

# Columns of the Phase II Spreadsheet

The [Phase II](#) spreadsheet has 49 columns and enough rows to accommodate 40 years, which is longer than Phase II can last. A Phase II lasting 2 or 3 years is far more likely. Phase II is under the control of nature, more so than a CEO. The parameters are exogenous.

The spreadsheet is similar but hardly identical to the Elsie Bid Only Phase I spreadsheet. Beware that some of the same-named columns have different formulas and semantics. We begin in month 740, continuing [Phase I](#), which lasted 60 years. Values from the end of the Phase I spreadsheet initialize this spreadsheet, where appropriate.

The period is one month, each divided into five segments: A – E. Five segments are sufficient to handle the money flow without ambiguity.

Period	Segment	EDSF and Dividend Demand (Mil \$)	Direct Purchases/Donations	Stop Condition	Elsie Value of Home	EDSF contracts signed	Property Value (Mil \$)	Total Purchases (number of properties)	Number of .5% revaluations	Peg	Average Property Price	Market Maker (Mil LCS)
739	E	\$0.00	\$0	FALSE	0		\$101,934,420	80,675,725	0	\$1.0000	\$0.86	1,003,628
740	A	\$0.00	\$0	FALSE	0	\$0.00	\$101,934,420	80,675,725	0	\$1.0000	\$0.86	916,783
740	B	\$0.00	\$0	FALSE	0	\$0.00	\$101,934,420	80,675,725	0	\$1.0000	\$0.86	811,026
740	C	\$0.00	\$0	FALSE	0	\$0.00	\$101,934,420	80,675,725	0	\$1.0000	\$0.86	811,026
740	D	\$0.00	\$0	FALSE	0	\$0.00	\$101,934,420	80,675,725	0	\$1.0000	\$0.86	893,076
740	E	\$0.00	\$0	FALSE	0	\$0.00	\$101,934,420	80,675,725	0	\$1.0000	\$0.86	893,076

The first column, Period, is the month number. The spreadsheet begins with the last segment of Phase I to initialize the column. Formulas for the column begin in segment A of period 740.

Initialize Average Property Price	0.86										
Sell On Revalue	\$500,000										
Percent rent in Elsies	50%										
Retail Freeze Above	0.25%	Max Parcels	1,200,000,000								
MM_Bottom	99.05%	MM_Top	99.15%	Percent Dollars	30%	Percent Elsies	70%				

These are the parameters of the simulation. Most are statements of fact or guesses of exogenous conditions. The initial value of the “Average Property Price” column is \$860,000. This is how much the ABC will pay for an average property after 60 years of Phase I at 2% inflation. This corresponds to a \$250,000 average property price in 2022 dollars.

Sell on revalue (parameter in millions) of \$500 billion is a prediction of how much property will be sold into the [Commons Trust](#) for each [revaluation of the Elsie](#) by 0.5%. The 0.5% is hard-coded, keeping an Elsie bought for 99.15% of [the peg](#) below the old peg for one revaluation cycle. If two or more revaluations are needed at once, that feature does not hold. This number can only be a guess. It is the prime factor in determining the length of Phase II. A small number, like \$50 billion, will cause Phase II to end in just six years, while a large number, like \$500 billion, will cause Phase II to last 29 years. These numbers might not seem significant. However, one condition of Phase I ending was that far fewer properties were available to purchase than demand for the Elsie. [Ram and jam](#) is the most efficient way to bring land into the Commons Trust. Phase I is not supposed to end until everyone who wants to sell their land into the Commons Trust does so.

Direct mode purchases in Phase I returned only 45% of the sales price to the [property owner](#). The property owner receives 65% of the sales price from the direct mode in Phase II, with the other 35% going to the advance rent fund, giving the property owner two years rent-free. The problems caused by

stuffing the [advance rent fund](#) in Phase I no longer exist in Phase II, where the Elsie is scarce and subject to frequent revaluation. The direct mode percentages are likely to change in the final business plan. Critically, the “direct purchase mode” transition from Phase I to Phase II must be seamless. Direct mode percentages must start dropping years before Phase I ends to prevent many holdouts until Phase II.

If many decide to sell as soon as Phase II begins, Phase II will last much longer. Optimally, Phase II should last between 10 and 20 years.

But again, there is little room for manipulation. Whatever it is, it is. We need about 900 revaluations to afford an [Earth Dividend](#) for everyone worldwide. We do not control the amount of land sold into the Commons Trust on each revaluation.

Percent rent in Elsies is the percentage of people who pay their rent in Elsies. This is a function of market maker inventory and non-rent related demand for the Elsies. Without ram and jam, the only source of Elsies is the property people sell into the Commons Trust in exchange for Elsies, typically just after a revaluation, when the dollar value of their property increases by .5%. Inflation of non-Commons-Trust property will follow an Elsie revaluation, as the amount the Commons Trust will pay for the property has increased, forcing homeowners to pay more. [Fiat inflation](#) will be seen most harshly in landed property and luxury goods. Productive resources that shifted to servicing households and communities to earn [Earth Dividend](#) revenue will help keep fiat prices down in these areas. The frequency of market maker inventory exhaustion cannot be predicted, so this figure, at 50%, is a guess that can be updated from data once Phase II begins.

The “Retail Freeze” parameter is the size of the annualized [dividend](#) needed to prevent retail holders of Elsies from selling. This is not a significant parameter, as Elsie holders in Phase II hold for the appreciation, not the dividend. However, a low dividend indicates plenty of Elsies being held. This ample supply means that [hyperdeflation](#) is more than a few months away. A dividend greater than .25% annually keeps retail holders from selling in some of the strategies used in the spreadsheet.

The “Max parcels” parameter refers to the approximate number of real estate parcels in the world based on an average price of \$250,000 in 2022 dollars. This number cannot be reached unless Phase I took us 80% of the way and the other 20% of property owners had a change of heart in Phase II. Hyperdeflation will typically set in long before this parameter is reached, but the parameter is checked anyway for completeness. Because megacities tend to form on Commons Trust property, private property in land will not threaten [Worldwide Federation](#). Suppose it is determined that it is essential to get closer to 1.2 trillion parcels. In that case, hyperdeflation must continue for a few more weeks, with daily revaluations, until the specified property threshold is reached. Hyperdeflation is the painful part of the [AFFEERCE](#) revolution. The shorter it lasts, the better. Max parcels can be set lower, although it is unlikely to influence the simulation unless it is below 300 billion.

MM\_Top and MM\_Bottom signify the market maker spread. These values of 99.05% and 99.15% carry over from Phase I. Private market makers can narrow the spread (not wise in Phase II) or take advantage of ABC market maker inventory depletion by charging 99.9%. [Earth Dividend auction](#) bidders might pay over 100% before the [VTLM](#) can revalue the Elsie.

Percent dollars of 30% and the redundant parameter Percent Elsie clearly at 70% define the current distribution. Recall that in Phase I, 44% of the rents were paid in dollars (14% to the [ABC](#) and VTLM and 30% to the [counties](#)). In Phase II (and probably well before), the ABC and VTLM are Elsie shops. Half the counties will also be Elsie counties, but in this simulation, all the counties are dollar counties. Hence, 30% of the rental distribution goes to counties, with 70% remaining in Elsie for the ABC, VTLM, [EDSF](#), and dividend. The market maker is the least active, and Phase II efficiency is optimized if 70% of the incoming rent is in Elsie as well, but we have no control over that.

Columns will be described in the order they appear in the spreadsheet. Readers should be familiar with column logic from columns of the Elsie Bid spreadsheet, which was described in logical order. As in the description of that spreadsheet, the formula for the column will be boxed, highlighted, and described in detail, including background theory, if needed.

