



Summary of main figures

The United Kingdom as a sandbox for state-directed investment

Major increase in ‘shadow debt’, and in the ‘shadow taxation’ required to service that debt

By

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Introduction

This paper contains the main figures in our report published in October 2025 for the Institute for Research in Economic and Fiscal Issues entitled 'The United Kingdom as a sandbox for state-directed investment: major increase in 'shadow debt', and in the 'shadow taxation' required to service that debt'.

The report extracted the individual expenditures of money given in the government's papers, for the period 2025-35, and on its Industrial Strategy, its Infrastructure Strategy, and on Net Zero/Clean Power.

The expenditures total £1.64 trillion, after the elimination of duplication. The expenditures will be 100% funded with debt, £270 billion of that debt being borrowed at the government level within its 'capital envelope' as 'borrowing for investment'.

The servicing and repayment of the debt are calculated on the assumption that 1/10th of the amount is spent each year. Where feasible, the debt is borrowed under a refreshed version of Private Finance Initiative (PFI), which requires no allocation from the £270 billion of 'borrowing for investment'. Where usage of PFI is not feasible, a different and more expensive funding model must be used, for which the £270 billion of 'borrowing for investment' is required to 'prime the pump'.

The financing period under each funding model is 20 years. The lifetime of the programme is therefore 30 years, as the final 1/10th will only be taken up in 2035.

£1.64 trillion is spent, and added to the UK's debt burden, but as 'shadow debt', since statistically it will all fall outside the government's preferred measure for the national debt, which is 'Public sector net liabilities'.

Whilst the £270 billion of 'borrowing for investment' would appear in 'Public sector net debt', the balance of £1.37 trillion will not feature in any measure of the national debt.

The lifetime cost of servicing and repaying this 'shadow debt' comes out as £6.7 trillion – 234% of the UK's 2024 Gross Domestic Product. This cost is the 'shadow taxation' that must be imposed on UK businesses and individuals, over and above the visible taxation imposed on them.

Total expenditure

Item	Amount to 2030	Amount 2030-35	Amount to 2035
Industrial Strategy only	£192.0bn	£205.0bn	£397.0bn
Infrastructure Strategy without Clean Power/Carbon Budget	£333.8bn	£263.9bn	£597.7bn
Infrastructure for Clean Power/Carbon Budget	£239.6bn	£407.0bn	£646.6bn
Total	£765.4bn	£875.9bn	£1,641.3bn

Industrial Strategy elements eligible for Private Finance Initiative funding

Page	Description	Timing	£bn or mil
63	National Data Library	NTL	£100mil
63	Health Data Research Library	NTL	£600mil
67	Capex to support college maintenance	2026-30	£1.7bn
83	Capital funding for motorways and roads	Between 2026 and 2030	£24bn
100	New government hubs outside London	NTL	£244mil
109	Transport for City Regions	NTL	£10bn
109	Improving and maintaining the North's road network	Between 2026/7 and 2029/30	£24bn
139	Genomics England	Over 5 years	£650mil
139	Our Future Health	NTL	£354mil
139	Preclinical infrastructure	NTL	£30mil
139	UK Biobank	NTL	£20mil
--	Total	--	£61,698 mil

Infrastructure Strategy elements eligible for Private Finance Initiative funding

Page	Para	Description	Timing	£bn or mil
10	--	Pipeline of capital investment to maintain existing and invest in new flood defences and related measures	Apr35	£7.9bn
12	--	Health: for targeted infrastructure replacement, critical safety and wider DHSC portfolio	OverSR25	£70bn
12	--	Health: annual maintenance on NHS estate included in the above	Apr35	£6bn
12	--	Health: new hospital programme	2030/1 to 2034/5	£49bn
12	--	Education: capex	Over SR25	£38bn
12	--	Education: school rebuilding programme	Apr35	£20bn
12	--	Education: increase in annual maintenance expenditure from £2.4bn in 2025/6	By 2034/5	£3bn
12	--	Justice: new prison plans and annual maintenance to rise from £500mil in 2025/6 to...	By 2034/5	£600mil
31	1.61	Capex for ten new Technical Excellence Centres in 'every region'	By 2028/9	£80mil
51	3.24	All rail enhancements including £2.5bn for East-West Rail	Over SR25	£35.5bn
54	3.25	HS2	Over SR25	£25.3bn
68	3.105	Sovereign warhead programme	Over SR25	£15bn
68	3.105	Munitions	Over SR25	£6bn
68	3.105	Autonomous military systems	Over SR25	£4bn
69	3.109	Modern and sustainable MoD buildings	Apr35	£5.1bn
89	5.19	NHS technology and transformation	By 2028/9	£10bn
--		Total	--	£286,480 mil

