Columns of the Phase II Spreadsheet

Link to the spreadsheet

Some believe that Phase II can last no more than a few weeks, while parameters can be adjusted to create a Phase II that lasts 40 years. The big question is, at what price will retail holders of the Elsie sell, if ever? Land-based capitalism will succeed if Phase II is reached. It is a question of when not if. Nobody would sell an asset that must hyperdeflate unless they were desperate. Desperation also defines property sales in Phase II. Those who refused to sell their property in Phase I for U.S. dollars become desperate enough to sell them for Elsies at the peg, Elsies they will be reluctant to part with. This spreadsheet is more of a what-if game than a predictive tool.

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 monthly rather than the daily Phase I spreadsheet. Some of the same-named columns have different formulas and semantics. We begin in month 240, continuing Phase I, which lasted 20 years. Values from the end of the Phase I spreadsheet initialize this spreadsheet, where appropriate. Although Phase I lasted only about 19 years, we extended it to 20 years without land fund contributions to clear the 99.16% inventory and leave the market maker with a negative inventory, allowing the first revaluation to happen in the first month.

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 Property	EDSF contracts signed	Property Value (Mil $)	Total Purchases (number of properties)	Number of .5% revaluations	Peg	Average Property Price	Market Maker (Mil LC$)
239	E	$0	$0	FALSE	0		$86,217,024	192,940,036	0	$1.0000	$0.36	-840,000
240	A	$0	$0	FALSE	0	$0	$86,792,523	192,940,036	1	$1.0050	$0.36	-4,736
240	B	$0	$100,500	FALSE	100,000	$0	$86,893,023	193,217,352	1	$1.0050	$0.36	-94,335
240	C	$0	$0	FALSE	0	$0	$86,893,023	193,217,352	1	$1.0050	$0.36	-37,637
240	D	$0	$0	FALSE	0	$0	$86,893,023	193,217,352	1	$1.0050	$0.36	55,463
240	E	$0	$0	FALSE	0	$0	$86,893,023	193,217,352	1	$1.0050	$0.36	55,463
241	A	$0	$0	FALSE	0	$0	$87,037,844	193,217,352	1	$1.0050	$0.36	55,463

The first column, Period, is the month number. Each column on the spreadsheet is initialized with the last segment of the last day of the last month of Phase I. In this

case, 20 years is used, so properties total 193 million. Formulas for the column begin in segment A of period 240. A zero balance is initiated if needed by adding to the Retail Elsies column's initializer.

Initialize Average Property Price		0.36	Inflation Rate	2.00%				
	Sell On Revalue	$100,000						
Percent rent in Elsies		50%						
Retail Freeze Above		0.30%	Max Parcels	1,200,000,000				
	MM_Bottom	99.05%	MM_Top	99.15%	Percent Dollars	30%	Percent Elsies	70%

These are the simulation's parameters. Most are statements of fact or guesses of exogenous conditions. The initial value of the “Average Property Price” column is $360,000. This is how much the ABC will pay for an average property after 20 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 $100 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 seven years. **The number used, $100 billion, will require 13.5 years to reach hyperdeflation.** A large number, like $400 billion, will cause Phase II to last 46 years. 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 property into the commons trust. Phase I is not supposed to end until everyone who wants to sell their land into the commons trust at up to 133% market value does so. It is rather far-fetched that a single 0.5% revaluation will attract even $50 billion worth of property into the commons trust for Elsies at the property’s market value when a 33% premium over market value in U.S. Dollars failed to entice them to sell a few months earlier.

Direct mode purchases in Phase I and II return 90% of the sales price to the property owner and 5% to the advance rent fund. A 5% “commission” goes for immediate-delayed disposition. Phase I direct mode is U.S. dollars, and Phase II is Elsies. Insatiable demand at the end of Phase I implies any person desiring to sell will sell in Phase I for dollars and get their Elsies at 99.05% of the peg. Why wait until Phase II and get Elsies at 100% of the peg?

The goal is to frontload property sales into the commons trust. It will last longer if most people wait to sell in Phase II. 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 inflation parameter is still set at 2%. This is in addition to the revaluations. We have no way of predicting the inflation rate of the U.S. dollar beyond the revaluations. Hyperinflation, which will happen during Elsie hyperdeflation, will quickly occur during Phase II.

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 .30% 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 Elsies clearly at 70% define the current distribution. Recall that in Phase I, 43% of the rents were paid in dollars (13% to the ABC, purchasing agent, 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 Elsies for the ABC, purchasing agent, 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 Elsies 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 Elsies created from purchases match the Elsies in the paid and current accounts, plus the Elsies 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. Balance should be established at the start by varying Retail Elsies and Total Dollars Input.

