

Index Insights | Fixed Income

# FTSE World Government Bond Index 2024 Performance report

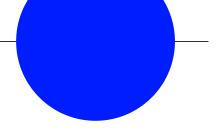
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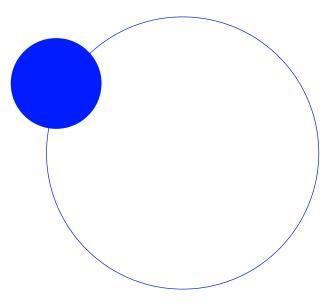
# Overview

The FTSE World Government Bond Index (WGBI) is widely used as a standard foreign bond benchmark. This report is for those who use the WGBI as a benchmark and looks back on the returns in the entire year of 2024, providing a market overview of Q4 2024, a factor decomposition report, and recent profile information.

In 2024, interest rates in major countries declined slightly, resulting in a return of 0.96% on a local basis for the World Government Bond Index. On the other hand, the yen weakened overall in 2024, resulting in a yen-based return of 8.28%, benefiting from the tailwind of the exchange rate. However, as the domestic and foreign interest rate differential in the short-term zone remained large, the cost of currency hedging has risen sharply, and the yen-hedged return remains negative at -3.44%.

The inclusion of China, which began in November 2021, was fully incorporated in the October 2024 profile, ending the gradual inclusion period. At the beginning of the inclusion, it was expected to be around 6%, but due to the subsequent increase in the issuance of Chinese government bonds and the weakening of the yen, China's weighting in the WGBI exceeded 10% in the January 2025 profile, surpassing Japan's 9.96% to become the second largest market after the United States.

Portugal will be reincorporated into the WGBI as the 25th market from November 2024. South Korea will be included as the 26th market (and the South Korean Won as the 17th currency) from November 2025.



# Contents

Performance summary of WGBI and major events	4
Annual Performance of WGBI in 2024	5
Return Attribution of WGBI	7
The Profile of WGBI (January 2025)	9
Market review of WGBI for Q4, 2024	.10
Asset size of WGBI tracked by Japanese public pension fund	.14
Index announcement	.16

# Performance summary of WGBI and major events

2024 annual performance of WGBI and major indices (Dec 31, 2023, to Dec 31, 2024)

			JPY Hedge
	Local Base	JPY Base	Base
World Government Bond Index (WGBI)	0.962	8.279	-3.441
Non-JPY WGBI	1.572	9.929	-3.370
Non-JPY/CNY WGBI	0.927	9.197	-4.325
WGBI-DM (Developed Market)	0.281	7.542	-4.288
World BIG Index (Excluding Japan)	1.921	10.827	-3.258
Japanese Government Bond Index	-4.274	-4.274	-4.274

2024	
October	<ul> <li>The results of the Country Classification September 2024 review published, with the adoption of South Korea deciding from November 2025. India's FAR will also be adopted by the EMGBI from September 2025.</li> <li>The price source change of US, UK, and EMU Governments bond in WGBI from LSEG D&amp;A price to FTSE Tradeweb price is announced.</li> <li>The 36 month staggered inclusion of China Government Bond to WGBI was completed.</li> </ul>
November	Portugal re-entered into WGBI

