

The need for a Maximum Average Transaction Size (MATS)

Briefing

A mandated Maximum Average Transaction Size (MATS) keeps markets focused on what people at the base of the economy have to sell. It is inevitably complex, but behind-the-scenes and unlikely to be of interest to users.



BACKGROUND: The Case for Small Transactions

Operators of any online exchange have enormous leverage over which possible transactions are favored. In unregulated platforms, this is usually directed to encouraging the trades most profitable to operators. Witness for example the favoring of large sellers who generate disproportionate revenue by [Etsy](#), [eBay](#), or [Amazon Marketplace](#).

A formula for operators of POEMs (Public Official E-Markets) should create alternative incentives. This must, of course, be transparent so users can predict the motivations of operators. As an overarching aim, POEMs should aim to encourage **small** transactions. This is because those transactions are:

- **Inclusive**: Small requirements can be met by small producers. This facilitates market entry, competition, and experimentation.
- **Climate friendly**: Resources will be used more precisely and fully, minimizing consumption. For example, a bus that can be hired (by provenly qualified drivers) by the hour will be better used than one only available by the day for 24-hour blocks.
- **Commercially Unattractive**: Unfettered for-profit online markets constantly seek to [grow their average transaction size](#) to maximize revenue. A key aim of POEMs is serving markets that will be low priority for purely commercial operators.
- **Restrictive of POEMs' scope**: By driving operators to focus on small transactions, the platform's reach into the economy, and destabilization of alternative businesses, is reduced.

1) The need for a MATS rule: Bulldozers v. Bicycles

Any system of markets for a wide range of resources that has been [granted](#) unique access to government facilities will have advantages over alternative trading forums. Assuming it is not to be funded by taxpayers, a **fixed percentage mark-up** on each transaction added to the seller's price, to be paid by the buyer, is the most transparent and easiest to understand structure for funding such a service.

However, if operators can retain the proceeds from a uniform percentage mark-up across all transactions, they will of course apply their unique benefits to high-value transactions as a priority. Somehow, an operating consortium need to be incentivized, cajoled, or forced to focus on small trades. That must be quantified, most logically into a Maximum Average Transaction Size for which operators will be incentivized to aim through a formula governing their income.

To make this issue tangible, assume the fixed percentage markup on all POEMs' transactions is set at 2% by competitive bidding between rival consortia keen to run the service. Now consider a market within POEMs that allows anyone to rent out their bike when it's not needed. Each seller may only charge an average \$1.50 an hour (so operators' mark-up is \$0.03). However, a **comprehensive market** for bike rental has the same broad software needs as a market allowing any construction company to rent out their bulldozer when not required. Those assets can command \$1,500 an hour (operators' mark-up \$30).

In each case, the bike or excavator may be traded for hours, days, occasionally weeks. A possibility of damage during the rental requires functionality for follow-up resolution. Someone, possibly a third party within the contractual chain, has to check the item out and confirm its condition on return. Delivery to the renter's location may need to be part of the transaction; a teen cycling the bike round, or a flat-bed truck with escort vehicle for an excavator. Insurance may need assembling to underpin the deal.

The consortium running POEMs will very quickly start looking for these commonalities in functionality required across diverse market sectors. There are of course more bikes than bulldozers in the economy. But people who hire bikes tend to be less predictable, legally compliant, and homogenous than the regulated construction companies who have bulldozers to offer. And bike hires can be short (*"15 minutes to get to work"*). This all adds enormously to complexity the software must manage. An unrestrained POEMs consortium would probably build what's needed to rent bulldozers, possibly scaling it down for bikes as an afterthought.

Bikes and bulldozers are one example. POEMs will need a suite of mechanisms to construct transactions. Each can handle purchases with specific characteristics, and each will have **high value and low value applications**. Software that can manage letting of short-term domestic storage (*"I want to rent the space in my shed"*) for instance, is immediately ready to trade - as one example - rental of expensive advertising hoardings. Enabling trading in bespoke adjustments to garments needs management of a cycle typically comprising; (a) sellers assesses project and submit plan (b) a seller gets commissioned or re-submits (c) seller executes plan (d) buyer signs-off or demands modifications. Commissioning expensive specialist architects requires the same broad process. In each case, the lower-value sellers are the more challenging for an online platform.