The spreadsheet is double-zero-balanced. The U.S. dollars input into the system are precisely equal to the U.S. dollars in the various paid and current accounts. The Elsie created from purchases match the Elsie in the paid and current accounts, plus the Elsie destroyed. These balanced columns appear in green near the final columns of the spreadsheet. Here is an example from months 800 and 801, with most columns hidden.

Period	Segment	Direct Purchases/Donations	Total Purchases (number of properties)	Number of % revaluations	Peg	Market Maker (Mill LCS)	EDSF	Total Accounts	Total Elsie	Earth Dividends	Total Dollars Input (Mill \$)	VTLM (Mill Elsie)	Counties (Mill \$)	Total Account Dollars (Mill \$)
799	E	\$0	87,509,048	7	\$1.4320	-43,298	18,777,266	56,804,819	56,804,819	22,408,231	\$88,024,125	3,189,385	\$13,704,502	\$88,024,125
800	A	\$0	87,579,711	8	\$1.4320	-43,298	18,777,266	56,891,844	56,891,844	22,408,231	\$88,051,899	3,189,385	\$13,704,502	\$88,051,899
800	B	\$745,169	88,161,107	8	\$1.4903	-169,163	18,777,266	57,053,279	56,891,844	23,320,404	\$89,211,350	3,189,385	\$13,704,502	\$89,211,350
800	C	\$0	88,161,107	8	\$1.4903	233,062	18,777,266	57,391,844	57,391,844	23,320,404	\$88,473,260	3,189,385	\$13,704,502	\$88,473,260
800	D	\$0	88,161,107	8	\$1.4903	286,890	18,723,438	57,391,844	57,391,844	23,253,552	\$88,473,260	3,189,385	\$13,704,502	\$88,473,260
800	E	\$0	88,161,107	8	\$1.4903	286,890	18,877,091	57,391,844	57,391,844	23,444,380	\$88,473,260	3,209,872	\$13,793,140	\$88,473,260
801	A	\$0	88,230,530	8	\$1.4903	286,890	18,877,091	57,480,823	57,480,823	23,444,380	\$88,501,646	3,209,872	\$13,793,140	\$88,501,646
801	B	\$0	88,230,530	8	\$1.4903	159,394	18,877,091	57,650,119	57,480,823	23,444,380	\$88,935,682	3,209,872	\$13,793,140	\$88,935,682
801	C	\$0	88,230,530	8	\$1.4903	159,394	18,877,091	57,480,823	57,480,823	23,444,380	\$88,935,682	3,209,872	\$13,793,140	\$88,935,682
801	D	\$0	88,230,530	8	\$1.4903	213,508	18,822,976	57,480,823	57,480,823	23,377,173	\$88,935,682	3,209,872	\$13,793,140	\$88,935,682
801	E	\$0	88,230,530	8	\$1.4903	213,508	18,979,626	57,480,823	57,480,823	23,571,724	\$88,935,682	3,230,759	\$13,883,290	\$88,935,682

This snapshot shows that the market maker inventory was depleted, triggering revaluation #8. This brought \$745 billion (500 billion Elsie at the peg of 1.4903) of new property into the Commons Trust, replenishing the market maker inventory. Notice the VTLM is now a red-headed column denominated in Elsie. With eight revaluations, the counties would have been wise to do the same thing. As of month 800, there are 23 million Earth Dividends, half given free to about 115 [Phase II communities](#) (100,000 population) worldwide, and the other half auctioned for Elsie to anyone. The EDSF, which includes the present value fund in this simulation, is nevertheless growing from month to month. As you can see, Earth Dividend payouts occur in segment D.

## EDSF and Dividend Demand

**=IF (E95 = TRUE, 0, IF (AND (\$B96="A", P95>0), P95, 0) + IFERROR (IF (\$B96="A", Percent\_Elsies \* 95% \* AN92), 0))**

Not all Phase II rent is paid in Elsie due to periodic Elsie shortages before a revaluation. Because some rent is paid in dollars, a method is required for Elsie recipients (the EDSF, dividend, and by Phase II, the ABC, VTLM, and many counties) to get their Elsie. There is no need for a revaluation. Instead, the dollars are used, as though they were a Phase I land fund, to purchase properties into the Commons Trust. The Elsie received from the purchase are distributed to the Elsie recipients.

These purchases stop in the simulation after hyperdeflation **E95 = TRUE**. In the implementation, they will not stop until the federation of the currently pegged nation. If dollars are waiting to be converted to Elsie in this manner, **P95>0**, convert those dollars. In addition, if there was an auction for properties purchased in the previous month with proceeds in dollars **AN92**, then from the 95% of auction proceeds, those distributed as Elsie (based on the parameter **Percent\_Elsies**) are used for purchase in this manner. The other 5% goes to the dollar advance rent fund.

In the table below, \$28.9 billion are converted to Elsie in this manner in segment A of month 757. Unrelated, in segment B, \$502.5 billion of purchases are made in response to a revaluation.

Period	Segment	EDSF and Dividend Demand (Mil \$)	Direct Purchases/Donations	Stop Condition	Elsie Value of Property	EDSF contracts signed
757	A	\$28,952.62	\$0	FALSE	0	\$28,952.62
757	B	\$0.00	\$502,500	FALSE	500,000	\$0.00
757	C	\$0.00	\$0	FALSE	0	\$0.00
757	D	\$0.00	\$0	FALSE	0	\$0.00
757	E	\$0.00	\$0	FALSE	0	\$0.00

## Direct Purchase/Donations

**=IF (AND (\$B12="B", M12<0, AR11>0, E11=FALSE), MIN (AR11, Buy\_On\_Revalue \* K12 \* (J11-J10)), 0)**

Land sales into the Commons Trust for Elsie occur under different conditions than in Phase I. In Phase II, 35% of those Elsie go to the advance rent fund, and the remaining 65% are returned to the property owner. In the implementation, the rescue purchasing mode, available in Phase I, will still be available.

In this simulation, sales only occur after a revaluation. A revaluation occurs when the market maker's inventory is depleted ( $M12 < 0$ ) and the market maker has U.S. dollars to buy more stock ( $AR11 > 0$ ). If the ABC market maker does not have enough U.S. dollars to buy Elsie, nobody else does.

Another condition is that hyperdeflation has not yet happened ( $E11 = FALSE$ ). In the implementation, sales into the Commons Trust will occur throughout the hyperdeflation and federation process. However, these will no longer be through a market maker, as Elsie are the only currency and the simulation is no longer relevant.

The formula for determining the extent of the repurchase is the **Buy\_On\_Revalue** parameter multiplied by the current peg ( $K12$ ) multiplied by the number of 0.5% revaluation units needed to restore the market maker inventory.

If the market maker does not have enough U.S. dollars to purchase the properties, the simulation restricts the purchases to what the market maker can afford.  $\text{Min} (AR11\dots)$ .

The parameters set are reflections of exogenous events and do not control them. Failure of property owners to meet these estimates will result in an earlier hyperdeflation and an end to Phase II.

## Stop Condition

**=IF (OR (I10 > Max\_Parcel, A10 > 800000000), TRUE, FALSE)**

Suppose the simulation has exceeded the property available anywhere in the world, or the number of revaluations is more than enough to provide an Earth Dividend for everyone (assuming zero population growth). In that case, the simulation can stop, as federation will occur.

## Elsie Value of Property

**=D97/K97**

The direct property purchase pays Elsie for the U.S. dollar value of the property at the peg. The Direct Purchase column holds the U.S. dollar value of the property, **D97**. Dividing the U.S. dollar value by the current peg, **K97** returns the number of Elsie to be paid.

This will be some multiple of the parameter that indicates how much should be bought by or sold into the Commons Trust on a revaluation, in as much as the dollar value in D97 was obtained by multiplying this value by the peg.

## EDSF Contracts Signed

**=C96**

This is a holdover column from the Phase I simulation. It equals the EDSF and Dividend Demand column and indicates how many dollar property contracts were signed.