# Annual Performance of WGBI in 2024

1234567891011121010131313131719200100<					FTSE	World Go	overneme	ent Bond I	ndex 2024	Monthly	performan	ice					
Prise         2.07         1.08         1.01         1.02 <t< th=""><th></th><th></th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>2024</th><th>H2</th><th>Q4</th></t<>			1	2	3	4	5	6	7	8	9	10	11	12	2024	H2	Q4
IP relega bas         0.58         1.57         0.57         0.57         0.57         0.58	WGBI	Local	-0.449	-0.842	0.648	-1.769	0.464	0.702	1.819	0.892	0.965	-1.529	1.129	-0.998	0.962	2.255	-1.411
ymm yymm y <th< td=""><td></td><td>JPY Base</td><td>2.075</td><td>1.058</td><td>1.553</td><td>1.279</td><td>0.934</td><td>2.329</td><td>-3.791</td><td>-0.999</td><td>-0.149</td><td>2.806</td><td>-1.160</td><td>2.246</td><td>8.279</td><td>-1.188</td><td>3.896</td></th<>		JPY Base	2.075	1.058	1.553	1.279	0.934	2.329	-3.791	-0.999	-0.149	2.806	-1.160	2.246	8.279	-1.188	3.896
minmin1.201.101.101.101.101.201.200.1200.100		JPY Hedge Base	-0.838	-1.213	0.279	-2.182	0.109	0.366	1.372	0.541	0.636	-1.933	0.807	-1.365	-3.441	0.014	-2.491
my-edg bas0.4300.4310.3710.3710.3020.3020.1500.4030.1070.4080.4030.4300.4030.4030.404 <td>WGBI_X_JP</td> <td>Local</td> <td>-0.358</td> <td>-1.024</td> <td>0.752</td> <td>-1.773</td> <td>0.790</td> <td>0.755</td> <td>2.019</td> <td>0.824</td> <td>1.040</td> <td>-1.619</td> <td>1.346</td> <td>-1.104</td> <td>1.572</td> <td>2.478</td> <td>-1.395</td>	WGBI_X_JP	Local	-0.358	-1.024	0.752	-1.773	0.790	0.755	2.019	0.824	1.040	-1.619	1.346	-1.104	1.572	2.478	-1.395
wearwear0.0070.1080.0090.1080.1090.1010.1010.2090.1000.1010.2000			2.504	1.117													
prime         1441         0.031         1.86         1.36         0.137         2.28         4.08         1.25         0.137         0.28         0.37         0.28         0.387         0.238         0.385         0.105         0.237         0.28         0.387         0.377         0.397         0.387         0.387         0.397 <td></td> <td>JPY Hedge Base</td> <td>-0.800</td> <td>-1.441</td> <td>0.337</td> <td>-2.236</td> <td>0.392</td> <td>0.382</td> <td></td> <td>0.433</td> <td></td> <td>-2.070</td> <td>0.989</td> <td>-1.513</td> <td>-3.370</td> <td>-0.020</td> <td>-2.598</td>		JPY Hedge Base	-0.800	-1.441	0.337	-2.236	0.392	0.382		0.433		-2.070	0.989	-1.513	-3.370	-0.020	-2.598
mp+redge bas         4.9d         0.407         0.9d         0.3d         1.6d         0.4d         0.4dd         <	WGBI_X_JP_X_CN	Local	-0.477		0.809		0.829			0.906	1.153	-1.867	1.404	-1.458	0.927	2.258	
Scal         Oral         1.429         1.429         0.129         1.22         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.221         0.231         0.																	
prime         15.2         15.2         15.98         14.98         14.92         14.98         15.92         15.91         15.92         15.91         1		JPY Hedge Base		-1.623	0.372	-2.484		0.336	1.636		0.755		1.023	-1.903	-4.325		
IP Hedge See         0.486         0.146         0.486         0.176         0.078         0.197         1.386         0.071         1.097         1.386         0.172         0.726         0.707         0.726         0.707         0.736         0.707         0.737         0.737         0.737         0.737         0.736         0.707         0.737         0.736         0.707         0.737         0.736         0.707         0.737         0.737         0.736         0.737         0.737         0.736         0.737         0.737         0.737         0.737         0.736         0.737         0.737         0.736         0.737         0.737         0.736         0.737         0.737         0.736         0.737	EGBI																
BATY         Oral         0.494         -1.29         0.494         -2.29         1.400         1.200         1.210         1.280         1.290         0.497         1.515         0.697         1.290         0.495         0.490         0.590         1.590         0.590         1.590         0.500         1.590         0															-		
Pf Base         3441         1569         1562         1.288         3.294         4.402         -1.500         0.291         3.97         0.544         3.09         1.299         0.085         4.402           Pf Wade         0.771         1.740         0.531         0.771         1.780         0.551         1.280         0.551         0.291         0.568         0.407         0.571         0.570         0.221         0.601         0.202         0.58         0.407         0.586         0.400         0.271         0.561         0.402         1.680         0.402         1.680         0.408         1.780         0.601         1.78         0.58         1.07         0.513         1.381         1.887         1.897         1.579         0.531         3.64         1.717         1.747         1.579         0.551         1.077         4.585         0.507         1.570         0.551         1.077         4.585         0.577         1.570         1.579         0.531         1.007         1.585         1.007         1.585         1.007         1.585         1.007         1.585         5.001         1.586         1.590         5.010         1.586         1.580         5.010         1.580         5.010         1.580 <td></td>																	
PY Heige Base         -0.70         -1.79         -0.79         -2.98         0.79         0.79         -2.98         0.79         2.08         5.20         4.50         4.50           CA TOY         Local         -0.33         0.437         -1.86         1.58         1.58         0.407         0.407         2.011         0.086         -0.072         2.011         3.60         0.707         0.218         0.086         -0.072         2.01         1.70         0.056         2.02         1.80         0.086         -0.08         0.086         1.08         0.086         1.08         0.086         1.08         0.086         1.08         0.086         1.08         0.086         1.08         0.086         0.08         0.09         1.08         0.08         1.08         0.00         1.08         1.178         1.08         1.178         1.08         1.18         1.18         0.08         1.050         0.00         1.057         1.051         1.00         0.033         1.08         1.18         1.18         1.18         0.030         1.033         0.040         1.08         0.030         1.033         0.017         0.315         0.107         0.33         0.020         1.035         0.017         0.017 <td>US_TSY</td> <td></td>	US_TSY																
CA. TY         Col         -3-40         -0-39         -0.49         -0.59         -2.78         -0.490																	
PY Size         0.99         0.315         1.79         0.97         2.242         3.66         5.20         1.107         0.428         1.108         0.086         1.237         1.162         0.668         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         1.208         0.207         1.308         0.208         1.208         0.208         1.208         0.208         1.208         0.208         1.208         0.208         0.207         0.308         0.208         0.207         0.308         0.208         0.208         0.208         0.208         0.208         0.208         0.																	
PY Hodge Base         1.98         -0.98         -0.208         -0.	CA_TSY																
bK_TSY         local         0.091         0.558         0.248         -2.721         1.800         0.217         1.441         1.200         2.666         -2.001         1.578         0.032         1.349         1.380         1.487           IP* Base         0.106         -1.066         -0.681         -0.675         -0.656         0.400         -0.075         -0.656         0.400         -0.075         -0.656         0.400         -0.075         -0.656         0.400         -0.075         -0.081         -0.075         -0.081         -0.018         -0.685         -0.000         -0.207         1.911         -0.020         -0.270         1.923         -0.103         -0.497         -0.898         -0.017         -0.307         0.737         -0.287         -0.208         -0.207         -0.237         -0.208         -0.017         -0.307         -0.270         -0.237         -0.028         -0.017         -0.307         -0.277         -0.237         -0.028         -0.017         -0.058         -0.016         -0.428         -0.296         -0.017         -0.287         -0.028         -0.017         -0.287         -0.287         -0.048         -0.128         -0.315         -0.357         -0.278         -0.237         -0.017         -0.028 </td <td></td>																	
PYBase         2.13         3.50         4.02         -1.35         1.57         -4.25         -6.568         -7.07         1.07         -1.57         -0.56         1.07         -6.18         -1.172         1.252           JPY Hedge Base         -0.03         -0.42         1.366         -0.47         0.43         0.57         1.66         1.311         0.20         -2.78         0.53         0.457         1.68         3.00         1.280         -7.612         3.00         1.280         0.78         -2.17         0.031         0.47         2.806         7.612         3.00           JPY Hedge Base         0.424         0.429         0.580         0.500         0.557         0.577         2.00         0.36         0.287         0.071         3.07         0.037         0.378         7.07         3.07         0.038         0.027         0.031         0.702         0.386         0.028         0.028         0.422         0.289         0.028         0.286         0.28         0.427         0.28         0.28         0.275         0.333         0.707         2.035         0.046         1.038         0.706         0.438         0.706         0.437         0.77         1.230         0.556         0.055		1															
PYHedge Base         -1.066         -1.384         -0.77         -3.686         0.648         0.837         1.685         0.780         0.780         1.586         -1.984         -8.076         -2.527         -4.680           All TSY         local         -0.037         -0.429         0.432         0.421         0.042         0.618         0.998         -2.762         1.011         0.788         -0.787         -0.637         2.606         -7.622         3.005         -0.782         -1.786         -0.787         -0.637         2.606         -7.622         3.005         -0.722         1.030         -0.787         -0.288         -0.038         -0.702         4.300         -0.288         -0.038         -0.702         -0.388         -0.702         -0.388         -0.702         -0.38         -0.702         -0.38         -0.702         -0.38         -0.702         -0.287         -0.288         -0.716         -0.388         -0.702         -0.287         -0.288         -0.716         -0.384         -0.702         -0.287         -0.281         -0.761         -0.561         -0.574         -0.578         -0.288         -0.721         -1.282         -0.299         -0.281         -0.761         -0.561         -0.277         -0.727         -0.2	MX_TSY																
Al_TSY       Local       -0.037       -0.429       1.360       -2.427       0.343       0.875       1.665       1.341       0.200       -2.786       1.332       0.100       1.683       2.000         µP Hedge Base       0.412       0.424       0.424       0.426       0.890       2.653       3.655       -7.022       1.01       0.78       -0.176       0.032       3.665       -0.401       -0.077       0.797       0.227       0.528       0.404       -2.480       0.433       0.275       0.983       0.283       0.716       0.383       4.706       4.383       0.400       4.249       0.283       0.717       0.076       0.384       4.706       -2.895       0.288       1.212       1.300       0.513       3.279       4.626       -2.966       0.288       1.212       1.300       0.513       3.279       4.626       -2.969       0.288       1.212       0.341       0.760       0.385       0.005       4.274       0.174       -0.877       0.323       0.002       1.491       0.334       0.760       0.805       0.005       4.274       0.176       1.482       0.414       0.401       1.424       0.424       0.414       0.417       1.777       2.727       0.																	