Period	Segment	Direct Purchases/Donations	Total Purchases (number of properties)	Number of .5% revaluations	Peg	Market Maker (Mil LC$)	EDSF (millions)	Total Accounts	Total Elsies	Earth Dividends	Total Dollars Input (Mil $)	Counties (Mil $)	Total Account Dollars (Mil $)
275	E	$0	201,825,826	27	$1.1442	-21,653	16,197,638	53,999,700	53,999,700	23,165,697	$80,296,956	$11,706,145	$80,296,956
276	A	$0	201,931,017	28	$1.1499	-21,653	16,197,638	54,046,011	54,046,012	23,281,525	$80,311,666	$11,706,145	$80,311,666
276	B	$114,987	202,192,196	28	$1.1499	-124,186	16,197,638	54,046,011	54,046,012	23,281,525	$80,660,276	$11,706,145	$80,660,276
276	C	$0	202,192,196	28	$1.1499	-68,685	16,197,638	54,146,011	54,146,012	23,281,525	$80,586,244	$11,706,145	$80,586,244
276	D	$0	202,192,196	28	$1.1499	-22,987	16,151,940	54,146,011	54,146,012	23,215,842	$80,586,244	$11,706,145	$80,586,244
276	E	$0	202,192,196	28	$1.1499	-22,987	16,277,915	54,146,011	54,146,012	23,396,911	$80,586,244	$11,782,164	$80,586,244
277	A	$0	202,298,970	29	$1.1556	-22,987	16,277,915	54,193,334	54,193,334	23,513,895	$80,601,302	$11,782,164	$80,601,302
277	B	$115,562	202,559,714	29	$1.1556	-125,914	16,277,915	54,193,334	54,193,334	23,513,895	$80,952,505	$11,782,164	$80,952,505
277	C	$0	202,559,714	29	$1.1556	-70,460	16,277,915	54,293,334	54,293,334	23,513,895	$80,878,103	$11,782,164	$80,878,103
277	D	$0	202,559,714	29	$1.1556	-24,595	16,232,049	54,293,334	54,293,334	23,447,641	$80,878,103	$11,782,164	$80,878,103
277	E	$0	202,559,714	29	$1.1556	-24,595	16,358,964	54,293,334	54,293,334	23,630,973	$80,878,103	$11,858,740	$80,878,103

This snapshot shows that the market maker inventory was depleted, triggering revaluation #28. This brought $114.987 billion (100 billion Elsies at the peg of 1.1499) of new property into the commons trust, increasing the market maker inventory but not replenishing it. A revaluation the next month (the next two days in an implementation) gets the inventory closer to zero but still fails to replenish it. As of month 275, there are 23.16 million Earth Dividends, half given free to about 116 Phase II communities (100,000 population) worldwide, and the rest auctioned for Elsies to anyone. The EDSF, which includes the present value fund in this simulation, is nevertheless growing from month to month. The number of Earth Dividends displayed is an approximation based on the size of the EDSF and the present value of an Earth Dividend, Earth Dividend payouts occur in Segment D, dropping the approximate total from Segment C to 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 Elsies 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 Elsies. There is no need for a revaluation. Instead, the dollars are used to purchase properties into the commons trust as though they were a Phase I land fund. The Elsies 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 Elsies 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 Elsies (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, $264 billion is converted to Elsies in this manner in segment A of month 389. Unrelated, in segment B, $1.55 trillion of purchases are made in response to a revaluation. This might sound like a lot, but the Elsie value of the $1.55 trillion property is only 500 billion. To this point, there have been 227 revaluations.

Period	Segment	EDSF and Dividend Demand (Mil $)	Direct Purchases/Donations	Stop Condition	Elsie Value of Property	EDSF contracts signed	Number of .5% revaluations
389	A	$264,464	$0	FALSE	0	$264,464	227
389	B	$0	$1,551,194	FALSE	500,000	$0	227
389	C	$0	$0	FALSE	0	$0	227
389	D	$0	$0	FALSE	0	$0	227
389	E	$0	$0	FALSE	0	$0	227
390	A	$270,469	$0	FALSE	0	$270,469	232

Direct Purchase/Donations

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

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 Elsies, 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 Elsies 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. Min (AR11…).

