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Wharfedale Associates - White Series #3

G15 Capital Structure and Gearing Study

1 Introduction

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- **Wharfedale Associates Limited ("WAL")** provides specialist corporate finance, treasury and FP&A in-house consultancy services to the UK housing sector
- The **Wharfedale Associates White Series** is a series of original white papers covering topical areas of housing association corporate finance
- **White Series #3** (version 4.2) presents **a study of the G15 housing associations capital structure and gearing**
- The following areas are covered:
  - G15 capital structure
  - Measures of G15 financial gearing and financial indebtedness
  - Economic gearing
  - Gearing covenants and capacity
- All source financial information is taken from the publically available 15/16 financial statements of the G15 members. The financial statements extracts on which gearing and indebtedness calculations are based is shown in the Appendix. Any calculations or assumptions made by WAL are explained in this document
- To discuss any of the content of this white paper please contact **nathan.pickles@wharfedaleassociates.com**

Executive Summary

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- In spite of being a relatively homogeneous group of entities, the G15 members exhibit major variation across their capital structures as reported in their latest 15/16 financial statements. This can be attributed to variations in historical profitability, funding mix and accounting factors
- FRS102 accounting has introduced material discrepancy into G15 capital structures due to (inter alia) inconsistent application of "deemed cost" accounting and varying levels of standalone derivatives exposure.
- Different gearing measures can present a quite different picture of the relative level of indebtedness of the G15 members, and some gearing measures are now inappropriate to compare between housing associations. It is advisable when analysing housing association indebtedness never to look at any particular gearing measure in isolation and always to consider FRS102 balance sheet effects
- From a financial covenant perspective, our study indicates that gearing calculated as net debt divided by the balance sheet historic cost of properties is the most tangible and least risky gearing covenant basis for a housing association. However, its key drawback is that it does not present a current picture of gearing since it is based on both historic asset values and historic indebtedness values
- A truer picture of housing association gearing can be illustrated by our Economic Gearing measure, which adjusts historical accounting book values to fair value for both the gearing numerator and denominator. Gearing calculated by this measure may not actually differ too significantly from historic cost based gearing, assuming both debt and assets are valued at a broadly similar premium to book value, which is suggested by available market evidence
- Our study estimates that the G15 members have theoretical additional core borrowing capacity of £15-20bn, which would translate into the ability to hold 50,000 – 65,000 additional affordable homes in London on their combined balance sheet
- G15 capacity to deliver new homes across all tenures is much greater when taking into account both capital recycling (associated with private sale and shared ownership tenures) and "off balance sheet" borrowing capacity
- However, a substantial portion of this capacity will remain inaccessible whilst legacy bank loan covenants remain in place