JPY Base         0.42         0.42         2.651         0.480         2.625         3.695         7.12         1.901         0.781         2.175         0.613         0.424         0.752         0.483         0.285         0.433         0.530         0.116         0.036         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.037         0.038         0.168         0.038         0.122         0.038         0.122         0.038         0.038         0.037         0.037         0.037         0.037         0.037         0.038         0.038         0.038         0.068         0.066         4.274         0.039         0.038         0.038         0.066         4.274         0.037         0.037         0.038         0.036         0.066         4.274         0.037         0.076         0.085         0.066         4.274         0.037         0.036         0.056         0.056         4.274         0.076         0.056         0.056         4.274         0.076         0.056         0.056         4.076         4.363         0.056         0.057 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>																	
JPY Hedge Base         -0.424         -0.795         0.938         -2.895         -0.030         0.520         1.164         0.968         -0.071         -3.097         0.978         -0.287         -0.462         -0.400         -0.450         -0.075         0.453         0.075         0.438         0.075         0.438         0.075         0.085         0.085         0.085         0.081         0.021         0.031         0.027         6.237         0.025         0.035         0.036         0.028         0.041         0.031         0.037         6.236         0.035         0.041         0.031         0.015         0.031         0.015         0.055         0.045         0.066         4.274         0.017         1.128         0.031         0.174         1.177         0.278         0.232         0.002         1.41         0.334         0.706         0.065         4.074         0.176         1.422         0.037         0.425         0.065         4.074         0.176         1.423         0.037         0.425         0.065         4.074         4.172         0.176         1.423         0.036         0.425         0.056         4.274         0.176         1.423         0.376         0.045         0.055         0.055         1.0	AU_TSY																
N2_TSY         Local         1-1057         0-0452         1.286         0.196         1.126         0.266         1.000         0.386         0-028         0.716         0.388         4.702         4.398         0.266           JPY Mege         -0.563         0.054         0.286         0.270         0-6.57         0.295         0.028         -1.226         0.031         0.076         0.985         0.045         0.985         0.057         0.013         0.076         0.885         0.065         4.274         0.016         -1.623           JPY Mege         -1.128         0.591         -0.174         -1.77         2.278         0.022         -0.000         1.491         0.33         0.076         0.805         0.005         4.274         0.076         -1.623           PH Mege Base         1.128         0.591         -0.174         -1.727         2.278         0.023         0.019         0.316         0.055         0.055         4.274         0.076         -0.805         0.065         4.276         0.076         0.876         0.337         0.718         0.757         5.79         3.36         0.497         0.436         0.718         0.757         5.79         9.348         9.796         9.476																	
PY Base         -0.33         0.885         0.504         1.281         4.733         2.702         -6.376         2.988         0.121         -1.300         -0.513         3.279         6.226         -2.996           JPY Base         -1.128         0.591         0.517         0.717         2.205         0.557         -0.033         -1.28         0.044         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.494         1.613         0.495         0.635         0.065         4.274         0.175         1.623           JPY Base         1.128         0.591         0.174         1.737         7.278         0.222         0.002         1.491         0.334         0.760         0.405         4.276         0.176         1.623           Local         1.024         0.172         0.157         0.376         0.430         0.257         0.272         1.213         1.640         1.573         1.172         5.40         1.573         1.123         8.443         1.677         1.273 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																	
μP Hedge Base         1.543         -0.944         0.744         -2.048         0.537         0.717         2.015         0.557         -0.043         1.128         0.021         0.408         1.619         0.887           μP TSY         Local         -1.128         0.591         -0.174         -1.727         -2.278         0.222         -0.002         1.491         0.334         -0.760         -0.805         -0.005         4.274         0.176         -1.623           μP Hase         -1.128         0.591         -0.174         -1.737         -2.278         0.232         -0.002         1.491         0.336         -0.760         -0.805         -0.005         4.274         0.176         -1.623           CHINA         Local         1.024         0.017         -0.173         0.228         0.029         -0.002         1.491         0.336         0.760         -9.86         1.573         1.122         8.737           Local         0.637         0.036         0.429         -0.660         0.907         0.480         1.412         2.406         0.486         3.438         -0.376         1.573         5.454         1.573           Mr TSY         Local         0.637         0.036         0.42	NZ_TSY																
P_TSY         local         -1.128         0.591         -0.174         -1.737         -2.278         0.232         0.000         1.491         0.334         0.760         -0.085         -0.065         4.274         0.176         -1.623           IPY Base         -1.128         0.591         -0.174         -1.737         -2.278         0.322         -0.002         1.491         0.334         -0.760         -0.805         -0.065         -4.274         0.176         -1.623           PY Hedge Base         -1.128         0.591         -0.174         -1.737         -2.278         0.232         -0.002         1.491         0.334         -0.760         -0.805         -0.066         -4.274         0.176         -1.623           CHINA         local         1.024         0.712         0.157         0.376         0.430         0.525         -2.98         -5.272         -1.213         -0.645         1.678         1.122         8.799         3.085         2.519         0.438         3.88         0.376         -1.913         4.49         1.936         5.448         1.870         1.421         0.040         0.476         0.425         1.466         1.623         0.468         0.482         0.4076         0.497																	
IPY Base         1.128         0.591         -0.174         1.737         -2.278         0.222         -0.002         1.491         0.334         -0.760         -0.665         -0.675         -0.174         0.176         -1.623           CHINA         Local         1.020         0.172         0.157         0.337         0.430         0.922         0.031         0.119         0.385         1.702         0.885         1.702         7.737         2.737           CHINA         Local         1.020         0.713         0.643         0.537         0.213         0.646         1.653         1.722         8.793         0.309         0.213         0.764         1.675         1.122         8.749           M/TISY         Local         0.637         0.038         0.429         0.460         0.429         0.460         0.419         0.039         0.652         0.984         0.164         1.128         2.485         1.570         1.531         4.249         1.936         5.454         1.570           M/TISY         Local         0.437         0.449         0.449         0.464         0.497         0.408         0.416         4.248         1.633         4.264         1.63         1.631         1.6																	
IPY Hedge Base         1.128         0.59         0.07         1.737         2.278         0.022         1.491         0.334         0.760         0.685         0.065         4.274         0.176         1.623           CHINA         Local         1.024         0.712         0.177         0.376         0.430         0.225         0.273         0.120         0.119         0.515         0.895         1.72         7.800         3.176         2.137         5.660         1.122         8.797         3.706         2.137         5.660         1.122         8.797         3.706         0.131         0.115         1.572         5.677         3.706         2.137         5.66         1.575         5.677         3.706         0.131         0.121         0.211         0.121 <t< td=""><td>JP_TSY</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	JP_TSY																
CHINA         Local         1.024         0.712         0.157         0.376         0.430         0.926         0.733         0.110         0.315         0.885         1.702         7.800         3.976         2.973           IPY Base         3.473         2.924         0.799         4.166         0.255         2.986         5.272         1.121         0.634         5.370         0.113         5.460         15.763         3.122         8.749           MY TSY         Local         0.637         0.033         0.429         0.660         0.907         0.480         1.142         0.037         0.612         0.078         4.216         4.225         2.299         0.543           MY TSY         Local         0.631         0.142         0.660         0.071         0.480         1.142         0.000         0.377         0.612         -0.034         0.016         4.025         4.029         0.544         1.572         5.445         1.570           Local         -0.618         -1.158         0.614         0.643         0.19         0.624         0.056         -0.998         0.3075         2.057         4.076         4.075         1.515         1.516         2.161         0.233         2.66																	
PY Base         3.473         2.924         0.799         4.166         0.255         2.998         5.272         1.213         0.634         5.370         2.137         5.460         16.763         1.122         8.749           P/P Hedge Base         0.683         0.655         0.030         0.223         0.776         0.790         0.547         0.019         0.009         0.213         0.718         1.572         5.879         3.089         2.513           MY TSY         Local         0.637         0.633         0.429         -0.660         0.907         0.484         0.2037         -0.652         0.984         0.218         4.225         2.299         0.543           JPY Hedge Base         0.361         -0.184         0.149         -0.946         0.643         0.219         0.842         -0.048         0.497         0.075         0.072         0.944         0.708         0.255         3.331         -0.075         1.055         2.069         0.233         0.233         0.426         0.337         -0.497         0.436         0.339         -0.455         2.456         0.375         2.231         0.333         2.052         0.333         2.052         0.333         2.051         0.233         2.2																	
