

ICP: Essentials of Real Estate Investing - Problem Set¹
Real Estate Investment Group: Fund 2021.01
In-Class Problem²

Real Estate Investment Group 1 (REIG1), a small investment group comprised of friends and family, has recently raised funds for the purpose of making multi-family real estate investments totaling \$2 million.

Market sentiment during the COVID pandemic caused investors and developers to leave the multifamily investment space until a clearer outlook was determined about how consumers will think of apartment style living in the future. The close-quarters environments and shared spaces that multifamily apartment living provides raised concerns for many individuals who became more conscientious and thoughtful about their health and wellbeing. Vacancy rates increased in multifamily apartments across the country throughout 2020 & 2021 as individuals left apartment leases to move back in with family, move to single-family rental options, took steps towards homeownership, etc.

In recent months market sentiment has shifted and real estate markets are recovering. Foot traffic in cities has increased, travel for work and recreation has increased, and businesses in central urban areas are seeing activity more common with pre-pandemic levels. With this “return to normal,” we are also seeing individuals becoming more comfortable returning to apartment style living. Leading the charge in the multifamily space are Class A & Class B properties³ that provide new and up-to-date apartment living.

REIG1 has observed this trend in the multifamily real estate market and sees an opportunity to capitalize on a value-add multifamily real estate investment. As a real estate investment consultant, REIG1 has come to you to identify a viable acquisition target and help understand investment risks, returns, and value-add opportunities. To do so, you need to come up with a financial projection for the acquisition of an operational apartment building.

Additional Info

- Assume REIG1 has a strong relationship with a lender who will finance the acquisition at 75% LTV⁴ with a verified appraisal on a 30-year fully amortized mortgage loan at 4% interest. Loan origination fees can be assumed to be 1% of the loan amount.
- Current Cap rates for multifamily apartment projects range between 3.5-5.5% today.
- Industry standard operating margins range from 55-65%.
- Assume the Project Start Date to be 1/31/2022 (acquisition will occur 12/31/2021).

¹ This problem and solution set is intended to present an abbreviated discussion of the included finance concepts and is not intended to be a full or complete representation of them or the underlying foundations from which they are built.

² This problem set was developed by Weston Lackey (wklybystudy14@gmail.com) and Richard Haskell, PhD (rhaskell@westminstercollege.edu), Gore School of Business, Westminster College, Salt Lake City, Utah (2021).

³ The terms Class A and Class B refer to high profile, premium properties (A) in highly desirable locations versus lower quality, possibly older properties (B) in less desirable locations

⁴ LTV is Loan-to-Value and refers to the amount of the loan as a percentage of the value or price of the property

Property Attributes

You call a broker friend who has properties listed in the submarket area REIG1 is interesting in targeting. He provides you details of one particular property he believes meets their desired criteria.

The property is on 1 acre and the building has an FAR⁵ (Floor Area Ratio) of 0.5 and has covered parking stalls. It is a Class B property capturing the lower end of market rents for this submarket. The property is 9 years old, and rents have been relatively stable for the last 8 years. No remodeling or CapEx outside of general maintenance have been performed since the initial construction of the building. While functional, some of the finishes in the units are becoming optically outdated. The property has an onsite common area laundry room tenants can use, but no “in unit” laundry.

Revenue Assumptions				
	Units	Monthly Rent	Annual Growth %	Avg Square Feet
<u>Rent Receipts</u>				
One-Bedroom Units	10	\$1,000	4.00%	800
Two-Bedroom Units	14	\$1,600	4.00%	1,250
<u>Parking Fees</u>				
1st car	10	\$50	4.00%	
2nd car	14	\$50	4.00%	
Covered parking	10	\$25	4.00%	
Laundry Room Collections		\$360		
Expense Assumptions				
		% Gross Rent	Annual Growth %	\$ Amount Base Yr
Vacancy Factor		5.00%		\$19,440
Management Fees		8.0%	4.00%	\$31,200
Property Taxes		14.8%	2.00%	\$57,600
Insurance		1.3%	4.00%	\$5,000
Maintenance & Repairs		5.0%	4.00%	\$19,440
Custodial Expense		2.5%	4.00%	\$9,720
Utilities		1.0%	4.00%	\$3,888
Landscaping		3.1%	4.00%	\$12,000
Snow Removal		3.1%	4.00%	\$12,000

⁵ Floor area ratio (FAR) is the measurement of a building's floor area in relation to the size of the lot/parcel that the building is located on. FAR is expressed as a decimal number, and is derived by dividing the total area of the building by the total area of the parcel (building area ÷ lot area)

Problem

- 1) What is the annual PGR⁶ and EGR⁵ of the property assuming the rental rates and vacancy factor stated above?