G15 Capital Structure

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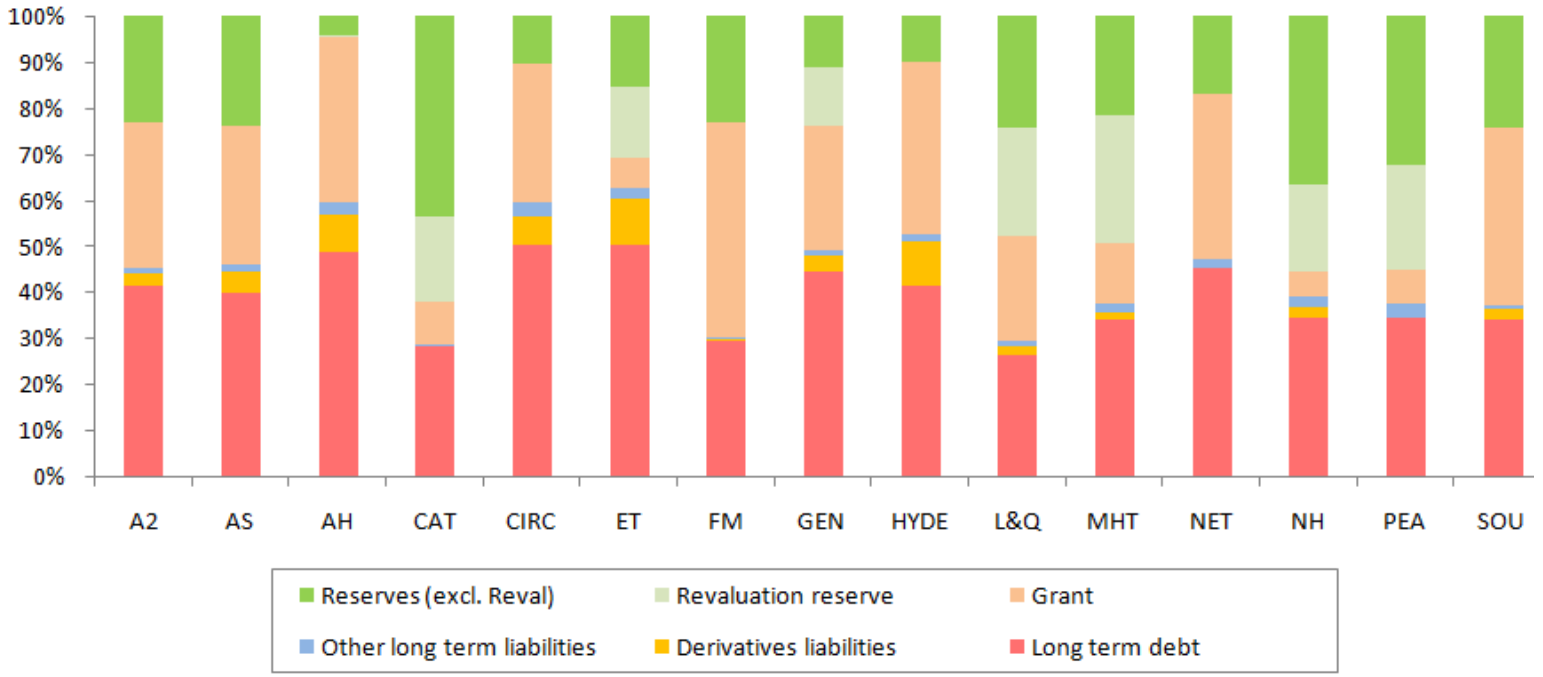
- The table and chart below illustrate the long term capital structure of the G15 housing associations as presented in the 15/16 FRS102 group financial statements (see Appendix for underlying financial statements data):

Capital Structure	A2	AS	AH	CAT	CIRC	ET	FM	GEN	HYDE	L&Q	MHT	NET	NH	PEA	SOU	G15
Long term debt	1,335	1,185	665	602	2,080	586	714	1,465	1,254	2,110	1,050	731	1,293	1,106	668	16,843
Derivatives liabilities	85	139	111	-	251	121	5	120	294	163	45	-	88	-	47	1,468
Other long term liabilities	45	53	38	9	142	26	17	40	54	69	56	28	97	88	13	775
Grant	1,025	903	498	194	1,243	75	1,135	888	1,137	1,836	413	581	195	244	762	11,130
Reserves (excl. Reval)	750	713	58	928	432	180	560	371	304	1,967	667	277	1,389	1,038	474	10,107
Revaluation reserve	-	-	0	398	-	184	-	418	-	1,889	856	-	718	728	-	5,192
Total long term capital	**3,240**	**2,992**	**1,371**	**2,131**	**4,148**	**1,171**	**2,431**	**3,303**	**3,043**	**8,034**	**3,086**	**1,617**	**3,780**	**3,204**	**1,964**	**45,514**