PY Hedge Base         0.863         0.556         -0.030         0.223         0.026         0.090         0.647         0.009         0.213         0.718         1.572         5.879         3.089         2.519           MY TSY         Local         0.637         0.083         0.429         -0.660         0.907         0.408         1.142         0.200         0.397         -0.652         0.948         0.216         4.225         2.299         0.543           JPY Hedge Base         0.361         -0.144         0.149         0.496         0.643         0.219         0.842         -0.048         0.167         0.0737         0.072         0.072         0.944         0.048         0.056         0.553         1.060         0.213         1.052         0.923         0.453         0.072         0.937         0.075         0.072         0.072         0.072         0.075         0.072         0.072         0.157         0.072         0.156         0.298         0.433         0.269         0.337         0.089         0.453         2.256         3.997         1.161         0.213         1.010         0.053         2.267         0.375         2.472         1.466         0.233         0.569         2.557         1.523<	CHINA																
MY_TSY       Local       0.637       0.083       0.429       -0.660       0.907       0.480       1.142       0.200       0.337       -0.652       0.984       0.216       4.225       2.289       0.543         JPY Base       1.368       2.141       1.821       2.436       2.168       2.627       -2.864       3.068       3.389       -0.376       -1.913       4.249       19.396       5.445       1.870         JPY Hedge Base       0.361       -0.184       0.149       0.494       0.643       0.219       0.842       -0.048       0.167       -0.907       0.735       0.072       0.944       0.066       -0.553       2.256       3.997       1.161         JPY Base       1.150       -0.544       0.651       0.476       1.845       3.531       -2.907       0.705       1.156       2.169       -2.331       2.269       10.38       -1.602       1.022       0.393       -0.660       -1.697       2.076       -2.018         AT_TSY       Local       -0.411       -1.262       0.972       -1.574       -0.469       0.658       2.496       0.286       1.337       -1.060       2.938       -1.660       2.123       4.006       2.165       1.316 <td></td>																	
JPY Base         1.368         2.141         1.821         2.436         2.168         2.627         -2.864         3.068         3.389         -0.376         -1.913         4.249         19.396         5.445         1.870           JPY Hedge Base         0.361         -0.184         0.149         -0.946         0.643         0.219         0.842         -0.048         0.167         -0.997         0.735         -0.072         0.944         0.708         -0.253           SG_TSY         Local         -0.788         -1.189         0.215         -2.354         1.086         1.405         2.453         1.406         1.276         -0.998         0.300         -0.533         2.256         3.937         -1.165           JPY Hedge Base         -1.159         -1.54         -0.136         -2.748         0.772         1.116         2.015         1.052         1.080         2.331         2.269         1.023         0.406         1.660         1.023         0.406         1.660         1.023         0.406         1.606         1.023         0.406         1.080         2.938         -1.660         2.123         4.306         0.136           JPY Hedge Base         1.539         0.717         1.899         1.322																	
IPY Hedge Base       0.361       -0.184       0.149       -0.946       0.643       0.219       0.842       -0.048       0.167       -0.907       0.735       -0.072       0.944       0.080       -0.251         SG_TSY       Local       -0.788       -1.198       0.215       -2.354       1.086       1.405       2.453       1.406       1.276       -0.998       0.390       -0.553       2.256       3.997       -1.161         JPY Hedge Base       -1.159       -1.546       -0.136       -2.748       0.772       1.116       2.015       1.092       1.018       -1.301       0.135       -0.806       1.697       2.076       -2.018         AT_TSY       Local       -0.411       -1.262       0.972       -1.574       -0.469       0.688       2.496       0.375       2.472       -1.66       0.801       -1.697       2.076       -2.018         AT_TSY       Local       -0.411       -1.262       0.972       -1.574       -0.469       0.688       2.496       0.375       2.472       -1.61       0.891       6.777       -1.540       0.891       6.777       -1.540       0.891       6.777       -1.540       0.891       6.777       -1.540       0.591																	
SG_TSY       Local       -0.788       -1.188       0.215       -2.354       1.066       1.405       2.453       1.406       1.276       -0.998       0.300       -0.553       2.256       3.997       -1.161         JPY Base       1.540       0.544       0.961       0.476       1.845       3.531       -2.907       0.705       1.156       2.169       -2.331       2.269       10.223       0.938       2.052         JPY Hedge Base       -1.159       -1.546       -0.136       -2.748       0.772       1.116       2.015       1.092       1.018       -1.301       0.135       -0.860       -1.697       2.076       -2.018         AT_TSY       Local       -0.411       -1.262       0.972       -1.574       -0.469       0.658       2.496       0.286       1.337       -1.080       2.938       -1.660       2.123       4.306       0.136         JPY Base       1.539       0.717       1.899       1.322       0.911       1.723       -2.046       -0.031       1.028       -1.420       2.563       -1.995       2.155       0.600       -2.159       2.152       0.910       0.135       1.021       1.621       -3.412       -0.507       0.031       2.																	
JPY Base       1.540       0.544       0.661       0.476       1.845       3.531       -2.907       0.705       1.156       2.169       -2.331       2.269       10.22       0.938       2.052         JPY Hedge Base       -1.159       -1.546       -0.136       -2.748       0.772       1.116       2.015       1.092       1.018       -1.301       0.135       -0.860       -1.697       2.076       -2.018         AT_TSY       Local       -0.411       -1.262       0.972       -1.574       -0.469       0.658       2.496       0.286       1.137       -1.60       2.938       -1.660       2.123       4.306       0.136         JPY Base       1.539       0.17       1.899       1.322       0.911       1.723       -3.204       -0.726       0.375       2.472       -1.61       0.891       6.717       -1.600       2.108         JPY Hedge Base       -0.666       -1.429       1.015       -1.605       0.507       0.577       2.277       0.507       0.021       -1.220       2.664       -1.985       0.566       3.125       0.546       3.125       0.540       3.125       0.540       3.125       0.547       1.524       0.557       5.69       2.6	66 TOV																
JPY Hedge Base         -1.159         -1.54         -0.136         -2.748         0.772         1.116         2.015         1.092         1.018         -1.301         0.135         -0.660         -1.697         2.076         -2.018           AT_TSY         Local         -0.411         -1.262         0.972         -1.574         -0.469         0.658         2.496         0.286         1.337         -1.080         2.938         -1.660         2.123         4.306         0.136           JPY Base         1.539         0.717         1.899         1.322         0.911         1.723         -3.204         -0.726         0.375         2.472         -1.261         0.891         6.717         -1.540         2.080           JPY Hedge Base         -0.788         -1.623         0.618         -1.964         -0.823         0.338         2.046         -0.031         1.028         -1.420         2.563         -1.995         2.159         2.125         -0.910           BE_TSY         Local         -0.666         -1.429         1.012         1.621         -3.412         -0.507         -0.031         2.326         -1.524         0.557         5.069         -2.655         1.328         -1.640         0.57         5.069<	30_131																
AT_TSY         Local         -0.411         -1.262         0.972         -1.574         -0.469         0.658         2.496         0.286         1.337         -1.080         2.938         -1.660         2.123         4.306         0.136           JPY Base         1.539         0.717         1.899         1.322         0.911         1.723         -3.204         -0.726         0.375         2.472         -1.261         0.891         6.717         -1.540         2.080           JPY Hedge Base         -0.788         -1.623         0.618         -1.964         -0.823         0.338         2.046         -0.031         1.028         -1.420         2.563         -1.995         -2.159         2.125         -0.910           BE_TSY         Local         -0.666         -1.429         1.015         -1.605         -0.370         0.557         2.277         0.507         -0.031         2.326         -1.524         0.557         5.069         -2.655         1.328           IPY Hedge Base         -1.049         -1.795         0.661         -1.996         -0.722         0.236         1.839         0.188         0.622         -1.56         2.301         -2.329         -3.674         0.974         -1.646 <tr< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>																	
IPY Base         1.539         0.717         1.889         1.322         0.911         1.723         -3.204         -0.726         0.375         2.472         -1.261         0.881         6.717         -1.540         2.080           JPY Hedge Base         -0.788         -1.623         0.618         -1.964         -0.823         0.338         2.046         -0.031         1.028         -1.420         2.563         -1.995         -2.159         2.125         -0.910           BE_TSY         local         -0.666         -1.429         1.015         -1.605         -0.370         0.557         2.277         0.507         0.927         -1.220         2.664         -1.985         0.546         3.125         -0.601           JPY Medge Base         1.278         0.547         1.943         1.290         1.012         1.621         -3.412         -0.507         -0.031         2.326         -1.524         0.557         5.069         -2.655         1.328           JPY Hedge Base         -1.049         -1.795         0.661         -1.996         -0.722         0.236         1.839         0.88         0.622         -1.566         2.301         -2.329         -3.674         0.974         -4.646           DE	AT TOV	1															