Potential Gross Rent (PGR) =

Gross Rent Revenue	388,800
Gross Parking Revenue	17,400
Gross Laundry Fees	<u>4,320</u>
Potential Gross Revenue	410,520

Effective Gross Rents (EFR) =

Adj Rent Revenue	369,360
Adj Parking Revenue	16,530
Adj Laundry Fees	<u>4,104</u>
Effective Gross Revenue	389,994

- 2) What is the total property annual operating expenses assuming the assumptions above?

Management Fees	31,200	% of EFR
Property Taxes	57,424	% of Gross Rent; accounted for at end of year
Insurance	4,985	% of Gross Rent
Maintenance & Repairs	19,500	% of EFR
Custodial Expense	9,750	% of Gross Rent
Utilities	3,888	% of Gross Rent
Landscaping	11,963	% of Gross Rent
Snow Removal	<u>11,963</u>	% of Gross Rent
Operating Expenses	150,672	

- 3) What is the NOI of the property?

Effective Gross Revenue	389,994
Operating Expenses	<u>150,672</u>
Net Operating Income	239,322

⁶ PGR (potential gross revenue) and EGR (effective gross revenue) are sometimes referred to as PGI and EGI using the term "income" instead of "revenue"

- 4) Given what we know about cap rates in the multifamily space, at what price will this property likely transact? Is this a property REIG1 can afford to pay for in cash? Could they afford the acquisition if they used debt financing up to 75% LTV? *You can assume an average cap rate for the current market climate. Do not spend time on deals you cannot afford*

At a 4.5% Cap Rate the property's value can be estimated at $\frac{NOI}{Cap\ Rate} = \frac{239,322}{.045} = 5,318,257$

Give a 75% loan to value (price) ratio the loan amount would be $5,318,257 \times .75 = 3,988,693$ and the resulting down payment is $5,318,257 - 3,988,693 = 1,329,564$

Given REIG's \$2,000,000 cash position, the fund has sufficient resources to purchase the property. Note – there may become an issue with the fund being able to cash flow the property's needs in the event we find a negative cash flow in the property's early periods if the Peak Investment amount exceeds \$2,000,000

- 5) What are some potential differences between the potential price of a property given a 3.5% cap rate vs. a 5.5% cap rate? *This should include a calculation and explanation as to why there may be differences and what the different cap rates might represent*

Cap Rate @ Purchase	4.50%	3.50%	5.50%
Purchase Price	5,318,257	6,837,760	4,351,302

The Cap Rate is thought of as a multiple, but is different than the type of Enterprise Multiple we see throughout much of finance. In fact, it is the inverse of an Enterprise Multiple.

$$\frac{1}{Cap\ Rate} = Multiple \text{ and } \frac{1}{0.045} = 22.22$$

If a firm might be valued based on a 22.22x multiple of its EBITDA (recall that NOI is very similar to EBITDA), then a firm with EBITDA of \$239,322 is valued at $22.22 \times 239,322 = 5,318,257$. This is the same dividing the firm's EBITDA by .045 or 4.5%: $239,222 / .045 = 5,318,257$

So what does a Cap Rate represent? It is a multiplier and like all good multipliers it tells us a lot about the expected growth rate of the subject cash flow.

- 6) The broker lists the property at \$5.0 million. What cap rate is being used?

Let's use the Real Estate valuation model in which we use the Cap Rate and solve for an Inferred Cap Rate. If we know the Price (value) and NOI, which we do, we can solve for Inferred Cap Rate.

$$\frac{NOI}{Price} = \frac{239,322}{5,000,000} = 0.47 \text{ or } 4.79\% = Inferred\ Cap\ Rate \quad -$$

- 7) You think the broker is 500 basis points⁷ (0.50%) too low on the cap rate used in the asking price, but fundamentally you like everything else out about the deal, the property, and due diligence checks out. If you can get a deal done at a cap rate 500 basis points higher than the broker is asking, you advise REIG1 to make the offer. What would their offer be?

If we add 500 basis points (0.5%) to the Inferred Cap Rate we end up with a Cap Rate of 4.79% + 0.5% = 5.29%. With an NOI of \$239,322 we can estimate the value of the property to REIG and inform us of the price the fund is likely to offer: $\frac{239,322}{.0529} = 4,527,091$

- 8) How much equity would they need to fund the acquisition?

With a loan to value of 75%, the fund would need to come up with \$1,131,773 to purchase the property and a loan amount of \$3,395,318.

- 9) Provide a loan amortization schedule based on the details of the loan the bank has authorized and the transaction amount indicated by your answer to question 7, above.

