

## Bidder Arbitrage



Auction mode produces high dividends and high returns for the ABC and county. The bid at auction (about 50% of the purchase price) is much greater than the starter ground rent (about 2.5% of the purchase price for 40% land share properties). The excess funds are distributed as though they were a single rent payment, providing a bonanza for the counties, ABC, and VTLM.

Property owners will always pay their rent in Elsie because there is no risk, and payment is as simple as pressing a button. When the Elsie is at 99% of the peg, most treblers will take advantage of the arbitrage and use Elsie, but some will use U.S. dollars. Should the Elsie fall below 99% of the peg, all successful trebles will take advantage of the arbitrage opportunity.

Bidder arbitrage, on the other hand, will not be popular. This arbitrage is the use of Elsie to bid on properties for auction. For most people, bidding for a property at auction will be their first exposure to AFFEERCE. They will not know an Elsie from a dogecoin. Purchasing Elsie at 99.15% of the peg, only to sell them back at 99.05% if the bid is unsuccessful, amounts to a bidder's fee for losing bids. And that assumes the market is liquid. Sometimes, only 99.01% or less is bid for the Elsie.

While treblers will hold Elsie for the next treble, many bidders are one-time shoppers. They see a property just purchased into the commons trust that they like and bid on it. They might not know a commons trust from a development. There is a learning curve for bidding in Elsie. They can save \$850 if they win or pay \$100 (probably) to convert the currency back to U.S. dollars if they lose. Most of them will bid in U.S. dollars and avoid the hassle.

It will not be 100% who use U.S. dollars. Those who know the currency, plan on bidding on multiple properties until they win, or intend to treble if bidding fails will use the Elsie. As retail develops, the use of bidder arbitrage will become increasingly common. By the end of Phase I, I expect that over 90% of bids will be in Elsie.

Bids can happen from anywhere on Earth. Bidding is done through an escrow account established at least 5 minutes before the auction closes and the winner is announced. The difference between the escrowed bid and the second-highest escrowed bid is refunded. Several auctions can be run simultaneously, at the same time each day. This is timed so that Elsie's in bidder escrow, like treble escrow, are ineligible for the dividend on the auction day. This policy leads to dividend spikes on days when popular properties are being auctioned.

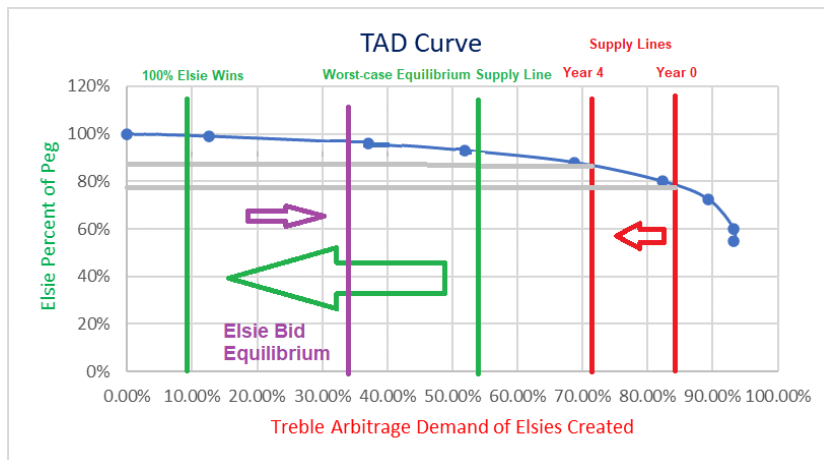
The Elsie Toolkit has an Auction Countdown tab, which displays a clock running down and the number of bids for each auction in which the user is bidding.

Like all AFFEERCE transactions, bidder escrow can be in U.S. dollars, Elsie's at the peg, or any combination thereof. Bidding £100,000 has the same weight as bidding \$100,000 U.S. at auction (at the 1:1 peg during the 20 years of Phase I). The escrow account can have any combination of Elsie's and U.S. dollars. The combined currency is called Pegs. The Elsie Toolkit denotes this as ▼100,000.