IPY Hedge Base         -0.788         -1.623         0.618         -1.964         -0.823         0.338         2.046         -0.031         1.028         -1.420         2.563         -1.995         -2.159         2.122         -0.910           BE_TSY         local         -0.666         -1.429         1.015         -1.605         -0.370         0.557         2.277         0.507         0.927         -1.220         2.664         -1.985         0.546         3.122         -0.601           JPY Base         1.278         0.547         1.943         1.290         1.012         1.621         -3.412         -0.507         -0.031         2.326         -1.524         0.557         5.069         -2.655         1.328           IPY Hedge Base         -1.049         -1.755         0.661         -1.996         -0.722         0.236         1.839         0.188         0.622         -1.56         2.301         -2.329         -3.674         0.974         -1.646           DE_TSY         local         -0.667         1.619         0.953         -1.785         -0.254         1.292         1.641         0.392         1.132         2.333         -1.502         0.630         2.791         1.444           JPY Hedge	A1_131																
BE_TSY         Local         -0.666         -1.429         1.015         -1.605         -0.370         0.557         2.277         0.507         0.927         -1.20         2.664         -1.985         0.546         3.125         -0.601           IPY Base         1.278         0.547         1.943         1.290         1.012         1.621         -3.412         -0.507         -0.031         2.326         -1.524         0.557         5.069         -2.655         1.328           IPY Hedge Base         -1.049         -1.795         0.661         -1.996         -0.722         0.236         1.839         0.188         0.622         -1.566         2.301         -2.329         -3.674         0.974         -1.646           DE_TSY         Local         -0.667         -1.619         0.953         -1.785         -0.254         1.292         1.641         0.392         1.132         2.393         -1.502         0.630         2.799         -0.648           DE_TSY         Local         -0.667         -1.619         0.953         -1.785         -0.254         1.292         1.641         0.392         1.132         2.393         -1.502         0.630         2.799         -0.488           JPY Base																	
IPY Base         1.278         0.547         1.943         1.290         1.012         1.621         -3.412         -0.507         -0.031         2.226         -1.524         0.557         5.069         -2.655         1.328           JPY Hedge Base         -1.049         -1.795         0.661         -1.996         -0.722         0.236         1.839         0.188         0.622         -1.566         2.301         -2.329         -3.674         0.974         1.646           DE_TSY         local         -0.667         -1.619         0.953         -1.785         -0.254         1.292         1.641         0.392         1.322         2.393         -1.502         0.630         2.790         -0.488           DE_TSY         local         -0.667         -1.619         0.953         -1.785         -0.254         1.292         1.641         0.392         1.322         2.393         -1.502         0.630         2.799         -0.488           JPY Base         1.278         0.353         1.880         1.105         1.130         2.364         -4.012         -0.612         0.691         1.132         2.393         -1.632         3.540         0.697         -1.513           JPY Hedge Base         -1.048	RE TSV																
IPY Hedge Base         -1.049         -1.795         0.661         -1.996         -0.722         0.236         1.839         0.188         0.622         -1.566         2.301         -2.329         -3.674         0.974         -1.646           DE TSY         local         -0.667         -1.619         0.953         -1.785         -0.254         1.292         1.641         0.392         1.230         -1.322         2.393         -1.502         0.630         2.799         -0.648           JPY Base         1.278         0.353         1.880         1.105         1.130         2.364         -4.012         -0.621         0.269         2.211         -1.784         1.053         5.157         -2.971         1.444           JPY Hedge Base         -1.048         -1.987         0.599         -2.180         -0.603         0.979         1.236         0.074         0.921         -1.679         2.039         -1.832         -3.540         0.669         1.513           FI_TSY         local         -0.532         -1.453         -0.32         0.614         2.106         0.495         1.252         -1.159         2.585         -1.408         1.654         3.864         -0.031           JPY Base         1.415 <td>BL_131</td> <td></td>	BL_131																
DE_TSY         local         -0.667         -1.619         0.993         -1.785         -0.254         1.292         1.641         0.392         1.230         -1.322         2.393         -1.502         0.630         2.799         -0.488           JPY Base         1.276         0.353         1.880         1.105         1.130         2.364         -4.012         -0.621         0.269         2.211         -1.784         1.053         5.157         -2.971         1.444           JPY Hedge Base         -1.048         -1.987         0.599         -2.180         -0.603         0.979         1.236         0.074         0.921         -1.679         2.039         -1.832         -3.540         0.669         1.513           FI_TSY         local         -0.532         -1.395         0.974         -1.453         -0.32         0.614         2.106         0.495         1.252         -1.159         2.585         -1.408         1.654         3.864         -0.031           JPY Base         1.415         0.581         1.901         1.447         1.054         1.678         -3.573         -0.519         0.291         2.390         -1.600         1.149         6.227         -1.957         1.910         0.248																	
JPY Base         1.278         0.353         1.880         1.105         2.364         -4.012         -0.621         0.269         2.211         -1.784         1.053         5.157         -2.971         1.444           JPY Hedge Base         -1.048         -1.987         0.599         -2.180         -0.603         0.979         1.236         0.074         0.921         -1.679         2.039         -1.832         -3.540         0.697         -1.513           FI_TSY         local         -0.532         -1.395         0.974         -1.453         -0.329         0.614         2.106         0.495         1.252         -1.159         2.585         -1.408         1.654         3.864         -0.031           JPY Base         1.415         0.581         1.901         1.447         1.054         1.678         -3.573         -0.519         0.291         2.390         -1.600         1.149         6.227         -1.957         1.910           JPY Hedge Base         -0.912         -1.760         0.620         -1.839         -0.680         0.293         1.677         0.176         0.944         -1.501         2.224         -1.737         -2.573         1.728         -1.059           FR_TSY         local <td></td>																	
JPY Hedge Base         -1.048         -1.987         0.599         -2.180         -0.603         0.979         1.236         0.074         0.921         -1.679         2.039         -1.832         -3.540         0.699         -1.513           FI_TSY         Local         -0.532         -1.395         0.974         -1.453         -0.329         0.614         2.106         0.495         1.252         -1.159         2.585         -1.408         1.654         3.864         -0.031           JPY Base         1.415         0.581         1.901         1.447         1.054         1.678         -3.573         -0.519         0.291         2.390         -1.600         1.149         6.227         -1.957         1.910           JPY Hedge Base         -0.912         -1.760         0.620         -1.839         -0.680         0.293         1.677         0.176         0.944         -1.501         2.224         -1.737         -2.573         1.728         -1.059           FR_TSY         Local         -0.668         -1.405         0.779         -1.537         -0.173         -0.618         2.296         0.416         0.766         -0.869         1.812         -1.534         -0.824         2.865         -0.622	DL_131																
FI_TSY         local         -0.52         -1.395         0.974         -1.453         -0.329         0.614         2.106         0.495         1.252         -1.159         2.585         -1.408         1.654         3.864         -0.031           IPY Base         1.415         0.581         1.901         1.447         1.054         1.678         -3.573         -0.519         0.291         2.390         -1.600         1.149         6.227         -1.957         1.910           JPY Hedge Base         -0.912         -1.760         0.620         -1.839         -0.680         0.293         1.677         0.176         0.944         -1.501         2.224         -1.737         -2.573         1.728         -1.059           FR_TSY         local         -0.668         -1.405         0.779         -1.537         -0.173         -0.618         2.296         0.416         0.766         -0.869         1.812         -1.534         -0.824         2.865         -0.622           JPY Base         1.277         0.571         1.704         1.361         1.212         0.433         -3.394         -0.597         -0.190         2.690         -2.342         1.019         3.638         -2.901         1.308 <td></td>																	
IPY Base         1.415         0.581         1.901         1.447         1.054         1.678         -3.573         -0.519         0.291         2.390         -1.600         1.149         6.227         -1.957         1.910           JPY Hedge Base         -0.912         -1.760         0.620         -1.839         -0.680         0.293         1.677         0.176         0.944         -1.501         2.224         -1.737         -2.573         1.728         -1.059           FR_TSY         local         -0.668         -1.405         0.779         -1.537         -0.173         -0.618         2.296         0.416         0.766         -0.869         1.812         -1.534         -0.824         2.865         -0.622           JPY Base         1.277         0.571         1.704         1.361         1.212         0.433         -3.394         -0.597         -0.190         2.690         -2.342         1.019         3.638         -2.901         1.308	FL TSY	1															
JPY Hedge Base         -0.91         -1.760         0.620         -1.839         -0.680         0.293         1.677         0.176         0.944         -1.501         2.224         -1.737         -2.573         1.728         1.059           FR_TSY         local         -0.668         -1.405         0.779         -1.537         -0.173         -0.618         2.296         0.416         0.766         -0.869         1.812         -1.534         -0.824         2.865         -0.622           JPY Base         1.277         0.571         1.704         1.361         1.212         0.433         -3.394         -0.597         -0.190         2.690         -2.342         1.019         3.638         -2.901         1.308																	
FR_TSY         Local         -0.668         -1.405         0.779         -1.537         -0.173         -0.618         2.296         0.416         0.766         -0.869         1.812         -1.534         -0.824         2.865         -0.622           JPY Base         1.277         0.571         1.704         1.361         1.212         0.433         -3.394         -0.597         -0.100         2.690         -2.342         1.019         3.638         -2.901         1.308																-	
JPY Base         1.277         0.571         1.704         1.361         1.212         0.433         -3.394         -0.597         -0.190         2.690         -2.342         1.019         3.638         -2.901         1.308	FR TSY																
		JPY Hedge Base	-1.051	-1.770	0.423	-1.926	-0.522	-0.952	1.857	0.098	0.462	-1.202	1.483	-1.867	-4.941	0.780	-1.608