⁷ "Basis point" is a term often used when discussing investment costs and returns and is equal to 1/1000th of a percent. 500 basis points is 500/1000th of a percent or 0.5%

Loan Amortization Schedule for 30 year, fully amortized loan

			Payment						Remaining
Mortgage Date	12/31/2021		Month-Year	Payment	Principal	Interest	Total Interest		Balance
Mortgage Amount	3,395,318	1	Jan-22	16,210	4,675	11,535	11,535		3,390,643
Term (Years)	30	2	Feb-22	16,210	5,806	10,404	21,939		3,384,837
Periods per Year	12	3	Mar-22	16,210	5,823	10,386	32,325		3,379,014
Interest Rate	4%	4	Apr-22	16,210	4,730	11,479	43,805		3,374,284
Payment	16,210	5	May-22	16,210	5,116	11,094	54,898		3,369,167
		6	Jun-22	16,210	4,764	11,446	66,344		3,364,404
		7	Jul-22	16,210	5,149	11,061	77,405		3,359,255
		8	Aug-22	16,210	4,798	11,412	88,817		3,354,457
		9	Sep-22	16,210	4,814	11,396	100,213		3,349,644
		10	Oct-22	16,210	5,197	11,013	111,226		3,344,446
		11	Nov-22	16,210	4,848	11,362	122,588		3,339,598
		12	Dec-22	16,210	5,230	10,980	133,567		3,334,368
		13	Jan-23	16,210	4,882	11,328	144,895		3,329,486
		14	Feb-23	16,210	4,899	11,311	156,206		3,324,588
		15	Mar-23	16,210	6,008	10,201	166,408		3,318,579
		16	Apr-23	16,210	4,936	11,274	177,682		3,313,644
		17	May-23	16,210	5,316	10,894	188,576		3,308,328
		18	Jun-23	16,210	4,971	11,239	199,815		3,303,357
		19	Jul-23	16,210	5,349	10,860	210,676		3,298,008
		20	Aug-23	16,210	5,006	11,204	221,880		3,293,002
		21	Sep-23	16,210	5,023	11,187	233,067		3,287,980
		22	Oct-23	16,210	5,400	10,810	243,877		3,282,580
		23	Nov-23	16,210	5,058	11,152	255,029		3,277,522
		24	Dec-23	16,210	5,434	10,775	265,804		3,272,088
		25	Jan-24	16,210	5,094	11,116	276,920		3,266,994
		26	Feb-24	16,210	5,111	11,099	288,019		3,261,883
		27	Mar-24	16,210	5,843	10,367	298,385		3,256,040
		28	Apr-24	16,210	5,148	11,062	309,447		3,250,892
		29	May-24	16,210	5,522	10,688	320,135		3,245,370
		30	Jun-24	16,210	5,184	11,025	331,160		3,240,185
		31	Jul-24	16,210	5,557	10,653	341,813		3,234,628
		32	Aug-24	16,210	5,221	10,989	352,802		3,229,407
