

The Untapped Potential of *Horizontal* E-Markets



Across the economic base, digital market technologies could deliver significant growth, inclusion, higher incomes, productivity and resource efficiency. But it requires equitable, horizontal, (all sectors joined-up), market platforms; not the single-sector asymmetric verticals we know today. Whether citizens and businesses can have such markets is a policy decision. The private sector alone can't create granular integrated e-markets. Allowing access to unique facilities that governments control could incentivize corporates to fund, design and run *seamless*, lowest cost, infrastructure to grow activity.

How would an intermeshed system of e-markets embracing thousands of sectors in any jurisdiction differ? It would allow, as one simple example, a busy parent to book a dental hygienist's appointment, a haircut, travel to the surgery then salon then back home, childcare for the two hours she would be out, rental of a paddling pool for the children, and a loan to fund it all in about 30 seconds *in one transaction*. Each need would be met by individual, insured, local people competing on their own terms.

The impact of this joining-up goes beyond convenience for purchasers. Commonality of market functions, contracts, charges and activity data combined with functionality not viable in verticals would allow any economic asset (person or object) to be exposed to uniquely wide opportunity. So, someone now working as a line cook may also have lived experience in retail, van driving, gardening, Vietnamese interpreting and garment modifications. A horizontal market system allows her to effortlessly be available, on her terms, simultaneously, across all earnings possibilities around her home for whatever hours she wishes; today, tomorrow, or weeks ahead. Like-for-like data across sectors could inform her decisions and - by exposing market gaps she is placed to fill - attract investment in her upskilling.

Despite this potency of technologies to match buyers/sellers of labor, finance, goods or services, we live in a world shaped by vertical markets; [Uber](#)/[Lyft](#)/[Bolt](#) for minicabs, [StyleSeat](#)/[Booksy](#)/[Vagaro](#) for beauty treatments, [Dentulu](#)/[WhatClinic](#) for tooth cleaning, [Sitter.com](#)/[UrbanSitter](#)/[Nanny Lane](#)/[Sittercity](#) for childcare, [Peerby](#)/[Yoodlize](#)/[RNTR](#)/[FriendWithA](#) for neighborhood goods rentals, and so, [endlessly](#), on. Each market has its own registration, specialisms, rules and charges. Most [will go bust](#).

Currently, profitability for e-market operators flows from dominance of a vertical, typically international. [Rover's](#) global supremacy in dog walking services, as one example, netted its operators \$2.3bn in a [2024 sale](#) to private equity. Achieving sector dominance requires [huge spend](#) on customer acquisition and building duplicative technology. Those costs must be recouped through high prices and/or low pay. But buyers and sellers gain little from global reach. Few people travel the world to walk dogs. So many have *a wide range* of monetizable possibilities around their local economy, *including* love of animals.

Governments have unique leverage and need to instigate horizontal markets across their economy in uncertain times. A concession, like those that create official lotteries, can offer interface to a range of unique publicly owned facilities to a consortium willing to provide a region-wide, all-sectors, market platform. Accompanying public service obligations ensure the highest standards. This policy extends DPI (Digital Public Infrastructure) to full-service markets that *include* ID checks, payments and other tools.

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1) Problem Statement: Siloed Markets for Microeconomic Activity

There are many types of online market, the category most relevant to economic policy shapes options for lower-income households and local businesses. These are "*LoBEPs*": *Low Barrier Earnings Platforms*, e-markets using *interchangeable* workers or service providers. LoBEPs today are vertical, thousands of platforms operate an exchange focused on a specific task, resource, or one employer/buyer's needs. They systemically disempower the supply-side.

a) The centrality of e-markets in microeconomic activity

Today's market operators resist revealing activity data from their platforms. This makes it easy to overlook how entrenched platform-mediated activity is for those at the economic base. But a range of independent sources show the importance of evaluating these services for economic impact.

Secreting of data is one issue a horizontal markets policy can address. Currently, governments including the [US](#), [UK](#), and [Canada](#) have admitted they [don't know](#) how many "gig workers" they have. But a range of research and analysis from diverse bodies points to a conclusive move to [platform-mediated](#), fragmented, earnings across the economic base, [even for adults](#) officially reported as in a traditional job.

Some indicative data over time:

- **2016:** Pew Research found [24% of Americans](#) earning in the platform economy.
- **2019:** A figure of 36% of US adults reliant on at least some "gig work" was arrived at independently by both [Gallup](#) and [McKinsey](#). (The Federal Reserve had estimated [31% in 2017](#).)
- **2024:** [Statista](#) found 2.1bn customers worldwide use delivery apps as an intermediary to local eateries. 1.5bn used them for grocery orders. Market value [increased](#) 10.7% in a year.
- **2025:** The OECD reported [algorithmic management](#) of employee schedules was widespread in every country examined. Harvard [research in the US](#) shows the lowest income are most impacted. It helps explain rapid growth in [multi-source employment](#) and [side hustles](#).

i) Assessing e-markets from an economic policy perspective

Quality of the markets available is critical in an era of fragmented income. Someone in a regular-hours job might access the labor market every few years when it is time to move. Anyone in uncertain work can be in and out of the market *several times a day* in search of a next block of hours. Similarly, businesses that previously attracted a regular clientele increasingly receive orders through platforms.

A jobseeker uses a market like Indeed.com or Monster.com merely as a launchpad for dialogue with buyers of their labor. Once a vacancy is found, hiring decisions, pay and conditions are determined in interviews. Gig work platforms construct end-to-end transactions in microseconds. They tell each worker what she will be doing, where, when and for what pay, with little transparency or control for the person. Individuals who decline bookings [can be sanctioned](#). Similarly, platforms for sectors like takeaway meals increasingly [set pricing](#), prioritize listings and own customer relationships, concealing buyer data from local businesses. These systems exert enormous control over workers or providers.

Assuming government seeks growth, efficiency and opportunity across their economy; two priorities can usefully guide policymakers' exploration of this modernized markets infrastructure:

- **Impact for providers**: New tools for *purchasing* do not pay household bills or generate revenue. Policymakers should focus on what any platform enables for those who *earn* through it. Uber, for example, is often categorized as a transportation app. But, for its supply side, it is a labor market; to be assessed alongside apps for other tasks or ad-hoc work periods found offline.
- **Lower-skilled or generalized sellers**: An experienced renal surgeon will maximize her income and advancement by doing as many kidney operations as possible each week. Her buyers will invest effort in finding her; quality of the connective tissue between them is a marginal consideration. But most workers can earn equally across multiple sectors. As one example, many retail employees pick up additional hours in restaurants. Opportunity is multi-sectoral. Likewise for businesses, a manufacturer of specialized optics will have pricing power in their niche market that a neighborhood curry house, surrounded by other food outlets, does not enjoy. For *fungible* providers, *broad* demand, data and ongoing relationships boost earnings.

b) "LoBEPs": The economically crucial subset of online markets

Any government intervention around new markets should focus on those that most impact policy objectives, negatively or positively. They are *LoBEPs: Low Barrier Earnings Platforms*, forums that connect lower-skilled work-seekers, or generalist local businesses, to buyers of their hours or services. Exchanges connecting high-skilled home freelancers to work, or market-leading businesses to new markets, are low priority. Sellers in those markets have clout that LoBEPs users do not.

Multiple taxonomies of e-markets have been constructed, principally around business models or processes for transacting. For policymakers, the *power of providers relative to buyers and market operators* identifies where the current spectrum of economic platforms might need attention.

A snapshot selection of LoBEPs includes [GigSalad](#) (event workers, US/Canada), [Glovo](#) (deliveries, Europe/Africa/Latin America), [RentAHuman](#) (for AI agents), [Instagram Shops](#) (small business retail), [Airtasker](#) (home cleaning etc., Australia/UK), [Zalando](#) (connecting small fashion brands to customers, Europe), [Afri Soko Connect](#) (farm produce, Uganda), and [Thumbtack](#) (home handypersons, US). We also include platforms that workers are compelled to use by an employer as a way of getting work hours. They include [Kronos \(now part of UKG\)](#), [Workday](#), [Infor Workforce Management](#), [ATOSS](#) and [Dayforce](#).

i) Categories of LoBEPs

E-markets that are easy to access in search of income - LoBEPs (Low Barrier Earnings Platforms) - cover purchasing of blocks of work, rental or sale of lower value physical assets, and provision of services.

Primary types of LoBEP:

- **Gig work apps:** These allow a buyer to purchase a worker, typically immediately, for tasks ranging from delivery, cleaning and other household chores to business tasks such as receptionist, tourist guide or pick-and-pack warehouse worker. There are [thousands](#).
- **Workforce scheduling systems:** This kind of service, of which Kronos Inc has been widely [credited as innovator](#), allows corporate employers to summon their employees hour-by-hour exactly as needed. These systems are monopsony labor markets in which the company can buy hours from many hundreds of workers. Lower-level staff are now generally compelled to use them as a condition of employment. They can be used to shift to [Just-in-Time Workforces](#).
- **Rental markets:** [Airbnb](#) dominates online trading of accommodation by homeowners. [By Rotation](#) allows anyone to rent their garments such as an evening gown. [JustPark](#) links motorists needing parking with anyone who has space. [Turo](#) drives peer-to-peer car rental. And so on.
- **Finance:** Peer-to-peer loan platforms like [Prosper](#) will accept investments of as little as \$25.
- **Digital micro-tasks:** [Mechanical Turk](#), [Cint](#), [Prolific](#) and competitors allow lower-skilled users to perform micro-tasks for a few pennies. Examples include labelling photographs, keying handwritten data or answering market research questions. Training of AI models has [expanded](#) this field. Remote work is the least significant; it can be offshored to the cheapest workforce.

For local businesses, easily accessible channels to buyers include:

- **Sales platforms:** Applications like [eBay](#) or [Etsy](#) allow businesses (and regular people) to sell possessions. [Amazon Marketplace](#) is the [behemoth](#) of this sector for local businesses.
- **Delivery apps:** [Talabat](#) (UAE), [Rappi](#) (Latin America), [Zeek](#) (SE Asia), and countless other startups allow food or shopping to be ordered then collected by an on-demand worker.
- **Household services:** Platforms like [Angi](#), [Homeaglow](#) and [TaskRabbit](#) connect tradespeople such as plumbers, electricians, and professional cleaners to homeowners.

Our definition of LoBEPs excludes:

- **High-skill at-home freelancing:** Architects, accountants, consultants and other professionals seeking flexible work can typically earn from home, negotiating assignments with buyers in e-markets such as guru.com, completing their project in their own time.
- **Platforms serving larger sellers:** These are usually bespoke for a company that - as example - sells clothing across multiple countries rather than genuinely open exchanges.
- **Job-boards:** Monster, Indeed, and other job-listing platforms have limited market functionality, they are primarily searchable directories of classified adverts.
- **Current content platforms:** A handful of regular people earn as influencers or Youtubers. But as a career it is opportunistic, typically short-lived, and subject to competition from well-resourced brands and celebrities. Although nominally easy to set up a channel, reliably monetizing the content is a barrier to accessibility and this source of income is not considered a LoBEP.

c) Verticalness as a defining characteristic of LoBEPs

As economic activity fragmented¹, need for better connective tissue became an immediate problem in sector after sector: A hotel now able to move to more precise buying of staff time to align with day-to-day occupancy. Someone wanting to borrow \$100. A householder needing shopping. And so on. Entrepreneurs used a common suite of digital tools to build competing digital markets in each case.

i) Why vertical markets dominate

There are genuinely broad LoBEPs (Low Barrier Earnings Platforms); [Craigslist](#), [Gumtree](#), [OLX](#) and others feature extensive directories in which diverse local goods can be sold, services offered or work sought. But these are bulletin boards, a modern version of newspaper classifieds that charge to list in some categories. This mechanism for commerce is inconvenient for buyers. A seller must be emailed, responses can take time, the resource may no longer be available, or the provider may be unreliable.

By contrast, someone wanting their house cleaned may wish to simply input their need, instantly see a rated worker and book them for a given price. An app enabling this controls the end-to-end transaction, including pricing and work allocation. Anyone can launch an app in this space using [off-the-shelf](#) tools. Their challenge is then reaching a critical mass of demand. If buyers come, workers have to follow.

Companies like Uber pioneered huge [subsidies](#) to attract activity from existing channels. Advertising is another launch cost. This spend is only cost-effective if targeting specific tasks and geographies. For example, it can cost dollars-per-click to come top of a search page for "Housecleaners, New York". Cost of building sector dominance explain why staying focused on a niche makes sense for market operators.

ii) Isolation of the supply side in vertical LoBEPs

Three misconceptions about worker empowerment in vertical markets reoccur, typically among those who have not earned through such platforms:

- **Multi-platform working**: Can't workers trade across multiple platforms, forcing operators to compete for providers? In reality, being available (or [tapping for bookings](#)) in more than about three platforms at the same time is self-defeating. Algorithms running Market A will downgrade a worker unavailable because they are doing an assignment through Market B when required.
- **Workers move to the best platforms**: It can be assumed sellers gravitate to the markets offering the best opportunity. But patterns of activity, numbers and location of buyers, plus earnings data is [typically secreted](#) by platform operators fearful of giving competitors any insights.
- **Connective tissue can link platforms**: Periodic announcements of tools intending to make multiple platforms operate as one for sellers can foster a belief this functionality is at work for workers. In reality, platform operators fiercely resist encroachment on what they consider their sovereignty and their data. As the Financial Times [reported](#) (August 2025) "*Platform giants have threatened or launched legal challenges against services such as Rodeo, which helps workers track their data and "cherry pick" the most profitable jobs.*" (Rodeo has [pivoted](#) to a new model.)