## Property Value

**=(H95\*K96/K95+G96+D96) \*IF (B11="A", (1+Inflation\_Rate/12),1)**

The property value in U.S. Dollars is the previous month's property value in U.S. dollars divided by last month's peg (giving the previous month's property value in Elsie) and multiplied by this month's peg. Direct purchases and EDSF purchases in dollars are added in. A small [fiat inflation](#) rate, in addition to the Elsie deflation, is also used. This should be low or even set to zero.

With the Elsie revaluing in Phase II, commons property appreciation is ignored. For those who pay their rent in Elsie and earn their income in Elsie, the average rent will never again rise. Median rents will fall under land-based capitalism even as mean rents rise with progress and population. This is the economic reality of Phase II, although few earn an income in Elsie before [federation](#).

Period	Segment	Property Value (Mil \$)	Total Purchases (number of properties)	Number of .5% revaluations	Peg	Average Property Price	Market Maker (Mil LC\$)
757	A	\$102,068,476	80,831,603	1	\$1.0000	\$0.8600	-14,885
757	B	\$103,081,318	81,412,999	1	\$1.0050	\$0.8643	-123,701
757	C	\$103,081,318	81,412,999	1	\$1.0050	\$0.8643	302,223
757	D	\$103,081,318	81,412,999	1	\$1.0050	\$0.8643	345,644
757	E	\$103,081,318	81,412,999	1	\$1.0050	\$0.8643	345,644

In the above table, property value increases from a direct purchase due to the first revaluation and a change in the peg due to the same revaluation.

## Total Purchases (number of properties)

$$=I95+(G96+D96)/L96$$

The Total Purchases column is an inflation/revaluation independent marker of progress in moving the world's land into the Commons Trust. There are about 1.2 billion units of property in the world whose average price is \$250,000 in 2022 dollars. In the Phase I simulation, 80 million units must be in the Commons Trust before Phase I ends. However, unknown factors determine a realistic number, primarily the extent of megacities on Commons Trust land.

Total purchases equal the previous month's value **I95** plus the direct purchases **D96** plus EDSF signed contracts **G96**, divided by the current average property price.

## Number of 0.5% Revaluations

$$=J95 + IF (AND ($B96="A", M96<0, AR95>0, E95=FALSE), MIN (FLOOR.MATH(1 + (-M96 * 2)/ (Buy_On_Revalue)), 30), 0)$$

This column counts the number of revaluations for the month, if any, and adds them to the current number of revaluations, **J95**. Revaluations occur in segment A if the market maker's Elsie inventory drops below zero, **M96<0**, and the market maker has a positive U.S. dollar inventory **AR95>0**. In an implementation, the latter would not matter since a property owner can sell directly into the Commons Trust anytime. The market maker would just be shut out of the transaction. Since this will only happen in the days right before hyperdeflation, it is not crucial in the simulation.

The number of revaluations is determined arbitrarily by a factor of 2 times the extent of the deficit in the market maker Elsie inventory. The market maker will never have an actual Elsie deficiency in an implementation. Revaluations will occur daily until the market maker inventory is sufficient. Because there is a daily limit of one revaluation, the maximum number of monthly revaluations is 30. If more than one revaluation is needed in a single day, hyperdeflation has arrived.

## Peg

**=IF (J11 - J10 > 0, K10 \* (1 + 0.005) ^ (J11-J10), K10)**

The peg, which begins Phase II at \$1.0000, increases with each revaluation. If the number of revaluations exceeds zero **J11 - J10 > 0**, then take the current peg and multiply by 1.005 to the power of the number of revaluations. A revaluation is hard-coded to .005 to maintain a discount to the old peg (.9915 goes to .9965) for one revaluation cycle. Should the Elsie deficit be severe, multiple revaluations will recur on successive days in the implementation. Up to 30 revaluations can occur in a month in the simulation. Phase II ends at just over 900 revaluations, so the minimum number of months in Phase II is 30, although Phase II is expected to last 16 years or longer.

## Average Property Price

**=L10 \* K11/K10 \* IF (B11="A", (1+Inflation\_Rate/12), 1)**

Average property Price is initialized to the value in the parameters, which at \$860,000 is the final average property price in the 60-year Phase I simulation.

Two factors lead to an increase in the column "average property price." Primarily, it is the effect of revaluations on property outside the Commons Trust. General fiat currency inflation, independent of revaluations, will also affect the price. This number should be no more than 2% as food, housing, and government are more efficiently produced, even in the fiat world.

The previous segment's average property price is multiplied by the ratio of the new peg to the previous segment's peg (typically 1, except for revaluations). In segment A, it is multiplied by 1/12 of the annual inflation rate.

## Market Maker Elsie Account

**=M10 - IF (\$B11="B", (Percent\_Rent\_In\_Elsies \* 2.49%/12 \* H10)/K10 + IF (\$B11="D", N11,0) + IF (B11="D", AK10) +IF (B11="C", F10\*95%) - (Y11-Y10) - IF (\$B11="A", Q10/K10) + IF (\$B11="A", Q10/K10)**

The market maker is at the center of all currency conversion in the simulation.

The market maker has two inventories: an inventory of U.S. dollars and an inventory of Elsies. This account is the inventory of Elsies. As such, it is a red-headed column.

Period	Segment	Market Maker (Mil LCS)	Elsie Rent to be converted to dollars (I)	Dollar rent to be converted to Elsie (H)
739	E	1,003,628		
740	A	916,783	0	\$0
740	B	810,850	0	\$0
740	C	810,850	0	\$0
740	D	892,899	41,800	\$0

In an implementation, the Elsie inventory can become depleted, but in the simulation, temporary depletion of the Elsie inventory is depicted as a negative number. A negative number in this column means the purchaser needed to use U.S. dollars or persuade a

retail Elsie holder to sell them Elsie below 100% peg. It also indicates demand not accounted for by the simulation. Negative inventory that lasts over a month will lead to additional revaluations not shown in the simulation and a shorter Phase II duration.

Every operation in the Elsie inventory requires an “almost equal” and opposite transaction in the dollar inventory. The “almost” refers to the spread or source of market maker profits. In Phase II, all the spread variables (MM\_Bottom or MM\_Top) appear in the dollar inventory.

Starting with the previous segments inventory (**M10**), the first operation subtracts the Elsie property owners require to pay their rent. In segment B, the percent of people who pay their rent in Elsie is multiplied by the average rent of 40% land share properties. The theory says the average rent on land in the commons will be about 5% of its land value, estimated from a fair mortgage on land plus the land portion of property tax. By the time and property mix of Phase II, it is hard to predict whether rent will be higher than 2.49% on average or lower. Until there is more data or a better theory, it is reasonable to stick with 2.49%.

The dollars spent for rent Elsie are (**Percent\_Rent\_In\_Elsies \* 2.49%/12 \* H10**). However, to find the Elsie corresponding to this dollar amount we divide by the peg (**K10**).

The next operation is an acquisition (+) rather than a disbursement (-) of Elsie. In segment D, N11 holds the Elsie to be converted to dollars. These Elsie come into the Elsie market maker from the Elsie distributor. Dollars will leave from the dollar market maker for the dollar distributor. Because the number of Elsie is known, the MM\_Bottom will appear in the denominator of the operation of the dollar market maker.

The next acquisition of Elsie results from merchants cashing in Earth Dividend Elsie (originating in the EDSF/present value fund) for dollars (**AK10**). To the extent that these Elsie are used in the Earth Dividend auctions, the total acquisition by the market maker is lowered. Many merchants will hold on to the Elsie for appreciation. However, this is accounted for by keeping the retail holders of Elsie constant in the face of deflation. Holding of Elsie by merchants that increase the overall holdings beyond the holdings at the start of Phase II will lead to an earlier termination of Phase II than projected by the simulation.