		33	Sep-24	16,210	5,239	10,971	363,773		3,224,169
		34	Oct-24	16,210	5,610	10,600	374,373		3,218,559
		35	Nov-24	16,210	5,275	10,934	385,307		3,213,283
		36	Dec-24	16,210	5,646	10,564	395,871		3,207,638
		37	Jan-25	16,210	5,313	10,897	406,769		3,202,325
		38	Feb-25	16,210	5,331	10,879	417,648		3,196,995
		39	Mar-25	16,210	6,400	9,810	427,458		3,190,595
		40	Apr-25	16,210	5,370	10,839	438,297		3,185,224
		41	May-25	16,210	5,738	10,472	448,769		3,179,487
		42	Jun-25	16,210	5,408	10,802	459,571		3,174,078
		43	Jul-25	16,210	5,774	10,435	470,006		3,168,304
		44	Aug-25	16,210	5,446	10,764	480,769		3,162,858
		45	Sep-25	16,210	5,465	10,745	491,514		3,157,393
		46	Oct-25	16,210	5,829	10,380	501,895		3,151,564
		47	Nov-25	16,210	5,503	10,707	512,602		3,146,061
		48	Dec-25	16,210	5,867	10,343	522,945		3,140,194
		49	Jan-26	16,210	5,542	10,668	533,613		3,134,652
		50	Feb-26	16,210	5,561	10,649	544,262		3,129,092
		51	Mar-26	16,210	6,608	9,602	553,864		3,122,484
		52	Apr-26	16,210	5,602	10,608	564,472		3,116,882
		53	May-26	16,210	5,962	10,247	574,719		3,110,919
		54	Jun-26	16,210	5,641	10,569	585,287		3,105,278
		55	Jul-26	16,210	6,001	10,209	595,497		3,099,277
		56	Aug-26	16,210	5,681	10,529	606,026		3,093,597
		57	Sep-26	16,210	5,700	10,510	616,535		3,087,897
		58	Oct-26	16,210	6,058	10,152	626,687		3,081,839
		59	Nov-26	16,210	5,740	10,470	637,157		3,076,099
		60	Dec-26	16,210	6,097	10,113	647,270		3,070,002
		61	Jan-27	16,210	5,780	10,430	657,700		3,064,222
		62	Feb-27	16,210	5,800	10,410	668,110		3,058,422
		63	Mar-27	16,210	6,825	9,385	677,495		3,051,597
		64	Apr-27	16,210	5,843	10,367	687,862		3,045,755
		65	May-27	16,210	6,196	10,013	697,875		3,039,558
		66	Jun-27	16,210	5,884	10,326	708,201		3,033,675
		67	Jul-27	16,210	6,236	9,974	718,175		3,027,439
		68	Aug-27	16,210	5,925	10,285	728,460		3,021,514
		69	Sep-27	16,210	5,945	10,265	738,725		3,015,569
		70	Oct-27	16,210	6,296	9,914	748,639		3,009,273
		71	Nov-27	16,210	5,986	10,223	758,862		3,003,287
		72	Dec-27	16,210	6,336	9,874	768,736		2,996,951