¹ A key driver of the move away from regular hours of employment was [deregulation](#) started by Reagan/Thatcher.

Where primary market operators *do* allow their siloes to connect, it brings a new layer of cost and intermediation. Madrid, Spain, at one point for example had [18 platforms](#) offering e-scooters for short journeys. [Freenow](#) set out to search them all to identify a nearest available option and signed some of the providers, incorporating its own charges for the convenience. But Freenow was [acquired by Lyft](#), a platform for minicab rides. Scooter owners will worry about customer data and verifications being primarily held by a firm with every incentive to promote an alternative to two-wheel transport in its prioritization of options for any buyer.

iii) Navigating vertical market platforms

To make the friction imposed by disjointed platforms tangible, we can take, as one example, the market for mystery shoppers; people hired to go into stores to check point of sale material, pricing and prominence of display are compliant with manufacturer agreements. This case study is informative because constant turnover of workers is desirable, it prevents inspectors being recognized by managers.

Imagine someone wanting to add this reasonable quality work, that should have minimal barriers to entry, to their portfolio of employment. They must decide between, and possibly go through detailed enrollment then mandatory online training, on [Market Force Information](#), [IntelliShop](#), [BestMark](#), [SecretShopper](#), [Sinclair Customer Metrics](#), [Intouch Insight](#), [BARE international](#), and other forums that may have faded by the time you read this. But there may be no work around their locality at times the person can be available. Operators bear no costs or risks from fostering oversubscription. They gain from a bloated supply side that can be quoted in sales pitches then emailed if new clients emerge.

Undercover shopping is *just one* monetizable capability for anyone earning this way. Navigating the 7 obvious vertical marketplaces for that one path to income can take hours. A worker must repeat the process for all other possibilities to gain the kind of cross-market exposure jobseekers take for granted.

Similar dynamics apply across platforms that intermediate order flow for small businesses. Many restaurants list on multiple food delivery apps but then [lose control](#) over kitchen workload, risking a simultaneous influx of walk-in guests and purchases from diverse siloes of customers. Quality of their brand suffers. Any ability to prioritize loyal customers is lost behind anonymous orders from each platform. A race to the floor of cost cutting by eateries is good for each app, their fees remain constant.

d) Consequences of vertical LoBEs

Disempowered by fungibility, [high churn](#), algorithmic management and lack of data, workers/sellers in today's LoBEs suffer multiple abuses no government would tolerate for job holders. It is intensified by a new paradigm of [inner complexity](#) and lack of transparency [in the markets](#). But accounts of what is happening under-the-hood of this new economic plumbing surface periodically.

Given the data deficit around today's platforms, it is hard to separate precise impact of LoBEs' growth from other economic changes. Analysis of consequences is therefore confined to comparisons between LoBEs and what they displaced; rostered staff, classified listings, word-of-mouth agreements, regular business arrangements and economic needs that went unmet.

i) Mistreatment of workers/businesses

Imbalanced power is embedded in business models, technology and local economies:

- **Take rates**: Platforms retain a percentage of what each buyer pays the worker/provider. Typically this is in the [30% range](#) for labor markets, [similar](#) for food delivery, and [around 20%](#) for household asset markets. But commission is often calculated dynamically, resulting in peaks of [50% or more](#). These rates do not reflect costs of running a market. They are the result of extractive business models stemming from huge set up costs, and risk of business failure.
- **Favoring of key buyers**: Markets for item sales favor more profitable big sellers and ramp up charges. This has been reported at - for example - [Etsy](#), [eBay](#) and [Amazon Marketplace](#).
- **Income cuts**: Platforms needing to attract buyers or placate investors will cut earnings. This has been found at, for example, [Shipt](#), [Lyft](#), [Uber](#), [Doordash](#), [Instacart](#), [AmazonFlex](#) and [TaskRabbit](#).
- **Algorithmic allocation of opportunity**: Orders and bookings are assigned to providers/workers by rules that may encode priorities other than customer service or fairness. Uber for example was [found](#) directing trips primarily to drivers who, the software deduced, were also likely to be active on the Lyft platform. Damaging a rival was more important than market efficiency.
- **Questionable rankings**: Most LoBEPs rely on some form of customer rankings to influence each seller's status in the market. These can be gamed by competitors, [awarded vindictively](#) or faked. But it can be sufficient to maintain an aura of market standards for operators.

ii) Wider economic impacts

Beyond the specifics above, wider economic problems caused by vertical LoBEPs include:

- **Lack of data**: Vying for investors, needing over-supplied markets to keep costs down and service levels up, market operators have no incentive to reveal patterns of activity that could create openings for rival platforms or drive away sellers. Information needed by policymakers can be [unobtainable](#). By contrast, platform operators hold often [deep insights](#) about workers.
- **Erosion of jobs**: With pools of on-demand workers, many desperate enough to serve for minimum pay, readily available, companies are incentivized to [let employees go](#). This "Uberization" of labor markets is reported as [a steady trend](#).
- **Instability**: Abuses like enforced pay cuts are practiced by *successful* platforms, those that have attained [network effects](#) and know the supply side needs to stay engaged to connect with buyers. But most LoBEP platforms fail, taking each seller's track record, buyer relationships and immediate flow of work with them. Foodora, for example, [shuttered in Canada](#) in 2020 unable to make sufficient profit, leaving a reported 3,000 restaurants and [2,000 couriers](#) disconnected.
- **Increased consumption**: How often do a Lyft and Uber driver pass each other enroute to pick up fares to which the other was originally closer? By confining demand and supply in siloes, resources are [allocated inefficiently](#) with impacts for climate policy.

- **Market control:** A person may want to earn by ferrying bikes on the roof of her car. She could set up a business but then be starved if “[UberPedal](#)” (ride-hailing with bike racks) arrives in her area propelled by Uber’s technology, brand, user base and [subsidies](#). But, it is [authoritatively rumored](#), UberPedal has been cancelled worldwide. Opportunity killing can be blatant. Handy has [charged cleaners \\$100](#) if they and a client form an off-platform relationship (such as a job).
- **Loss of sovereignty:** Behaviors on this list are - in most jurisdictions - typically applied by foreign companies, [predominantly American](#). Control over market structures, extractive rents and ownership of national data are all flowing abroad. America is [not diffident](#) about this control.
- **Benefits of adjacency lost:** A service such as [sendmybag.com](#) is economically valuable, supporting a range of small tourism businesses. But the overheads of breaking it into consumer awareness are extensive. There is no cheap path through integration with established markets.

e) Policy relevance of LoBEPs

Key aspects of LoBEPs, compared to other channels for earnings, highlight significance for policymakers:

- **Localized activity:** A jobseeker may move across the country for a new position, home freelancing is often at the behest of international clients and large sellers serve extensive geographies. But "gig workers" and small providers of services or products are geographically constrained. No-one travels across country for four hours of work, eateries rarely send meals to buyers over 30 minutes away. Local economic conditions impact heavily on LoBEP users.
- **Participant demographics:** Research, in the US particularly, shows communities of color, women, the young and the lowest income households are [disproportionately](#) reliant on gig work and irregular earnings. Immigrant communities and other vulnerable groups can rely on local businesses. Quality of LoBEPs can thus be a factor in child poverty rates, the tax base, homelessness and economic mobility.
- **Commodification:** Lower-paid breadwinners and local businesses have multifaceted potential and capacity to innovate. It is lost in verticals structured around commodified work or services. Vital regional human capital is invisible and neglected.
- **Regulatory costs:** Attempts to compel vertical market operators to treat workers or providers reasonably have been [costly, time consuming and not delivered the results hoped](#). Horizontal markets offer a chance to unleash new dynamics around potent e-market technologies.

2) The Case for a Policy Intervention

Multiple policy issues are impacted by market platforms; incomes, productivity, workforce development, national sovereignty. Government has significant levers to pull, of which regulation is one, around this far-reaching aspect of economic activity. To assess any case for intervention, a broad concept of *what can be expected* of new market technologies is justified. That includes possibilities of horizontal markets, which only policy can instigate.

a) Why address LoBEP issues now?

Developed economies are experiencing a closing of markets at the economic base. Across sectors, platforms have perfected business models dependant on commoditized, cheapened and controllable labor or small business suppliers. Artificial Intelligence is being embraced to turbocharge these apps.

Justifications for scrutiny and possible action now include:

- **Fragmentation of earnings:** Policy focused on job creation and retention may be becoming ineffective in an era of "[polyworking](#)" as the economics of AI diminish jobs and allow [people still required](#) to be deployed with ever increasing precision. Policy might usefully extend to include tools allowing anyone to maximize their opportunities outside of traditional employment models. Research for the UK government showed [68% of labor market entrants](#) would rather start with a personalized portfolio of employment than a single job.
- **The AI fork:** Based on current labor market infrastructure, ways that AI can cut labor costs while maintaining service levels are being advanced by [McKinsey among others](#). On gig work apps, AI [is driving down](#) pay. In sharp contrast, e-markets architected around worker/ seller empowerment can [harness AI for upskilling](#) and progression.
- **Failures of regulation:** Operators' case for resisting a range of measures is shown by California's [AB5](#) bill which forced them to give workers some rights. They invested [\\$205m](#) to overturn the legislation. Success led to an increase in their valuations [of \\$13bn](#), a return of 6,241%.
- **Availability of investment:** [Plentiful cash](#) chasing new opportunities for investment make a case for possibilities, uniquely viable in horizontal e-markets, to create [new financial instruments](#) around "Human Capital as an Asset Class". This is explored in our Appendix at point f.
- **Success of DPI:** Digital Public Infrastructure such as India's [Aadhaar](#) identification system have been widely adopted. The Brazilian government's PIX payments platform, offering a national alternative to Visa or Mastercard, achieved [80% penetration](#). Voters like empowering facilities.
- **An Overton opening:** Precariousness has made swaths of [voters angry](#) at economic injustice, [many moving](#) to the political fringes. [Anti-Americanism](#) fuels economic nationalism. But fears of inflationary debt crises limit room for increased spending. E-markets policy might be able to tap government's leverage, rather than money, to initiate new tools for economic opportunity.

b) Capabilities of horizontal LoBEPs

Policy focused on constraining Silicon Valley's market platforms risks overlooking the radical economic possibilities presented by a new generation of market technologies. [Objective ranking](#) of e-markets based on classically desirable attributes (depth, breadth, functions offered, overheads, governance) reveals how international finance, as example, has harnessed the potency of e-markets to create exchanges offering sellers previously inconceivable opportunities, low costs and insights.

If policy aimed to ensure workers and local businesses could access comparable efficiencies, rather than focusing on just curbing abuses by vertical platforms, high-level aims could reasonably include:

- **Monetization of all capabilities/assets**: Anyone selling their resources (including their labor) should be able to offer every capability they wish (*all* the skills anyone might pay for locally). They could also usefully rent possessions, lend surplus cash or deliver multiple services for pay.
- **Lowest take rates**: Horizontal market platforms can only be initiated through policy (see below). Initiation should involve a drive for the lowest charges for market usage.
- **Actionable data**: Patterns of demand, supply, pricing and activity for any sector in any sub-geography should be a right for all subject to the protecting individual market users' privacy of data. Anyone wishing to deploy AI tools to further their goals using this information could do so.
- **Resilience**: Household or business buoyancy can stem from exposure to opportunity across multiple sectors, each with their own cycles and trends. Reliance on one sector, often one vertical market, is currently common.
- **Household stability**: With buyers of labor and other resources competing for providers, rather than enjoying a monopsony platform or one slanted towards buyers, the case for creating a job to tempt a reliable worker out of multi-source employer could become compelling.
- **Maximized resource usage**: Efficient markets could foster rental, repair, resale and recycling of items across the economy. Details are in our paper on [climate impacts of LoBEPs market policy](#).
- **Unique capabilities of horizontal markets**: Outlined in the Appendix, these include nuanced availability of resources, tracking of economic inputs and "[People's Financial Markets](#)".

c) Why the private sector can't provide horizontal LoBEPs

In the earliest days of web commerce, marketplaces were broadly horizontal and technologically simple. The sprawling directory of sectors on Craigslist (launched 1995) was an early flagship. But these early sites were bulletin boards, just searchable classified adverts online. More sophisticated platforms required higher investment and more focused business models.

As digital technologies developed, marketplaces began delivering end-to-end transactions, presenting each buyer not with listings for sellers who *might* be able to meet a specific need but a priced, timed, tracked, allocated worker or provider. With venture capital [pouring](#) into startups, reaching a critical mass of daily transactions then became the determinant of success. That was easiest to achieve with a tight focus.

Business priorities that led to vertical LoBEPs included:

- **Corporate cost control:** A large corporate employer seeking to move towards a [just-in-time workforce](#) has the buying clout to launch their own digital labor market and no incentive to allow other buyers into that enclosure. As the only buyer of employees' hours they maximize control over pay and conditions.
- **Recouping investment:** [Auctions for key words](#) by Google and other search engines encourage an arms race of spending. The more specific the AdWords purchased, the more effective the spending in what will almost certainly be the biggest budget line item of a new marketplace.
- **Adding territory to grow:** Once market operators reach dominance in a first city in a chosen sector they have the technology, brand, processes, data insights and proof of concept for investors that should bring in capital to replicate in perhaps another 5 metropolitan regions.