If used, bidder arbitrage is the most potent opportunity for demand creation. Two factors explain this. Firstly, the bids themselves must be purchased. The number of Elsie bidders and properties purchased per period increases over time, continuing to be a source of net positive demand.

Second, an Elsie win at auction sequesters the entire win, about 48% of the property value, in various funds, including the 99.16% inventory. While the 99.16% inventory can be depleted, it is only depleted by additional demand in the system. An Elsie win reduces the Elsie supply from that property by 48%. The only way supply returns to circulation (and the ABC, VTLM, and counties get paid) is with new demand.

Consider an Elsie win at every auction starting in year 4. This would shift the supply line to the left by 48%, placing it within 99% of the peg.



However, like treble arbitrage, there is an equilibrium. This high demand for Elsies will clear the 99.16% inventory, shifting the supply line to the right.

The equilibrium supply line settles at the halfway

point (this is an assumption) around the 34% demand point for Elsies created and intersects the TAD curve at 97% of the peg.

The power of bidder arbitrage must be measured in a simulation. There are two extreme scenarios, with the actual outcome somewhere in between. In the first case, all bidders purchase Elsies to bid. They might or might not dump them if they lose. However, the cost of dumping makes that unlikely. In the second case, all bidders are existing retail Elsie holders.

First, consider the case where all bids are from existing retail holders. Simulations at 100% Elsie wins shorten the duration of Phase I by a factor of 2. In the former extreme case, where all bidders are new Elsie holders, the time is shortened by more than a factor of 14.

This is demonstrated by a simulation in which only one Elsie bidder exists. We look at the probability of that bidder winning and its effect on the speed of property purchases.

Multiple bidders must obtain their Elsies from retail or purchase them. However, we know the new demand for a new bidder who will also win. It is 48% of the cost of an average property. By setting the retail/saving parameter to 48%, the new Elsies purchased equal the Elsies that will be sequestered.

The retail Elsies column must never be allowed to go negative. With only a single bidder and a 48% retail/saving parameter, this will never happen. If retail Elsies did go negative, the formulas would pay a dividend from retail to the market maker, causing market maker demand to halt and producing inferior results.

In the simulation, all Elsie bids from auction proceeds destined for the ABC land fund are destroyed. This becomes a severe problem when all auction proceeds are in Elsie bids. The simulation cannot emulate the power of ram and jam without procedural codes. Although the ABC will start with \$1 million in the land fund, there is no reason not to set the land fund arbitrarily high in the simulation. No harm exists because it is not used to purchase property without Elsie demand. There is a point when an increase in the land fund will no longer influence the outcome. That is where the simulation comes closest to simulating ram and jam. Setting the initial land fund to \$1 billion or more does not hurt when simulating bidder arbitrage. Results will be more accurate.

This study sets the retail/savers parameter to “Probability of Elsie Bid Win” x 48%. The land fund is initialized to \$1 billion.

							Periods per month		30			
							Starting Average Property Price		0.25			
							General Inflation rate		2%	Commons land Appreciation		5.0%
							Owners allowing rent to fall times percent of treblers using Elsies		50%			
							Loan Criterion		4.0	Elsie Destroy Game		0.00
							Retail Demand/Savers		4.80%			
							Sequestered Elsie Bidders per Property		1.00	Probability of Elsie bid win		10.00%
							MM Bottom		99.05%	MM Top		99.15%
							Start Year		2025			

