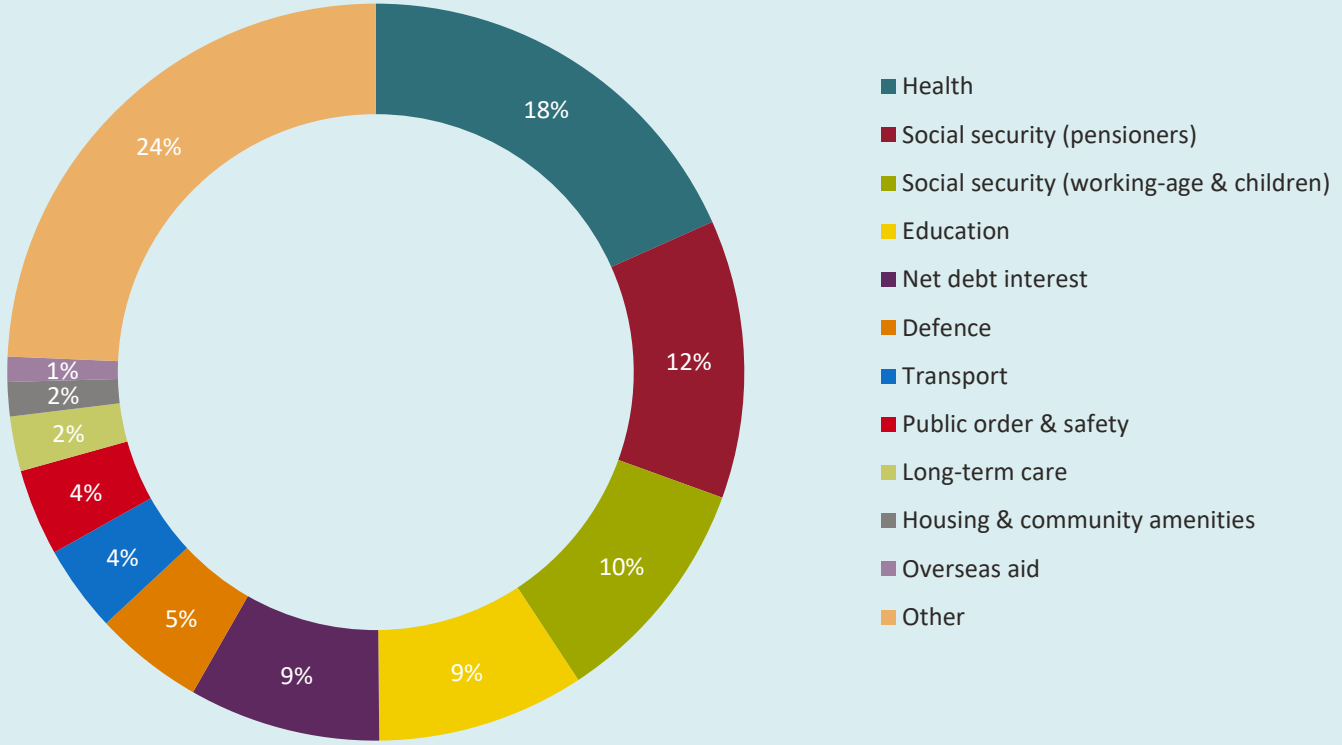
## 4. FOOTPRINT

- Sum up direct and indirect GVA impacts to estimate total and sectoral impact.

# Estimating the economic impact of the PPF's UK Gilt holdings portfolio

## Components of UK government spending in 2022–23

Total managed expenditure: £1,155 billion




*Source: IFS Data available at: https://ifs.org.uk/taxlab/taxlab-key-questions/what-does-government-spend-money*

**To estimate the impact of the PPF's UK gilt holding we follow a similar approach to corporate debt. We use the Institute of Fiscal Studies' estimates of Government spending composition for 2023 to distribute spending between relevant SIC codes. We assume that net debt interest and foreign aid have a multiplier of 0.**

# Appendix: Breakdown of the PPF's investment and economic footprint by asset class and sector

| | | Total | | Equity | | UK Guilts | | Corporate debt | |
|---|---|---|---|---|---|---|---|---|---|
| Sector | Sub-sector | Aggregate investment | Aggregate GVA impact | Aggregate investment | Aggregate GVA impact | Aggregate investment | Aggregate GVA impact | Aggregate investment | Aggregate GVA impact |
| Manufacturing and construction | Construction | 58,292,189 | 2,507,880,001 | 57,245,036 | 2,506,997,246 | - | - | 1,047,154 | 882,755 |
| | Manufacturing | 337,986,995 | 8,271,632,446 | 327,837,400 | 8,263,454,959 | - | - | 10,149,595 | 8,177,487 |
| Infrastructure | Telecommunications | 119,823,912 | 825,078,284 | 73,405,820 | 785,163,371 | - | - | 46,418,092 | 39,914,913 |
| | Forestry | 19,269,803 | 9,117,267 | 19,269,803 | 9,117,267 | - | - | - | - |
| | Water and Waste | 485,152,792 | 5,402,226,294 | 247,025,663 | 5,209,267,892 | - | - | 238,127,129 | 192,958,402 |
| | Transport | 1,114,687,278 | 2,514,459,587 | 196,301,399 | 1,836,669,820 | 357,200,000 | 269,299,361 | 561,185,878 | 408,490,406 |
| | Energy | 604,526,509 | 1,062,029,603 | 105,797,788 | 668,041,937 | - | - | 498,728,721 | 393,987,665 |
| Financial, property and professional | Professional services | 455,460,063 | 4,245,612,214 | 455,460,063 | 4,245,612,214 | - | - | - | - |
| | Property services | 269,805,369 | 254,482,684 | 101,771,443 | 96,962,102 | - | - | 168,033,926 | 157,520,582 |
| | Financial services | 1,170,382,376 | 1,718,602,797 | 140,682,581 | 850,057,824 | - | - | 1,029,699,795 | 868,544,972 |
| Consumer goods and services | Leisure | 35,601,758 | 27,780,075 | 35,201,825 | 27,473,949 | - | - | 399,933 | 306,126 |
| | Wholesale | 19,907,727 | 123,121,482 | 19,907,727 | 123,121,482 | - | - | - | - |
| | Retail | 213,603,263 | 1,739,730,726 | 197,647,112 | 1,725,539,230 | - | - | 15,956,152 | 14,191,496 |
| | Food | 13,197,022 | 2,019,835,060 | 13,197,022 | 2,019,835,060 | - | - | - | - |
| Public sector | Other | 902,400,000 | - | - | - | 902,400,000 | - | - | - |
| | Social housing | 226,632,660 | 196,680,596 | 5,235,484 | 6,715,362 | 141,000,000 | 120,982,112 | 80,397,176 | 68,983,122 |
| | Education | 1,095,053,269 | 1,051,436,188 | 15,639,259 | 51,681,872 | 855,400,000 | 792,272,320 | 224,014,009 | 207,481,995 |
| | Healthcare, emergency and social services | 2,695,794,378 | 2,394,293,378 | 40,190,899 | 158,761,148 | 1,945,800,000 | 1,623,061,594 | 709,803,480 | 612,470,635 |
| | Public administration | 5,198,200,000 | 4,471,199,433 | - | - | 5,198,200,000 | 4,471,199,433 | - | - |
| **Total** | **Total** | **15,035,777,365** | **38,835,198,114** | **2,051,816,323** | **28,584,472,736** | **9,400,000,000** | **7,276,814,820** | **3,583,961,042** | **2,973,910,558** |

*Source: Frontier analysis of the PPF's portfolio*

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