These drivers are reflected in hinge moments away from horizontal markets like [Taskrabbit's 2014 pivot](#) away from generalization to a smaller range of work types with automated pricing.

i) No venture capital case for horizontalness

It might be assumed the lure of a cut of transaction revenues across thousands of sectors would prompt companies to launch horizontal markets. There have been limited steps in this direction including:

- **Super apps:** China's [Alipay](#), "financial supermarket" app has extended into a range of purchasing options but they are provided by partner companies, not a market open to any seller.
- **Abandoned experiments:** In 2018, Uber launched a [general labor market platform](#) for lower skilled workers. Uberworks was [shuttered in 2020](#) and has not been revived, presumably because it is unprofitable compared to Uber's aspiration to become a [ubiquitous](#) transport app.
- **Demand-side horizontalism:** Airbnb has extended its hold over short-term property rentals into "[experiences](#)", activities for visitors provided by locals. This is an adjacent sector for buyers². On the supply side, there is little commonality between people who have accommodation to rent and individuals who serve as tour guides or activity leaders. Seller-focused horizontalism for a market like Airbnb might grow their platform into home storage, an asset those with rooms to spare could monetize. (Airbnb also foster a market in cleaning between rentals but this is an enabler of their core activity, not a seller-focused expansion into adjacent sectors.)
- **Attempts to link markets:** Apps aiming to join up multiple gig work markets have a checkered history. Notable efforts include [ParaPulse](#), [Workerbird](#), [Mystro](#), Brazil's [GigU](#), [Steady](#), nonprofit [Worker Info Exchange](#), [GigLab Sweden](#) and [Solo](#). Each relies on attracting users from the others.

These initiatives illustrate the deeper point. Venture funding to competitively build critical mass across thousands of interlocking sectors where players at the economic base can earn currently remains

² Expansion into table reservations [by delivery apps](#) is a comparable example of demand-side horizontalism.

prohibitive. Even if it were to happen, the resulting service would not give regular people and local businesses what they need. An all-sectors marketplace platform driven by the private sector alone could offer only some of the potential of a horizontal marketplace pursuing economic growth and inclusion.

Investors would demand the marketing costs of outspending so many rival marketplaces - horizontal and vertical - were recouped, and with network effects achieved, could retain hefty chunks of earnings in transaction fees. Operators would have no reason to share market data which could help competitors pick sectors to undercut. Depended on for such diverse activity, the markets system would almost certainly attract regulators' attention specifically, unwelcome for backers.

For commercial investors, starting, or outspending the incumbent in, a market with a tight niche - jewellery sales, shopping collection, tutors, home massage, car rentals, and so on - will always be a safer proposition than attempting a genuinely universal service across a jurisdiction.

d) Legitimacy of an intervention

Focusing on those who earn through e-markets, rather than consumers, aligns policy with a lineage of government actions fostering efficient and inclusive economies. As example local authorities routinely embedded market squares in medieval towns to prevent landowners overcharging for space where buyers mingle with sellers. Today governments routinely facilitate key markets.

Justifications for a comprehensive LoBEPs policy include:

- **Economic role of government**: Social problems arise in social media, streaming services, dating apps, news aggregators and other digital services. They may merit regulation. But there is little precedent for a publicly initiated alternative service. Politicians are not elected to grow voters' networks of friends, provide entertainment, start romances or cover current affairs. Only anarchists would claim tools for economic growth and opportunity are off-limits for policy.
- **Support for market alternatives**: [Public Employment Services](#) around the world provide [job centers](#) which compete with commercial staffing agencies. Every US state commissions its own [all-sectors job bank](#) as an alternative to [commercial](#) job match sites. Other countries do the same nationally, for example [Canada](#), [Australia](#) and [Britain](#). Public labor exchanges [resulted](#) from staffing firms [profiting from](#) desperation for work. Even in the US, they retain [bipartisan support](#).
- **The effectiveness gap**: A site like [Caljobs](#), California's public job match system, is only marginally better - in policy terms - than for-profit competitors like Indeed or Monster. For multi-source income and hour-by-hour labor, horizontal markets are radically different from other offerings.
- **Public goods**: Many benefits of horizontal markets (including their data) are non-exclusionary, most useful when freely available. Current priorities that could be addressed include:
 - **Crime reduction**: When online markets for easily interchangeable sellers of any resource prove inadequate, there is an alternative rarely available for specialist providers: off-the-books work or sales. The [World Bank estimates](#) undeclared, but not otherwise criminal, activity totals 9% the size of GDP in OECD countries, much higher in transition

nations. This undermining of businesses and work-seekers who play by the rules, plus loss of tax revenues, boosts a case for more attractive earnings platforms.

- **Transaction size:** Small transaction sizes, which make any economy more inclusive are the [least attractive](#) for commercial operators who profit most from large sales.
- **Economy-enhancing activity:** Support for work-seekers, upskilling, publication of comparative data, pathways into teaching and other vital roles, law enforcement and other aspects of economic activity can be enhanced by interlinked markets.
- **Public entitlement:** Technologies for digital marketplaces and apps [were publicly funded](#). Startups were then left to create the obvious economic infrastructure they enable. There seems little logic to protecting those companies by denying taxpayers benefits of their investment.

i) Horizontal markets stem from asserting providers' interests

Widely used methods for evaluating any market, such as those created by [Alvin Roth](#) or [John McMillan](#), point to universally desirable characteristics; thickness, openness to newcomers, lowest transaction costs, simple trading, transparency and robust governance. Through history these attributes have been largely theoretical. No physical forum could assemble all people or goods on offer and all their potential buyers across multiple sectors in one place.

Some parts of today's economy have already demonstrated computerized markets' ability to make near-perfect markets a mundane reality. In parallel with the rise of LoBEPs, Wall Street used the same technologies to build trading machinery that is deep (although there are many exchanges, they are interoperable), broad (all types of financial assets can be traded seamlessly), data driven and ultra-low-charge (trading tools hunt for the cheapest exchange for any transaction). Governments were asked to underpin this new paradigm with enhanced or additional institutions, responding with changes at America's [SEC](#), the [National Market System](#), [Fedwire](#), government-owned [clearing houses](#), the [CFTC](#), the [Mifiid](#) standards and [NRSRO's](#) undergirding of a new breed of markets.

Why did this happen for markets in finance but not more important sections of the economy such as labor? Concentration of sellers seems key. Parts of Big Finance are [highly concentrated](#). Nine Wall Street banks control [70%](#) of stock market orders. A handful of global institutions dominate both buying and selling of financial assets; they had the heft to demand modernized markets serving both sides equally.

Some other sectors empowered their supply side similarly. As travel moved online; hotel chains, airlines, and rental car companies coalesced around a "[Global Distribution System](#)", their database of each room, seat, and vehicle; when it is available and how it is to be priced. When buyers shop on platforms like [Expedia](#) and notice a room price fluctuating, it is because of this underlying system. Algorithms working for sellers know exactly what each bed is worth. It is buyers who are in the dark.

Workers and the spectrum of local businesses have no means of combining to demand equitable markets. The scale of alignment needed is beyond even the biggest union, trade body or co-operative. It is governments that can act for the wider good of their economy and its participants. A shift to enabling, horizontal, e-markets rests on policymakers asking not "*How can we push Silicon Valley's platforms into better behavior*" but "*If e-markets are to best serve sellers across our microeconomy, what would they look like and how could they be instigated?*"

3) Ranking of Policy Options

Policy around LoBEPs (Low Barrier Earnings Platforms) should most usefully focus on what modern market technologies *could* be doing to boost household and local business income or other policy objectives and how to tackle any gap between that and current platforms. It sees horizontal, fully featured, e-markets as a public good, benefiting every economic actor while not constituting a standalone business opportunity. Government has a unique ability to initiate such markets; that leverage could be used to maximize economic and social impacts.

a) A framework for evaluation

These criteria will be used to rank options for a LoBEPs policy:

1. **Elevation of sellers**: Raising ad-hoc employment or earnings above mere "survival work" so it routinely offers protections, control, and progression should be a priority. So should de-commodification (ensuring each worker or seller can effortlessly offer across as many categories as they wish), a level playing field, and overhead reduction for local businesses.
2. **Cost**: Government funding for any intervention is obviously less desirable than incentivizing other actors to provide required resources. Costs or time requirements imposed on people or businesses to comply with any intervention should also be regarded as undesirable.
3. **Choice**: Choices between e-markets for households and businesses could become better informed - or increase - as the result of any policy action. Any constraints on markets used to find work or customers requires careful analysis of all potential consequences.
4. **Consequences of failure**: The impact of botched execution, aborted plans or unforeseen impacts need to be enumerated when assessing any putative course of action.
5. **Swiftness of implementation**: LoBEPs' technology and market operators move fast. Any policy taking years risks being out of date when it comes to fruition.
6. **Externalities**: Impacts of any policy on anyone not using e-markets; plus the climate, public services, social cohesion and other economic stakeholders must be considered. Also, how might any policy impact regional advantage relative to competing jurisdictions?
7. **Picking winners**: Policy should avoid boosting certain companies at the expense of others except in accordance with transparent objectives and universal applicability of any rules, or open access to any business advantages conferred by policy. Incumbency or size should not be unduly rewarded by any policy changes.
8. **Political acceptability**: There will be resistance to any government intervention particularly given multiple governments' track [record](#) of poor delivery in IT projects. Any action should be considered in light of inevitable perceptions of official over-reach, surveillance, control of markets, or ideological bias.

b) Ten options

A range of possibilities have been sourced from books, governments and think tanks then clustered in the list below. They can be usefully grouped under three headings:

- **INACTION**: Not responding to issues listed in this paper is a benchmark against which to measure other policy options.
- **MARKET SHAPING**: Platform operating companies could be assessed or controlled in a framework imposed by legislation.
- **ADDITIONAL PLATFORMS**: Policy could directly create, or indirectly foster, new e-markets alongside existing operators.

INACTION

1. **Do nothing**: This has been the default position of many governments observing the spread of digital capitalism. Technology companies and financial institutions are left to build and run the jurisdiction's new economic infrastructure with government intervening only to try curbing egregious abuse of workers/sellers.
 - PROS: No cost, no perception of government overreach.
 - CONS: Public policy has to manage externalities of current marketplace models. Regulatory overheads and uncertainty.

MARKET SHAPING

2. **Offer protocols**: Government could put forward a set of interoperability technology protocols for LoBEPs that help users to compare and move between them. Obvious data-exchange protocols would include user records (allowing a buyer or seller to move easily between platforms taking their track record), reporting standards allowing like-for-like comparisons of activity and earnings between markets and transaction completion processes. Mutually agreed standards for online interactions have [benefited](#) industries around the world, it could be argued that in the case of LoBEPs, users are so disparate only government can meaningfully impose such standards.
 - PROS: Can be voluntary for market operators, encourages transparency and formation of eco-systems of markets, low cost.
 - CONS: Unlikely to be adopted by global e-market players who will fear other governments imposing comparable standards, requires user awareness of standards for effectiveness, lack of take-up of initiatives like the [Decentralized Social Networking Protocol](#) (DSNP) by Facebook, Instagram, and others suggest likely indifference around user-empowering standards from LoBEPs operators .

3. **Rate officially:** Governments inspect and openly rate schools, care facilities and workplaces according to published standards. This could be extended to e-markets so a regulator routinely pores over functionality, code, user complaints and other data pertaining to a specific e-market then awards a ranking. Rating could be voluntary, at a platform's request. High ratings could lead to rewards such as public sector expenditure being directed through exchanges.
 - PROS: Informed choice for users, good behavior by operators incentivized, unstable or particularly predatory markets likely identified by refusing rating.
 - CONS: Likelihood of boycott (if program is voluntary) and opposition (if mandatory), algorithms controlling markets are changed constantly, hard to comprehend and deliberately kept opaque so inspection hard to enforce.

4. **Enforced standards:** Sometimes labelled, "[Platform Governance](#)", this idea calls for *mandatory* rules and transparency of operation applied to all LoBEPs in a jurisdiction. It might be achieved by creation of rules analogous to [Reg NMS](#), a set of trading protocols applied by the US SEC to financial markets.
 - PROS: Raises standards and trust in e-markets, exposes egregious bad practices, sets standards other jurisdictions may replicate thereby enhancing national prestige.
 - CONS: Expensive to enforce, enforcement complicated by opacity of market algorithms and activity data, may lead to boycotts by international platforms, Reg NMS is [criticized](#) for "micromanaging" markets and unintended consequences.

5. **Transaction tax:** A tax imposed on LoBEPs once they reach a specified turnover or number of users in a jurisdiction could be used to fund benefits, data collection or training for workers/sellers. Rate of tax charged could be related to each platform's charges and levels of support for workers/sellers. The idea is analogous to the [Tobin Tax](#) proposed on electronic financial transactions and could be described as official unionization of LoBEP workers.
 - PROS: Raises funds that could address externalities of LoBEPs, incentivizes seller support by platforms.
 - CONS: Will raise prices, dampening demand on platforms that many rely on for income. Vociferous opposition.