(cont'd)

#### Index Insights | Fixed Income

DE_TSY	Local	-0.667	-1.619	0.953	-1.785	-0.254	1.292	1.641	0.392	1.230	-1.332	2.393	-1.502	0.630	2.790	-0.488
DL_131	JPY Base	1.278	0.353	1.880	1.105	1.130	2.364	-4.012	-0.621	0.269	2.211	-1.784	1.053		-2.971	-0.488
	JPY Hedge Base	-1.048	-1.987	0.599	-2.180	-0.603	0.979	1.236	0.021	0.203	-1.679	2.039	-1.832		0.697	-1.513
IE TSY	Local	-0.277	-1.465	0.722	-1.588	-0.194	0.569	2.240	0.811	1.587	-1.153	2.539	-1.330	††	4.715	0.009
12_131	JPY Base	1.675	0.510	1.647	1.308	1.191	1.633	-3.447	-0.206	0.623	2.396	-1.644	1.229		-1.154	1.951
	JPY Hedge Base	-0.652	-1.830	0.365	-1.978	-0.543	0.248	1.803	0.489	1.275	-1.494	2.179	-1.656		2.554	-1.015
IT_TSY	Local	0.123	-0.564	1.341	-1.075	0.033	-0.277	2.847	0.299	2.028	-0.928	2.525	-1.051	5.320	5.779	0.506
	JPY Base	2.084	1.429	2.271	1.836	1.421	0.279	-2.874	-0.713	1.059	2.630	-1.657	1.515	10.058	-0.150	2.457
	JPY Hedge Base	-0.245	-0.913		-1.452	-0.314	-0.607	2.379	-0.018	1.712	-1.263	2.168	-1.372		3.587	-0.506
NL_TSY	Local	-0.685	-1.662	1.190	-1.870	-0.232	0.917	2.020	0.435	1.142	-1.184	2.938	-1.701	1.178	3.622	-0.011
	JPY Base	1.260	0.309	2.119	1.018	1.152	1.985	-3.654	-0.579	0.181	2.364	-1.262	0.848		-2.186	1.930
	JPY Hedge Base	-1.067	-2.032	0.838	-2.268	-0.581	0.600	1.595	0.116	0.834	-1.527	2.562	-2.037	-3.060	1.473	-1.061
ES_TSY	Local	-0.369	-0.882	1.145	-1.069	0.099	0.259	2.262	0.392	1.372	-0.716	2.272	-1.243	3.494	4.361	0.277
	JPY Base	1.582	1.105	2.074	1.842	1.488	1.320	-3.425	-0.621	0.409	2.849	-1.901	1.318	8.149	-1.489	2.224
	JPY Hedge Base	-0.746	-1.237	0.792	-1.445	-0.247	-0.066	1.826	0.074	1.062	-1.043	1.924	-1.568	-0.753	2.242	-0.720
PT_TSY	Local	-0.173	-0.990	0.961	-1.132	-0.116	0.169	2.315	0.480	1.415	0.121	1.724	-1.443	3.305	4.653	0.377
	JPY Base	1.782	0.995	1.888	1.777	1.270	1.229	-3.376	-0.534	0.452	3.716	-2.426	1.113	7.952	-1.212	2.326
	JPY Hedge Base	-0.545	-1.346	0.607	-1.509	-0.464	-0.156	1.875	0.161	1.104	-0.175	1.397	-1.772	-0.895	2.573	-0.574
SE_TSY	Local	-0.669	-1.444	0.942	-0.691	0.492	1.990	1.497	0.400	0.662	-0.816	1.331	-2.429	1.177	0.591	-1.937
	JPY Base	0.455	0.765	-1.223	0.593	4.729	3.682	-6.193	1.684	-0.095	0.060	-2.095	0.898	2.873	-5.806	-1.156
	JPY Hedge Base	-1.041	-1.816	0.569	-1.040	0.176	1.711	1.079	0.100	0.380	-1.098	1.054	-2.748	-2.737	-1.281	-2.802
GB_TSY	Local	-2.581	-1.232	1.902	-3.384	0.854	1.371	1.913	0.538	0.021	-2.830	1.851	-2.571	-4.293	-1.181	-3.576
	JPY Base	0.902	0.455	2.904	-0.423	2.406	3.026	-3.141	-0.449	0.285	-0.819	-0.720	0.458	4.816	-4.348	-1.083
	JPY Hedge Base	-3.154	-1.689	1.448	-3.939	0.410	0.946	1.383	0.105	-0.388	-3.320	1.422	-3.089	-9.652	-3.932	-4.974
PL_TSY	Local	0.391	-0.230	0.002	-0.473	0.507	0.746	1.547	0.585	1.248	-1.982	2.043	-1.089	3.274	2.311	-1.069
	JPY Base	2.758	2.035	1.125	1.989	3.153	0.997	-3.783	0.020	0.134	-0.096	-0.781	1.845	9.598	-2.717	0.953
	JPY Hedge Base	-0.140	-0.731	-0.528	-0.977	0.002	0.251	0.984	0.091	0.759	-2.517	1.520	-1.730	-3.044	-0.955	-2.747
NO_TSY	Local	-0.676	-1.283	1.678	-1.329	0.806	0.797	1.410	1.217	0.100	-2.389	1.963	-1.536	0.645	0.692	-2.001
	JPY Base	0.021	-0.283	0.453	0.506	6.153	1.765	-7.636	1.117	-1.107	-0.743	0.310	0.292	0.325	-7.773	-0.145
	JPY Hedge Base	-1.092	-1.682	1.253	-1.740	0.445	0.419	0.920	0.835	-0.269	-2.823	1.568	-1.985	-4.188	-1.818	-3.259
IL_TSY	Local	-0.504	0.179	-0.549	-1.592	-0.954	0.546	0.926	0.884	-0.130	0.691	2.327	0.790	2.584	5.597	3.847
	JPY Base	2.116	4.475	-1.964	0.438	-0.769	1.642	-5.450	1.228	-4.321	6.619	3.810	5.239	13.015	6.666	16.479
	JPY Hedge Base	-0.948	-0.187	-0.926	-1.972	-1.288	0.209	0.547	0.654	-0.436	0.359	2.057	0.448	-1.537	3.667	2.882
KR_TSY	Local	-1.549	-0.839	0.937	-1.200	0.912	2.561	2.443	0.066	1.164	-0.600	3.772	-1.705	5.947	5.146	1.390
	JPY Base	-1.497	1.764	0.956	0.065	0.593	5.600	-4.197	-0.198	1.521	0.306	1.210	-2.527	3.324	-3.947	-1.046
	JPY Hedge Base	-1.865	-1.164	0.611	-1.509	0.603	2.336	2.001	-0.211	0.927	-0.839	3.415	-1.991	2.167	3.249	0.505

Source: FTSE Russell, as of December 31, 2024.

# **Return Attribution of WGBI**

The return attribution for WGBI (ex Japan) and WGBI (ex Japan and China) are shown below. Local-based returns are decomposed into two components: rolling yield (carry) and market factors. The yen-hedged return (return assuming 100% currency hedging) is calculated by taking into account the cost of currency hedging and the factor of hedging error. The difference between this yen-hedged return and the yen-based return is defined as the FX advantage (currency factor).

As in 2023, long-term interest rates in major countries remained stable within the range in 2024, and the local currency return of the FTSE World Government Bond Index (ex Japan) was slightly positive. However, the yenhedged return is negative because the cost of currency hedge remains high, reflecting the difference between short-term interest rates in Japan and overseas countries. The exchange rate of Japanese yen was a historic low, exceeding 160 yen to the USD by the middle of the year. The yen then returned to the 140 range in September, but fell again to the near 160 yen range towards the end of the year, resulting in a significant positive exchange rate factor of +13.76% for 2024 and a yen-based return of 9.93%.

### WGBI (Ex Japan) return attribution result

		Local Bas	e	JPY		
	Rolling	Market	Total	Hedge	FX Adv	JPY Base
1	0.282	-0.639	-0.358	-0.799	3.330	2.504
2	0.271	-1.291	-1.024	-1.441	2.596	1.117
3	0.311	0.439	0.752	0.337	1.430	1.771
4	0.295	-2.062	-1.773	-2.237	3.975	1.649
5	0.332	0.457	0.790	0.392	0.920	1.316
6	0.313	0.440	0.755	0.382	2.178	2.568
7	0.318	1.695	2.019	1.523	-5.644	-4.207
8	0.294	0.528	0.824	0.433	-1.708	-1.283
9	0.281	0.757	1.040	0.671	-0.871	-0.206
10	0.280	-1.894	-1.619	-2.070	5.405	3.223
11	0.299	1.044	1.346	0.989	-2.167	-1.200
12	0.297	-1.396	-1.104	-1.513	4.083	2.508
Q4	0.879	-2.254	-1.396	-2.598	7.331	4.542
2H	1.782	0.684	2.479	-0.020	-1.323	-1.344
2024	3.632	-1.989	1.572	-3.369	13.763	9.929

Source: FTSE Russell, Yield Book, as of December 31, 2024.

# WGBI (Excluding China/Japan)

		Local Bas	е	JPY		
	Rolling	Market	Total	Hedge	FX Adv	JPY Base
1	0.288	-0.762	-0.477	-0.941	3.394	2.421
2	0.278	-1.456	-1.182	-1.623	2.618	0.953
3	0.322	0.486	0.809	0.372	1.488	1.865
4	0.305	-2.287	-1.989	-2.484	3.979	1.396
5	0.346	0.481	0.829	0.404	1.021	1.429
6	0.327	0.408	0.736	0.336	2.177	2.521
7	0.333	1.828	2.167	1.635	-5.627	-4.084
8	0.308	0.597	0.906	0.482	-1.764	-1.291
9	0.294	0.857	1.153	0.755	-0.901	-0.153
10	0.293	-2.153	-1.867	-2.357	5.439	2.953
11	0.315	1.086	1.404	1.023	-2.082	-1.080
12	0.313	-1.766	-1.458	-1.903	4.117	2.135
Q4	0.924	-2.837	-1.940	-3.235	7.494	4.015
2H	1.870	0.383	2.258	-0.433	-1.242	-1.671
2024	3.786	-2.753	0.926	-4.325	14.135	9.197

Source: FTSE Russell, Yield Book, as of December 31, 2024.