A MATs (Maximum Average Transaction Size) rule in POEMs' enabling legislation is intended to reward the platform's operators for growing volumes of small transactions across the jurisdiction's micro-economy. Once any purchase falls outside the MATS rule, earnings from the flat-rate mark-up are **diverted away from market operators** to a surplus fund.

STRUCTURE OF A MATS RULE

2) How POEMs' Users Would Experience the MATS: Help for Low Value Transactions

POEMs' users should never have to consider the MATS (even though all its details would of course be public), they simply intuit limitations on large transactions. It should be analogous to universal postage pricing where the same stamp will send a letter across an entire country between isolated rural correspondents or get an envelope of the same weight across a few city blocks. National post offices cross-subsidize long distance deliveries to remote houses under-the-hood. We know long distance takes longer, but likely don't care about the detailed transfer pricing within post offices.

Any user should be free to offer or purchase anything on POEMs at any price. But sectors and activity that reward operators the most will of course feature the most sophisticated, helpful, functionality to facilitate the transaction. So, a user might list their \$1m house in a POEMs list of general items for sale, that seller may be contacted by an interested buyer, but the system facilitates any transaction only by providing an unstructured forum for listings. By contrast, if renting a tent for the night, there could be data to help with pricing, prestored images of the tent to be accessed, insurance offered, plus delivery options through interlinked markets, and so on. A MATS rule ensure operators gain from a thriving market in low value tents while having no interest in users selling houses on the platform.

Similarly, a user trading as a legal assistant earning \$30 an hour should be fully supported with certification plus data and tools around additional training. But as she ascends to a fully qualified attorney, able to charge perhaps \$100 per hour, she should notice POEMs progressively losing interest in her progression. She can still trade through the system of course, that is a fundamental right for any citizen in the jurisdiction doing any trade. But she may now need detailed time-logging and compliance tools which POEMs itself lacks incentive to provide, she will need to turn to outside suppliers providing POEMs-compliant apps as she becomes increasingly commercially attractive with her increased earning power. POEMs itself is focused on bringing a next wave of low-earners up the ladder.

3) Parameters for a MATS rule: Units of Sale, Value Ceiling, Surplus Fund

Creating a transparent, enduring MATS rule within legislation to enable POEMs requires setting of these metrics:

1. Defined Units of Sale: Simply capping the value of transactions would be crude, and counterproductive. For example, a worker may be hired for 10 weeks, equating to 400 hours of work. We don't want to limit the duration of that booking, but we want operators rewarded for focusing their facilities on, for instance, barbers who may earn \$20 an hour rather than brain surgeons who can command \$1,000+ per operation. So, each market sector needs a definition of the unit of sale that is used for MATS calculations regardless of the duration of any booking. Typically, the defined unit cost in any sector will be one of:

- **Hours:** This should cover the bulk of POEMs trading. Workers and resources offered for rental are priced around a per-hour charge so are appointments such as driving lessons.
- **Overnights:** Vacation accommodation, mortuary slots, industrial storage, conference equipment, and other resources trade typically in 24-hour blocks.
- **Miles:** Pricing of a journey or delivery will factor in distance to be travelled.
- **Purchase Prices:** When a user wants rid of – for example - their summer wardrobe there is a one-off sale price for each garment. Similarly, in financial services, a loan, charge for insurance, transfer of any subsidy, investment amount, or other product can be calibrated by the value in currency.

It's imperfect, but these units could be broadly aligned based on the flood of data generated by POEMs. Resources commonly traded in 24-hour blocks, for example, would have the cost-per-overnight as the defined unit cost. Mileage charges can be aligned based on average distance covered in an hour on that type of journey. So, if a journey is likely to average 40mph, a 40-mile journey counts as one hour for purposes of applying the MATS rule to the transaction behind-the-scenes. Sales of items can use the MATS figure directly; so, operators simply become less interested in serving the sale of any item costing over the specified Maximum Average Transaction Size.