Total of elements eligible for Private Finance Initiative funding

Source	Amount
Industrial Strategy	£61,698 mil
Infrastructure Strategy	£286,480 mil
Total	£348,178 mil

Extrapolation of elements to be funded using the 'Direct sale' model

Heading	Amount
Investment Amount	£1,643,000 mil
Less PFI-eligible headings	-£348,178 mil
'Direct sale' headings	£1,294,822 mil

PFI model financing term sheet

Tranche	Ranking	Percentage	Interest	Ref Gilt	Gilt yield	All-in	Repayment
A	Senior	85%	Gilts plus 2%	7 year	4.26%	6.26%	10-year annuity
B	Mezzanine	10%	Gilts plus 4%	10 year	4.68%	8.68%	15-year annuity
C	Subordinated	4¼%	Gilts plus 6%	15 year	5.02%	11.02%	20-year annuity
D	Equity	¼%	--	N/A	N/A	N/A	Dividends

PFI model annuity cost for 1 unit of investment of £100,000

Tranche A		
Annuity:		Annual payment:
10 Pymts		-11,691
6.26% Interest		
85,000 Capital		
0 FV		
Tranche B		
Annuity:		Annual payment:
15 Pymts		-1,217
8.68% Interest		
10,000 Capital		
0 FV		
Tranche C		
Annuity:		Annual payment:
20 Pymts		-597
11.02% Interest		
4,750 Capital		
0 FV		

PFI model annuity cost for each tranche relating to 1 unit of investment of £100,000

Year	Tranche A	Tranche B	Tranche C	Total
1	-11,691	-1,217	-597	-13,506
2	-11,691	-1,217	-597	-13,506
3	-11,691	-1,217	-597	-13,506
4	-11,691	-1,217	-597	-13,506
5	-11,691	-1,217	-597	-13,506
6	-11,691	-1,217	-597	-13,506
7	-11,691	-1,217	-597	-13,506
8	-11,691	-1,217	-597	-13,506
9	-11,691	-1,217	-597	-13,506
10	-11,691	-1,217	-597	-13,506
11		-1,217	-597	-1,815
12		-1,217	-597	-1,815
13		-1,217	-597	-1,815
14		-1,217	-597	-1,815
15		-1,217	-597	-1,815
16			-597	-597
17			-597	-597
18			-597	-597
19			-597	-597
20			-597	-597

PFI model annuity cost for one year's units of investment

	Units p.a.	348,170
	Annual cost	Annual cost
Year	per unit	of 1y investment
1	-13,506	-4,702,372,953
2	-13,506	-4,702,372,953
3	-13,506	-4,702,372,953
4	-13,506	-4,702,372,953
5	-13,506	-4,702,372,953
6	-13,506	-4,702,372,953
7	-13,506	-4,702,372,953
8	-13,506	-4,702,372,953
9	-13,506	-4,702,372,953
10	-13,506	-4,702,372,953
11	-1,815	-631,759,128
12	-1,815	-631,759,128
13	-1,815	-631,759,128
14	-1,815	-631,759,128
15	-1,815	-631,759,128
16	-597	-207,949,619
17	-597	-207,949,619
18	-597	-207,949,619
19	-597	-207,949,619
20	-597	-207,949,619

PFI model lifetime annuity cost for all units of investment

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
1	-4,702,372,953										-4,702,372,953
2	-4,702,372,953	-4,702,372,953									-9,404,745,906
3	-4,702,372,953	-4,702,372,953	-4,702,372,953								-14,107,118,858
4	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953							-18,809,491,811
5	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953						-23,511,864,764
6	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953					-28,214,237,717
7	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953				-32,916,610,669
8	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953			-37,618,983,622
9	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953		-42,321,356,575
10	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-47,023,729,528
11	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-42,953,115,703
12	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-38,882,501,878
13	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-34,811,888,054
14	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-30,741,274,229
15	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-26,670,660,404
16	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-4,702,372,953	-22,176,237,070
17	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-4,702,372,953	-17,681,813,736
18	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953	-4,702,372,953	-13,187,390,402
19	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-4,702,372,953		-8,692,967,068
20	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-631,759,128		-4,198,543,734
21		-207,949,619	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-631,759,128	-3,566,784,606
22			-207,949,619	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-631,759,128	-2,935,025,478
23				-207,949,619	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-631,759,128	-2,303,266,350
24					-207,949,619	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-631,759,128	-1,671,507,222
25						-207,949,619	-207,949,619	-207,949,619	-207,949,619	-207,949,619	-1,039,748,094
26							-207,949,619	-207,949,619	-207,949,619	-207,949,619	-831,798,475
27								-207,949,619	-207,949,619	-207,949,619	-623,848,856
28									-207,949,619		-415,899,238
29										-207,949,619	-207,949,619
30											-512,222,732,620