6. **Nationalisation of markets:** This concept, found to be popular in at least [one public survey](#), calls for forcible state takeover of platforms. They would then be run by government appointees.
 - PROS: Turns markets into a kind of public utility immediately allowing them to become interlocking so creating a horizontal set of seamless markets (but subject to incompatible software being made to harmonize).

- CONS: Restricts choice, dependant on government's ability to appoint managers of the markets, enormous cost to compensate current operators with costs being irrecoverable if services then fail, likely to lead to withdrawal of service from the jurisdiction, danger of underground markets being launched (and subsidized) in competition.

ALTERNATIVE PLATFORMS

7. **E-government foundations**: India's [Aadhaar](#) biometric citizen identification system and Unified Payments Interface (UPI) technology stack has created improved foundations and reduced costs for multiple online services, including e-markets. Comparable measures could cut costs of startup and operation for LoBEPs while building trust among users.
 - PROS: India provides a roadmap and indications of success (50% of GDP goes through the UPI). Estonia, Brazil, Singapore, and other nations created infrastructure to support digital trading with promising results.
 - CONS: Expensive, supports existing market operators with enhanced foundational services, but does little to increase options for market users, (overheads of building a critical mass of activity, by far the biggest expense of launch, would remain), marginal need in many regions - India needed to fast track biometric identification which many jurisdictions already have in passports along with well-developed fintech applications.
8. **Government-enabled intermediaries**: Policy could establish a go-between platform that allows a citizen to interact with a range of e-markets through one portal which might seek the best earnings opportunity for each person on any platform at any time and assist with registration at any interfaced LoBEP. This portal could aggregate data and compile track records of activity. As [shown](#) in Finland's digital ID system, intermediation of services could weaken platform operators' current power over workers and sellers.
 - PROS: Lessens the need to regulate existing LoBEPs who either opt to interface to the users' portal or not, could incentivize ethical startups locally.
 - CONS: Likely to be resisted or ignored by dominant marketplaces whose business models rely on data ownership and user lock-in, would require government to select standards for interfacing from multiple options - a form of picking winners.
9. **E-markets concession**: National and state official lotteries are generally initiated by a concession that creates a licence to operate the service which is designed, funded, and run by an international consortium winning with the most competitive bid. Licences typically last 10 years before renewal with operators' returns determined by the popularity of their service. The concept could be extended to a system of e-markets for a jurisdiction's micro-economy.

Government would bestow certain benefits on those markets, but operators would have to commit to a range of public service obligations in return.

- PROS: Can be no cost (even the overheads of enabling legislation could be a charge on the concession winner), increases choice, avoids government control.
- CONS: Crafting the enabling legislation would need a lot of thought, it could inadvertently contain loopholes - or reward undesirable behavior - a winning operator could exploit for years.

10. **Government-provided e-markets:** Government could fund and provide a system of e-markets for the micro-economy in the way it directly provides - for example - ferry services, schools, or broadband to rural areas.

- PROS: Adds to choice for market users requiring no constraints on existing services, can be coupled with plans to digitize public services to harmonize official services.
- CONS: Huge cost and risk of failure, likely to take time, political palatability questionable - governments have a track record of failure in IT implementations.

c) Ranking the options

Our table below applies the assessment criteria (Section 3b above) to each of the above:

Key:

- + = This policy scores highly on this criterion compared to other options
- = This policy scores badly against this criterion compared to other options
- +/- = There are negatives and positives against this criterion compared to others on the list
- Neutral** = This option has no impact compared to doing nothing relevant to this criterion

POLICY OPTION		ASSESSMENT CRITERIA					
		Cost	Choice	Failure consequences	Swiftness of implementation	Externalities	Political acceptability
	INACTION						
1.	Do nothing	+++	-	+ ³	+++	- ⁴	+/-
	REGULATORY						

³ Many would argue this option has already failed, spawning one-sided marketplaces. Failure against any other policy option could be assumed to be already "priced in" to expectations.

⁴ Allowing current LoBEP business models to continue unchecked imposes significant externalities on workers and the state as AI is applied to refine operators' priorities.

2.	Offer protocols	-	+	+/- ⁵	++	+ ⁶	+
3.	Rate markets	--	++	-	+	+	+/-
4.	Enforce standards	--- ⁷	+/- ⁸	---	---	+	--
5.	Transaction tax	+	+/- ⁹	---	---	- ¹⁰	--
6.	Nationalise markets	---	--	---	---	+/-	---
	ALTERNATIVES						
7.	E-government foundations	-	+	--	+/- ¹¹	++	++
8.	Government intermediary	--	++	---	-	+/-	+/-
9.	E-markets concession	+/- ¹²	+++	- ¹³	+/- ¹⁴	- ¹⁵	+/-
10	Government-provided e-markets	---	++	---	---	- ¹⁶	---

For any government believing access to healthy markets should be a right, instigating alternative markets seems the way forward. It does not preclude also regulating existing players but opens possibilities for deploying e-market capabilities in new ways so everyone gains wider choices in how to pursue any economic need.

Markets funded or run by government are undesirable. Risks of failure would be borne by taxpayers, incentives could be blurred particularly during a change of administration (one party seeking to downplay or even sabotage another's initiative) and risks of market manipulation (to foster pre-election booms in activity for example) would be ever present.

A policy seeking new markets genuinely serving the public interest should therefore focus on how government can best incentivize private sector players to deliver such a system.

⁵ If protocols are not adopted, time will have been expended unnecessarily in preparing them and by market users in understanding and acting on them.

⁶ Genuinely useful protocols would intentionally penalize market operators unwilling to adopt them.

⁷ Litigation by market operators should be assumed as a given.

⁸ Market users would gain more information about choices but costs of compliance could stifle innovative startup alternative markets.

⁹ Again, users would gain from protections, but costs of the program would deter new market startups.

¹⁰ Costs of the tax would be reclaimed from increased usage fees, putting a brake on economic activity.

¹¹ This would depend on how advanced the jurisdiction was with e-government implementation already.

¹² Costs would be incurred in compiling the concession and running the award process. They could be recouped from a one-off charge on the winning consortium.

¹³ If the concession fails, it is the winning consortium's shareholders who bear the cost, users dependent on the new markets would need to export their data to alternative platforms as the *status quo ante* returns.

¹⁴ This would depend on the preparation work to prime bidders and public agencies before a concession.

¹⁵ Businesses - online or offline - that match buyers and sellers would be negatively impacted by a system of very low-cost e-markets with enormous reach and scope.

¹⁶ If government funded a system of e-markets it would force some businesses to pay for a new competitor.

d) The case for policy focused around a concession

If policy accepts multinational startups should be left to run the jurisdiction's economic arteries, options 2, 3, 4, 5, 7 or 8 could raise standards in those verticals, while likely facing hostility or indifference from operators. This briefing assumes policy aims to unlock the *full potential* of publicly funded market technologies for breadwinners, local businesses and economic development.

That priority leads to a focus on initiating a horizontal (all-sectors made seamless) system of e-markets across the base of the jurisdiction's economy. Benefits of this over other policy options include:

	Factor	Notes
1.	Differentiation from private sector provision	Any intervention by government should make a difference to be justified. Horizontal markets, only realizable through policy (see Section 2c) offer a stark contrast with platforms the private sector can provide. Mildly enhanced, or slightly more equitable, versions of private sector markets offer a weaker case for policymakers.
2.	Ease of regulation	Policy can define parameters for a horizontal markets system, likely to include transparency, restraints on scope, protections for users and neutrality from the beginning. There is then commonality of functionality and one linked set of operators to be regulated with the ultimate sanction of licence withdrawal to encourage compliance.
3.	Actionable data	Several of the possibilities in Section 3b enhance available data. But outputs covering market activity are exponentially more useful when like-for-like across all sectors in which any person or firm might earn.
4.	Cutting of overheads	A horizontal market can operate a suite of software tools across multiple sectors. For example, a market for garment modifications needs the same core functionality as a market for upgrading home kitchens. Each transaction starts with a specification, a likely quote, possible staged signoffs and dialogue, then acceptance of completion. By building universal technology for delivery of any bespoke service, operators of a horizontal system can scythe system overheads.
5.	Incentivization of honesty	A track record of reliable trading has limited value in one vertical. But, built up with multi-sector activity, it can open doors to new sectors and attraction of more counterparties. This offers more durable reward for honest trading than one vertical's activity (Appendix point c).
6.	Choice and innovation	A standardized, comprehensive, markets system reduces user overheads. There will likely be one consistent registration journey for example rather than the dozens required to trade across a full range of verticals. But the standardization can support a layer of innovative add-on services. This is analogous to public electricity supply; we no longer have a selection of voltages to choose from. But we have a diverse array of appliances competing on top of a universal standard.
7.	Household/firm resilience	Scaffolders can't work when it's raining. Special Education Classroom Assistants aren't needed if a child is off school. Events companies can go through dry patches. Horizontal markets allow workers or providers to create safety nets of backup options across adjoining markets.

8.	Resource efficiency	If taxis are in short supply, a vertical might apply surge pricing to limit demand. A horizontal can search across its adjacent sectors; perhaps there is a delivery van with driver willing to accept paying passengers for any part of her route? With insurance seamlessly arranged (see Appendix point h), she picks up additional income, the traveller is not hit with a sudden price increase and less energy is consumed.
9.	Integration of public services	In horizontal markets, assistance can be used to meaningfully skill individuals for current gaps in their area. Rarely used assets required for emergencies, such as tarpaulins used to tamp wildfires can be co-owned with farmers who can use them to protect crops from rain with an understanding they will be diverted to any officially declared emergency. Government assets can be monetized: hotels may be charging considerable sums for meeting room hire while public buildings have large office spaces sitting empty in close proximity.
10.	Convenience for buyers	Buyers are inconvenienced by having to download, register, enter validation codes, learn to navigate and update so many vertical markets to meet daily needs. Each may bombard the user with exhortations to rate counterparties, or the app itself. Each may be misusing data, incorporate dark patterns , on the point of shuttering or prone to a hack the fine print will explain . And all this friction still only exposes purchasers to a small slice of the total universe of sellers who might meet their need of the moment in a wider markets system. (Regulated horizontal markets could be subjected to rules limiting these irritations such as attention rents to foster efficiency in demands on user time.)

This points towards a concession as a first option for exploration. It is the lowest cost route to joined-up markets, carries the least costs and risks for taxpayers and is hardest to oppose. Existing platform operators will have to argue against giving their users the choice of alternative markets rather than claiming unfair takeover of their assets or unmerited state spending. A concession is not exclusive of other options, it could run in parallel with other measures focused on existing platforms¹⁷.

i) Exploratory steps

Policy maker's exploration around a concession might start with:

- **Public enquiries**: Surfacing workers' and small sellers' accounts of their interactions with current platforms and the potential they are unable to pursue in vertical markets could inform public thinking about what e-market technologies *could* be doing for their economy.
- **Industry awareness raising**: Diverse companies run huge data processing operations for ratecard prices, rather than extractive business models that manipulate the activity enabled¹⁸. Many financiers prosper by investing in new public utilities. Government could educate these players about possibilities for an e-markets concession and gauge likelihood of submitting bids.

¹⁷ There is equally an argument for relaxing regulation on private platforms to give them more leeway to respond to the jurisdiction's official e-markets system and heighten differences between those options.

¹⁸ Examples include [Cognizant](#), [Accenture](#), [Kyndryl](#), [Capgemini](#), [Tata](#), [IBM](#) and [Infosys](#).

4) Structuring a Horizontal Markets Policy

A system of seamless markets embracing thousands of sectors should help anyone develop their *Total Economic Potential*. In an era of uncertainty, they gain data, tools and lowest overheads within which to explore countless options for earning. Policy could concentrate not on market design but thinking through what a platform is *forbidden* to do. Within those guardrails, operators should then be unleashed to expand activity across the economy.

Acting as guardians of the public interest, policymakers could ensure (a) market operators have legitimacy (b) the maximum value for users and the wider economy is extracted from those operators (c) if the policy fails no-one (apart from putative operators) are worse off than before.

At its core, a concession will balance two aims:

- **Commercial attractiveness**: A business opportunity needs shaping by commitments to integrate government's procurement, databases, processes and promotional activity with the intended markets system. Without this, there will be no bidders for the concession.
- **Regional economic benefit**: Policymakers must not give the above away too cheaply. Obligations on the winning operators must keep them serving people and businesses at the economic base while unable to exert undue control or extractive advantage from their markets

The winning operators' freedom from government interference is essential. A concession should construct an explicit agreement with that consortium: *"You transparently won a concession to operate our regional e-markets system in a competitive process. Providing you remain compliant with specified obligations there will be no undue political involvement in your operations and no cap on your earnings"*.

Critically, there must be no "easy money" for operators within the framework. They cannot charge for access to the public facilities to which they interface for example. Their only path to profitability is *growing activity* across the jurisdiction's economic base. Clarity and futureproofing will be vital in framing language for a concession. There is a cautionary case study in the UK government [taking back](#) previously awarded mobile spectrum in 2007 to allow exploitation of unforeseen new technologies.

[a\) Core principles](#)

The success of consumer-facing Digital Public Infrastructure such as India's [Aadhaar](#), [E-Estonia](#), Singapore's [SGDUS](#) and Brazil's [PIX](#) have shown public appetite and healthy take-up of government initiated online facilities that solve daily problems. This legislation goes a next step; markets that construct end-to-end transactions. Legislation that entices private sector investors and operators to launch official lotteries, toll roads, health services, and other pay-as-you-use public infrastructure provides a model for the act required.