2. Pivot Point: At what value for the Unit of Sale value does any formula determining operators' income from the transaction change? This is a political judgement; it is setting the hourly pay at which POEMs starts to diminish in usefulness for a worker. We suggest around three-times-average-minimum-wage as a starting point metric; this briefing uses \$50 as an example. Once the unit of sale in any sector reaches this value in a transaction, operators' income declines. Pivot points should of course be inflation linked.

3. Value Ceiling: If operators' income starts to decline at the pivot point, at what unit of sale value do they cease to gain **any** revenue from a transaction? In other words, what is the unit value at which market structures have zero incentive to support the purchase? Double the Pivot Point would create a tapering of support for sellers or workers entering higher income streams; this briefing adopts a ceiling Unit of Sale of \$100 in the examples below.

These three core determinants of a MATS rule require some further refinement:

- **Calculating Unit of Sale from Offer or Purchase:** A sector's Unit of Sale should be calculated on size of offer **or** size of purchase, whichever is the smaller. The aim is not to deter bulk sales or offers, merely resources that are **only** eligible for a large sale. For example, it should be acceptable for a large producer to sell 100 tons of wheat if buyers can realistically purchase it in quarter-of-a-ton increments. This allows small bakeries to access the resource alongside large counterparts. But if pricing, or delivery conditions, preclude breaking into small lots, the Unit of Sale for that transaction has to be counted as the full 100 tons. Likewise, if one buyer purchases 100 tons of grain in equally sized parcels from 100 small farmers, the unit of sale for the transaction is the price of one ton.

- **Refining the Unit of Sale:** In time, accumulated POEMs' data would allow Units of Sale to be calculated very precisely. It may emerge that portable air conditioning units, largely rented by the day outside POEMs, are being traded in 8-hour blocks for use in offices. Ranking all the trades by number of hours booked in that sector over a previous year would allow a blanket rule to be applied and its variables constantly recalculated. For example, a rule could be that any sector involving assets not traded by the hour would rank bookings by length of rental from longest to shortest with the unit cost being set at the top of the 25th percentile. The aim is to keep operators pushing markets towards smaller units of sale.
- **Protecting against Unintended Consequences:** A danger in determining Units of Sale is fostering artificial atomization of assets. In an exaggerated example, operators might structure a market for car sales so it directs a seller to split a \$50,000 car into 1,000 lots. Buyers are then encouraged to purchase all lots to gain ownership, resulting in 1,000 X \$50 sales, each sale resulting in the entire mark-up accruing to operators. (Operators should be free to structure markets as they wish within the terms of the concession so this can't be explicitly banned.)

Mandated transparency can guard against this kind of structuring in system code, but there should be a test ensuring levels of granularity are dictated by buyer or seller choices, not operators' imperatives, in the legal framework. For example, a MATS rule should not inhibit any seller who genuinely wishes to raffle their car. It is disproportionate promotion of that possibility in platform interfaces that needs to be outlawed.

MECHANICS OF THE MATS RULE

4) Possibilities for Structure of the Rule: Cut-off v. Tapers

Even within the parameters above, there are a variety of structures for the rule governing what proportion of a flat-rate mark-up on each transaction accrues to market operators. As an example, assume the biggest desirable trade within POEMs is set at **\$50 per hour** for hire of a person, per-hour rental of an item, or sale of an item, and operator's mark-up on each purchase is **2%**. Possibilities to drive a focus on small transactions include:

- **A hard cap:** Legislation could baldly state; POEMs is **not permitted** to trade any asset with a unit cost above \$50. But this creates an abrupt ceiling that will distort activity. Imagine a user who starts out offering book-keeping services; a year later his diligent track record has earned training as a junior accountant, then he progresses to forensic accountancy for which free-market rates could peak at \$90 an hour at tax time but settle around \$50 the rest of the year. POEMs should not be discouraging that ascent in earnings when demand is high.
- **Defined sectors:** Legislation could bluntly list what **POEMs is allowed to trade**. That seems unwieldy. A family renting out their child's sailing dinghy by the hour when it is not needed is clearly in the zone for small transactions. But their cabin cruiser? Is that too close to a superyacht to be allowed? This model would be too arbitrary and subjective in application.