The largest acquisition of Elsie by the market maker, without which Phase II would quickly end, are the Elsie provided by property owners who sell their land into the Commons Trust for Elsie in the face of revaluation. 95% of these Elsie, **F10 \* 95%**, are returned to the property owner, with 5% going to the advance rent fund. The simulation assumes that all these Elsie are redeemed for U.S. dollars at a 99.05% peg with the market maker. To the extent that Elsie obtained in this manner are held, Phase II will terminate sooner than projected by the simulation.

In all segments (Y11-Y10), the next operation is a disbursal of additional Elsie, if needed, to be sequestered in a treble escrow account. The number of Elsie is known, so the MM\_Top appears in the numerator of the dollar market maker operation.

The last two operations cancel each other out. They are there as a reminder that in the first operation, Elsie are purchased for the EDSF and other Elsie recipients if the dividend is low enough that retail Elsie are being sold. In the second operation, retail Elsie in the same amount are purchased by the market maker to restore the inventory. Profit from both transactions is recorded in the dollar market maker.

**Q10/K10** is the amount of Elsie involved in these transactions.

Although technically, the market maker receives a dividend, the inventory is so frequently negative (zero in the implementation) that the dividend is not material. The entire dividend is distributed to the retail Elsie.

## Elsie Rent to be Converted to Dollars

**=IF (B11="D", IF (V10 > (Percent\_Elsies \* (S10+V10)), V10 - (Percent\_Elsies) \* (S10+V10), 0), 0)**

In segment D, the rent in Elsie (V10) is checked to see if it is greater than the total rent to be distributed as Elsie (percent of rent in Elsie x total rent in Elsie plus dollars, **Percent\_Elsies \* (S10+V10)**). If the rent in Elsie is greater than the Elsie needed by recipients, the remainder is sent off to be converted to dollars.

Rent in Elsie to be converted to dollars is mutually exclusive with dollar rent to be converted to Elsie. However, that operation is not done through the market maker in Phase II.

## Dollar Rent to be Converted to Elsie

**=IF (B11="D", IF (S10 > Percent\_Dollars \* (S10 + V10), S10 - (Percent\_Dollars \* (S10 + V10)), 0), 0)**

In segment D, the rent in dollars (S10) is checked to see if it is greater than the total rent to be distributed as dollars (percent of rent in dollars + total rent in Elsie plus dollars, **Percent\_Dollars \* (S10 + V10)**). If the rent in dollars exceeds the dollars needed by recipients, the remainder will be converted to Elsie.

Unlike in Phase I, dollars are converted to Elsie in Phase II primarily through property purchases into the Commons Trust. 100% of the Elsie minted from those purchases goes to the Elsie distributor for distribution to the recipients, primarily the EDSF. However, if the dividend is less than the Retail Freeze Above parameter (set low at .25%), retail holders sell their Elsie for dollars. This is set low because most people in Phase II hold for appreciation, not dividends.

This is a purple-headed column included in dollar accounts.

## Mint EDSF Elsie from Property Purchases

**=IF (AG15 > Retail\_Freeze\_Above, O14, 0)**

The **Retail\_Freeze\_Above** parameter is the annualized dividend, above which no retailers will sell their Elsies. Although Elsies are held for appreciation rather than a dividend, in Phase II, a higher dividend is a good measure of the Elsies' scarcity. This can be set to zero if it is assumed that all retail Elsies will remain as Elsies in the VIP economy. If so, Phase II will end more quickly.

If the condition is true, Dollar Rent, to be Converted to Elsies", O14, will be used to purchase property into the Commons Trust at the market, and the minted Elsies will go to the Elsie distributor.

## Purchase EDSF Elsies from Market Maker/Retail

**=IF (AG15 <= Retail\_Freeze\_Above, O14,0)**

Mutually exclusive with the column above. If retail holders are selling Elsies, Dollar rent to be converted to Elsies will be used to purchase Elsies from the market maker, who will replenish the inventory from retail. In an implementation, market makers will sell Elsies only to the extent they see retail supply. After they sell all the Elsies they plan on selling, the remaining dollar rent will be converted to Elsies through property purchases.

If the condition is true, "Dollar Rent to be Converted to Elsies," **O14** will be used to purchase Elsies from the market maker.

Period	Segment	Dollar rent to be converted to Elsies (H)	Mint EDSF Elsies from Property Purchases	Purchase EDSF Elsies from Market Maker/Retail	Annualized Dividend	Land Backing
812	D	\$63,490	\$0	\$0	0.0000%	103.96%
812	E	\$0	\$0	\$63,490	0.3991%	103.96%
813	A	\$0	\$0	\$0	0.0000%	104.65%
813	B	\$0	\$0	\$0	0.0000%	104.78%
813	C	\$0	\$0	\$0	0.0000%	104.50%
813	D	\$64,137	\$0	\$0	0.0000%	104.50%
813	E	\$0	\$0	\$64,137	0.3992%	104.50%
814	A	\$0	\$0	\$0	0.0000%	105.20%
814	B	\$0	\$0	\$0	0.0000%	105.33%
814	C	\$0	\$0	\$0	0.0000%	105.05%
814	D	\$64,601	\$0	\$0	0.0000%	105.05%
814	E	\$0	\$64,601	\$0	0.4012%	105.05%
815	A	\$0	\$0	\$0	0.0000%	105.15%
815	B	\$0	\$0	\$0	0.0000%	105.15%
815	C	\$0	\$0	\$0	0.0000%	105.15%
815	D	\$65,090	\$0	\$0	0.0000%	105.15%
815	E	\$0	\$65,090	\$0	0.4027%	105.15%

In the above example, when the annualized dividend exceeds .4%, Dollar rent conversion happens through property purchases rather than Elsie purchases from the market maker.

## Advance Rent Fund (Dollars)

$$=R373 + \text{IF} (\$B374="B", 5\% * AN374, 0) - \text{IF} (B374="B", R373/12, 0) + \text{IF} (\$B374="C", AP373, 0)$$

Rent is paid in either dollars or Elsie. This is the set of funds for rent paid in dollars. Individual Elsie or dollar ARFs are not comingled but can be treated that way mathematically.

Added to the fund from the previous segment, **R373**, is 5% of all auction proceeds, **AN374**. Subtracted from the fund every month in segment B is 1/12 of its content for distributed rent. Most notably, in Phase II, the incoming rent paid as dollars, **AP373**, is added in segment C.

The advance rent fund is a purple-headed dollar account.

## Dollar Rent

$$=\text{IF} (\$B375="D", 0, S374 + \text{IF} (\$B375="B", R374/12, 0))$$

This column is the 1/12 of the dollar advance rent fund, **R374/12**, paid out for distribution. The account is cleaned out in segment D when the funds are transferred to the dollar distributor or set aside for conversion to Elsie. Dollar Rent is a purple-headed dollar account.

Period	Segment	Dollar rent to be converted to Elsie (H)	Advance rent funds (Mil dollars)	Dollar Rent	Dollar Distributor
<b>812</b>	<b>D</b>	\$63,490	\$1,713,438	\$0.00	\$78,472.61
<b>812</b>	<b>E</b>	\$0	\$1,713,438	\$0.00	\$0.00
813	A	\$0	\$1,713,438	\$0.00	\$0.00
813	B	\$0	\$1,570,651	\$142,786.47	\$0.00
813	C	\$0	\$1,723,516	\$142,786.47	\$0.00
<b>813</b>	<b>D</b>	\$64,137	\$1,723,516	\$0.00	\$78,649.95
<b>813</b>	<b>E</b>	\$0	\$1,723,516	\$0.00	\$0.00

## Dollar Distributor

$$=\text{IF} (\$B374="E", 0, T373 + \text{IF} (B374="B", \text{Percent\_Dollars} * 95\% * AN374, 0) + \text{IF} (\$B374="D", N374 * \text{MM\_Bottom} * K374) + \text{IF} (\$B374="D", S373 - O374))$$

The dollar distributor distributes its content to dollar recipients in segment E. The first input to the dollar distributor comes from 95% of those auction proceeds to be distributed as dollars, **Percent\_Dollars \* 95% \* AN374**. Auction proceeds are always in dollars in the simulation. The other inputs come in segment D. Primarily, this is the input from dollar rent, after subtracting those dollars to be converted to Elsie **S373 - O374**. In segment D, rent dollars need to be converted from Elsie through the market maker. The market maker paid **MM\_Bottom** for those Elsie **N374** at the peg **K374**.