Foundations of a concession are detailed in white papers, linked below, they can be summarized as:

- **Focus on what the private sector alone can't do**: The concession aims to create a new set of sophisticated, integrated, e-markets focused on micro-economic activity across the jurisdiction in which anyone sell or buy any period of work, service, or product, if legally permitted to do so. Crucially this must be a seamless, system of integrated markets across thousands of sectors.
- **No taxpayer funding**: The system of markets will be funded, designed, and operated by private sector operators holding a government issued licence.
- **Exclusive access to official facilities for a fixed term**: As with legislation initiating state or national lotteries, the chosen operator will be granted unique rights to official support for the duration of the licence created by the concession.
- **Obligations on operators**: In return for government-bestowed benefits for this market system, operators must commit to accompanying public service obligations that maximize utility for users and the region. The key points:
 - **Fixed charges**: Operators must agree to a fixed percentage markup on each transaction between a buyer and seller their markets enable. This is their sole source of income in the jurisdiction. Each bidder sets their rate in the bidding process. [More details](#).
 - **Revenue formula**: Operators do not simply keep the revenue generated from the markup above. That would incentivize a focus on high-value transactions. They are rewarded for interactions with a small unit size. Proceeds of other transactions are diverted to a surplus fund. [More details](#).
 - **Decentralization**: Operators have no cap on earnings but are constrained in the power they wield over economic activity. This can be enforced through a split between a core consortium (likely multinational) that operates the servers/software and independent franchisees (who may have to be nationals) running each individual sector. [More details](#).
 - **Neutrality/transparency**: Operators cannot favor one market user over another except through objective, published criteria¹⁹. Operators cannot buy, sell, invest through, set prices, or take any position in any market they operate; only provide tools allowing others to do so. [More details](#).
- **Concession duration**: A period of 15 years might strike the right balance between incentivizing the deep investment required and ensuring a cycle of re-bidding for future iterations.
- **Selection of a winner**: Operators of the markets system will be selected through a competitive bidding process. The winner may be the credible consortium committing to the lowest markup.

¹⁹ For example, preference in displays cannot be given to sellers who pay a premium (a common business model in today's platforms). But operators can prioritize listings on criteria likely to help a buyer such as "Options closest to your home", "Best alignment with your previous requirements" or of course "Cheapest".

b) Components of a concession

Enabling legislation must spell out what the new markets system is permitted to do, obligations on its operators, the facilities government will extend uniquely to these markets, and how operators are to be decided. This allows each bidder to determine a markup on transactions to which they commit.

A principle of "*no constraints on alternative platforms*" is vital to legitimacy of the legislation and maintaining choices for economic activity. The concession gives a consortium of operators unique access to officially bestowed benefits that can't realistically be spread around multiple e-markets²⁰ (subject to ongoing compliance with the concession's terms) but no enforced monopoly. If citizens and local businesses prefer to use Uber, or any other system, for any need they must remain free to do so.

i) Scope of the market system

When defining the sectors within an officially backed markets system, legislation should be permissive, making clear what the system *can* do, rather than prescriptive, telling operators what sectors they *must* provide or how the technology is to function²¹. Given the scale of their investment in the jurisdiction's economic arteries, operators deserve freedom to structure, curate and promote their markets as wished, subject to remaining compliant with their public service obligations.

	Issue to address	Principles	Notes
a.	What economic sectors are served?	Any variant of finance, labor, services, goods, transport, digital content, that is legal to trade in the jurisdiction and not banned for this markets system (see below).	Operators need discretion to downplay markets unlikely to attract critical mass.
b.	Are any specific transactions barred?	It may be decided that markets such as peer-to-peer gambling, sale of live animals, abortion, hire of resources such as weapons, or adult services should not be made more efficient and inclusive and are therefore to be excluded from the new markets.	Policymakers may decide to define scope around " <i>purposeful economic activity</i> " which excludes some economic sectors, even though legal.
c.	Who can sell or buy in each sector?	Anyone legally entitled to earn in the jurisdiction's economy should be entitled to sell or buy. Foreigners, such as tourists, may legally be permitted only to buy.	Operators must be expressly banned from buying or selling in their markets. It could encourage market rules favoring them.
d.	Levels of functionality	Operators should not be forced to comprehensively structure a market for every possible sector of the microeconomy. They should be free to offer loosely classified listings for any buyer or seller to use, then create structured markets only when activity develops organically around a particular sector.	It is likely operators would want to start with obvious high-volume categories such as accommodation, journeys, or childcare work. A specialist sector such as "bespoke cake making" can emerge later.

²⁰ As examples, spreading public spending across many platforms would squander the leverage, and force providers reliant on the spending (such as public services workers) to search across multiple forums. Allowing any platform direct interface into courts could encourage operators to underplay automated mediation and push problems immediately to the state.

²¹ As example, legislation should not compel operators to use blockchain technology. It should mandate system security (perhaps with fines for breaches) and transparency. Operators decide how to comply and price the service.

e.	Free data	There can be only three categories of market activity data; (a) belonging to the user (b) aggregated data published to all (c) data that is not compiled. Crucially there is no category of "data for operators only", they have no privileged insights into market activity.	A user's ownership of her data is not to be theoretical. She must be able to easily export it to any other system while having her records irrevocably wiped in the official markets system.
f.	Non-revenue services	Most public infrastructure extends its facilities to non-payers; cyclists aren't charged road tax, telecom carriers have to carry emergency calls without charge, and so on.	Specific non-revenue functions on a comprehensive e-markets system could include (a) voting (b) volunteering (c) updating official databases e.g. with a change of address (d) tax filing.
g.	Phasing	Demanding operators deliver the full functionality of a new markets system at launch would push up their costs and risks.	Functions of the system, and perhaps sectors it serves, could be phased linked to usage metrics: operators would only fund later stages as early versions of their platform proved public demand.

ii) Government bestowed benefits for market operators

Public agencies have an array of facilities that could usefully be extended to a system of e-markets serving the entire micro-economy. They would need enumerating in legislation incentivizing private sector consortia to bid for a licence to operate those markets.

	Official benefit	Principles	Notes
a.	Pump priming	Government is a major spender on labor, services and public assistance. By default, this expenditure is to go through the new market system to workers and communities.	To protect taxpayers, the rule might be that public spending going through the markets is dependant on a "best value" test; if a public agency can show lower costs are available through another channel, they do not have to use the markets.
b.	Interfacing into databases	The new markets have a right to interface into databases that prove identity, qualifications and other attributes of people, providers, or assets such as buildings.	A user has to expressly permit look up of their records before an interface. To stop lock-in by operators, interfacing may have to go through a layer such as Estonia's X-road which remains public property.
c.	Interfacing into courts	When a buyer and seller have a dispute in the new markets, the system ultimately has a right to automatically refer the matter to the courts in search of a resolution.	This must be subject to the markets system having extensive arbitration software that attempts to construct solutions, such as reduced payment, that work for both sides. Monitoring of out-of-court settlements might lead to fines for operators if the rate is low.
d.	Interfacing to official functions	Tax, welfare, stimulus, grants and other monetary interactions with the state can go through the markets system.	Civil servants, not operators, must be responsible for updating rules the system uses, such as computing the tax take from any interaction.

e.	Marketing	Government will use its channels to citizens, businesses, investors, claimants, tourists and others to promote the new markets system.	The system may be given an official name that would not normally be accepted as a trademark. That name is granted to operators for the duration of a concession.
f.	Clarity for operators	Bidders for the concession must have clarity on what they will get and what they will have to fund. Independence from government should be listed as both a right for and an obligation on operators.	Key provisions should include (a) no cap on returns from growing new economic activity (b) government agencies that obstruct interfacing can be sued (c) operators are not publishers (d) future governments will be prevented from rescinding the legislation.

iii) Public service obligations

Legislation should extract the best possible deal for citizens, businesses and the regional economy from market operators. Spelling this out in the concession allows bidders to price their markup based on informed assumptions about costs, liabilities and constraints they will be required to accept.

	Mandate on operators	Principles	Notes
a.	Funding obligations	All costs of implementing the new markets are to be borne by the concession winner.	Costs will include core servers, interfacing into government databases, possible kiosks or broadband to ensure universal access, marketing.
b.	Flat rate markup is only source of revenue	Operators can't have hidden charges, advertising, payment for priority display, etc. Just one transparent markup added to the price paid in any transaction.	The priority is keeping markets neutral with no buyers or sellers favored over others except through transparently applied rules (such as highlighting local dog walkers who have just completed 100 bookings). Operators must be clear: they maximize return only by growing market activity not charging for market facilities.
c.	Revenue formula linked to transaction unit size	Operators with unique government granted facilities and charging a percentage markup will have a strong incentive to pursue high value transactions: trading. To keep them focused on growing micro-economic activity there must be a formula.	A Maximum Average Transaction Size rule could set a unit value (for example the pay for an hour's work) and divert income from higher-value purchases away from operators to other sources.
d.	Decentralized structure	To avoid a monolithic entity controlling what could become vital economic infrastructure, a winning consortium could be compelled to appoint a franchisee to run each sector offered. And external apps should be connectable into a user's account if they wish.	Franchisees might be mandated as residents of the jurisdiction the markets will serve. To additionally decentralize the markets, it may be stipulated that external, unregulated, e-markets have to be able to interface into the markets system, drawing on its functionality knowing the flat rate percentage markup will be built into each transaction.
e.	Transparency of operation	Operators must respect their potential to distort market activity in nuanced ways. They need to be an unusually open organization.	Publication of system code might be mandated alongside a mirrored system offered for anyone to test any theory about possible corruption of its markets. A whistle-blower page for operator staff should be an obligation.

iv) Licence award process

Legitimacy of the markets system relies on operators transparently winning an open, genuinely competitive, bidding process for the concession, followed by robust independence from government on a par with that granted to central banks in many countries.

	Issue to address in award process	Principles	Sample rules
a.	Who can bid?	Realistically only corporate heavyweights with hundreds of millions on hand and a deep bench of technology expertise could deliver. This could be qualified with a financial statement for each consortium and/or a bond paid to bid. Government should be seen to actively encourage bidders by responding (openly) to bidders' queries, opening official systems to their inspection, and so on.	There could be a temptation to favor domestic bidders, this should be avoided. Best value for users and the economy rests on wide competition. Independence from government is more easily asserted by international brands. Each consortium could be mandated to be a standalone joint venture free of business relationships with other parties, this helps maintain independence and therefore market neutrality.
b.	What must bidders specify?	The suggested key figure is: What percentage markup on each transaction will you charge for the duration of the concession if you win?	This effectively asks bidders to place a bet: what levels of growth do they believe they could achieve across the micro-economy during the concession period?
c.	How is a winner chosen?	The most transparent solution: whichever consortium bids the lowest percentage above wins the concession.	Because of a tendency to round figures, a tiebreak rule would be needed, perhaps based on <i>discretionary</i> investment commitments. For example: if three consortia commit to 2% as their flat-rate charge, the one who pledges the highest spend on peer-to-peer trainers for new market entrants wins.
d.	Licence period	This balances two factors: a short licence term would limit operators' potential to recoup their upfront investment and push up costs. Too long a period could foster calcification with operators lacking dynamism because they are assured an income stream for years ahead.	Based on analysis of national and state lottery concessions (which have a lower entry cost), around 15 years in a developed country seems a balance.
e.	Terms on which licence must be surrendered	The triggers for warnings and potential premature loss of licence must be spelled out. Breach of public service obligations are an obvious immediate trigger for intervention.	A process for termination should ensure smooth handover to a replacement operator, for example by ensuring the incumbent's code can be used for a first year by their replacements.

c) Potential downsides

The markets system described shares weaknesses with other public utilities, specifically:

- **Risk of failure**: A concession should ensure (a) costs of failure are borne by a winning consortium's shareholders with no underwriting of the project from taxpayers, and (b) the region is no worse off than before if launch of a new markets system fails. Rules of the concession might guarantee a win for taxpayers even if the platform proves unworkable, for example by compelling winners to fund upgrade of public agencies' IT systems that would make them compatible with an advanced market system before it launches. Another alternative' demanding a bond be paid against missed launch deadlines.
- **Control over vital infrastructure**: As with services such as household water supply, private companies would have management of a facility on which daily life depends. Language in the concession needs to foresee how this could be abused so that operators of the new markets are clear, there is no objection to their making financial returns on their investment, but power over economic activity is checked by safeguards including any user's ownership of their data and right to exit backed by operators' transparency of code, processes and finances allowing anyone to probe for weakness or ill intent at any time.
- **Crowding out of domestic startups**: Existing e-marketplaces will not want their users to have the choice of a comprehensive official online markets system. The plight of aggressive global economic intermediaries will probably not worry policymakers. But some jurisdictions have nurtured players in emerging industries such as fintech, digitized banks and financial service providers. A horizontal market will include these kinds of services. Capping the reach of a regional markets system, while ensuring anyone can incorporate it into their digital offerings strikes a balance between empowering workers and businesses with the full capabilities of digital markets and blanket protectionism.
- **Impact on prices?**: It is sometimes feared that empowering workers and sellers across the economic base will push up prices for consumers. In the context of market platforms, it should be remembered the take rates of vertical market operators - around 20-30% or more typically - are built into charges to buyers. These reflect the enormous customer acquisition costs operators must bear. A horizontal, officially backed, system does not have these costs. Modelling suggests a markup of [around 2%](#) on each transaction creates alluring returns.
- **Dilution of concession commitments**: Silicon Valley market platform companies have a track record of aggressive but subtle opposition to initiatives perceived as damaging to their business models. Faced with momentum towards an official markets system they may adopt tactics designed to undermine its launch such as advocating burdensome integration requirements. Policymakers need to remain alert to this kind of strategy.

d) How a horizontal system might evolve

A system of horizontal e-markets requires a suite of mechanisms for matching buyers to sellers and pricing offerings (catalogues, auctions, bid-ask, modules for dynamic pricing, etc.) It then needs supporting functionality (map displays, payment transfer, construction of delivery options, data presentation, dispute resolution, and so on). These building blocks can be used to power countless front-end sectors ranging from roadside car repairs or rental of stud animals to childcare and local deliveries. Its full usefulness can be permitted to develop over time.