Period	Y	M	D	Segment	Retail Supply Shock(+) Demand Shock(-)	Land Fund (Mil \$)	Property Value (Mil \$)	Total Purchases (number of properties)	Market Maker (Mil LCS)	Retail Elsies	Delayed Disbursement	Sequestered Elsie Bids
0			0	0 E	0	\$1,000.00	\$0		0	0	0	
1	2025	1	1	A	0	\$999.70	\$6	24	5	0.29	0.00	0.00
1	2025	1	1	B	0	\$999.70	\$6	24	5	0.29	0.00	0.00
1	2025	1	1	C	0	\$999.70	\$6	24	5	0.29	0.00	0.00
1	2025	1	1	D	0	\$999.70	\$6	24	5	0.29	0.00	0.00
1	2025	1	1	E	0	\$999.70	\$6	24	5	0.29	0.00	0.00
2640	2032	4	30	A	0	\$839.64	\$646	1,981	6	146.37	10.98	0.00
2640	2032	4	30	B	0	\$839.64	\$646	1,981	6	146.37	10.98	0.00
2640	2032	4	30	C	0	\$839.64	\$646	1,981	6	146.37	10.98	0.00
2640	2032	4	30	D	0	\$839.64	\$646	1,981	6	146.37	10.98	0.00
2640	2032	4	30	E	0	\$839.64	\$646	1,981	6	146.37	10.98	0.00

The simulation lasts seven years and three months. With a 10% probability of an Elsie bid win, 1,981 properties will be purchased by the end of the period.

Here are the results for a 0% probability of an Elsie bid win (1 Elsie bidder and 0% retail/savings).

Period	Y	M	D	Segment	Retail Supply Shock(+) Demand Shock(-)	Land Fund (Mil \$)	Property Value (Mil \$)	Total Purchases (number of properties)	Market Maker (Mil LCS)	Retail Elsie	Delayed Disbursement	Sequestered Elsie Bids
0			0	0 E	0	\$1,000.00	\$0		0	0	0	
1	2025	1	1	1 A	0	\$999.70	\$6	24	6	0.00	0.00	0.00
1	2025	1	1	1 B	0	\$999.70	\$6	24	6	0.00	0.00	0.00
1	2025	1	1	1 C	0	\$999.70	\$6	24	6	0.00	0.00	0.00
1	2025	1	1	1 D	0	\$999.70	\$6	24	6	0.00	0.00	0.00
1	2025	1	1	1 E	0	\$999.70	\$6	24	6	0.00	0.00	0.00
2640	2032	4	30	A	0	\$966.37	\$246	763	6	88.85	0.00	0.00
2640	2032	4	30	B	0	\$966.37	\$246	763	6	88.85	0.00	0.00
2640	2032	4	30	C	0	\$966.37	\$246	763	6	88.85	0.00	0.00
2640	2032	4	30	D	0	\$966.37	\$246	763	6	88.85	0.00	0.00
2640	2032	4	30	E	0	\$966.37	\$246	763	6	88.85	0.00	0.00

Now consider the 100% probability of an Elsie bid win. There is still only one Elsie bidder, and retail/savings is now 48%.

Period	Y	M	D	Segment	Retail Supply Shock(+) Demand Shock(-)	Land Fund (Mil \$)	Property Value (Mil \$)	Total Purchases (number of properties)	Market Maker (Mil LCS)	Retail Elsie	Delayed Disbursement	Sequestered Elsie Bids
0			0	0 E	0	\$1,000.00	\$0		0	0	0	
1	2025	1	1	1 A	0	\$999.70	\$6	24	3	2.90	0.00	0.00
1	2025	1	1	1 B	0	\$999.70	\$6	24	3	2.90	0.00	0.00
1	2025	1	1	1 C	0	\$999.70	\$6	24	3	2.90	0.00	0.00
1	2025	1	1	1 D	0	\$999.70	\$6	24	3	2.90	0.00	0.00
1	2025	1	1	1 E	0	\$999.70	\$6	24	3	2.90	0.00	0.00
2640	2032	4	30	A	0	\$272.88	\$3,603	11,123	5	497.72	616.19	0.00
2640	2032	4	30	B	0	\$272.88	\$3,603	11,123	4	496.21	616.19	1.51
2640	2032	4	30	C	0	\$272.88	\$3,603	11,123	4	496.21	616.19	1.51
2640	2032	4	30	D	0	\$272.88	\$3,603	11,123	4	496.96	616.51	0.00
2640	2032	4	30	E	0	\$272.88	\$3,603	11,123	4	496.96	616.51	0.00

Bidding in Elsie can produce up to a 14.5x speedup in Phase I duration. Here is the complete chart with only one bidder and retail/savings at win percent x 48.