## Advance Rent Fund (Elsies)

$$=U373 - IF (\$B374="B", U373/12) + IF (\$B374="C", AO373) + IF (B374="C", F373*5\%)$$

The advanced rent fund is funded in segment C from the rents paid in Elsie, **AO373**, and 5% of those property owners who sell their property into the Commons Trust, likely in response to a revaluation, **F373**. Every month in segment B, it pays out 1/12 of its content.

Period	Segment	Advance Rent Funds (Mil LC\$)	Elsie Rent	Elsie Distributor	Retail Elsie	Sequestered Treble Arbitrage	Dividend Payable	EDSF	Total Accounts
812	D	1,432,560	0	183,161	27,641,075	6,594,753	0.00	20,527,278	56,316,214
812	E	1,432,560	0	0	27,641,075	6,594,753	9,158.07	20,664,649	56,316,214
813	A	1,432,560	0	64,034	27,622,831	6,594,753	0.00	20,664,649	56,316,214
813	B	1,313,180	119,380	64,034	27,622,831	6,594,753	0.00	20,664,649	56,316,214
813	C	1,437,498	119,380	64,034	27,622,831	6,612,548	0.00	20,664,649	56,466,214
813	D	1,437,498	0	183,414	27,622,831	6,612,548	0.00	20,634,981	56,466,214
813	E	1,437,498	0	0	27,622,831	6,612,548	9,170.70	20,772,541	56,466,214
814	A	1,437,498	0	64,686	27,603,998	6,612,548	0.00	20,772,541	56,466,214
814	B	1,317,706	119,791	64,686	27,603,998	6,612,548	0.00	20,772,541	56,466,214
814	C	1,442,339	119,791	64,686	27,603,998	6,630,432	0.00	20,772,541	56,616,214
814	D	1,442,339	0	184,478	27,603,998	6,630,432	0.00	20,744,598	56,616,214

## Elsie Rent

$$=IF (\$B374="D", 0, V373 + IF (\$B374="B", U373/12, 0))$$

This holding account gets its Elsie in Segment B from the advance rent fund U373/12, holds them in Segment C, and distributes everything in Segment D, primarily to the Elsie Distributor.

## Elsie Distributor

$$=IF (\$B374="E", 0, W373 + IF (B374="D", V373, 0) + IF (\$B374="A", G374)) - IF (\$B374="D", N374) + IF (\$B374="A", Q373/K373)$$

The Elsie Distributor gets Elsie from various sources to distribute them in segment E to Elsie recipients of the rents. In segment D, the distributor receives Elsie from the rent paid in Elsie, **V373**. In segment A, the distributor gets Elsie from rent dollars converted to Elsie through property purchases into the Commons Trust. The market maker is used for this conversion if the dividend is low enough and retail holders of Elsie are willing to sell **Q373/K373**. In the implementation, there will be a mixture of retail Elsie sales and property purchases based on retail Elsie supply as seen in the market. Those Elsie, if any, that must be converted to dollars **N374** (rare in Phase II) are removed in Segment D before the remaining Elsie are distributed in Segment E.

## Retail Elsie

$$=X373 + \text{IF} (\$B374="A", Z373, 0) + AT373 + AU373 - \text{IF} (\$B374="A", Q373/K373)$$

Retail Elsie are the Elsie held by investors, hoarders, merchants, consumers, governments, and market makers other than the ABC market maker in the simulation. There is no way to predict the size of the retail segment. Phase I can go from 19 to 260 years based on the size of the retail trade. Phase II can go from 1 year to 40 years based on the size of the retail trade. We reach the Worldwide Federation in 20 years through 300 years, based on the size of this VIP economy. Building the retail segment must be the top priority of any CEO.

In the simulation, the retail segment begins where it left off in the 60-year Phase I. In segment A, retail holders get the entire dividend payable, **Z373**. Strictly speaking, the ABC market maker would get some of this, but the ever-shrinking, often negative, Elsie inventory of the ABC market maker makes this both immaterial and difficult to calculate accurately.

Both the ABC and VTLM are Elsie shops in Phase II. In an implementation, most, if not all, the counties would be as well, although the counties still are dollar recipients in the simulation. Elsie are going to the ABC and VTLM, entering the VIP economy, and becoming retail Elsie (**+ AT373 + AU373**).

A low dividend indicates a surplus of Elsie in the retail sector. This is an objective measure of something that is not objective, making it a balancing mechanism in the simulation rather than a prediction of the future. Phase II termination can be predicted only with Phase II data that reveals the actual value of the parameter **Retail\_Freeze\_Above**. This parameter controls how many Elsie retail sells to the market maker – **IF (\$B374="A", Q373/K373)**. As retail is sold to the market maker, who sells them primarily to the sequestered EDSF, the dividend rises until the Elsie is considered too scarce to sell. There is no guarantee anyone will sell Elsie in Phase II, ushering in a rapid hyperdeflation.

## Sequestered Treble Arbitrage

$$=50\% * \$H\$10 * (AS373/\$AS\$10) * ((4/3)/12 + 2.49\%/4)$$

There is no way to portray this column accurately. After a revaluation, few will raise their rents directly, and it will be open season for treblers in Elsie. Most properties will be trebleable unless rents are raised to keep up with the revaluation.

Trebling in dollars is no longer functional, as the arbitrage from using Elsie is explosive. But there is a shortage of Elsie, reducing the number of treblers. Few people will have the Elsie to match the trebler, nor the expanded number of dollars required to match. Trebles will be successful, and those who cannot match a treble will raise their rent in dollars to avoid it. Those who pay their rent in Elsie will not be trebled and never need to increase their rent during Phase II (or after federation if they are outside a "hot" area).

This desperation for Elsie could end Phase II in as little as a year (or even less).

The numbers used in the simulation are hard-coded from Phase I to prevent any sudden jumps in Elsie demand that would end Phase II abruptly. They assume that only those who allow their rent to fall until trebled will be trebled and that not all treblers will use Elsies. The assumption is that only 50% of property owners will allow their rent to fall and be subject to trebling in Elsies rather than dollars. The amount of property is initialized to the property value at the start of Phase II, **\$H\$10**. This is increased over time by the current dollar amount of purchases divided by the dollar amount of purchases at the beginning of Phase II (**AS373/\$AS\$10**).

The remainder of the formula is the amount of Elsies the trebler needs for each treble. In the falling rent supposition, about 1/12 of all properties are trebled each month, as the rent falls by 2/3 over a year. 133% of the structure value needs to be sequestered. **(4/3)/12**. Three times the current rent must also be sequestered. Note that  $3 * 2.49\% / 12 = 2.49\%/4$ .

Once people believe AFFEERCE will succeed, realizing that only Elsies can protect against treblers in Phase II or allow one to engage in lucrative trebling should collapse the time window to account for only logistical and political issues for the duration of Phase I and Phase II.

## Dividend Payable

**=IF (\$B374="E", W373 \* 3.5%/Percent\_Elsies, 0)**

The dividend is payable by the Elsie Distributor (**W373**) at 3.5% of the total ground rent or 3.5% out of the percentage of rent paid out as Elsies. All distributions to rent recipients are done in segment E. However, this field, Dividend Payable, is not distributed to holders of Elsies as of segment C until segment A of the following month. Dividend payable is a red-headed contributor to total accounts.