On day one, the platform might consist simply of a directory of listings within classifications, akin to [Craigslist](#). Anyone can post an advert offering their labor, services, goods or finance. Any buyer can contact the advertiser and conclude a deal. Market operators generate no revenue on these interactions and will be incentivized to move sectors with a volume of posts to an end-to-end market that offers matching of sellers to a buyer's specific needs, offers default contracts for a transaction, takes payment - possibly holding it in escrow to ensure completion - and deducts its small markup as cash is released to the seller, worker or provider. As increasing numbers of sectors are formalized, transitioned from listings to full-service transactions, through one of the mechanisms above, they can begin interlocking and the kinds of tools explored in the Appendix below can begin to impact. This should accelerate a flywheel of take up.

An enabling concession should enshrine a commitment that all domestic public expenditure in the jurisdiction will flow into the economy through its horizontal markets system, unless better value is demonstrable elsewhere. This ensures some sectors will have immediate depth of demand; childcare, flexible laboring, office cleaning staff, medical personnel, street wardens, parks workers, and other categories where public agencies are substantial buyers. Existing workers and sellers in these sectors will likely adopt the new markets system as they would switch to any other scheduling platform chosen by the demand side of their market. If they wish, the markets will then seek additional earnings opportunities for each individual.

As publicly funded market activity takes off, operators will want to launch adjacent sectors that extend opportunity; offering an exchange for the hours of home babysitters in which any certified kindergarten assistant could sell if they want hours above the ones booked by their primary (public sector) employer for example. Likewise trained government parks workers may wish to moonlight as gardeners or members of landscape crews on building sites. And so on²².

The markets system should welcome interfacing from external platforms. So, as example, if a corporate employer realizes their irregularly scheduled staff are drifting towards opportunities in the public platform, the company might offer to buy the hours of its workforce through the wider market. They could connect their workforce scheduling tool into the market, knowing a subset of its workers have certified badging showing their relationship to the company. Those people can still be booked as needed at whatever rate the two parties agree. But the workers have multiple other choices and progression pathways. The corporate buyer has all the tools, low overheads and access to new pools of labor inherent in the horizontal markets, but they have lost the one-sided benefits of a monopsony market.

²² The markets are open to any legal buyer or seller at any time. But early critical mass will likely shape adoption.

APPENDIX: Functionality made Possible by a Horizontal Markets System

As online markets have proliferated, users have collectively acclimated to their convenience and immediacy, but also business models rooted in verticality, extraction, secrecy and one-sidedness. It is worth highlighting the extraordinary possibilities for functionality only viable when connected into thousands of sectors in a regulated system. A concession should be worded in anticipation of tools like those below and ways any user might entrust AI agents from a range of providers to further enhance the markets' functionality²³.

a) Nuanced availability of resources

The hours a blue-collar breadwinner can be available for work are his key economic asset, it's what employers pay for. Vertical platforms overwhelming reduce availability in their market to a binary. A delivery courier for example is just asked "*Are you available for work now: Yes/No?*". Some apps will intake a regular pattern ("*Are you available on Tuesday mornings: Y/N?*"), others simply broadcast out each booking allowing the first worker or seller to respond to take the opportunity.

In reality, most peoples' availability for work is complex. They may be broadly available on Tuesday mornings but need to start later next week because of an appointment. A period of notice for assignments may be needed so informal childcare can be brokered. There is a constant "*I can be available if it is worth my while*" factor. A person might not be available to do an hour's booking 20 miles from home for minimum wage, but *would* reconfigure her commitments on that day to fulfil need for an 8-hour shift, in walking distance, at a premium rate.

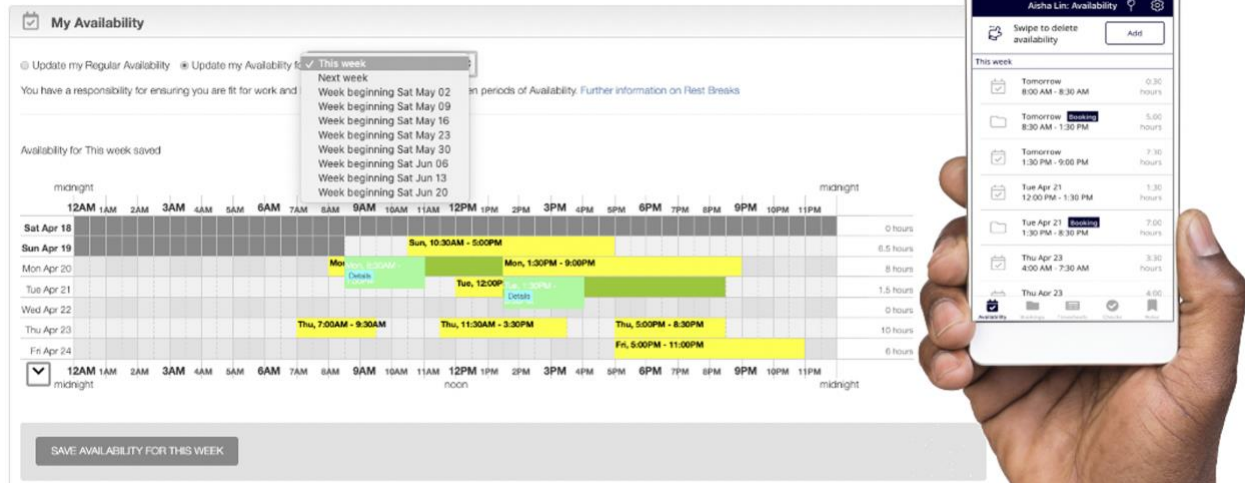
Availability can likewise be dependent on cross-sector factors. As a sample, imagine a truck driver married to a contact center agent. Each wants to maximize earnings by working when demand peaks, but childcare is a household constraint. Despite their unrelated sectors, they could set a family rule "*if one of us is working outside school hours, the other is to be automatically withdrawn from their market at those times*". Availability of resources for rental can also be dependent on multiple factors. A farmer may be willing to rent her tractor to others at the weekend, but not if it is unexpectedly sunny and a contractor's combine harvester becomes available; in that situation she will need it for baling straw.

A horizontal market exposes each hour a person or resource is available to every possible sector. Each hour has more economic value than it does if it can be assigned to only, for example, delivering pizzas. It is worth inputting availability and its determining parameters to best reflect the intersection of their willingness to work, rent or sell with the attributes of any opportunity for which they may be eligible.

For a work-seeker this can most intuitively be entered on a grid showing the 336 half-hours in any week. Those when the person would be willing to work are selected with perhaps a grid of regularly available periods in any week automatically populating the grid for each week.

Example inputs on the web or phone are shown below:

²³ Our research in this area is summarized in a white paper "[How AI can Decommodify and Upskill](#)".



Accompanying this, a screen intaking "My Terms" can ask for the user's rules on parameters of any work period such as How far I will travel (from home or other base location such as a transport hub)? How much notice do I need of an assignment? What is my minimum shift length? And so on. To maximize precision matching of availability to willingness to work, a user may want to set markups such as "I will travel up to 15 miles from home, but if the assignment is over 5 miles away I will only do it for an extra \$0.50 per mile added to each shift to compensate my travel costs and time".

With this very granular data on availability stored, a horizontal markets system can match any buyer's need to eligible sellers, then price each based on their personal rules. The stored data can be used to produce reports and analytics answering questions such as "*How many carpet fitters are available to work on Saturdays at my construction site in central Birmingham over the next 6 weeks? And what would they cost?*" Analysis of skills gaps, market misalignment and emerging business opportunities can be informed by hour-by-hour unfolding data as buyers and sellers respond to market signals.

In a forest of vertical markets, binary availability is the best that can be offered. Even if each siloed platform wanted to take in detailed parameters for availability, the inconvenience of toggling constantly between each system's record for users would make the data unlikely to be up to date. Thus, horizontal markets produce better matching, more meaningful activity data, and increase agency for workers.

b) De-commodification of workers/providers

Vertical markets that construct end-to-end transactions commoditize their workers or providers. Sell as an assembler of flatpack furniture on TaskRabbit and the market needs to know only that you will arrive punctually and put up a bookshelf adequately. Whether you speak Mandarin, are comfortable in a house full of dogs or will work outdoors if required may be important for the buyer who would pay extra for a worker with those characteristics. But it is a level of specialization TaskRabbit lacks the depth of work to justify asking.

In vertical markets, badging - applying a digital Yes/No marker to identify sellers with any given attribute - is siloed. Even if TaskRabbit were willing to certify each person's fluency in Mandarin, it wouldn't boost

prospects in Handy, whose buyers may also occasionally tolerate premium rates for a fellow speaker. Capturing the unique matrix of each person's capabilities carries minimal gain for a vertical market operator or their users.

Horizontal markets, making a return through a fixed percentage markup on each worker/seller's hourly income and covering the entire waterfront of earnings possibilities are incentivized to uncover the maximum value of each asset: human or inanimate. Badging, either directly by market operators or, more likely, by intermediaries charging a fee for verifying qualifications, could of course cover traditional certifications. But countless other personal characteristics can be monetized. As one example, Los Angeles County enjoys a thriving maritime economy comprising boats for tourists, commuters, ships-at-anchor, shuttles to drilling rigs and floating party venues. An "*I am comfortable working on a boat*" badge can open additional opportunities for hospitality certified workers, laborers, cleaners and administrative staff. Anyone across those sectors blessed with immunity to seasickness can earn from it.

Operators of a horizontal system would have every reason to construct a universally acceptable taxonomy to streamline creation, requesting and awarding of badges. Again, granular badging data can be aggregated, anonymized and reported, surfacing details of workforce and economic capacity that go unrecorded in vertical exchanges. This improved matching boosts income, productivity and alignment.

c) Stronger incentives for reliable behavior

All markets need to separate reliable and diligent sellers from the careless or lazy. Verticals overwhelming do this with subjective ratings, buyers are constantly entreated to rank their counterparty in each transaction. Research has shown how this outsourcing of HR processes can be gamed, leads to [injustices](#) and fosters [perverse behavior](#) of buyers and sellers.

Vertical markets can incentivize shoddy behavior, particularly in markets where the buyer is not present for delivery of a service. [On-demand laundry](#), as one example, floundered as people who washed others' clothes at home for pay realized they could do a bad job for their first clutch of customers in perhaps the [Washio platform](#), acquire a bad rating but just move on to another laundry market and repeat. Having cycled through ten or so markets, they could then repeat the formula in other sectors.

In a horizontal system, a seller's track record can meaningfully be objective and acquires cross-sector value that determines what buyers in deep markets will pay. It has real value, akin perhaps to a person's driving licence. We do not hold a clean driving licence because other drivers have written nice things about our style of motoring on a subset of roads. It reflects a lack of penalties, imposed by transparent accountable courts, for behavior endangering other users broadly. If we are awarded penalties, ultimately losing our licence, we cannot turn to another authority to get a new one so we can start over.

A concession initiating a horizontal markets system could allow interface into the nation's courts with judgements against any misuser entered and flagged on their system track record. (Any user can choose not to release their track record of course, but those with a good record would be likely to make that verified datapoint accessible to potential counterparties to attract lower prices or higher earnings.) Thus, building a record of conscientious buying or selling in a horizontal market carries significant, irreplaceable, value. This builds trust and dependability, both critical to widening economic activity.

To further enhance the rewards of solid trading, an individual or firm's record may be accessible to use as collateral for loans or other undertakings. Thus, a user may allow a lien to be put on their record of solid activity within the market so that if, as example, they fail to pay rent on a room, they will be downgraded in the market through the disputes mechanism. Using activity records to show desirability as a counterparty could replace credit scores, making reliable work or sales/rental activity, rather than consumption, a way of gauging financial solidity.

One possibility operators of a horizontal markets system may choose to exploit is banded ratings based on a seller's proportion of objectively successful transactions. So that a sample ladder of progression may look like this:

Market level	Requirement for reaching this level	Maximum number of transactions for which user can be found at fault within this level
	Minimum number of successful transactions	
ENTRY	0	0
1	3	1
2	10	2
3	25	3
4	50	4
5	100	5

This structure could be adapted to demand minimum numbers of counterparties to reach each level (to stop a single buyer, such as a doting parent, powering someone up the rankings with lots of bookings and indulgent standards) or factoring in transaction size to prevent someone reaching high levels with a record of successful small transactions then defaulting on one very large one for financial gain.