G15 Capital Structure

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- The data illustrates that, in spite of being a relatively homogeneous group of entities, there is major variation in the capital structure across the G15 members. This variation can be attributed to three key factors:
  - **Historical borrowing:** the level borrowing by the G15 members has differed historically for individual reasons
  - **Revenue reserves and grant:** differences across G15 members are explained in part (in addition to the accounting factors noted below) by varying levels of historical profitability and grant funding
  - **Accounting treatment:** the following accounting treatments are key drivers of inconsistency across G15 members' capital structure
    - **Book value of housing properties:** **only seven of the G15 members have elected to apply "deemed cost" treatment to their housing properties on transition to FRS102**, resulting in their housing properties being restated to EUV-SH value at 1st April 2014. This has created substantial revaluation reserves for those 7 members
    - **Grant:** differs between G15 members to a significant extent as a result of deemed cost treatment and the FRS102 grant accounting model applied
    - **Depreciation:** the accumulated depreciation balance varies **between 1% and 15%** of housing assets across the G15 due to deemed cost impact and differences in depreciation accounting treatment
    - **Standalone derivatives:** there are **12 G15 members who have standalone derivatives** who must hold them at fair value in their FRS102 accounts. By contrast, debt and embedded hedging is (generally) not subject to the same fair value accounting requirements, so its true value is mostly not captured by FRS102

Measures of Gearing

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- In general terms **gearing is a relative measure of the degree of financial indebtedness (debt) of an entity**
- There are numerous valid measures of gearing and financial indebtedness. For a housing association **indebtedness can usefully be analysed relative to capital, equity, asset base, revenues or cashflow**. For the purposes of this study, we have calculated the following measures for each of the G15 members:
  - **Gearing - total capital** = net debt / total long term capital
  - **Gearing - net worth** = net debt / grant plus reserves (excluding revaluation reserve)
  - **Gearing - debt to equity** = net debt / reserves (excluding revaluation reserve)
  - **Gearing - housing assets NBV** = net debt / net book value housing properties plus investment properties
  - **Gearing - housing assets cost** = net debt / book value of housing properties (NBV adding back accumulated depreciation and impairment) plus investment properties
  - **Gearing - housing assets cost – FRS102 adjusted** = same as "Gearing – housing assets cost" but with derivatives and debt FV adjustments stripped out of net debt and revaluation reserve deducted from housing properties book value
  - **Net debt per unit** = net debt / total units
  - **Net debt to total (or social lettings) revenue** = net debt / total (or social lettings) revenue
  - **Economic gearing** = economic value of net indebtedness / economic value of fixed housing assets (see slide 11)
- For all of the above, net debt has been calculated as long term debt plus derivatives liabilities less treasury net assets (which is cash less short term debt plus derivatives assets)

Measures of Gearing

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- The table below shows the gearing and indebtedness measures applied to the G15 members individually and as a group. The ratios are calculated directly from the 15/16 FRS102 financial statements data in the Appendix to this document:

Measures of Gearing	A2	AS	AH	CAT	CIRC	ET	FM	GEN	HYDE	L&Q	MHT	NET	NH	PEA	SOU	G15
1) Gearing - total capital	42%	40%	52%	23%	54%	53%	28%	44%	45%	26%	28%	41%	34%	31%	29%	36%
2) Gearing - net worth	76%	75%	128%	44%	133%	244%	40%	114%	96%	54%	80%	77%	82%	78%	45%	78%
3) Gearing - debt to equity	181%	170%	1230%	53%	516%	347%	120%	388%	454%	104%	130%	239%	93%	96%	119%	164%
4) Gearing - housing assets NBV	47%	42%	56%	26%	59%	60%	29%	46%	50%	28%	32%	46%	38%	33%	32%	40%
5) Gearing - housing assets cost	43%	37%	48%	24%	54%	58%	26%	43%	46%	27%	31%	42%	38%	31%	29%	37%
6) Gearing - housing assets cost (FRS102 adj.)	40%	33%	40%	30%	48%	54%	26%	45%	37%	32%	42%	42%	45%	41%	27%	38%
7) Net debt per unit	£37k	£20k	£27k	£23k	£31k	£42k	£26k	£44k	£29k	£26k	£23k	£32k	£41k	£34k	£21k	£30k
8) Net debt to social lettings revenue	646%	396%	455%	393%	635%	503%	330%	577%	623%	485%	449%	479%	603%	586%	365%	511%
9) Net debt to total revenue	358%	313%	417%	217%	508%	484%	253%	354%	394%	285%	369%	213%	312%	283%	317%	333%

Measures of Gearing

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- The table below shows the G15 members ranked in order of Gearing (total capital), from the lowest geared (Catalyst) to the highest geared (Circle) on this gearing basis. “G15” shows all members combined (the average):