- **Tapered mark-ups**: Could the system's charges **reduce** for higher value trades; 2% for up to \$50 value, sliding down to 0.001% for a \$5,000 an hour rental for example? That would have low-income bike owners subsidizing trading by asset-rich construction giants renting their bulldozers which would diminish faith in a system committed to empowering people at the bottom of the pyramid. A flat-rate charge on all purchases is more equitable.
- **Consistent mark-up and tapered operator earnings**: Our example settings - a 2% fixed charge on all transactions, a \$50 an hour pivot point ensures the most a consortium can earn from any one-hour rental is \$1, regardless of what buyer is paying seller. But the operators' cut of the mark-up could decrease progressively from the Pivot Point to the Ceiling. This incentivizes a gentle decline in usefulness for higher earning buyers rather than an abrupt loss of interest by operators.

The last option recognizes that creating an enormously efficient, officially backed, trading machine, then not allowing bulldozer owners the option of using it seems pointlessly restrictive. Construction creates housing, public amenities, jobs and peripheral work opportunities. If it deploys the available bulldozers more efficiently, that's good for a range of stakeholders. The same seems true across other sectors reliant on high value resources.

A cap on operators' earnings from each transaction would ensure for a \$5,000 hour of excavator rental, POEMs levies its standard 2% mark-up, adding \$100 to the charge to buyers. But only \$1 of that goes to POEMs' operators, the remaining \$99 being channeled to a surplus fund. Operators are still earning (marginally) from trading an excavator. But there are thousands of bikes for every bulldozer in the economy, so serving bicyclists is a more exciting market with excavators as an afterthought.

This should push operators to create a gentle taper in a user's experience of the system as they progress. The ambitious accountant – for example - will sense the system doing everything it can to get him up to \$50 an hour. But as he climbs higher, POEMs gets less interested in giving him tools he now needs. He might want specialist tracking for his hours as an auditor to reach \$120 an hour for instance. POEMs won't provide that functionality; operator resources will be focused on tools for getting a next wave of users to \$50-an-hour pay. But **specialist service providers** can interface into POEMs, building in their own charges on top of POEMs' commission. He should be free to select from any number of POEMs-compatible apps offering hours-tracking for auditors.

5) Cross-subsidy within a Tapering Formula

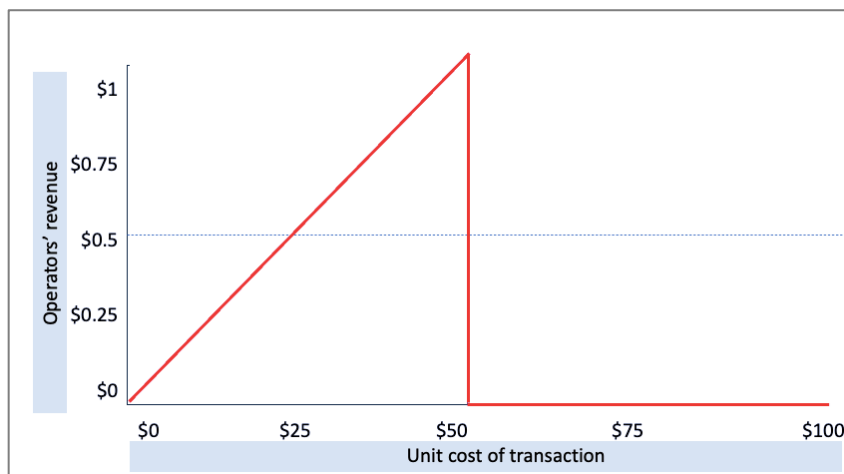
Should high-value transactions that fall outside the MATS formula subsidize the lowest value transactions on POEMs? That could include rewarding operators for transactions that generate no revenue such as voting or booking of volunteering hours. (The alternative is simply to mandate non-revenue generating functionality in the concession's terms. Benefits of cross subsidy include incentivizing operators to actively foster platform use for civic and social functions which are otherwise non-revenue producing, plus entry-level work and rental of the most minor resources, increasing system reach and usefulness for small transactions.