Policymakers should not see the design of a progression ladder through the markets as in their purview. Within their obligations for neutrality, capped transaction sizes and transparency, operators should be free to structure markets in whatever way they believe will maximize usage. Economically, trust in a range of counterparties broadens market activity, fostering opportunity and upward mobility.

d) Precision pricing

As with availability inputs, the broader and deeper a market, the more it justifies engagement with tools for pricing a person's time or any resource/service to reflect their appetite for risk, evaluation of transaction overheads, or desire to build a particular client/employer base.

Obvious parameters for pricing across a range of sectors include:

- **Counterparty reliability:** *"If a company has not published their track record or have and not reached at least level three for reliable transacting, I will only work for them for an extra 10% over my normal rates per hour".*
- **Travel costs:** *"If a work assignment is more than 3 miles from home, I want an extra \$1.20 per mile thereafter on each shift to compensate my transport costs and time".*

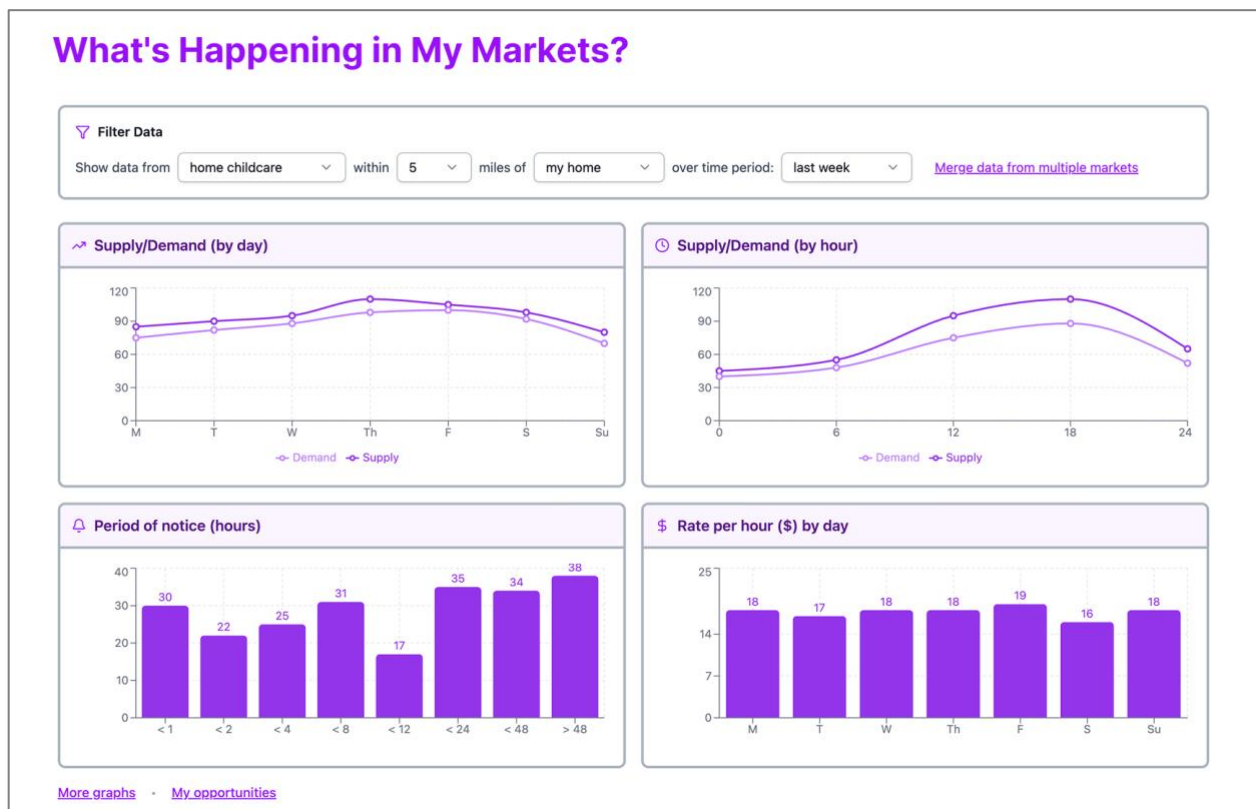
- **Counterparty attraction:** "My price for overnight stays in my spare room is 5% less for people who have badged themselves as vegetarian".

Vertical markets tend to enforce one set of pricing tools, a horizontal system can have multiple templates, including fixed rates set by a buyer and offered to sellers, overriding their personal rules. So, a homecare company may offer eligible workers a fixed \$18.50 an hour in return for perhaps a guarantee of at least 10 hours work a week, within each person's times of availability. It would be up to each person offered that package whether to accept it (see point g below).

Economically, the value of more precise setting of charges for labor, services or goods derives from improved alignment. If localized providers are cheaper there is less expenditure on, and consumption of, fuel. If people can define their own comfort zone for risk versus ability to set higher rates, they will likely trade more frequently and confidently. Allowing likeminded parties to find each other boosts bonds among market participants.

e) Comparative data

Operators of a regulated horizontal markets system should be forbidden to secrete activity data; once anonymized, records of market activity become a public resource. The value can be glimpsed for example in this basic screen in which a young woman who babysits is checking recent patterns of demand, supply and pay locally:



The "*Merge data from multiple markets*" link (top right) exponentially expands the usefulness of this data engine. If she also sells in interlinked markets, perhaps for bespoke cake making, house painting, furniture restoration, bar work and serving as a city street ambassador for tourists she can store that template and instantly see activity data for a personalized holistic universe of opportunity around her home or anywhere else in the country. She can rank sectors by their earnings potential, geographic proximity of assignments, periods of notice for work bookings, times of demand and other factors.

The most telling metric in a horizontal markets system is probably *utilization* (hours sold as a percentage of hours offered). This can be used to construct business cases for a worker abandoning one sector or acquiring further credentials in another. So, if utilization for hospitality workers in her travel area is running at 90% and that of painters at 30% with hourly pay 5% higher, she can precisely evaluate her case for investing in, perhaps, a food service certification alongside her permit to serve alcohol.

In disjointed markets such data, even if it were shared, has only marginal usefulness. Each silo has a fraction of buyers and sellers in any market. Data would not be like-for-like with other sectors.

f) Integrated financial markets

People and assets with granular, verifiable, track records within markets outputting a hose of hour-by-hour activity data, all within thousands of interoperable markets, creates profitable opportunities for anyone to lend, underwrite, hedge or invest. Because of the granularity, driven by a [revenue formula](#) in the enabling concession, operators will be incentivized to integrate micro-finance functions into the overall system. In these markets all basic finance functions can be unified into a standard module.

That module has been labelled a "unifund". Each instance, set up by any user if legal, comprises a deposit account, the user's rules on what the fund is able to do with the digital cash it holds and any charges to be levied for accessing the money. So, as a simple example, someone may deposit \$1,000 in a fund that will "*Lend up to \$50 for up to a week to anyone with market level three or above and willing to stake their trading record as collateral* (see point c above)." A pricing formula could be selected from the range available and numbers input. Anyone seeking to borrow then finds that fund among those filtered for eligibility and ranked on what a loan would cost that person at that time.

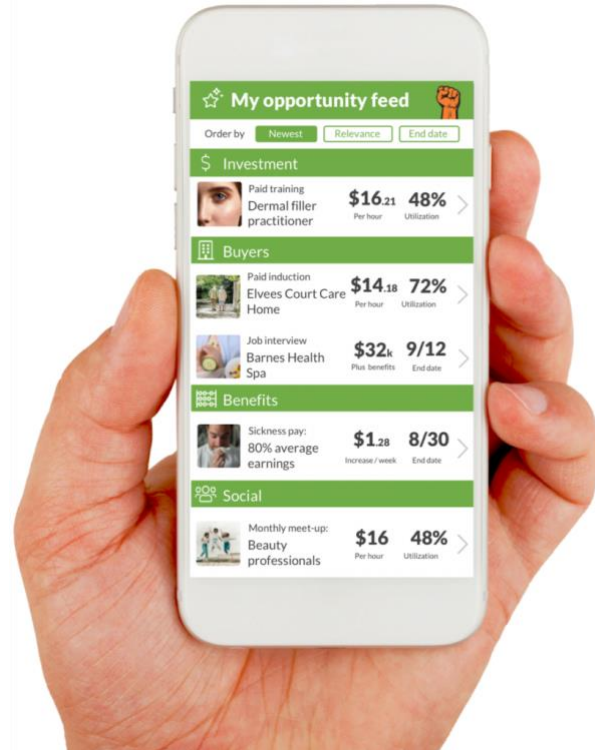
More sophisticated funds might be agentic, empowered to buy, sell or otherwise intervene in markets based on predetermined conditions set in their rules. There is a fuller explanation of how these funds might work in our [research paper](#) which uses a unifund set up by a market user to underwrite bicycle rentals on the platform as an example. Again, this kind of function has negligible utility among verticals.

g) Proactive, targeted, offers

Market data, multi-sector track records and granular financing mechanisms can collectively enable a daily Opportunity Feed for each worker or provider. Curated through each person's filters, it marshals offers of work, investment, job interviews, training or networking for which the user meets the criteria in each case. Users set their filters to determine parameters for offers they wish to see.

The illustration opposite imagines an aspiring nurse, currently trading as a beautician, care worker and other roles. Today's feed offers her:

- **Investment in development:** A cosmetics company have put \$50,000 into a fund and told it to identify qualified beauticians with strong reliability records and medical aspirations. The corporate will fund individualized training in how to administer cosmetic facial injections in customers' homes. Market data shows utilization for their agents is only 48%. ,
 - **Buyers of her time:** Any bona fide organization can use the markets system to nurture a pool of workers with specific combinations of geographic base, skills, reliability ranking, and aspirations. A local residential care facility maintains a pool of approved workers on the platform. Each worker in the pool has agreed to the facility's fixed pay rate and been inducted by their staff. This user is willing to add the care home to her portfolio of ongoing employers, she swipes right to schedule an induction session within the hours she makes herself available in the markets.
 - **Interview offers:** The third offer, an interview for a full-time job might trigger an instant swipe left to reject. It lacks the prefix "Paid". Given this person's track record, she may have discovered any serious employer trying to tempt her into full time will pay for her time at an interview.
- The feed also offers improved portable benefits based on her activities, sectors, reliability and age. Because fragmented working can be isolating, this user has set her filters to include offers to join peer groups. Today's instalment reveals a local beautician is organizing a get-together of fellow professionals to discuss opportunities. This user meets the criteria for an invite.



h) Chain transactions

Multi-sector markets invite buying of personalized bundles of linked goods, services, labor and finance. The way sites like Expedia will assemble a tailored package comprising a flight, hotel room and car rental from unrelated suppliers is a small foretaste of how a horizontal markets system could instantly pull together a a range of resouces, from its thousands of sectors, for one coherent purchase.

In this example, the manager of a small company wants to set up a reception for potential clients in another city. He starts by defining what he wants; a meeting room, audio visual equipment, a buffet, a receptionist to meet and greet, plus travel to and from the venue for himself and 5 of his team. He has a two-week window in which this two-hour event could usefully occur. He builds this list of components:

My Requirements

1 Room: meeting room [Refine](#)

Location: within 2 miles of
Central Birmingham

Capacity: 10 people

Date: between Sept 2 and Sept 16

Time: start between 9AM and 2PM

Duration: 2 hours

2 Display: Projector [Refine](#)

Location: Aligned with requirement (1)

Date: Aligned with requirement (1)

Time: Aligned with requirement (1)

Duration: Aligned with requirement (1)

3 Catering: Buffet [Refine](#)

Location: Aligned with requirement (1)

Capacity: Aligned with requirement (1)

Date: Aligned with requirement (1)

Time: Aligned with requirement (1)

Duration: Aligned with requirement (1)

4 Staff: Receptionist [Refine](#)

Location: Aligned with requirement (1)

Date: Aligned with requirement (1)

Time: Aligned with requirement (1)

Duration: Aligned with requirement (1)

5 Travel: 6 people [Refine](#)

From: Our office

To: Aligned with requirement (1)

Date: Aligned with requirement (1)

Time: arrive 2 hrs before start

6 Travel: 6 people [Refine](#)

From: Aligned with requirement (1)

To: Our office

Date: Aligned with requirement (1)

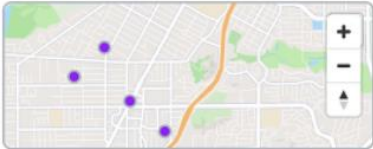
Time: depart 1 hour after end

[+ Add requirement](#) [NEXT](#)

The platform then prioritizes the six requirements, searches through the multiple market sectors and assembles an array of packages that meet the manager's need:

Select A Package

Order by lowest cost [refine requirements](#)



	Travel	Room	Courier	Display	Courier	Catering	Staff	Travel	
Sept. 12	edit \$23.90	edit \$96.32	edit \$8.90	edit \$13.90	edit \$9.20	edit \$32.90	edit \$38.90	edit \$35.20	BUY
Sept. 4	edit \$35.83	edit \$93.27	edit \$7.20	edit \$23.10	edit \$9.40	edit \$41.02	edit \$32.40	edit \$21.00	BUY
Sept. 6	edit \$17.65	edit \$90.14	edit WITH ROOM	edit \$33.32	edit WITH ROOM	edit \$64.90	edit \$36.90	edit \$21.36	BUY
Sept. 9	edit \$36.25	edit \$88.47	edit \$9.47	edit \$21.36	edit \$8.80	edit \$22.65	edit \$47.90	edit \$31.03	BUY
Incomplete packages									
Sept. 2	edit \$28.49	edit \$98.27	edit \$9.90	edit \$31.60	edit \$9.90		edit \$53.90	edit \$21.56	BUY

Crucially, each provider forming a link in each offered chain is selling in an open market, on their own terms, with times of availability and parameters for accepting bookings of their choosing. They are competing with others, informed by localized, detailed, data. Any cell on the table above can be clicked to open for more information on each provider and their offer, but operators of the markets have every incentive to set some standard classifications so that, for example, a buffet for 10 people has a templated minimum list of sandwiches, beverages and fruit. Buyers or sellers can step outside these preset offers of course, but if either is in a hurry they may just trust operators' neutral judgements.