				73	Jan-28	16,210	6,028	10,181	778,918	2,990,923
				74	Feb-28	16,210	6,049	10,161	789,079	2,984,874
				75	Mar-28	16,210	6,724	9,486	798,565	2,978,150
				76	Apr-28	16,210	6,092	10,118	808,682	2,972,058
				77	May-28	16,210	6,439	9,771	818,454	2,965,619
				78	Jun-28	16,210	6,135	10,075	828,529	2,959,485
				79	Jul-28	16,210	6,480	9,730	838,258	2,953,005
				80	Aug-28	16,210	6,178	10,032	848,290	2,946,827
				81	Sep-28	16,210	6,199	10,011	858,302	2,940,628
				82	Oct-28	16,210	6,542	9,668	867,969	2,934,087
				83	Nov-28	16,210	6,242	9,968	877,937	2,927,845
				84	Dec-28	16,210	6,584	9,626	887,563	2,921,261
				85	Jan-29	16,210	6,285	9,924	897,487	2,914,975
				86	Feb-29	16,210	6,307	9,903	907,390	2,908,668
				87	Mar-29	16,210	7,285	8,925	916,316	2,901,384
				88	Apr-29	16,210	6,353	9,857	926,172	2,895,031
				89	May-29	16,210	6,692	9,518	935,690	2,888,339
				90	Jun-29	16,210	6,397	9,812	945,503	2,881,942
				91	Jul-29	16,210	6,735	9,475	954,978	2,875,207
				92	Aug-29	16,210	6,442	9,768	964,745	2,868,765
				93	Sep-29	16,210	6,464	9,746	974,491	2,862,301
				94	Oct-29	16,210	6,799	9,410	983,902	2,855,501
				95	Nov-29	16,210	6,509	9,701	993,602	2,848,993
				96	Dec-29	16,210	6,843	9,367	1,002,969	2,842,149
				97	Jan-30	16,210	6,554	9,656	1,012,625	2,835,595
				98	Feb-30	16,210	6,577	9,633	1,022,258	2,829,019
				99	Mar-30	16,210	7,529	8,681	1,030,939	2,821,490
				100	Apr-30	16,210	6,624	9,585	1,040,524	2,814,865
				101	May-30	16,210	6,955	9,254	1,049,778	2,807,910
				102	Jun-30	16,210	6,671	9,539	1,059,317	2,801,239
				103	Jul-30	16,210	7,000	9,210	1,068,527	2,794,239
				104	Aug-30	16,210	6,717	9,493	1,078,020	2,787,522
				105	Sep-30	16,210	6,740	9,470	1,087,490	2,780,782
				106	Oct-30	16,210	7,067	9,142	1,096,632	2,773,715
				107	Nov-30	16,210	6,787	9,423	1,106,055	2,766,928
				108	Dec-30	16,210	7,113	9,097	1,115,152	2,759,815
				109	Jan-31	16,210	6,834	9,376	1,124,528	2,752,981
				110	Feb-31	16,210	6,857	9,353	1,133,880	2,746,124
				111	Mar-31	16,210	7,783	8,426	1,142,307	2,738,340
				112	Apr-31	16,210	6,907	9,303	1,151,610	2,731,434
				113	May-31	16,210	7,230	8,980	1,160,590	2,724,204
				114	Jun-31	16,210	6,955	9,255	1,169,844	2,717,249
				115	Jul-31	16,210	7,276	8,933	1,178,778	2,709,973
				116	Aug-31	16,210	7,003	9,206	1,187,984	2,702,969
				117	Sep-31	16,210	7,027	9,183	1,197,167	2,695,942
				118	Oct-31	16,210	7,346	8,863	1,206,030	2,688,596
				119	Nov-31	16,210	7,076	9,134	1,215,164	2,681,520
				120	Dec-31	16,210	7,394	8,816	1,223,980	2,674,126
				121	Jan-32	16,210	7,125	9,085	1,233,065	2,666,001
				122	Feb-32	16,210	7,149	9,060	1,242,125	2,659,852
				123	Mar-32	16,210	7,757	8,453	1,250,579	2,652,095
				124	Apr-32	16,210	7,200	9,010	1,259,588	2,644,895
				125	May-32	16,210	7,514	8,696	1,268,284	2,637,381
				126	Jun-32	16,210	7,250	8,960	1,277,244	2,630,131
				127	Jul-32	16,210	7,563	8,647	1,285,891	2,622,568
				128	Aug-32	16,210	7,300	8,910	1,294,800	2,615,268
				129	Sep-32	16,210	7,325	8,885	1,303,685	2,607,943
				130	Oct-32	16,210	7,636	8,574	1,312,259	2,600,307
				131	Nov-32	16,210	7,376	8,834	1,321,093	2,592,932
				132	Dec-32	16,210	7,685	8,525	1,329,618	2,585,247
				133	Jan-33	16,210	7,427	8,783	1,338,401	2,577,820
				134	Feb-33	16,210	7,452	8,758	1,347,158	2,570,367
				135	Mar-33	16,210	8,323	7,887	1,355,045	2,562,045
				136	Apr-33	16,210	7,506	8,704	1,363,749	2,554,539
				137	May-33	16,210	7,811	8,398	1,372,148	2,546,728
				138	Jun-33	16,210	7,558	8,652	1,380,800	2,539,170
				139	Jul-33	16,210	7,862	8,348	1,389,148	2,531,308
				140	Aug-33	16,210	7,610	8,600	1,397,747	2,523,698
				141	Sep-33	16,210	7,636	8,574	1,406,321	2,516,062
				142	Oct-33	16,210	7,938	8,272	1,414,593	2,508,124
				143	Nov-33	16,210	7,689	8,521	1,423,114	2,500,435
				144	Dec-33	16,210	7,989	8,221	1,431,334	2,492,446