To explain this further, if a bulldozer rental generates \$100 from the 2% mark-up built into its price and \$99 of that is deposited in a surplus fund because operators can only earn a maximum \$1 from purchase of any individual Unit of Sale, that \$99 could then be used to top up operators' income on very small transactions. So, assume a toy is rented for \$1 an hour. The 2% system charge produces a mere 2 cents of revenue, which will be of negligible interest to operators. But if the surplus fund could top operators' income up to, perhaps, \$0.50, they would have greater incentive to proactively bring such low value items into the economy.

To keep system finances contained, the rule could stipulate any entitlement to top-up is subject to the surplus fund being in credit. So, operators have some incentive to foster larger transactions (to keep the surplus fund positive) but an equally compelling need to grow the smallest transactions (so as much of the surplus fund comes to operators as possible).

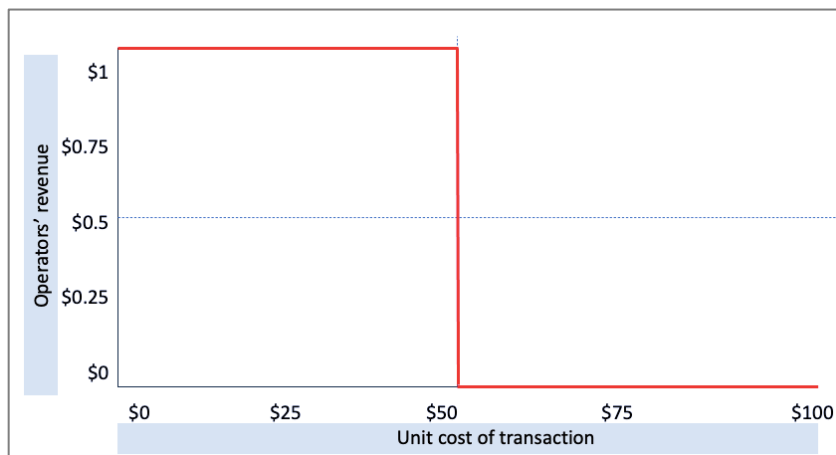
This makes the formula more complex, but options can be compared on standardized graphs. Obvious possibilities include:

1. Fixed Income, no tapering, abrupt cut-off



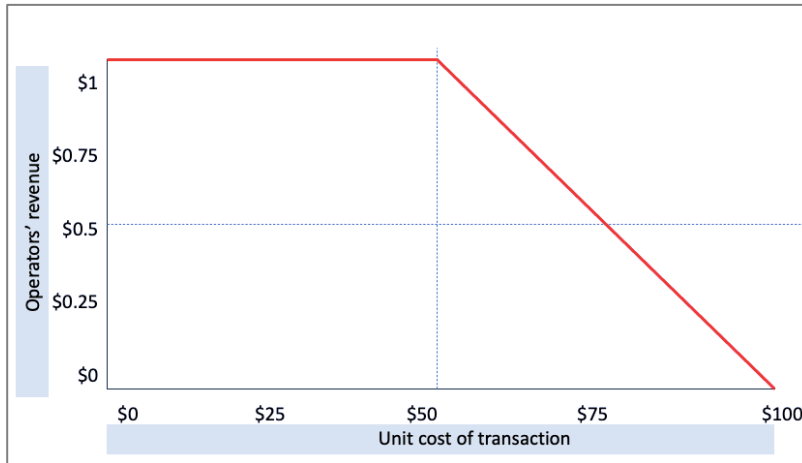
This is the simplest formula; operators' take climbs steadily to the Pivot Point. But that is also the ceiling, so operators are incentivized to keep workers and sellers at - or just below - the pivot in their earnings per hour or Units of Sale. There is negligible incentive to grow small or non-revenue transactions.