G15 Member	1) Gearing - total capital	2) Gearing - net worth	3) Gearing - debt to equity	4) Gearing - housing assets NBV	5) Gearing - housing assets cost	6) Gearing - housing assets cost (FRS102 adj.)	7) Net debt per unit	8) Net debt to social lettings revenue	9) Net debt to total revenue
CAT	23%	44%	53%	26%	24%	30%	23	393%	217%
L&Q	26%	54%	104%	28%	27%	32%	26	485%	285%
FM	28%	40%	120%	29%	26%	26%	26	330%	253%
MHT	28%	80%	130%	32%	31%	42%	23	449%	369%
SOU	29%	45%	119%	32%	29%	27%	21	365%	317%
PEA	31%	78%	96%	33%	31%	41%	34	586%	283%
NH	34%	82%	93%	38%	38%	45%	41	603%	312%
G15	36%	78%	164%	40%	37%	38%	30	511%	333%
AS	40%	75%	170%	42%	37%	33%	20	396%	313%
NET	41%	77%	239%	46%	42%	42%	32	479%	213%
A2	42%	76%	181%	47%	43%	40%	37	646%	358%
GEN	44%	114%	388%	46%	43%	45%	44	577%	354%
HYDE	45%	96%	454%	50%	46%	37%	29	623%	394%
AH	52%	128%	1230%	56%	48%	40%	27	455%	417%
ET	53%	244%	347%	60%	58%	54%	42	503%	484%
CIRC	54%	133%	516%	59%	54%	48%	31	635%	508%

Measures of Gearing

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Ref	Measure	Comments
1	Gearing – total capital	A straightforward gearing measure to understand but vulnerable to distortion by accounting factors and depends on the approach to valuing the asset base (therefore not comparable across G15 under FRS102 accounting)
2	Gearing – net worth	The measure is more sensitive to debt levels, and unsuitable for a developing HA in a low grant environment since debt financed development results in debt being added to the numerator but little (or nothing) added to the denominator , driving a disproportionate rise in gearing relative to total capital or housing assets measures
3	Gearing – debt to equity	The measure is incomplete for housing associations since it does not account for the whole capital structure (i.e. It excludes grant liability which is a form of equity). It is inappropriate for comparative analysis between FRS102 financial statements as housing associations apply different grant accounting models
4	Gearing – housing assets NBV	Subject to significant distortion by revaluation and depreciation policies
5	Gearing – housing assets cost	The measure is stable and can be calculated entirely from tangible values which are measurable in the real world. However, the key drawback is that it does not present a current picture of economic value
6	Gearing – housing assets cost FRS102 Adjusted	Measure 5 adjusted to strip out derivatives fair values and revaluation reserves. When compared to measure 1 (gearing – total capital) the G15 ranking appears to materially differs due to FRS102 accounting
7	Net debt per unit	The measure is subject to distortion by meaning of “unit”. Based on total units (owned and managed) per the G15 accounts it shows quite a different picture to gearing measures 1-6.
8 / 9	Net debt to total (social lettings) revenue	The measures show quite a different picture of relative level of indebtedness across the G15 so should not be relied upon in isolation as a measure of indebtedness

Economic Gearing

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- A truer picture of gearing can be presented by considering both the current (rather than historic) value of both the numerator and denominator in the gearing ratio. **We define economic gearing as the present value (PV) of debt and derivatives divided by the economic value (assumed conservatively to be EUV) of rented housing properties**. Economic gearing aims to describe the extent to which future cashflows from the rented asset pool can support the cashflows of the debt and derivatives portfolio.