## EDSF

**=AA373 + IF (\$B374="E", W373 \* 52.5%/Percent\_Elsies, 0) – IF (\$B374="D", AK373)**

The Earth Dividend Subsidy Fund receives 52.5% of all ground rents in Phase II or 52.5% of the ground rent distributed as Elsies.

The EDSF is not wholly sequestered. There is a net payment for Earth Dividends each month, some of which began in Phase I. The net outflow is computed in the "Monthly EDSF Drain" (**AK373**). If the drain is not about two orders of magnitude less than the rents coming into the EDSF, the number of Earth Dividends issued should be curtailed.

## Total Accounts

**=M374 + SUM (U374:AA374) + AO374 + AT374 + AU374**

Total Accounts is the sum of all the red-headed columns (Elsie accounts). The Total Accounts must always equal the Total Elsie column for the spreadsheet to balance.

M374	Market maker Elsie inventory
U374	Advance rent fund (Elsie)
V374	Elsie rent
W374	Elsie Distributor
X374	Retail Elsie
Y374	Sequestered Treble Arbitrage
Z374	Dividend Payable
AA374	EDSF
AO374	Elsie rent (IN)
AT374	ABC
AU374	VTLM

Period	Segment	Total Accounts	Elsies Created	Elsies Destroyed	Total Elsie
812	D	61,866,214	72,483,927	10,617,713	61,866,214
812	E	61,866,214	72,483,927	10,617,713	61,866,214
813	A	61,866,214	72,483,927	10,617,713	61,866,214
813	B	61,866,214	72,483,927	10,617,713	61,866,214
813	C	62,166,214	72,783,927	10,617,713	62,166,214
813	D	62,166,214	72,783,927	10,617,713	62,166,214
813	E	62,166,214	72,783,927	10,617,713	62,166,214
814	A	62,166,214	72,783,927	10,617,713	62,166,214
814	B	62,166,214	72,783,927	10,617,713	62,166,214
814	C	62,316,214	72,933,927	10,617,713	62,316,214
814	D	62,316,214	72,933,927	10,617,713	62,316,214
814	E	62,316,214	72,933,927	10,617,713	62,316,214

## Elsies Created

**=AC373 + G374 + IF (\$B374="C", F373)**

Elsies are only created when a property is purchased into the Commons Trust. Added to the value from the previous column (**AC373**) are the Elsie minted when a property is purchased exclusively for Elsie rent recipients (primarily the EDSF) **G374**. In segment C, additional Elsie are recorded for properties purchased for Elsie, typically in response to a revaluation (**F373**).

## Elsies Destroyed

**=AD373**

No Elsie are destroyed in the Phase II simulation. The value is passed down from segment to segment with the number of Elsies discarded in Phase I. Elsies are too valuable in Phase II to destroy them, which is in nobody's self-interest.

## Total Elsies

**=AC374 - AD374**

Total Elsies are simply the Elsies Created minus the Elsies Destroyed. Total Elsies must always be equal to Total Accounts for the spreadsheet to be balanced.

## Elsies Earning a Dividend

**=IF (\$B375="C", MAX(AE375-AA375-Y375-U375-V375-W375-AO375-AT375-AU375,0.0001), 0)**

There are two ways to calculate the column "Elsies Earning a Dividend." Either it is the sum of the Retail Elsies and Elsie Market Maker inventory, or it is the Total Elsies minus all the accounts that are not qualified for the dividend, which are all the other accounts. Only holders during segment C are eligible for the dividend, which is paid from Dividend Payable in segment A of the next period.

The latter method is used here. Subtracted from Total Elsies are EDSF(**AA375**), Sequestered Trebler Arbitrage (**Y375**), Elsie Advanced Rent Fund (**U375**), Elsie Rent (**V375**), Elsie Distributor (**W375**), Elsie Rent IN (**AO375**), Elsies held by the ABC (**AT375**), Elsies held by the VTLM (**AU375**). The subtractive method is convenient because this number goes negative during hyperdeflation, and **0.0001** is used instead to prevent a divide-by-zero error. Massive annualized dividends of over 1 million percent flag hyperdeflation. This can usher in a chaotic few months before the number of revaluations allows for a universal Earth Dividend and federation.

## Annualized Dividend

**=IF (\$B11="E", (Z11/AF9) \* 12, 0)**

Computed in segment E, this is the Dividend Payable (**Z11**) divided by the Elsies Earning a Dividend calculated in segment C (**AF9**). To annualize the dividend, the result is multiplied by 12.

## Land Backing

$$=40\% * H11/AE11$$

Phase I can end before the Elsie is 100% or more backed by land. Assuming the average land backing at purchase is 40%, this can easily be computed by dividing the total property value (**H11**) by the total Elsies (**AE11**) and multiplying it by 40%. If land backing is not 100% at the start of Phase II, it will reach 100% early in Phase II as revaluations bring land backing to 1000% or more. Only after federation will land backing return to 100% as fiat currencies are redeemed.

## Earth Dividends

$$=AA10/(AJ10/1000000)$$

The number of Earth Dividends issued is, at most, equal to the value of the EDSF (AA10), divided by the present value of an Earth Dividend (AJ10) divided by 1 million since the present value of the Earth Dividend is in millions. In Phase II, this will be the number issued; however, in Phase I, Earth Dividends are not issued at this rate because of the danger of too many Elsies in circulation. There is no such danger in Phase II.

Period	Segment	EDSF (millions)	Earth Dividends	Present Value Per Dividend	Monthly EDSF Drain (millions)	Monthly Earth Dividends	Earth Dividend Auction Proceeds
739	E	14,040,618	11,700,515	1,200,000	0		
740	A	14,040,618	11,700,515	1,200,000	0		
740	B	14,040,618	11,700,515	1,200,000	0	76,000	13,680,000,000
740	C	14,040,618	11,700,515	1,200,000	26,570	0	0
740	D	14,014,048	11,678,374	1,200,000	0	0	0
740	E	14,117,497	11,764,581	1,200,000	0	0	0
741	A	14,117,497	11,764,581	1,200,000	0	0	0
741	B	14,117,497	11,764,581	1,200,000	0	64,066	11,531,847,698
741	C	14,117,497	11,764,581	1,200,000	28,938	0	0

At the start of Phase II, only 11.7 million Earth Dividends were awarded in this simulation.

## Present Value Per Earth Dividend

$$=AJ12 * K12/K13$$

The present value is in Elsies, which is initialized to 1.2 million Elsies at the start of Phase II and pegged to \$1.2 million. This is after 60 years of inflation at 2% has raised the actuarial present value from around \$350,000 (2022 dollars) for an average-aged person.

The current value is computed by multiplying the last segment's present value by the last segment's peg and dividing it by this segment's peg. The present value drops with each revaluation, drawing more productive resources into servicing the Earth Dividend.

### Monthly EDSF Drain

**=IF (\$B10="C", ((86/25) \* 1000/K10) \* AI10/1000000 - AM9/1000000, 0)**

This column calculates the monthly cost of the Earth Dividend to the EDSF. In 2022 dollars, the pre-federation monthly Earth Dividend payout is \$1,000. (It increases to \$1,200 after federation for the federation military, age-related benefits, and other benefits subsidized by legacy governments.)

Since the average property price increased over the 60 years of Phase I from \$250,000 to \$860,000, 25/86 can be used as a proxy for inflation. The drain to the EDSF is **(86/25) \* 1000** divided by the peg (**K10**) and multiplied by the number of Earth Dividends in existence (**AI10**). Because this is to be subtracted from the EDSF, denominated in millions, it is divided by 1 million.