# The Profile of WGBI (January 2025)

		Par amount	Mkt Value	We	ight			Yield	Mod	
	Issue	(\$MLN)	(\$MLN)	WGBI	WGBI xJP	Coupon	Remaining	(%)	Dur	Rating
WGBI	1298	31,055	29,108	100.0%	-	2.52	9.48	3.37	6.89	AA
WGBI_X_JP	1026	27,950	26,209	90.0%	100.0%	2.69	8.95	3.59	6.37	AA
WGBI_X_JP_X_CN	946	25,197	23,235	79.8%	88.7%	2.69	9.21	3.87	6.44	AA
EGBI	399	8,126	7,764	26.7%	29.6%	2.10	9.52	2.70	7.14	AA-
US_TSY	283	13,604	12,410	42.6%	47.3%	2.96	8.38	4.45	5.75	AA+
CA_TSY	41	534	511	1.8%	2.0%	2.61	9.02	3.08	6.74	AAA
MX_TSY	16	219	196	0.7%	0.7%	7.55	9.07	10.14	4.59	BBB+
AU_TSY	27	350	316	1.1%	1.2%	2.69	8.24	4.20	6.41	AAA
NZ_TSY	15	78	72	0.2%	0.3%	2.87	8.46	4.16	6.36	AAA
JP_TSY	272	3,105	2,899	10.0%	-	1.07	14.21	1.32	11.60	A+
CN_TSY	80	2,753	2,974	10.2%	11.3%	2.61	6.58	1.43	5.82	A+
MY_TSY	29	129	133	0.5%	0.5%	4.07	10.21	3.80	7.50	А
SG_TSY	21	102	101	0.3%	0.4%	2.57	11.38	2.83	8.47	AAA
AT_TSY	31	311	288	1.0%	1.1%	1.81	13.85	2.58	8.55	AA+
BE_TSY	33	432	407	1.4%	1.6%	2.19	12.01	2.81	8.53	AA
FI_TSY	24	142	128	0.4%	0.5%	1.32	9.38	2.58	7.54	AA+
FR_TSY	49	2,054	1,897	6.5%	7.2%	1.84	9.84	2.84	7.18	AA-
DE_TSY	62	1,570	1,502	5.2%	5.7%	1.57	9.04	2.21	7.26	AAA
IE_TSY	17	134	122	0.4%	0.5%	1.19	9.31	2.44	7.70	AA
IT_TSY	91	1,795	1,786	6.1%	6.8%	3.02	8.48	3.03	6.40	BBB
NL_TSY	23	364	343	1.2%	1.3%	1.47	10.18	2.42	8.12	AAA
ES_TSY	51	1,170	1,139	3.9%	4.3%	2.32	9.09	2.75	6.85	А
PT_TSY	18	156	152	0.5%	0.6%	2.23	8.72	2.55	6.95	A-
SE_TSY	8	45	44	0.1%	0.2%	1.35	6.21	2.25	5.67	AAA
DK_TSY	7	60	58	0.2%	0.2%	1.79	11.31	2.08	9.10	AAA
NO_TSY	10	43	40	0.1%	0.2%	2.11	5.86	3.87	5.03	AAA
PL_TSY	16	151	143	0.5%	0.5%	3.51	4.59	5.42	3.84	А
GB_TSY	61	1,658	1,357	4.7%	5.2%	2.71	15.15	4.60	9.00	AA
IL_TSY	13	99	91	0.3%	0.3%	2.70	8.65	4.34	6.18	А
KR_TSY	68	643	627	-	-	2.69	14.45	2.86	10.57	AA

Source: FTSE Russell, as of December 31, 2024. Korea will be included in WGBI from November 2025 profile

# Market review of WGBI for Q4, 2024

Robin Marshall, Director GIR, January 15th 2024.

### WGBI performance in Q4 – short bonds and China the strongest performers

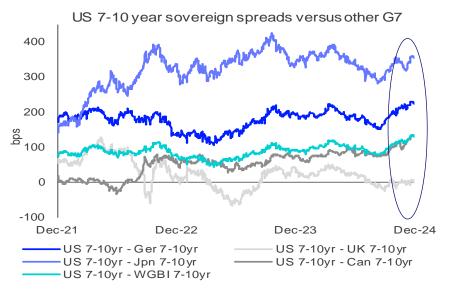
Global bond markets experienced mixed performance in Q4, with longer duration bonds selling off, after the US election results in November, and stronger US economic data prompting fears of a rebound in inflation. Only longer dated Chinese govt bonds defied this trend, after further PBOC policy easing. Although policy easing continued in the G7, with all major central banks easing rates further- apart from the BoJ- the Fed scaled back expectations of rate cuts in 2025, as the December " dot plot " projections showed only a further 50 bp of easing for the year, compared to 100 bp previously. The de-coupling of longer dated WGBI-ex Japan yields from shorter dated yields is shown in Chart 1.



### Chart 1 WGBI ex Japan, yields 2021-24

Source: FTSE Russell, data to December 31, 2024

Stronger US data, with growth tracking near 3% in Q4, and inflation still above the Fed's 2% target, fears of further widening in the US budget deficit and increased US Treasury issuance all combined to drive US spreads higher against other WGBI ex Japan constituents (apart from the UK). US spreads widened against all markets apart from UK gilts, as Chart 2 shows. It is extremely unusual for US 10 year yields to rise in the 3-4 months following the first Fed interest rate cut of the cycle. This increase in US spreads also drove a strong US dollar in Q4, as the yen fell back, and reversed its Q3 gains.



### Chart 2: US sovereign spreads versus other G7 members

Source: FTSE Russell, as of December 31, 2024

## Q4 returns show outperformance by China (JPY hedged)

But US dollar strength and yen weakness in Q4 meant that WGBI and WGBI ex Japan returns un-hedged were favourable in Q4 in yen terms, with gains of 3.9% - 4.5%, as Table 1 shows, despite losses in local bond markets. On a yen hedged basis however, the cost of hedging out fx exposure and losses in bond markets in local currency terms turned these gains into negative returns in Q4, with losses of up to 5% in some WGBI constituents (like UK gilts) and 2.6% in WGBI ex Japan. The only exception to the losses in WGBI constituent bond markets was in China, which showed positive returns of nearly 3%, after further PBOC easing.

Q4 (Sept 30-Dec 31, 2024)	Local	JPY Base	JPY Hedged
WGBI	-1.41	3.90	-2.49
WGBI ex Japan	-1.39	4.54	-2.60
WGBI ex Japan & China	-1.94	4.02	-3.24
US	-3.10	6.47	-4.56
EGBI	-0.13	1.80	-1.14
UK	-3.58	-1.08	-4.97
China	2.97	8.75	2.52
Japan	-1.62	-1.62	-1.62

Source: FTSE Russell, as of December 31, 2024

## Duration was not the investor's friend in Q4, apart from in China

Unlike Q3, when yields fell across the curve, yields backed up in longer duration bonds in Q4, apart from China. Weakness was most pronounced in longer dated US Treasuries and UK gilts, which fell by 8-9.5%, as Table 2 shows for returns across the yield curve, in local currency terms. Fears about the impact on inflation of more US trade tariffs, after the US elections, and increased gilt issuance after the UK budget were key drivers of weakness in longs. In comparison short-dated bonds barely moved in Q1, helped by reductions in central bank policy rates throughout the G7. This meant yield curves continued to steepen in Q4, as long yields rose, relative to shorts, completely unwinding the inversion of the curve that prevailed in 2022-23.

Q4 (Sept 30-Dec 31, 2024)	1-3 yr	7-10 yr	20+ yrs
WGBI	0.30	-1.52	-4.46
WGBI ex Japan	0.33	-1.53	-4.79
WGBI ex Japan & China	0.21	-2.42	-6.14
US	-0.04	-4.54	-9.48
EGBI	0.62	-0.65	-0.81
UK	0.42	-2.78	-7.68
China	1.19	4.25	7.58
Japan	-0.21	-1.49	-2.89

Table 2: WGBI performance of different maturities in Q4, 2024, to local base

Source: FTSE Russell, as of December 31, 2024

### Yen returns in overseas markets were boosted strongly by yen weakness

Yen returns in overseas markets were transformed by the weak yen, particularly versus the strong US dollar, so that short dated WGBI and WGI ex Japan returns were positive by 6.7 - 7.1%, to a yen base, as Table 3 shows. Short US Treasuries returned nearly 10% in Q4, in yen terms, thanks to the combination of the Fed easing rates and the strong US dollar. But longer China bonds gave the best returns, to a yen base, with gains of up to 13.6%, as deflationary fears persisted, and in response to further monetary easing by the PBOC in Q4.