				145	Jan-34	16,210	7,742	8,467	1,439,802	2,484,703
				146	Feb-34	16,210	7,769	8,441	1,448,243	2,476,935
				147	Mar-34	16,210	8,609	7,600	1,455,843	2,468,325
				148	Apr-34	16,210	7,824	8,386	1,464,229	2,460,501
				149	May-34	16,210	8,120	8,089	1,472,318	2,452,381
				150	Jun-34	16,210	7,878	8,331	1,480,649	2,444,502
				151	Jul-34	16,210	8,173	8,037	1,488,686	2,436,329
				152	Aug-34	16,210	7,933	8,277	1,496,963	2,428,396
				153	Sep-34	16,210	7,960	8,250	1,505,213	2,420,437
				154	Oct-34	16,210	8,252	7,958	1,513,171	2,412,184
				155	Nov-34	16,210	8,015	8,195	1,521,365	2,404,169
				156	Dec-34	16,210	8,306	7,904	1,529,269	2,395,864
				157	Jan-35	16,210	8,070	8,139	1,537,409	2,387,793
				158	Feb-35	16,210	8,098	8,112	1,545,521	2,379,696
				159	Mar-35	16,210	8,908	7,302	1,552,823	2,370,788
				160	Apr-35	16,210	8,156	8,054	1,560,877	2,362,632
				161	May-35	16,210	8,442	7,768	1,568,645	2,354,190
				162	Jun-35	16,210	8,212	7,998	1,576,642	2,345,978
				163	Jul-35	16,210	8,497	7,713	1,584,355	2,337,481
				164	Aug-35	16,210	8,269	7,941	1,592,296	2,329,212
				165	Sep-35	16,210	8,297	7,913	1,600,209	2,320,916
				166	Oct-35	16,210	8,579	7,630	1,607,840	2,312,336
				167	Nov-35	16,210	8,354	7,856	1,615,695	2,303,982
				168	Dec-35	16,210	8,635	7,575	1,623,270	2,295,347
				169	Jan-36	16,210	8,412	7,798	1,631,068	2,286,935
				170	Feb-36	16,210	8,440	7,769	1,638,837	2,278,495
				171	Mar-36	16,210	8,969	7,241	1,646,078	2,269,526
				172	Apr-36	16,210	8,500	7,710	1,653,789	2,261,027
				173	May-36	16,210	8,776	7,434	1,661,222	2,252,250
				174	Jun-36	16,210	8,558	7,651	1,668,874	2,243,692
				175	Jul-36	16,210	8,833	7,377	1,676,250	2,234,859
				176	Aug-36	16,210	8,617	7,592	1,683,842	2,226,241
				177	Sep-36	16,210	8,647	7,563	1,691,406	2,217,595
				178	Oct-36	16,210	8,919	7,291	1,698,696	2,208,676
				179	Nov-36	16,210	8,706	7,503	1,706,200	2,199,969
				180	Dec-36	16,210	8,977	7,233	1,713,433	2,190,992
				181	Jan-37	16,210	8,766	7,443	1,720,876	2,182,226
				182	Feb-37	16,210	8,796	7,414	1,728,290	2,173,430
				183	Mar-37	16,210	9,541	6,669	1,734,959	2,163,889
				184	Apr-37	16,210	8,858	7,351	1,742,310	2,155,031
				185	May-37	16,210	9,125	7,085	1,749,395	2,145,906
				186	Jun-37	16,210	8,920	7,290	1,756,685	2,136,986
				187	Jul-37	16,210	9,184	7,026	1,763,711	2,127,802
				188	Aug-37	16,210	8,981	7,229	1,770,940	2,118,821
				189	Sep-37	16,210	9,012	7,198	1,778,138	2,109,810
				190	Oct-37	16,210	9,273	6,936	1,785,074	2,100,536
				191	Nov-37	16,210	9,074	7,136	1,792,210	2,091,463
				192	Dec-37	16,210	9,334	6,876	1,799,086	2,082,129
				193	Jan-38	16,210	9,136	7,074	1,806,160	2,072,993
				194	Feb-38	16,210	9,167	7,042	1,813,202	2,063,825
				195	Mar-38	16,210	9,877	6,333	1,819,535	2,053,948
				196	Apr-38	16,210	9,232	6,978	1,826,513	2,044,716
				197	May-38	16,210	9,487	6,722	1,833,235	2,035,229
				198	Jun-38	16,210	9,296	6,914	1,840,149	2,025,934
				199	Jul-38	16,210	9,549	6,661	1,846,810	2,016,384
				200	Aug-38	16,210	9,360	6,850	1,853,660	2,007,025
				201	Sep-38	16,210	9,391	6,818	1,860,479	1,997,633
				202	Oct-38	16,210	9,642	6,568	1,867,046	1,987,991
				203	Nov-38	16,210	9,456	6,754	1,873,800	1,978,535
				204	Dec-38	16,210	9,705	6,505	1,880,305	1,968,830
				205	Jan-39	16,210	9,521	6,689	1,886,993	1,959,309
				206	Feb-39	16,210	9,553	6,656	1,893,650	1,949,756
				207	Mar-39	16,210	10,227	5,983	1,899,632	1,939,529
				208	Apr-39	16,210	9,621	6,589	1,906,222	1,929,908
				209	May-39	16,210	9,865	6,345	1,912,566	1,920,043
				210	Jun-39	16,210	9,687	6,523	1,919,089	1,910,356
				211	Jul-39	16,210	9,929	6,281	1,925,370	1,900,427
				212	Aug-39	16,210	9,754	6,456	1,931,826	1,890,673
				213	Sep-39	16,210	9,787	6,423	1,938,249	1,880,887
				214	Oct-39	16,210	10,026	6,184	1,944,433	1,870,861
				215	Nov-39	16,210	9,854	6,356	1,950,789	1,861,007
				216	Dec-39	16,210	10,091	6,118	1,956,907	1,850,915