Half the Earth dividends issued during the month are given away for nominal Elsie to Phase II communities. The other half are auctioned off to anyone in the world. Proceeds from the auction (discussed below) in **AM9** will be added to the EDSF. This is equivalent to subtracting the auction proceeds from the drain on the EDSF. Because Auction proceeds are not denominated in millions, they must be divided by 1 million.

### Monthly Earth Dividends

**=IF (\$B13="B", AI13 - AI8, 0)**

This informative column keeps track of the number of new Earth Dividends created in the month by subtracting the number of Earth Dividends this month from the number of Earth Dividends last month **AI13 - AI8**. It is used to compute the number of Earth Dividends up for auction.

Period	Segment	EDSF (millions)	Earth Dividends	Present Value Per Dividend	Monthly EDSF Drain (millions)	Monthly Earth Dividends	Earth Dividend Auction Proceeds
915	A	54,854,071	1,118,080,842	49,061	0	0	0
915	B	54,854,071	1,118,080,842	49,061	0	187,686,040	1,381,207,378,548
915	C	54,854,071	1,118,080,842	49,061	-1,223,959	0	0
915	D	56,078,030	1,143,028,583	49,061	0	0	0
915	E	56,819,832	1,158,148,603	49,061	0	0	0
916	A	56,819,832	1,345,073,884	42,243	0	0	0
916	B	56,819,832	1,345,073,884	42,243	0	226,993,041	1,438,326,924,474
916	C	56,819,832	1,345,073,884	42,243	-1,275,443	0	0

This table shows Earth Dividends as hyperdeflation nears. There are over 1 billion Earth Dividends (many cannot be awarded until federation), and the present value is down to 49,061 Elsie and falling. The EDSF

grows from auction proceeds (a negative drain) despite over 100 million new Earth Dividends that are or can be, awarded.

### Earth Dividend Auction Proceeds

```
=IF ($B887="B", 50% * AL887 * 30% * AJ887, 0)
```

50% of the Earth dividends issued (**AL887**) are placed up for auction. The formula assumes that the bid at auction will average 30% of the present value (**AJ887**). Motivations for bidding include charity and support of the AFFEERCE business plan. Most critically, however, winning the auction early in Phase II means the revaluations will not affect housing or food costs. Protection from the hyperinflation of fiat currency as one gains all the benefits of hyperdeflation of the Elsie is probably worth more than 30%. One pays 30% for something that will likely be free in 10 years to escape the intervening misery. The actual percentage is not critical to the duration of Phase II, so a hard-coded 30% is reasonable.

### Auction Proceeds

```
=IF ($B897="B", (G891)/2, 0)
```

When properties are purchased with rent dollars to pay the EDSF and other Elsie recipients (**G891**), the properties are put up for auction. As in Phase I, the assumption is that the winning bid will be 50% of the property value. This is not a purple-headed dollar account but a dollar input to the system.

Period	Segment	Auction Proceeds	Elsie Rent In	\$ Rent In
919	A	\$0.00	0	\$0
919	B	\$2,915.80	3,858,595	\$2,330,598
919	C	\$0.00	0	\$0
919	D	\$0.00	0	\$0
919	E	\$0.00	0	\$0
920	A	\$0.00	0	\$0
920	B	\$12,551.68	4,482,343	\$2,759,619

## Elsie Rent In

**=IF (\$B11="B", (Percent\_Rent\_In\_Elsies \* 2.49%/12 \* H10)/K10, 0)**

Rent in Elsies does not rise with inflation or revaluations in Phase II. In some cases, it will even fall with the revaluations. The amount of rent received in Elsies is a function of the percentage of people who pay their rent in Elsies (**Percent\_Rent\_In\_Elsies**), the percentage of property value they are paying (**2.49%/12**), and the dollar property value in the Commons Trust. However, the dollar value of property in the Commons Trust has been adjusted by the peg, so the formula must be divided by the peg to return the Elsie equivalent of rent.

Paying rent in Elsies usually protects property owners from unmatchable trebles in Phase II, which is why many will bid on the Earth Dividend.

“Elsie rent in” is a red-headed column whose value is added to total accounts. Although many in the implementation will get their Elsies from Earth Dividend payments, the simulation originates the Elsies with the market maker. The flow of Elsies for rent makes no difference to the outcome of the simulation.

## Dollar Rent In

**=IF (\$B907="B", (1-Percent\_Rent\_In\_Elsies) \* 2.49%/12 \* H906, 0)**

Those who pay rent in dollars (**1-Percent\_Rent\_In\_Elsies**) pay rent as a percentage (**2.49%/12**) of property value in dollars (**H906**). These payments are very much affected by inflation and revaluations. Many who pay their rent in dollars will find themselves trebled by Elsie holders and unable to match.

A shortage of Elsies forces people who have not won or been awarded the Earth Dividend to pay their rent in dollars. The few short months as the severe deflation of the Elsie becomes hyperdeflation are the most painful part of the transition to land-based capitalism. Federation and the redemption of fiat currency ends the suffering.

Dollar Rent In is a purple-headed account whose value is added to total account dollars.

## Total Dollars Input

**=AQ905 + IF (\$B906="B", AN906 \* (5% + 95% \* Percent\_Dollars)) + IF (\$B906="A", AN902 \* 95% \* Percent\_Elsies) + IF (\$B906="B", D906) + AP906 + IF (\$B906="B", (Percent\_Rent\_In\_Elsies \* 2.49%/12 \* H905) \* MM\_Top, 0) - IF (\$B906="C", F905 \* MM\_Bottom \* K906) + IF (\$B906="A", Q905\*(MM\_Top - MM\_Bottom)) - IF (\$B906="A", Q905)**

There are many sources of U.S. dollars input. Added to the current supply of U.S. dollars (**AQ905**) are 5% of the auction proceeds (**AN906**), which go to the dollar advance rent fund. 95% of the auction proceeds go directly to Elsie recipients. For those recipients that receive their distribution in dollars, **95% \* Percent\_Dollars**, auction proceeds dollars are moved to the dollar distributor in segment B. For those

recipients that receive their distribution in Elsies, **95% \* Percent\_Elsies** auction proceeds are advanced to the Elsie accounts in segment A.

Direct purchases in **D906** do not bring actual dollars into the system. However, the spreadsheet is designed to include the dollar value of the purchased property at the time of purchase as part of dollar balancing.

Dollar Rent In, **AP906**, is included as dollar input.

The property owner has dollars and wants to purchase Elsies for rent to take advantage of the discount. The rent, computed in dollars, is a percentage of the property value. In this case, **2.49%/12**. The cost to convert dollars to Elsies is found by multiplying the dollars by MM\_Top to get the discount. However, this is not a measure of the corresponding number of Elsies. The number of Elsies is the number of dollars divided by the peg. This shows up in the Elsie market maker.

This segment B operation is done through the market maker: **IF (\$B906="B", (Percent\_Rent\_In\_Elsies \* 2.49%/12 \* H905) \* MM\_Top, 0)**. The market maker sells these Elsies at **MM\_Top**. The amount is a function of the **Percent\_Rent\_In\_Elsies**, the percentage paid **2.49%/12**, and the current property value in dollars (**H905**). The peg is already built into H905.

In segment C, the market maker buys Elsies from those who sold their property into the Commons Trust for Elsies, usually because of a revaluation. While many of these property owners will keep some or all their Elsies, this is accounted for under retail Elsie holders. In the simulation, all Elsies minted in this manner are sold to the market maker. Who sells and who holds is not essential to the outcome. The total held, and not by whom, is of critical importance. The market maker pays for Elsies received (**F905**), **MM\_Bottom** times the current peg (**K906**).