- The latest set of G15 financial statements, supported by anecdotal market information, suggests **a portfolio average premium of conventional EUV over balance sheet historic cost of roughly 10-40% at portfolio level** (noting that huge variation exists at the level of individual properties)**.** We would also estimate that the **present value of G15 member financial indebtedness is broadly between 110% and 140% of debt principal value**, taking into account both the economic value of legacy low margins and the current valuation premium of locked in historic fixed rates (in both fixed rate debt and hedging format). Putting this information based on measure 6 of gearing for the G15 group produces the following result:

Portfolio Average EUV Premium over Cost

Indebtedness PV	0%	10%	20%	30%	40%
100%	38%	35%	32%	29%	27%
110%	42%	38%	35%	32%	30%
120%	46%	42%	38%	35%	33%
130%	50%	45%	41%	38%	36%
140%	54%	49%	45%	41%	38%

Gearing Covenants

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- Legacy bank debt gearing covenants were mostly defined in terms of either balance sheet historic cost of properties, “net worth” (meaning in most cases grant plus reserves) or debt per unit. In addition to having three common gearing covenant bases, there is major variation in both absolute covenant limits and the calculation definitions in legacy loan agreements
- Our study suggests that **gearing calculated as net debt divided by the balance sheet cost of properties held for long term rent is the most tangible and least risky gearing covenant basis**
- It is the most tangible measure since it can be calculated entirely from quantities objectively measured/measurable in the real world, and it is the least risky measure because it is not exposed to the volatility associated with reserves or valuation based gearing measures, and so it is in theory less susceptible to being distorted by accounting factors (albeit FRS102 items such as deemed cost and derivatives fair values may need to be adjusted for)
- However, the key weakness with the historic cost gearing measure is that it shows a historic picture of the level of gearing, and this applies equally to both the numerator and the denominator of the gearing ratio. This is because properties are stated at their historic cost (or “deemed cost”) in the G15 balance sheet, whilst the debt portfolio is also mostly shown at its historic cost value (except for derivatives) rather than shown at its current fair value which is in many cases very far off the current market

Gearing Covenants

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- By contrast, a gearing measure based on housing properties at valuation has the upsides of presenting a truer picture of economic value on the balance sheet and being exposed to the capacity benefit of potential future asset valuation uplifts
- However, a valuation based gearing covenant has the downsides of being risky in the short term (particularly when managing tight gearing covenant headroom), being subject to the views of a valuer (and any parties who might be influencing the valuer) and being exposed to the potential loss of capacity over the longer term as a result of future asset valuation reductions (a particularly significant problem for the G15 members where a typical EUV is far below cost for newly developed affordable homes). The same factors would arguably apply to a gearing covenant numerator based on the economic valuation of indebtedness
- Our analysis indicates that **economic gearing on average might not differ too significantly from historic cost gearing**, although clearly this is highly dependent on the idiosyncrasies of any particular housing association's asset and treasury portfolio, as well as resting on the assumption that the conventional EUV is indeed the appropriate economic value measurement basis for rented housing assets

G15 Capacity

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- Our study indicates that, based on an assumed "market" level gearing covenant of **65%** historic cost book value there is over **£25bn of potential additional debt capacity on G15 core balance sheets** (i.e. over £25bn could be added to both the numerator and denominator of historic cost gearing covenant measures for the G15 without the ratio exceeding 65%)**.**
- In practice, the G15 might conceivably gear up to a level of **55-60% of historic cost** taking into account other potential capacity constraints (such as interest cover and asset cover), which would imply a more realistic **£15-20bn additional borrowing capacity** based on their latest balance sheets
- The would translate into the **capacity to hold around 50,000 to 65,000 additional affordable homes** in London at currently estimated average unit build costs
- The theoretical capacity of the G15 to deliver homes across all tenures over coming years is considerably greater than this, taking into account capital recycling in relation to homes for private sale and shared ownership, and the ability of the G15 to leverage core balance sheet borrowing capacity though "off balance sheet" development and financing techniques
- However, legacy bank loan gearing covenants which remain in place (and are tighter than our assumed market level of 65% historic cost) would likely mean a significant portion of this capacity is inaccessible without further debt restructuring