The parameters set reflect 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_Parcels, AI10 > 8000000000), 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 Elsies 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 Elsies 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 Elsies) 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 Elsies and earn their income in Elsies, 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 Elsies before federation.

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 worldwide, whose average price is $250,000 in 2022 dollars. In the Phase I simulation, 190 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 two times the extent of the deficit in the market maker's Elsie inventory. The market maker will never have an actual Elsie deficiency in an implementation. Revaluations will occur daily until the market maker's 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 14 years or longer.

Average Property Price

```
=L10 * K11/K10 * IF (B11="A", (1+Inflation_Rate/12), 1)
```

The average property Price is initialized to the value in the parameters, which is $360,000, the final average property price in the 20-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*90%) - (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.

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 Elsies 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 segment’s inventory (**M10**), the first operation subtracts those Elsies that property owners need to pay their rent. In segment B, the percentage of people who pay their rent in Elsies 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 Elsies are **(Percent_Rent_In_Elsies * 2.49%/12 * H10)**. However, to find the Elsies corresponding to this dollar amount, we divide by the peg (**K10**).

The next operation is an acquisition (+) rather than a disbursal (-) of Elsies. In segment D, N11 holds the Elsies to be converted to dollars. These Elsies 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 Elsies is known, the MM_Bottom will appear in the denominator of the operation of the dollar market maker.

The next acquisition of Elsies results from merchants cashing in Earth Dividend Elsies (originating in the EDSF/present value fund) for dollars (**AK10**). To the extent that these Elsies are used in the Earth Dividend auctions, the total acquisition by the market maker is lowered. Many merchants will hold on to the Elsies for appreciation. However, this is accounted for by keeping the retail holders of Elsies constant in the face of deflation. Holding of Elsies 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 Elsies by the market maker, without which Phase II would quickly end, are the Elsies provided by property owners who sell their land into the commons trust for Elsies in the face of revaluation. 90% of these Elsies, **F10 * 90%**, are returned to the property owner, with 5% going to the advance rent fund, although the simulation sends 10% to the ARF, as delayed disposition is not supported in the simulation. The simulation assumes that these Elsies are redeemed for U.S. dollars at a 99.05% peg with the market maker. To the extent that Elsies 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 Elsies, if needed, to be sequestered in a treble escrow account. The number of Elsies 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, Elsies are purchased for the EDSF and other Elsie recipients if

the dividend is low enough that retail Elsies are being sold. In the second operation, retail Elsies 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 Elsies 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 Elsies.

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

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

Dollar Rent to be Converted to Elsies

```
=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 Elsies plus dollars, **Percent_Dollars * (S10 + V10)**. If the rent in dollars exceeds the dollars needed by recipients, the remainder will be converted to Elsies.

Unlike in Phase I, dollars are converted to Elsies in Phase II primarily through property purchases into the commons trust. 100% of the Elsies 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 .30%), retail holders sell their Elsies 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.

Advance Rent Fund (Dollars)

=R373 + IF ($B374="B", 5% * AN374, 0) – IF (B374="B", R373/12, 0) + IF ($B374="C", AP373, 0)

Rent is paid in either dollars or Elsies. 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.

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

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

Dollar Rent

```
=IF ($B375="D", 0, S374 + IF ($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 Elsies. Dollar Rent is a purple-headed dollar account.