% of winning auction bids in Elsie	Number of average properties purchased in 7 years, three months
0%	763
10%	1,981
20%	2,709
30%	3,797
40%	4,339
50%	6,080
60%	7,210
70%	8,051
80%	8,922
90%	9,930
100%	11,123

Using only natural demand, it has been determined that Phase I lasts 190 years. However, using Elsie's in bidding based on the expected number of Elsie's extant could reduce that to 25 to 35 years!

What is the effect of increasing the number of bidders? If bidders are already Elsie holders, the primary result is to raise the dividend. This has only a minimal impact on Phase I duration.

The following table looks at the effect of the number of new bidders per auction. While this number is unlikely to be more than one or two, it is interesting to see the powerful effect of a higher number of new bidders.

The most extreme case happens when fewer of the winners are Elsie bidders. The table is constructed for 100% Elsie bid winners, the least volatile case. The number in parenthesis is the number that must be added to the 48% retail/savers parameter.

Number of new Elsie bidders per auction (100% Elsie wins)	Number of properties purchased
1	11,123
2	11,759(+1.3%)
3	16,617 (+9.2%)
4	25,082 (+16.1%)
5	38,229 (+21.2%)
10	415,781 (+34.2%)
12	1,413,348 (+36.9%)
15	As fast as logistics allow

Number of new Elsie bidders per auction (80% Elsie wins)	Number of properties purchased
1	8,922
2	13,996(9.6% +1.3%)
3	21,226 (9.6% +9.2%)
4	36,386 (9.6% +16.1%)
5	66,782 (9.6% +21.2%)
10	5,336,366 (9.6% +34.2%)
12	As fast as logistics allow

15	As fast as logistics allow
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Number of new Elsie bidders per auction (20% Elsie wins)	Number of properties purchased
1	2,709
2	33,846 (38.4% +1.3%)
3	97,927 (38.4% +9.2%)
4	672,102 (38.4% +16.1%)
5	17,458,179 (38.4% +21.2%)
10	As fast as logistics allow
12	As fast as logistics allow
15	As fast as logistics allow
Number of new Elsie bidders per auction (0% Elsie wins)	Number of properties purchased
1	763
2	59,501 (48% +1.3%)
3	318,909 (48% +9.2%)
4	13,159,799 (48% +16.1%)
5	As fast as logistics allow
10	As fast as logistics allow
12	As fast as logistics allow
15	As fast as logistics allow

When all the winning bids are in U.S. dollars, five new Elsie bidders per auction will allow Phase I to be complete as fast as logistics allow (The spreadsheet shows four years 11 months, with all the property on Earth purchased in 6 years, two months).

There is a downside to Elsie bids. The counties, ABC and VTLM, receive 95% of the auction proceeds directly. In Phase I, most counties will demand dollars. Unlike rent automatically converted to U.S. dollars for the counties, Elsie bids received at auction and destined for the ABC, VTLM, and counties are offered on the Elsie market at 99.16% of the peg. Offers are only accepted, and U.S. dollars are distributed when all market maker inventories are depleted. Notice in the 100% table a few pages back how 616 million Elsies are waiting in Delayed Disbursement to be paid.

The extent of bidder arbitrage will grow over time, which is good. Its appeal to one-time bidders will correlate with its appeal as a general currency. This will coincide with an increase in market maker inventories and a demand for more Elsie's in the counties, ABC, and VTLM rent receipts.