Table 3: WGBI performance of different maturities in Q4, 2024, to yen base

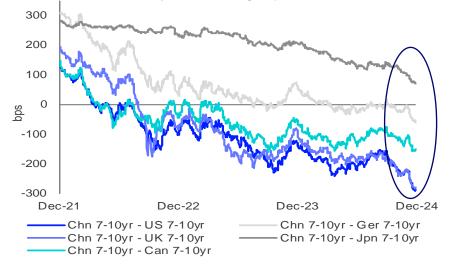
Q4 (Sept 30-Dec 31, 2024)	1-3 yr	7-10 yr	20+ yrs
WGBI	6.74	2.86	0.23
WGBI ex Japan	7.14	3.39	0.85
WGBI ex Japan & China	7.18	2.36	-0.55
US	9.83	4.88	-0.54
EGBI	2.57	1.28	1.12
UK	3.01	-0.27	-5.29
China	6.86	10.10	13.61
Japan	-0.21	-1.49	-2.89

Source: FTSE Russell, as of December 31, 2024

### China sovereign spreads reach new post-Covid lows in Q4

Outperformance by longer China bonds caused China sovereign spreads to tighten in Q4, with spreads reaching post-Covid lows against the US and UK, as Chart 3 shows, for the 7-10 yr area of the yield curve. Indeed, China 7-10 year bonds now trade well through 7-10 yr Bunds, and yield spreads have fallen by up to 300 bp since the G7 countries began raising rates in early 2022, largely because the PBOC has been gradually reducing rates over the same period.





China 7-10 year sovereign spreads versus G7

Source: FTSE Russell, as of December 31, 2024

### WGBI performance for the full year 2024

Overall, 2024 proved a year in which currency movements and duration dominated WGBI returns. As Table 4 shows, yen weakness meant that unhedged returns to a yen base reached nearly 10% in the WGBI ex Japan index and were over 8% in the WGBI. Within the constituents, both the US and China made strong contributions to unhedged returns, with the strong US dollar boosting US Treasury returns, and the decline in Chinese yields, plus renminbi gains, enhancing China bond returns. Yen hedged returns were much weaker however, as the cost of hedging and the negative returns in some local markets combined to drive losses of up to 9.7%, with the UK and US weakest performers. Only Chinese bond returns were still positive in yen hedged terms (up 5.9%).

2024 (Jan to Dec)	Local	JPY Base	JPY Hedged
WGBI	0.962	8.279	-3.441
WGBI ex Japan	1.572	9.929	-3.370
WGBI ex Japan & China	0.927	9.197	-4.325
US	0.647	12.199	-5.220
EGBI	1.860	6.442	-2.362
UK	-4.293	4.816	-9.652
China	7.800	16.763	5.879
Japan	-4.274	-4.274	-4.274

Source: FTSE Russell, as of December 31, 2024

# Asset size of WGBI tracked by Japanese public pension fund

The FTSE World Government Bond Index (WGBI) is the most widely used global bond benchmark in Japan. We frequently receive inquiries about the size of asset management that uses the WGBI as a benchmark, but since some funds refer to the WGBI for in-house management, it is difficult to accurately grasp the size of assets tracking a specific benchmark. However, since Japanese public pension funds disclose details of their management status on their websites, it is possible to estimate the size of assets managed using the WGBI as a benchmark by limiting it to this sector. Below, we would like to report on the use of the WGBI by Japanese public pension funds.

### The Government Pension Investment Fund (GPIF)

GPIF published the amount of assets by passive managers and designated benchmarks on their FY2023 business overview (https://www.gpif.go.jp/operation/65829801gpif/2023\_4Q\_0705\_jp.pdf). According to this document, the main benchmark for foreign bonds is the World Government Bond Index (excluding Japan and China), but in addition to currency-specific subsectors such as the US Treasury Bond Index, EGBI, and World Government Bond Index (excluding the US, EMU, Japan, and China), GPIF also uses sub-indices by maturity for management. The total investment amount for these series of WGBI and it's subsector indices is 58.8671 trillion yen as of the end of FY2023. GPIF classifies currency-hedged foreign bond investments as part of the yen bond asset class, and the amount above includes approximately 1.35 trillion yen recorded in this category.

Benchmark	Amount (100MIn JPY)
Non JPY/CNY WGBI	310,025
Non JPY/CNY/US/EMU WGBI	40,655
US Treasury Index	129,512
US Treasury Index (1-3Yr)	6,123
US Treasury Index (10+Yr)	5,385
EMU Government Bond index (EGBI)	91,326
EGBI (1-3Yr)	3,342
EGBI (10+Yr)	2,303
Total	588,671

Source: GPIF, FTSE, as of March 2024

#### Other public pension funds

Other public pension funds also disclose their asset amounts by benchmark on their websites. However, although the National Pension Fund Association has designated the World Government Bond Index as the manager benchmark and entrusted it to multiple asset managers are using WGBI as benchmark, their asset amounts by managers are not disclosed and we were not able to obtain the asset amount tracking WGBI. Except National Pension Fund Association, table below shows asset amount tracking WGBI for other funds. The unit is trillion JPY as of the end of March 2024. After the table, URL of data source are indicated.

Pension Fund Association	
Local Government Employees Mutual Aid Association	
National Federation of Municipal Employees Mutual Aid Associations	
National Public Service Personnel Mutual Aid Association	2.14
Public School Mutual Aid Association	
National Pension Fund Association	
Private School Teachers Mutual Aid Association	
Police Mutual Aid Association	0.91
Total	17.68

#### Pension Fund Association

https://www.pfa.or.jp/activity/shisan/files/setsumei\_pfaunyo2023.pdf

#### Local Government Employees Mutual Aid Association

https://www.chikyoren.or.jp/sikin/joukyo\_r5\_kounen\_pal202409.pdf https://www.chikyoren.or.jp/sikin/joukyo\_r5\_keika\_pal20240705\_1.pdf

National Federation of Municipal Employees Mutual Aid Associations https://ssl.shichousonren.or.jp/pdf/fund/unyoujoukyou/20240705-1.pdf https://ssl.shichousonren.or.jp/pdf/fund/unyoujoukyou/20240705-2.pdf

#### National Public Service Personnel Mutual Aid Association https://www.kkr.or.jp/shikin/r05\_4q\_k.pdf

#### Public School Mutual Aid Association

https://www.kouritu.or.jp/content/files/about/disclosure/shisanunyo/kounen2023.pdf https://www.kouritu.or.jp/content/files/about/disclosure/shisanunyo/keika2023.pdf

#### Private School Teachers Mutual Aid Association

https://www.kouritu.or.jp/content/files/about/disclosure/shisanunyo/kounen2023.pdf https://www.kouritu.or.jp/content/files/about/disclosure/shisanunyo/keika2023.pdf

#### Police Mutual Aid Association

https://www.keikyo.jp/about/files/r5\_kousei.pdf https://www.keikyo.jp/about/files/r5\_keityou.pdf

# Index announcement

### WGBI-DM (Excluding Japan) - new data files added

The FTSE World Government Bond Index – Developed Market (WGBI-DM), which is composed only of government bond markets of developed countries, has added an index "excluding Japan" as a standard index. The data files provided by DDS have the filename prefix followed by WGBIDMXJP (for example, the January monthly profile is IX\_MP\_WGBIDMXJP\_202501.csv). In addition to the WGBI-DM (excluding Japan), this file also provides sub-sectors by rating and maturity buckets.

### Fixing Date for 2025

FTSE Fixed Income Index rules stipulate that there must be a minimum of four business days following each index fixing date and before calendar month-end in all of the following business regions: US, UK, Eurozone, Japan, and Australia. Index fixing dates are subject to change if unforeseen circumstances arise affecting these business days.

The following are the fixing dates for 2025.

January 24, 2025 February 21, 2025 March 25, 2025 April 22, 2025 May 23, 2025 June 24, 2025 July 25, 2025 August 22, 2025 September 24, 2025 October 27, 2025 November 20, 2025 December 19, 2025

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