				217	Jan-40	16,210	9,922	6,288	1,963,195	1,840,994
				218	Feb-40	16,210	9,955	6,254	1,969,450	1,831,038
				219	Mar-40	16,210	10,391	5,819	1,975,269	1,820,648
				220	Apr-40	16,210	10,025	6,185	1,981,454	1,810,623
				221	May-40	16,210	10,257	5,953	1,987,407	1,800,366
				222	Jun-40	16,210	10,093	6,116	1,993,523	1,790,273
				223	Jul-40	16,210	10,324	5,886	1,999,409	1,779,949
				224	Aug-40	16,210	10,163	6,047	2,005,456	1,769,786
				225	Sep-40	16,210	10,197	6,012	2,011,468	1,759,589
				226	Oct-40	16,210	10,425	5,785	2,017,253	1,749,164
				227	Nov-40	16,210	10,267	5,942	2,023,196	1,738,896
				228	Dec-40	16,210	10,493	5,717	2,028,912	1,728,403
				229	Jan-41	16,210	10,338	5,872	2,034,784	1,718,066
				230	Feb-41	16,210	10,373	5,837	2,040,621	1,707,692
				231	Mar-41	16,210	10,970	5,240	2,045,861	1,696,723
				232	Apr-41	16,210	10,446	5,764	2,051,625	1,686,277
				233	May-41	16,210	10,666	5,544	2,057,169	1,675,611
				234	Jun-41	16,210	10,517	5,692	2,062,862	1,665,094
				235	Jul-41	16,210	10,735	5,474	2,068,336	1,654,359
				236	Aug-41	16,210	10,589	5,620	2,073,956	1,643,769
				237	Sep-41	16,210	10,625	5,584	2,079,541	1,633,144
				238	Oct-41	16,210	10,841	5,369	2,084,910	1,622,303
				239	Nov-41	16,210	10,698	5,511	2,090,421	1,611,605
				240	Dec-41	16,210	10,911	5,298	2,095,720	1,600,693
				241	Jan-42	16,210	10,772	5,438	2,101,158	1,589,922
				242	Feb-42	16,210	10,808	5,401	2,106,559	1,579,113
				243	Mar-42	16,210	11,364	4,845	2,111,404	1,567,749
				244	Apr-42	16,210	10,884	5,326	2,116,730	1,556,865
				245	May-42	16,210	11,091	5,118	2,121,849	1,545,774
				246	Jun-42	16,210	10,958	5,251	2,127,100	1,534,816
				247	Jul-42	16,210	11,164	5,046	2,132,146	1,523,652
				248	Aug-42	16,210	11,034	5,176	2,137,323	1,512,618
				249	Sep-42	16,210	11,071	5,139	2,142,461	1,501,547
				250	Oct-42	16,210	11,273	4,937	2,147,398	1,490,274
				251	Nov-42	16,210	11,147	5,063	2,152,461	1,479,127
				252	Dec-42	16,210	11,347	4,863	2,157,324	1,467,780
				253	Jan-43	16,210	11,223	4,986	2,162,310	1,456,557
				254	Feb-43	16,210	11,261	4,948	2,167,258	1,445,295
				255	Mar-43	16,210	11,775	4,435	2,171,693	1,433,521
				256	Apr-43	16,210	11,340	4,870	2,176,563	1,422,181
				257	May-43	16,210	11,534	4,676	2,181,239	1,410,647
				258	Jun-43	16,210	11,417	4,792	2,186,031	1,399,229
				259	Jul-43	16,210	11,610	4,600	2,190,632	1,387,620
				260	Aug-43	16,210	11,496	4,714	2,195,346	1,376,124
				261	Sep-43	16,210	11,535	4,675	2,200,021	1,364,589
				262	Oct-43	16,210	11,723	4,486	2,204,507	1,352,866
				263	Nov-43	16,210	11,614	4,596	2,209,103	1,341,252
				264	Dec-43	16,210	11,800	4,410	2,213,513	1,329,452
				265	Jan-44	16,210	11,693	4,516	2,218,029	1,317,759
				266	Feb-44	16,210	11,733	4,477	2,222,506	1,306,026
				267	Mar-44	16,210	12,059	4,151	2,226,657	1,293,967
				268	Apr-44	16,210	11,814	4,396	2,231,052	1,282,153
				269	May-44	16,210	11,994	4,215	2,235,268	1,270,158
				270	Jun-44	16,210	11,895	4,315	2,239,583	1,258,264
				271	Jul-44	16,210	12,073	4,137	2,243,720	1,246,191
				272	Aug-44	16,210	11,976	4,234	2,247,953	1,234,214
				273	Sep-44	16,210	12,017	4,193	2,252,146	1,222,198
				274	Oct-44	16,210	12,192	4,018	2,256,164	1,210,006
				275	Nov-44	16,210	12,099	4,111	2,260,275	1,197,907
				276	Dec-44	16,210	12,271	3,938	2,264,213	1,185,636
				277	Jan-45	16,210	12,182	4,028	2,268,241	1,173,454
				278	Feb-45	16,210	12,223	3,987	2,272,228	1,161,230
				279	Mar-45	16,210	12,647	3,563	2,275,791	1,148,584
				280	Apr-45	16,210	12,308	3,902	2,279,693	1,136,276
				281	May-45	16,210	12,474	3,736	2,283,429	1,123,802
				282	Jun-45	16,210	12,392	3,818	2,287,247	1,111,410
				283	Jul-45	16,210	12,556	3,654	2,290,901	1,098,854
				284	Aug-45	16,210	12,477	3,733	2,294,634	1,086,378
				285	Sep-45	16,210	12,519	3,691	2,298,324	1,073,859
				286	Oct-45	16,210	12,679	3,530	2,301,855	1,061,179
				287	Nov-45	16,210	12,605	3,605	2,305,460	1,048,575
				288	Dec-45	16,210	12,762	3,447	2,308,907	1,035,812