2. Subsidized commission, no taper



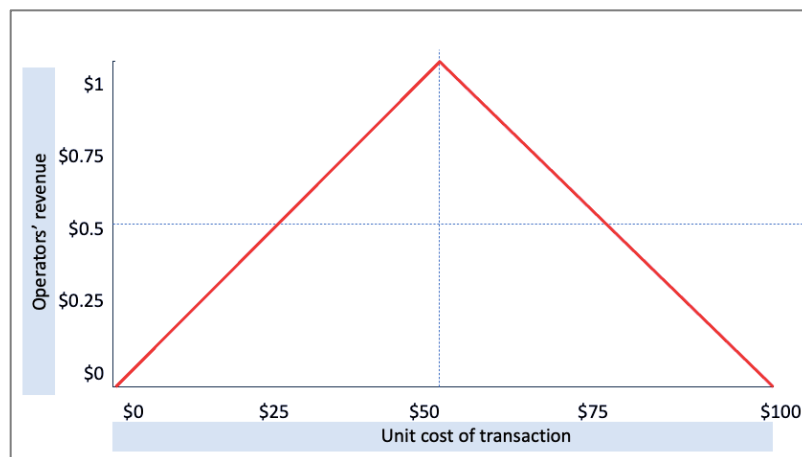
Operators earn equally from any transaction of lower value than the Pivot Point. But they are disincentivized to progress users' earnings towards the Pivot Point because doing so puts them on a trajectory to exceed it when operator income from their bookings crashes to zero.

3. Subsidized commission, with taper



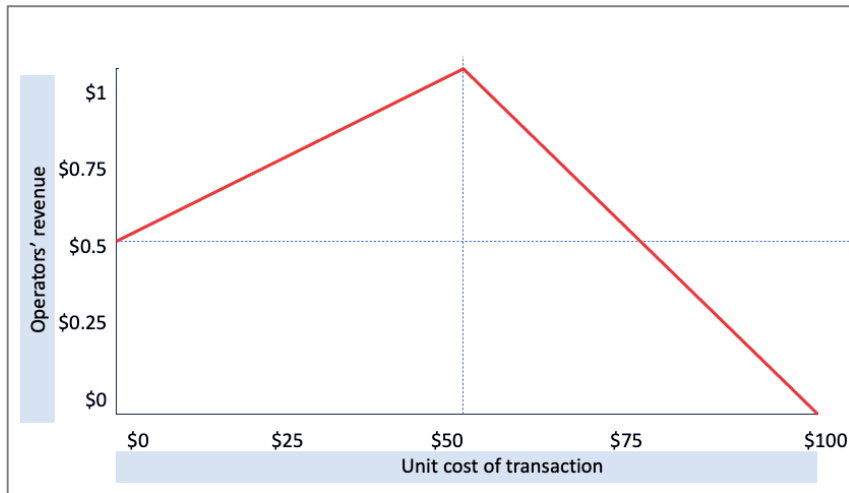
This is a more balanced formula, operator income does not drop off a cliff as users pass through the Pivot Point in earnings. Any incentive to keep them below the Pivot Point in their Units of Sale is reduced with a gentle tail out to the ceiling figure.

4. No subsidy, with taper



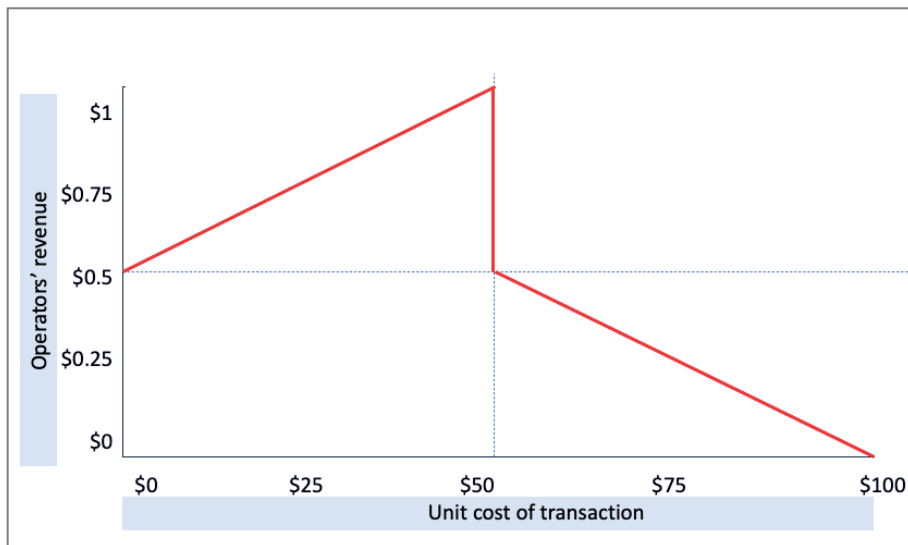
This formula encourages operators to offer data and tools that edges users towards the Pivot Point with a progressive tail off in interest as they move onwards from there. But there will be negligible commercial interest in low or no value transactions.