Dollar Distributor

```
=IF ($B374="E", 0, T373 + IF (B374="B", Percent_Dollars * 95% * AN374,0) + IF ($B374="D", N374 *
MM_Bottom * K374) + 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 Elsies **S373 - O374**. In segment D, rent dollars must be converted from Elsies through the market maker. The market maker paid **MM_Bottom** for those Elsies **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 Elsies, **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 Elsies	Sequestered Treble Arbitrage	Dividend Payable	EDSF (millions)	Total Accounts	Total Elsies
389	A	3,115,062	0	276,141	40,346,917	9,868,282	0.00	35,161,882	88,505,513	88,505,513
389	B	2,855,474	259,589	276,141	40,346,917	9,891,093	0.00	35,161,882	88,505,513	88,505,513
389	C	3,106,924	259,589	276,141	40,346,917	9,969,282	0.00	35,161,882	88,794,330	88,794,331
389	D	3,106,924	0	535,730	40,346,917	9,969,282	0.00	35,226,419	88,794,330	88,794,331
389	E	3,106,924	0	0	40,346,917	9,969,282	53,572.97	35,609,083	88,794,330	88,794,331
390	A	3,106,924	0	283,191	40,499,983	9,969,282	0.00	35,609,083	89,077,521	89,077,521
390	B	2,848,014	258,910	283,191	40,499,983	9,992,675	0.00	35,609,083	89,077,521	89,077,521
390	C	3,083,750	258,910	283,191	40,499,983	10,060,885	0.00	35,609,083	89,319,621	89,319,622
390	D	3,083,750	0	542,101	40,499,983	10,060,885	0.00	35,729,346	89,319,621	89,319,622

Elsie Rent

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

This holding account gets its Elsies 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 Elsies from various sources to distribute them in segment E to Elsie recipients of the rents. In segment D, the distributor receives Elsies from the rent paid in Elsies, **V373**. In segment A, the distributor gets Elsies from rent dollars converted to Elsies 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 Elsies 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 Elsies, if any, that must be converted to dollars **N374** (rare in Phase II) are removed in Segment D before the remaining Elsies are distributed in Segment E.

Retail Elsies

=X373 + IF ($B374="A", Z373, 0) + AT373 + AU373 – IF ($B374="A", Q373/K373)

Retail Elsies are the Elsies 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 20-year Phase I, although it is calibrated for balance discrepancies. 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. Elsies are going to the ABC and VTLM, entering the VIP economy, and becoming retail Elsies (**+ AT373 + AU373**).

A low dividend indicates a surplus of Elsies 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 Elsies 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 Elsies 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 Elsies. 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 Elsies is explosive. But there is a shortage of Elsies, reducing the number of treblers. Few people will have the Elsies 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 Elsies 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 Elsies 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 remainder of Phase I and Phase II.

Dividend Payable

```
=IF ($B374="E", W373 * 7%/Percent_Elsies, 0)
```

The dividend is payable by the Elsie Distributor (**W373**) at 7% of the total ground rent or 7% of the 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 ($B374="E", W373 * 50%/Percent_Elsies, 0) – IF ($B374="D", AK373)

The Earth Dividend Subsidy Fund receives 50% of all ground rents in Phase II or 50% 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 Elsies column for the spreadsheet to balance.

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

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 Elsies minted when a

property is purchased exclusively for Elsie rent recipients (primarily the EDSF) **G374**. In segment C, additional Elsies are recorded for properties purchased for Elsies, typically in response to a revaluation (**F373**).

Elsies Destroyed

```
=AD373
```

No Elsies 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	Auction Proceeds
389	A	35,665,078	138,308,609	257,866	0	0	0	$0.00
389	B	35,665,078	138,308,609	257,866	0	4,873,186	188,494,310,844	$129,405.38
389	C	35,665,078	138,308,609	257,866	-35,134	0	0	$0.00
389	D	35,700,213	138,444,860	257,866	0	0	0	$0.00
389	E	36,086,036	139,941,074	257,866	0	0	0	$0.00
390	A	36,086,036	143,474,762	251,515	0	0	0	$0.00
390	B	36,086,036	143,474,762	251,515	0	5,166,153	194,904,627,544	$132,232.03
390	C	36,086,036	143,474,762	251,515	-39,735	0	0	$0.00
390	D	36,125,770	143,632,743	251,515	0	0	0	$0.00
390	E	36,520,705	145,202,967	251,515	0	0	0	$0.00
391	A	36,520,705	148,869,524	245,320	0	0	0	$0.00
391	B	36,520,705	148,869,524	245,320	0	5,394,762	198,516,642,472	$135,234.39
391	C	36,520,705	148,869,524	245,320	-41,478	0	0	$0.00
391	D	36,562,182	149,038,600	245,320	0	0	0	$0.00
391	E	36,965,676	150,683,361	245,320	0	0	0	$0.00
392	A	36,965,676	156,037,050	236,903	0	0	0	$0.00
392	B	36,965,676	156,037,050	236,903	0	7,167,526	254,701,479,267	$138,088.23
392	C	36,965,676	156,037,050	236,903	-95,749	0	0	$0.00

At the start of Phase II, 17.5 million Earth Dividends have been awarded. By month 389, over 138 million Earth Dividends have been awarded.

Present Value Per Earth Dividend