Markets for finance within the platform could seamlessly underwrite any package, replacing any link that fails to materialize on the day for example. Options with a padlock symbol next to the date identify these chains with the underwriting, from equally open markets (see point f above). It is all priced in²⁴.

Other examples of this functionality include chains of the diverse resources required for house moves, harvesting on a farm, funerals, shopfitting, surgery, building renovations, tailored vacations and countless other multi-resource purchases. Horizontalness fosters increased options and spending.

i) "Holders": Community staging points

Horizontal markets encourage rental of assets, but many owners will not want the inconvenience of checking their items in and out. Horizontal markets incentivize intermediaries, we call "Holders"; households which undertake to have at least one person at home at any time. They function as a full-service alternative to rigid facilities such as Amazon Lockers; receiving packages for neighbors, overseeing rentals of others' possessions, possibly retailing goods bought in bulk.

Thus, someone with a rarely used ballgown, electric drill, foot spa or gaming console may choose to monetize it through the markets system. A local holder can be seamlessly included in market entry, storing the item and checking it out and back for each period of rent within the owner's terms. The markets can seamlessly build a holder's personal charges and bonding for their services into each rental.

This sector, barely viable in a shifting sand of marketplaces, illustrates how horizontal markets create niches, in this case for families with housebound members. Their need to stay at home all day can become an economic asset in a market where people with more out-of-home lives can't compete.

i) Single Item Records

Any specific physical asset can usefully have its own page recording transactions across an array of market sectors. These Single Item Records (SIR's) capture ownership, upgrades, maintenance, and maximize monetization of the asset by its current owner. It, again, boosts trade and generates data.

An example below records investment in, and exploitation of, an individual domestic robotic vacuum:

²⁴ Underwriting in a chain covers replacement of a link that fails. If, as example, the projector does not appear as scheduled at a meeting room, the system would have funding to marshal a replacement, possibly costing more.

Single Item Record

Aurexia Cleaner V6-A

Barcoded item number: 23456 78901
Barcode is embedded in the cleaner's underside

[Specifications](#) | [Owners' Manual](#) | [Recycling](#)

Current Status: Offered for Sale



Current Values (based on model, age, usage and location)

 **Resale**

\$195 ↗ 9%

[View graph](#)

 **Rental (per hour)**

\$2.12 ↘ 2%

[View graph](#)

 **Components value**

\$41.30 ↗ 1%

[View graph](#)



[Update photo](#)

Activity Record

Transaction No.	Event	Date	User or counterparty	Notes
134267	RELEASED	Jan. 21	Aurexia Importers Inc.	From batch 62778g-a1
135501	INSPECTED	Feb. 10	Consumer Protection Bureau	Random inspection
136735	PURCHASED	Mar. 18	You	
137969	INSURED	Mar. 19	Appliance Rental Fund	
139203	OFFERED: SHORT-TERM	Mar. 19	You	
140437	RENTED	Mar. 25	Mundus Cleaning Inc.	
141671	RENTED	Apr. 10	Private user	G13

The SIR (Single Item Record) constantly calculates the economic value of this specific item drawing on multiple sectors for its data. The activity record for this one cleaner shows it entered the country as part of a bigger batch, to which the importers have publicly linked the SIR. (This helped them with compliance, certification and customer confidence.) It was then selected for random inspection by the country's standards agency before the current owner bought it.

From that point on the owner has rented the cleaner through the markets system. For each transaction in its history, the user - and anyone she permits - can click to see details with the level of information revealed dependant on privacy settings of the parties involved in that interaction. An SIR can be turned off by the owner - so the system stops capturing activity - but that would minimize the item's value.

i) Economic value of SIRs

Having an online page that - verifiably - captures economic interactions around an asset helps with its exploitation, regulatory compliance, taxation and proof of ownership. Aggregated SIR data can unlock further value from household or business items. Specific benefits include:

- **Use in a lien:** Someone wanting to take out a loan could digitally transfer the UIR for an item they own to the lender who can legally prove ownership if the funds are not repaid.
- **Proof-of-sourcing:** Customers can be reluctant to pay premium pricing for resources produced sustainably or within heightened animal welfare guidelines. An SIR for each carcass or pallet of packaged products can be visible via a QR code on consumer packaging. It will link to the asset's lifecycle of production, inspection, wholesaling, transport and breaking for consumer sale.

- **Aggregated data**: Trends in resale value, rental utilization, lifespan and recycling can be compiled from granular item-by-item data. This helps monetization and resource efficiency.
- **Accounting**: Amortization or taxation of assets can become more precise as an SIR captures the upkeep and economic value of any resource.
- **Anti-fraud**: An SIR tracks legitimate changes of ownership. It can make life hard for thieves trying to sell, as example, a bicycle or someone seeking to insure the same item twice in preparation for a faked loss. A counterparty in any transaction through a horizontal markets system might demand they see the SIR of whatever resource they are purchasing/ renting, or the markets could automate this checking of entitlement to enter a transaction.
- **Insurance**: Coverage of any item for any planned activity (rental, transport, storage) can be predicated on accurate assessment of its current value, not averages.
- **Compliance**: Tracking is legally mandated for some assets. An SIR can, as one example, act as the automated livestock record of any animal from birth to plates. Along the way it can capture veterinarian treatments, transport, kill time and place, butchery, wholesaling and division for consumer packaging. Owners must control their SIR's and may choose to not release them, but the markets system can ensure entries can't be faked.
- **Customer relations**: A manufacturer or importer can see aggregated data on their products' downstream lives.

SIRs are not viable in splintered markets, they would require too much manual inputting, easily faked at each step. With vertical markets lacking efficiency, much activity remains offline. Operators have shown consistent resistance to release of their data. It is hard to see a viable business model for providing SIR's that would have to span countless standalone markets to add value to item owners.

ii) Categories of SIR

Any resource that can be robustly identified separately from potentially identical counterparts can have a SIR. Government agencies might chose to cooperate with desire for SIR's, ensuring - as one example - a land registry issues SIR's for small patches of ground where an owner may want to record economic inputs and outputs from their asset. Buildings too could have a SIR with any purchase of the premises, landscaping, plumbing, maintenance or inspections recorded to reassure future buyers.

The page in each case can have an image of the object but - particularly for mass-produced goods - it needs to link to some unique identifier for this one thing. There are 5 obvious methods for this linkage:

	Linkage achieved by	Uniqueness proved by	Examples of items likely to be linked this way
1.	Barcode	One-off barcode embedded in each item such that its substitution would be obvious	Clothes, barrels, consumer goods, industrial tools, bags of building materials
2.	Microchip	A chip inserted into an asset, again with any switch apparent	Farm animals, bales of industrial waste for reprocessing, tuna carcasses

3.	Etched code	A string of characters chiseled into a core part of an object	Wheelchairs, bicycles, lawnmowers, gearboxes, hair dryers, vehicles, office furniture
4.	Geographic co-ordinates	Latitude and longitude bearings of an immovable resource	Patches of land, buildings, monuments, road signs, power gantries, trees
5.	Attestation	An affidavit sworn by a first owner and embedded in the SIR	Artworks, antiques, vintage garments, rare documents, fragile perishables (eg cut flowers or a bespoke cake), animals that can't be microchipped

A further possibility is that SIR's can be created for an asset that doesn't yet exist, for example an item that has not yet been manufactured. These would introduce an additional element of risk into UIR's but allow positive financial engineering as when a group of farmers buy a batch of fertilizer that will be made next year to hedge against price rises.

iii) Events recorded in a SIR

Economic activity around any resource can be categorized with a standard set of market interactions, they include:

	Event	Notes
1.	RELEASED	The item has been put on the market for a first time by its manufacturer, importer or dealer.
2.	PURCHASED	Ownership of the item has been transferred through a sale.
3.	GIFTED	Ownership has transferred through the original owner gifting it to a new owner at no charge.
4.	TRANSITED	The item was moved from A to B using the system's market for deliveries or a supply chain linked into the markets system.
5.	RENTED	The item was made available to someone other than the owner in return for payment for a fixed period.
6.	LOANED	The item was made available to someone other than the owner without charge.
7.	REPAIRED	A repair was carried out on the item through an integrated market for repairers.
8.	MAINTAINED	Routine checks were performed on the item.
9.	ENHANCED	An upgrade to the item was effected, for example a new roof added to an agricultural barn.
10.	DEGRADED	Item has had components removed, been aesthetically downgraded or in some way been intentionally reduced in value (to drop insurance costs perhaps).
11.	OFFERED: TRANSFER	The item has been offered for sale or donation in a marketplace.
12.	OFFERED: SHORT-TERM	The item has been made available for rent or loan through a marketplace.
13.	INSURED	The item has been granted coverage through an integrated market for insurance.

14.	COLLATERALIZED	The item's owner has taken out a loan or other financing with the item's UIR frozen as collateral.
15.	CLAIMED	Ownership of the item has been passed to another party through a process other than sale or gifting (surrender of collateral for example).
16.	STORED	The owner, or someone else, has booked storage for the item.
17.	SPLIT	The original item has been divided into smaller units for further transactions. (A pallet of computer monitors divided for retail sale as example.)
18.	MERGED	The item has been joined with another to create a new entity, possibly with its own UIR (an adjoining patch of land bought by a smallholder for example).
19.	RECYCLED	The entire item has been recycled.
20.	STOLEN	A crime report has been filed alleging unauthorized taking of the item.
21.	RETURNED	The item has been restored to its owner after storage or seizure (legal or illegal).
22.	INSPECTED	The item has been assessed and passed by someone selling their services in an integrated market for legally compliant inspectors of any given resource. Examples include Kosher or Halal food production methods applied to a carcass for butchering or legally mandated checks.
23.	PROCESSED	Something has been done to the asset irrevocably changing its state, for example a farm animal being killed or a bale of packaging material being used in an industrial process.
24.	BLENDED	The resource has been turned from one state to another, for example a batch of cement turned into concrete by the addition of other ingredients that may also have UIRs to be linked.
25.	PLEDGED	The item is being used as collateral and cannot be sold or possibly rented.
26.	DISPUTED	Ownership of this item is the subject of court proceedings. This could include a repossession order.
27.	RECALLED	The manufacturer, importer or a government agency has issued a recall notice on a batch of any product that includes this item.
28.	AWAITING DESTRUCTION	The resource has been taken off the market pending its destruction.
29.	EXPIRED	The resource no longer exists because it has been fully used, for example a pallet of food for which A sell by date has passed.
30.	DESTROYED	Destruction of the item has been carried out by a party selling that service through the markets, for example a gun buyback program.

j) Non-revenue services

Once market operators have set up tools to confirm identity, check certifications, intake user preferences and track activity, there is a range of public services they could provide that add social value and cost little. This is rarely the case with the shallow functionality and user profile of verticals.

Assuming a public utility ethos around the markets system, provision of a range of non-revenue services could be mandated in the concession. This would mirror the way, for example, telecom licences typically

compel carriers to allow 911 or 999 calls without charge or some broadcast licences demand religious or educational programs free of income-generating adverts.

Facilities that might be stipulated include:

- **Voting**: The platform could take in and verify a user's selection in any election, validating the person's right to participate but with - inspectable - software ensuring the individual's selection could not be changed or revealed.
- **Volunteering**: Offering of time for unpaid activity under each person's control is simply a version of matching to work periods with payment functions disabled. Volunteering could be made secondary to work according to a user's parameters *"I am available for work this afternoon, if I don't get a paid assignment by 1PM release those hours to charities on my approved list"*. Volunteering could of course boost a person's track record of reliability and range of activities.
- **Freecycling**: A comprehensive tool enabling donation of items requires only the markets' functions for selling any item with price display hidden.
- **Social matching**: As in the bottom-of-screen example shown in point g above, a system that knows multiple parameters about each user and allows each to exploit that data as they wish, could as a by-product of its main markets allow one user to set parameters for others they would like to contact. Offers to connect could thus be targeted by profession, geography, market levels or other attributes. It fosters social cohesion in a world of fragmented earnings.
- **Community services**: Anyone willing to act as a catalyst, organizing walk-to-school convoys, coffee mornings for isolated seniors, public space clean-ups, youth sports events or other local functions should be able to draw on the platform's ID checking, vetting, targeted messaging, admin. and accountability tools however they wish.
- **Official interactions**: Changes of address, licence applications, updated circumstances and other records could be handled within the markets system which will be able to verify identities and activity. Tax calculation and deduction, transfer stimulus payments, and other functions as a citizen could be available, if a user wished, as an integral part of their earnings platform.