				289	Jan-46	16,210	12,691	3,519	2,312,426	1,023,121
				290	Feb-46	16,210	12,734	3,476	2,315,902	1,010,388
				291	Mar-46	16,210	13,109	3,100	2,319,002	997,278
				292	Apr-46	16,210	12,822	3,388	2,322,390	984,456
				293	May-46	16,210	12,973	3,237	2,325,627	971,483
				294	Jun-46	16,210	12,909	3,300	2,328,927	958,574
				295	Jul-46	16,210	13,058	3,151	2,332,079	945,516
				296	Aug-46	16,210	12,998	3,212	2,335,291	932,518
				297	Sep-46	16,210	13,042	3,168	2,338,459	919,476
				298	Oct-46	16,210	13,187	3,023	2,341,482	906,289
				299	Nov-46	16,210	13,131	3,079	2,344,561	893,158
				300	Dec-46	16,210	13,273	2,936	2,347,497	879,885
				301	Jan-47	16,210	13,221	2,989	2,350,487	866,665
				302	Feb-47	16,210	13,265	2,944	2,353,431	853,399
				303	Mar-47	16,210	13,591	2,619	2,356,049	839,808
				304	Apr-47	16,210	13,357	2,853	2,358,903	826,451
				305	May-47	16,210	13,493	2,717	2,361,620	812,959
				306	Jun-47	16,210	13,448	2,762	2,364,381	799,511
				307	Jul-47	16,210	13,581	2,629	2,367,010	785,929
				308	Aug-47	16,210	13,540	2,670	2,369,680	772,390
				309	Sep-47	16,210	13,586	2,624	2,372,304	758,804
				310	Oct-47	16,210	13,715	2,495	2,374,799	745,089
				311	Nov-47	16,210	13,679	2,531	2,377,330	731,410
				312	Dec-47	16,210	13,805	2,405	2,379,735	717,605
				313	Jan-48	16,210	13,772	2,438	2,382,172	703,833
				314	Feb-48	16,210	13,819	2,391	2,384,564	690,015
				315	Mar-48	16,210	14,017	2,193	2,386,756	675,998
				316	Apr-48	16,210	13,913	2,297	2,389,053	662,085
				317	May-48	16,210	14,033	2,177	2,391,230	648,051
				318	Jun-48	16,210	14,008	2,202	2,393,431	634,043
				319	Jul-48	16,210	14,125	2,085	2,395,516	619,918
				320	Aug-48	16,210	14,104	2,106	2,397,622	605,814
				321	Sep-48	16,210	14,152	2,058	2,399,680	591,663
				322	Oct-48	16,210	14,265	1,945	2,401,625	577,398
				323	Nov-48	16,210	14,248	1,962	2,403,587	563,150
				324	Dec-48	16,210	14,358	1,851	2,405,438	548,792
				325	Jan-49	16,210	14,345	1,864	2,407,303	534,446
				326	Feb-49	16,210	14,394	1,816	2,409,118	520,052
				327	Mar-49	16,210	14,614	1,596	2,410,714	505,438
				328	Apr-49	16,210	14,493	1,717	2,412,431	490,945
				329	May-49	16,210	14,596	1,614	2,414,045	476,350
				330	Jun-49	16,210	14,591	1,618	2,415,663	461,758
				331	Jul-49	16,210	14,692	1,518	2,417,182	447,067
				332	Aug-49	16,210	14,691	1,519	2,418,700	432,376
				333	Sep-49	16,210	14,741	1,469	2,420,169	417,635
				334	Oct-49	16,210	14,837	1,373	2,421,542	402,798
				335	Nov-49	16,210	14,841	1,368	2,422,911	387,957
				336	Dec-49	16,210	14,934	1,275	2,424,186	373,022
				337	Jan-50	16,210	14,943	1,267	2,425,453	358,080
				338	Feb-50	16,210	14,993	1,216	2,426,670	343,087
				339	Mar-50	16,210	15,157	1,053	2,427,723	327,930
				340	Apr-50	16,210	15,096	1,114	2,428,837	312,834
				341	May-50	16,210	15,181	1,028	2,429,865	297,653
				342	Jun-50	16,210	15,199	1,011	2,430,876	282,454
				343	Jul-50	16,210	15,281	929	2,431,805	267,173
				344	Aug-50	16,210	15,302	908	2,432,713	251,871
				345	Sep-50	16,210	15,354	856	2,433,568	236,517
				346	Oct-50	16,210	15,432	778	2,434,346	221,084
				347	Nov-50	16,210	15,459	751	2,435,097	205,626
				348	Dec-50	16,210	15,534	676	2,435,773	190,092
				349	Jan-51	16,210	15,564	646	2,436,419	174,528
				350	Feb-51	16,210	15,617	593	2,437,012	158,911
				351	Mar-51	16,210	15,722	488	2,437,499	143,189
				352	Apr-51	16,210	15,723	486	2,437,986	127,466
				353	May-51	16,210	15,791	419	2,438,405	111,675
				354	Jun-51	16,210	15,830	379	2,438,784	95,845
				355	Jul-51	16,210	15,895	315	2,439,099	79,950
				356	Aug-51	16,210	15,938	272	2,439,371	64,012
				357	Sep-51	16,210	15,992	217	2,439,589	48,020
				358	Oct-51	16,210	16,052	158	2,439,746	31,968
				359	Nov-51	16,210	16,101	109	2,439,855	15,867
				360	Dec-51	16,210	16,158	52	2,439,907	(291)