'Direct sale' model financing term sheet

Tranche	Ranking	Percentage	Interest	Ref Gilt	Gilt yield	All-in	Repayment
A	Senior	70%	Gilts plus 2%	7 year	4.26%	6.26%	10-year annuity
B	Mezzanine	10%	Gilts plus 5%	10 year	4.68%	9.68%	15-year annuity
C	Subordinated	10%	Gilts plus 8%	15 year	5.02%	13.02%	20-year annuity
D	Equity	10%	10% over risk-free rate in longest maturity	N/A	N/A	N/A	Dividends from profit margin on operating expenses

'Direct sale' model annuity cost for 1 unit of investment of £100,000

Tranche A		
Annuity:		Annual payment:
10 Pymts		-9,628
6.26% Interest		
70,000 Capital		
0 FV		
Tranche B		
Annuity:		Annual payment:
15 Pymts		-1,291
9.68% Interest		
10,000 Capital		
0 FV		
Tranche C		
Annuity:		Annual payment:
20 Pymts		-1,425
13.02% Interest		
10,000 Capital		
0 FV		
Tranche D		
- Equity		Annual payment:
10,000 Capital		-1,548
10,000 FV		
15.48% Dividend		

'Direct sale' model annuity cost for each tranche relating to 1 unit of investment of £100,000

Year	Tranche A	Tranche B	Tranche C	Tranche D	Opex	Total
1	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
2	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
3	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
4	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
5	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
6	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
7	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
8	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
9	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
10	-9,628	-1,291	-1,425	-1,548	-15,000	-28,892
11		-1,291	-1,425	-1,548	-15,000	-19,264
12		-1,291	-1,425	-1,548	-15,000	-19,264
13		-1,291	-1,425	-1,548	-15,000	-19,264
14		-1,291	-1,425	-1,548	-15,000	-19,264
15		-1,291	-1,425	-1,548	-15,000	-19,264
16			-1,425	-1,548	-15,000	-17,973
17			-1,425	-1,548	-15,000	-17,973
18			-1,425	-1,548	-15,000	-17,973
19			-1,425	-1,548	-15,000	-17,973
20			-1,425	-1,548	-15,000	-17,973

'Direct sale' model annuity cost for one year's units of investment

	Units p.a.	1,294,822
	Annual cost	Annual cost
Year	per unit	of 1y investment
1	-28,892	-37,410,411,555
2	-28,892	-37,410,411,555
3	-28,892	-37,410,411,555
4	-28,892	-37,410,411,555
5	-28,892	-37,410,411,555
6	-28,892	-37,410,411,555
7	-28,892	-37,410,411,555
8	-28,892	-37,410,411,555
9	-28,892	-37,410,411,555
10	-28,892	-37,410,411,555
11	-19,264	-24,943,532,685
12	-19,264	-24,943,532,685
13	-19,264	-24,943,532,685
14	-19,264	-24,943,532,685
15	-19,264	-24,943,532,685
16	-17,973	-23,272,158,732
17	-17,973	-23,272,158,732
18	-17,973	-23,272,158,732
19	-17,973	-23,272,158,732
20	-17,973	-23,272,158,732

'Direct sale' model lifetime annuity cost for all units of investment

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
1	-37,410,411,555										-37,410,411,555
2	-37,410,411,555	-37,410,411,555									-74,820,823,110
3	-37,410,411,555	-37,410,411,555	-37,410,411,555								-112,231,234,665
4	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555							-149,641,646,220
5	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555						-187,052,057,775
6	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555					-224,462,469,330
7	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555				-261,872,880,885
8	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555			-299,283,292,440
9	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555		-336,693,703,994
10	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-37,410,411,555	-374,104,115,549
11	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-361,637,236,680
12	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-349,170,357,810
13	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-336,703,478,941
14	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-324,236,600,071
15	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-311,769,721,202
16	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-297,631,468,379
17	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-283,493,215,556
18	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-269,354,962,733
19	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-255,216,709,911
20	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-241,078,457,088
21		-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-24,943,532,685	-216,134,924,402
22			-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-24,943,532,685	-191,191,391,717
23				-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-24,943,532,685	-166,247,859,032
24					-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-24,943,532,685	-141,304,326,346
25						-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-116,360,793,661
26							-23,272,158,732	-23,272,158,732	-23,272,158,732	-23,272,158,732	-93,088,634,929
27								-23,272,158,732	-23,272,158,732	-23,272,158,732	-69,816,476,196
28									-23,272,158,732	-23,272,158,732	-46,544,317,464
29										-23,272,158,732	-23,272,158,732
30											-6,151,825,726,373

Total cost of 'decade of national renewal

Model	Amount
PFI	£512.2 billion
'Direct sale'	£6,151.8 billion
Total	£6,664.0 billion