5. Semi-subsidized, with taper



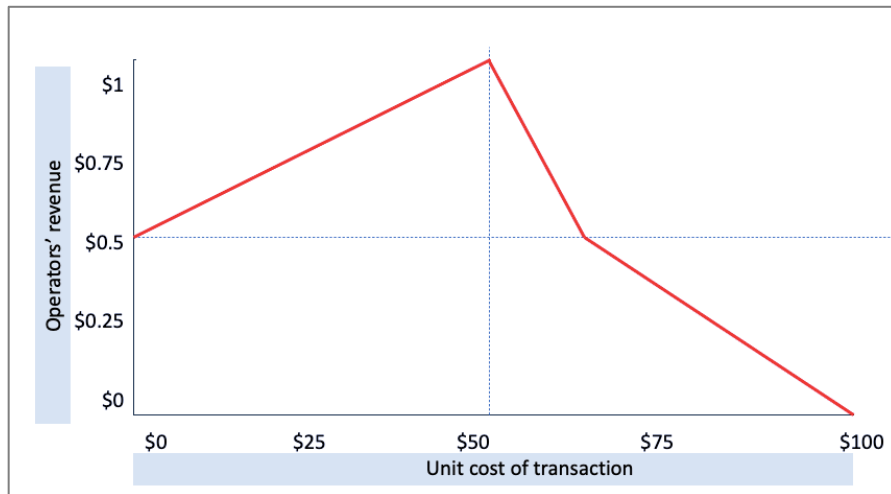
This option motivates operators to grow low and non-revenue transactions as they are assured of some return. But it makes sale of a \$75 item as attractive to operators as sale of a \$1 item so they may opt not to develop the facilities to support very low value transactions, likely to be more complex than \$75 sales.

6. Semi-subsidized with fall and taper



This formula rewards attention on low value transactions, each guarantee at least half the full mark-up rate for operators. By stepping their income down to half the full mark-up rate after the pivot, then tapering it to the ceiling, operators are motivated to focus on small transaction while not overly discouraging increased earnings.

7. Semi-subsidized with uneven taper



This option removes a "cliff" in operator income after the Pivot Point is reached, reducing any desire to hold Unit of Sale values at or just below the Pivot Point. It rewards activity just over the Pivot Point but then starts a "long tail" of progressively diminishing returns after a value equidistant between the pivot and the ceiling.

Option 7 above is recommended. It rewards investment in low and no value trades which create market entry points and bring resources into play (through models such as "freecycling", giving unwanted goods away rather than adding them to landfill). It removes an abrupt loss of income for operators as Units of Sale pass through the Pivot Point. And it avoids a sudden falling off in operators' motivation to support sellers or workers as the ceiling approaches in their Unit of Sale.

MISCELLANEOUS POINTS

6) Assigning the MATS Surplus: A Possible "First Rungs" strategy

Many millions of dollars could accumulate in the "MATS Surplus Fund". How could it be spent? Options include:

- **Investment in POETs functionality:** Not advised. This would incentivize operators to focus on high-end transactions because they will fund a better system.
- **General taxation:** The surplus could be directed into government coffers. But then politicians will want to see expensive items favored in POEMs. The system needs to be robustly independent, shaped by wider economic policy, not skewed towards its potential as a cash cow for public agencies.
- **Bonuses for operators:** The surplus could boost operators' bottom line if they meet key targets for output. An obvious possibility; job creation. So, 50% of the current surplus might be paid out for every 20% of POEMs users that transition out of the market into full time employment for at least 6 months as tracked by payroll data. This has the benefit of rewarding behavior that is good for users but illogical for operators, fostering off-platform relationships. But it could result in POEMs trying to drive users out of the system, favoring job creation tools at the expense of ongoing variable arrangements that enhance possibilities for people needing flexible work.