Appendix: Financial Statements Data

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Capital Structure (£ms)	A2	AS	AH	CAT	CIRC	ET	FM	GEN	HYDE	L&Q	MHT	NET	NH	PEA	SOU	G15
Debt and treasury liabilities																-
- Long term debt	1,342	1,191	666	604	2,080	537	719	1,465	1,266	2,098	1,050	731	1,293	1,111	673	16,827
- Derivatives liabilities	85	139	111	-	251	121	5	120	294	163	45	-	88	-	47	1,468
- Debt FV adjustments & issue costs	(7)	(7)	(1)	(3)	-	49	(5)	-	(12)	12	-	-	-	(5)	(5)	17
Total debt and treasury liabilities	**1,420**	**1,324**	**776**	**602**	**2,330**	**707**	**719**	**1,585**	**1,548**	**2,273**	**1,094**	**731**	**1,381**	**1,106**	**714**	**18,311**
Other long term Liabilities																
- Pensions	5	24	26	7	27	15	15	30	-	27	2	0	26	61	8	275
- Other long term liabilities	40	29	12	2	115	11	2	10	54	42	53	28	70	27	5	501
Total other long term liabilities	**45**	**53**	**38**	**9**	**142**	**26**	**17**	**40**	**54**	**69**	**56**	**28**	**97**	**88**	**13**	**775**
Grant and reserves																
- Grant	1,025	903	498	194	1,243	75	1,135	888	1,137	1,836	413	581	195	244	762	11,130
- Revenue reserves	750	843	168	928	695	215	565	395	331	2,126	680	277	-	1,038	474	9,484
- Cashflow hedge reserve	(47)	(130)	(111)	-	(263)	(36)	(4)	(28)	(31)	(159)	(24)	-	(17)	-	-	(850)
- Revaluation reserve	-	-	0	398	-	184	-	418	-	1,889	856	-	718	728	-	5,192
- Other reserves and share capital	47	-	1	0	-	-	-	3	4	-	12	-	1,406	-	0	1,473
Total grant and reserves	**1,775**	**1,616**	**557**	**1,520**	**1,676**	**439**	**1,695**	**1,678**	**1,441**	**5,692**	**1,936**	**858**	**2,302**	**2,009**	**1,236**	**26,428**
Total long term capital	**3,240**	**2,992**	**1,371**	**2,131**	**4,148**	**1,171**	**2,431**	**3,303**	**3,043**	**8,034**	**3,086**	**1,617**	**3,780**	**3,204**	**1,964**	**45,514**

Treasury net assets (£ms)	A2	AS	AH	CAT	CIRC	ET	FM	GEN	HYDE	L&Q	MHT	NET	NH	PEA	SOU	G15
Cash and cash equivalents	37	85	53	96	84	56	26	116	87	110	182	65	80	101	145	1,325
Short term loans	(29)	(29)	(12)	(12)	(10)	(7)	(21)	(31)	(54)	(110)	(45)	(5)	(4)	(9)	(7)	(387)
Derivatives assets	-	-	-	-	7	19	-	-	26	-	-	-	-	-	-	52
Treasury net assets	**67**	**114**	**65**	**108**	**101**	**83**	**47**	**147**	**168**	**220**	**227**	**70**	**85**	**110**	**152**	**1,764**

Fixed Assets (£ms)	A2	AS	AH	CAT	CIRC	ET	FM	GEN	HYDE	L&Q	MHT	NET	NH	PEA	SOU	G15
Housing assets (completed)	2,672	3,035	1,438	1,942	3,802	973	2,290	3,138	2,907	6,979	2,576	1,457	2,806	2,691	1,835	40,543
Housing assets (WIP)	144	135	27	116	103	76	243	97	119	468	179	94	282	166	51	2,298
Accumulated depreciation	(286)	(360)	(217)	(141)	(364)	(20)	(203)	(215)	(262)	(417)	(40)	(124)	(54)	(186)	(165)	(3,054)
Impairment	-	-	(2)	(3)	-	(1)	-	-	-	(6)	(26)	(10)	-	-	-	(48)
Investment properties	362	67	29	13	211	19	8	125	-	267	40	29	338	311	47	1,865
Other fixed assets	165	63	9	126	206	61	28	36	131	456	259	43	109	51	51	1,796
Total fixed assets	**3,057**	**2,940**	**1,284**	**2,053**	**3,959**	**1,108**	**2,364**	**3,181**	**2,896**	**7,747**	**2,989**	**1,490**	**3,481**	**3,033**	**1,819**	**43,399**

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