In the final operation, two sequential processes, dollar rent that must be converted to Elsies, are used to purchase Elsies from the market maker, which goes to the Elsie distributor. The market maker then restores its inventory from retail sellers. The dollar amount is in (**Q905**). The cost for the conversion to the market maker is **Q905 \* MM\_Top**. The number of Elsies returned is **Q905/K906**, but this is an Elsie function. The market maker then purchases **Q905/K906** Elsies from retail. This costs the market maker **Q905 \* MM\_Bottom**. The market maker net is **Q905\*(MM\_Top - MM\_Bottom)**. However, the original dollars minus this profit retained leave the system for the retail sector - **IF (\$B906="A", Q905)**.

Period	Segment	Total Dollars Input (Mil \$)	MM Dollars (Mil \$)	Contract Escrow+Purchases (Mil \$)	ABC (Mil Elsies)	VTLM (Mil Elsies)	Counties (Mil \$)	Total Account Dollars (Mil \$)
739	E	\$71,849,415	\$1,036,221	\$61,233,926	280,864	2,186,683	\$9,371,502	\$71,849,415
740	A	\$71,849,415	\$1,036,221	\$61,233,926	0	0	\$9,371,502	\$71,849,415
740	B	\$72,060,381	\$1,141,254	\$61,233,926	0	0	\$9,371,502	\$72,060,381
740	C	\$72,060,381	\$1,141,254	\$61,233,926	0	0	\$9,371,502	\$72,060,381
740	D	\$72,060,381	\$1,099,851	\$61,233,926	0	0	\$9,371,502	\$72,060,381
740	E	\$72,060,381	\$1,099,851	\$61,233,926	13,793	13,793	\$9,430,218	\$72,060,381
741	A	\$72,060,381	\$1,099,851	\$61,233,926	0	0	\$9,430,218	\$72,060,381
741	B	\$72,271,699	\$1,205,059	\$61,233,926	0	0	\$9,430,218	\$72,271,699
741	C	\$72,271,699	\$1,205,059	\$61,233,926	0	0	\$9,430,218	\$72,271,699
741	D	\$72,271,699	\$1,170,604	\$61,233,926	0	0	\$9,430,218	\$72,271,699
741	E	\$72,271,699	\$1,170,604	\$61,233,926	13,880	13,880	\$9,489,372	\$72,271,699

## Market Maker Dollars

$$=AR10 + IF (\$B11="B", (Percent\_Rent\_In\_Elsies * 2.49\% * H10/12) * MM\_Top,0) - IF (\$B11="D", N11 * MM\_Bottom * K11) - IF (\$B11="C", F10 * MM\_Bottom * K11) + IF (\$B11="A", Q10 * (MM\_Top - MM\_Bottom))$$

The market maker brings in  $(Percent\_Rent\_In\_Elsies * 2.49\% * H10/12) * MM\_Top$  dollars in exchange for  $(Percent\_Rent\_In\_Elsies * 2.49\% * H10/12)/K10$  worth of Elsie (returned by the Elsie market maker). Property owners pay this to take advantage of the Elsie discount for rent.

Rent paid in Elsie (**N11**) that needs to be converted to dollars for dollar recipients is inputted to the Elsie market maker. In segment D, the dollar market maker pays this amount times **MM\_Bottom** times the current peg for these Elsie **N11 \* MM\_Bottom \* K11**.

Elsie paid to property owners who sold into the Commons Trust (**F10**), likely in response to a revaluation, redeem 100% of these Elsie for dollars in this simulation. Holding of Elsie by these property owners is accounted for in Retail Elsie. This follows the general formula for purchasing Elsie: amount times **MM\_Bottom** times current peg, **F10 \* MM\_Bottom \* K11**.

In the final operation, two sequential processes, dollar rent that must be converted to Elsie, are used to purchase Elsie from the market maker, which goes to the Elsie distributor. The market maker then restores its inventory from retail sellers. The dollar amount is in (**Q10**). The cost for the conversion to the market maker is  $Q905 * MM\_Top$ . The number of Elsie returned is  $Q10/K10$ , but this is an Elsie function. The market maker then purchases  $Q10/K10$  Elsie from retail. This costs the market maker  $Q905 * MM\_Bottom$ . The market maker net is **Q905\*(MM\_Top - MM\_Bottom)**.

## Contract Escrow + Purchases

$$=AS10 + G11 + D11$$

This purple-headed account keeps track of the dollar value of the property purchased into the Commons Trust. It is the sum of the current value, **AS10**, plus the dollar value of purchases into the Commons Trust for Elsie (**D11**) and the rent dollars spent on property to fund Elsie recipients of rent (**G11**).

## ABC (Elsie)

$$=IF (\$B11="E", W10*7\%/Percent\_Elsies, 0)$$

This red-headed column was purple in Phase I, but the ABC decided to become an all-Elsie shop in the simulation. In the implementation, the ABC, VTLM, and counties can specify, with 2 months' notice in Phase I or II, the percentage of Elsie they wish to receive in their distributions. This can range from 0% to 100%. Rather than have two columns for each and three parameters to set, this simulation has the ABC and VTLM with a 100% Elsie distribution and the counties with a 100%-dollar distribution. The Elsie distribution will likely be 100% for all by the time Phase II begins.

The standard distribution is the Elsie Distributor (**W10**) times the percentage of the ground rent for the ABC (**7%**) out of the total **Percent\_Elsies** to be distributed.

As a convention of the spreadsheet, these Elsies move into the retail (VIP) economy and are not accumulated. This allows the entire dividend to be paid to Retail Elsies. Thus, the Elsies are paid in segment E, but the balance is 0 by segment A of the next period.

## VTLM (Elsies)

```
=IF ($B11="E", W10*7%/Percent_Elsies, 0)
```

The VTLM, an all-Elsie shop in Phase II, receives the same 7% distribution as the ABC. In an implementation, the VTLM transitions to Earth Dividend support by the end of Phase II.

The standard distribution is the Elsie Distributor (**W10**) times the percentage of the ground rent for the VTLM (**7%**) out of the total **Percent\_Elsies** to be distributed.

As a convention of the spreadsheet, these Elsies move into the retail (VIP) economy and are not accumulated. This allows the entire dividend to be paid to Retail Elsies. Thus, the Elsies are paid in segment E, but the balance is 0 by segment A of the next period.

## Counties (dollars)

```
=AV10+IF ($B11="E", T10 * 30%/Percent_Dollars)
```

The counties continue to receive their distribution in dollars in this simulation. In an implementation, the ABC, VTLM, and counties can specify the percentage of Elsies they wish to receive in their distributions with two months' notice in Phase I or II. This can range from 0% to 100%. Rather than have two columns for each and three parameters to set, this simulation has the ABC and VTLM with a 100% Elsie distribution and the counties with a 100%-dollar distribution. The Elsie distribution will likely be 100% for all by the time Phase II begins.

Spending of dollar revenue is not accounted for in the spreadsheet, so the standard payment from the dollar distributor is added to the current value (AV10) in segment E.

The standard distribution is the dollar distributor (**T10**) times the percentage of ground rent going to the county (30%) out of the portion of the ground rent going to dollar recipients (**Percent\_Dollars**). The counties are the only dollar recipient in this simulation, so **Percent\_Dollars** is also 30%.

While the counties are combined in the simulation, the amount going to each county is a function of the properties in the Commons Trust in that county or similar jurisdiction.

## Total Account Dollars

**=SUM (AR11:AS11) + AV11 + SUM (O11:T11) + AP11**

The total account dollars must always equal the total dollars input for the spreadsheet to balance. This field is the sum of the dollars in various accounts.

AR11	Market Maker Dollars
AS11	Contract Escrow + Purchases
AV11	Counties
O11	Dollar Rent to be Converted to Elsie
P11	Property Purchases with Rent Dollars
Q11	Elsie MM Purchases with Rent Dollars
R11	Advance Rent Fund - Dollars
S11	Dollar Rent
T11	Dollar Distributor
AP11	Dollar Rent In