```
=AJ12 * K12/K13
```

The present value is in Elsies, which is initialized to 800,000 Elsies at the start of Phase II and pegged to $800,000. Even after 20 years of inflation at 2%, this is still about twice the actuarial present value for an average-aged person. Ironically, the slower Earth Dividends are awarded at the start of Phase II, the quicker an Earth Dividend can be awarded to everyone on Earth.

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", ((37/25) * 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 20 years of Phase I from $250,000 to $370,000, 25/37 can be used as a proxy for inflation. The drain to the EDSF is **(37/25) * 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 Elsies 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 tracks the number of new Earth Dividends created in a 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	Auction Proceeds
411	A	67,511,600	4,108,190,002	16,433	0	0	0	$0.00
411	B	67,511,600	4,108,190,002	16,433	0	723,611,442	1,783,711,297,855	$885,270.03
411	C	67,511,600	4,108,190,002	16,433	-1,493,411	0	0	$0.00
411	D	69,005,011	4,199,066,502	16,433	0	0	0	$0.00
411	E	70,726,752	4,303,837,223	16,433	0	0	0	$0.00
412	A	70,726,752	4,998,476,907	14,150	0	0	0	$0.00
412	B	70,726,752	4,998,476,907	14,150	0	890,286,905	1,889,588,644,530	$1,031,468.77
412	C	70,726,752	4,998,476,907	14,150	-1,585,464	0	0	$0.00
412	D	72,312,216	5,110,526,492	14,150	0	0	0	$0.00
412	E	74,290,326	5,250,325,620	14,150	0	0	0	$0.00
413	A	74,290,326	6,097,728,610	12,183	0	0	0	$0.00
413	B	74,290,326	6,097,728,610	12,183	0	1,099,251,703	2,008,873,451,544	$1,202,494.15
413	C	74,290,326	6,097,728,610	12,183	-1,689,425	0	0	$0.00
413	D	75,979,751	6,236,396,132	12,183	0	0	0	$0.00

This table shows Earth Dividends as hyperdeflation nears. There are over 4.1 billion Earth Dividends (many cannot be awarded until federation), and the present value

is down to 16,433 Elsies and falling. The EDSF grows from auction proceeds (a negative drain) despite over 723 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 the 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
411	A	$0.00	0	$0
411	B	$885,270.03	160,966	$7,836,017
411	C	$0.00	0	$0
411	D	$0.00	0	$0
411	**E**	$0.00	0	$0
412	A	$0.00	0	$0
412	B	$1,031,468.77	161,483	$9,130,010

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 $)
411	A	$268,120,894	$9,604,210	$191,548,731	0	0	$34,634,830	$268,120,894
411	B	$293,627,098	$17,373,621	$201,152,941	0	0	$34,634,830	$293,627,098
411	C	$287,443,667	$11,190,190	$201,152,941	0	0	$34,634,830	$287,443,667
411	D	$287,443,667	$11,190,190	$201,152,941	0	0	$34,634,830	$287,443,667
411	E	$287,443,667	$11,190,190	$201,152,941	196,770	229,565	$35,765,276	$287,443,667
412	A	$288,032,372	$11,190,190	$203,557,929	0	0	$35,765,276	$288,032,372
412	B	$317,750,519	$20,242,595	$214,748,119	0	0	$35,765,276	$317,750,519
412	C	$310,545,995	$13,038,071	$214,748,119	0	0	$35,765,276	$310,545,995
412	D	$310,545,995	$13,038,071	$214,748,119	0	0	$35,765,276	$310,545,995
412	E	$310,545,995	$13,038,071	$214,748,119	226,070	263,748	$37,066,966	$310,545,995

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 Elsies (returned by the Elsie market maker). Property owners pay this to take advantage of the Elsie discount for rent.

Rent paid in Elsies (**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 Elsies **N11 * MM_Bottom * K11**.

Elsies paid to property owners who sold into the commons trust(**F10**), likely in response to a revaluation, redeem 100% of these Elsies for dollars in this simulation. Holding of Elsies by these property owners is accounted for in Retail Elsies. This follows the general formula for purchasing Elsies: 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 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 (**Q10**). The cost for the conversion to the market maker is Q905 * MM_Top. The number of Elsies returned is Q10/K10, but this is an Elsie function. The market maker then purchases Q10/K10 Elsies 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 Elsies (**D11**) and the rent dollars spent on property to fund Elsie recipients of rent (**G11**).

ABC (Elsies)

```
=IF ($B11="E", W10*6%/Percent_Elsies, 0)
```

This red-headed column was purple in Phase I, but the ABC (and purchasing agents) decided to become an all-Elsie shop in the simulation. In the 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, purchasing agents, 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 (**5% + 1%**) 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 a 7% distribution. 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 Elsies
P11	Property Purchases with Rent Dollars
Q11	Elsie MM Purchases with Rent Dollars
R11	Advance Rent Fund - Dollars
S11	Dollar Rent
T11	Dollar Distributor