- **Market hygiene:** Processes like arbitration in cases of irresolvable disputes between a buyer and seller will keep the platform's markets clean and trustworthy. Serial complainers can be identified in an accountable process, and sanctioned. Cases could be funded as low-bore court cases are now, with winner awarded costs. But some victims may still be unable to launch an action. The Surplus Fund could act as a form of legal aid.
- **"First Rungs" investment:** This is our suggested option. The funds are used as investment in people who are struggling either to get into POEMs' markets or are not increasing their earnings having done so, probably due to skills mismatches or rough times personally. The kind of initiatives to be enabled could include:
 - **Guaranteed Work:** Funds pay for publicly beneficial, entry level, tasks such as public space clean-ups or shopping for the housebound. This work is directed towards low-earning market users with low utilization, perhaps through community organizations appointed by local government in each region. It enables them to build a track record and start moving up the income ladder.
 - **Outreach to non-users:** Pools of provenly reliable workers with experience in POEMs could be offered training as "Peer Navigators" who then get booked to support individuals who are homeless, uncomfortable with technology or otherwise in risk of being economically marginalized.

So, someone just out of prison might be offered 20 one-hour sessions with a Navigator who lives locally and was themselves formerly in the justice system. Meeting in a café or library, the client is supported through POEMs registration, vetting by a specialist intermediary and on to first bookings. The Navigator completes pro-forma reporting at the end of each session, possibly earning a bonus when their mentee completes 10 hours of paid work. They are of course trained to spot when referral to professional services is required.

- **Extended reach:** POEMs terminals in facilities used - as example - by the homeless could extend opportunity. That's particularly true if the initiative was coupled with others on this list.
- **Training:** Individuals in low-paying, high utilization sectors could be offered retraining for more in-demand types of work in their area.
- **Seeding demand:** Perhaps cat-sitting is a good step up from minimum wage in some parts of a city but not others where the sector has yet to ignite. Strategic subsidies in underperforming areas could start a flywheel of buying and selling that allows sitters to up their earnings.

We recommend a combination of the last two options above. The Surplus Fund could, of course, be allocated without human judgement by applying a formula to POEMs' detailed data to make the decisions. But this predictability could incentivize gaming of the rules; by government, charities or individual users. For example, it might be worth artificially keeping earnings low if you know in another week that will trigger paid retraining. So, the fund could be allocated by a less predictable independent panel of stakeholders, as [lottery cash](#) is in many jurisdictions now.

First Rung Investment would position POEMs as a tool for economic inclusion that extends beyond the immediately techno-literate. It incentivizes operators to grow functionality that brings uncertain new users into trading, with the system facilitating all sorts of support. (Because operators get 2% of each hour of a Peer Navigator and of each hour a new user works.) Users generally will benefit from the network effects of a growing userbase, and potentially lower public assistance costs.

Philosophically, First Rungs investment makes clear POEMs belongs to regular people. High-value trades can go through it if buyers and sellers wish. But a levy will be paid to support its intended beneficiaries.

7) Exceptions Within a MATS Formula

There could be many reasons for tweaking the Maximum Average Transaction Size in any sector to align with specific, transparent, government priorities. Exceptions could apply to a sector, geography, target group of buyers or sellers, or cycle in the wider economy.

By permitting a higher Unit of Sale value, or changing tapers so operators retain a higher percentage of the mark-up on more expensive purchases, operators would be incentivized to facilitate key activity.

Example exceptions might specifically aim to foster activity around:

- An economically depressed region.
- Sectors within an industrial policy, electronic vehicle rental for example.
- Training courses that upskill workforces.
- Trading that stimulates resilience, for example builders who could be critical to repairing infrastructure after flooding.
- Medical appointments, particularly preventative interventions.
- Loans to businesses.
- Investment in any user's development.

Preserving economic norms could also justify tweaking a MATS formula. For example, truckers operating around America's Port of Los Angeles are typically freelance owner operators, each driver owns the truck they drive. A normal MATS would incentivize decoupling of driver and vehicle in market design (any driver could of course choose to stipulate they can only be boked with their truck). But allowing the Unit of Sale calculation to rise to encompass both elements of the booking, operators have no motivation to encourage decoupling of drivers and vehicles.