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Economic viewpoints

THE CASE FOR A COMMUNITY TRANSACTION ENGINE: GETTING COASE FOR THE TWENTY-FIRST CENTURY

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New types of marketplace are now becoming viable. They can slash transaction costs, bring new resources into the economy and expand economic opportunity. These markets can be grown by the private sector. But, to deliver their full potential, they need a change in the mindset of government.

Keywords: Coase, transaction costs, private sector, marketplaces.

Ronald Coase famously identified that transaction costs create firms. When the ancillary costs of making a purchase reach a certain percentage of the price paid for regularly used goods or services it becomes cheaper for an organisation to grow and provide those facilities internally. Transaction costs can also create the justification for governmental activity. For example, local authorities have traditionally provided homecare through block contracts with suppliers rather than dispersing the funds to individuals so each can make their own personal arrangements.

This short article argues that external transaction costs could now be lowered dramatically using marketplace technologies that are just becoming viable. Doing so would bring countless micro-sellers into hundreds of market sectors where they would compete on a level playing field with firms and government. Key to achieving this is a new kind of marketplace coupled with the public policy that allows it to flourish.

Uneconomic cycles

As an example of this model for reducing transaction costs we will focus on the market for short-term bicycle hire in London. A barely existent market, based on *ad hoc* offerings from cycle shops around the British capital, was supplanted in July 2010 by a government institution[1]. The London Cycle Hire scheme could cost taxpayers over £100 million, eased by £25 million in sponsorship from Barclays Bank. After 2.5 years of planning[2], 6,000 bikes are being built and distributed between 400 docking stations in the city's central zone[3]. Users pay an access fee, then hourly rates. The bikes are uniform; built for endurance rather than cycling pleasure and geared for the least able riders.

Let's assume large-scale, short-term, cycle hire should be a priority in a congested city. And let's concede that the lack of convenient, consistent, widespread bike hire availability constitutes a market failure. But, before deciding a government-funded, centrally planned, scheme is the best solution, we should explore the role of transaction costs in this potential market. The resources required for the putative market, bikes that are not in use at any given time, already exist all over London. It is transaction costs that keep them out of play. To illustrate this: imagine you are a Londoner with a bicycle you don't need this afternoon; you would like to rent it out for a few pounds. The transaction costs you face include:

- *Search and information costs*: How do you find a forum in which your cycle can be displayed to buyers? Listing on websites such as Craigslist, Gumtree or Kijiji is an obvious starting point; but the big sites are not noted for bike hire listings. There are of course specialist sites such as byke.mobi; some are specific to London, others aim to cover the world. Finding an active exchange with a pool of genuine buyers in your current part of the city could take hours: a Google search for 'London UK "bike hire" ' returns 24,900 relevant websites. Diversity of

marketplaces on the internet is welcome in abstract; but the dissipation of buyers and sellers among so many forums adds immeasurably to search and information costs for anyone actually attempting to trade.

- *Bargaining costs*: Even if a suitable marketplace were found and a buyer identified, you would have to negotiate charges, deposit and the transfer of payment.
- *Policing and enforcement costs*: How do you know the hirer will care for and return your machine? How does he know you will provide the cycle as stated? The website you alight on may have some sort of feedback mechanism. But there are so many other bike hire websites and creating a new account at any of them is so easy, it's of little consequence for a user to incur negative comments. The individual can simply change their on-screen identity or move on to the next marketplace.

Every day, there are hundreds of thousands of bicycles in London which aren't being used. Many will have owners who would consider trading their asset but can't because transaction costs are prohibitive. So, instead of a vibrant, evolving, market in which individuals all over the city supply all sorts of cycles on their own terms, Londoners keen to pedal must settle for the cumbersome government-run machines currently limited to the central zone until planners decide to expand the service.

A perfect market

Hypothetically, what would a perfect marketplace in which anyone could rent their bike for short periods look like? It would need to be well known, instantly identifiable, somehow standing apart from hundreds of other bike hire marketplaces on the internet as a no-thought-required first port of call for someone with a bit of bike downtime. Once inside the marketplace, users would find transaction costs on these small bookings had been pared to a minimum. There would be a deep pool of buyers and sellers to constantly drive choice and competition. Anyone looking to rent a cycle would need to be able to make an assured booking in less than a minute. For sellers, market entry should be equally effortless. The identity of counterparties would always be clear with reassuringly serious sanctions applied to dishonest users. Transfer of funds would be electronic, seamless and verified.

If this hypothetical market is to be financially viable it would have to be internet based. How might it display options to someone in the suburbs who has entered a place and times they want to rent a bike this afternoon? Imagine an expandable map centred on the viewer's location. Flags have been superimposed on the display. Each represents a bike for hire for the times the user requires. The machines might be owned by bike shops or individuals. Each is priced for this specific transaction. Depending on the seller's preferences, the pricing might factor in: the length of hire, period of notice and – crucially – this buyer's track record of successfully completed bike hires in this marketplace.

Once the buyer has selected the machine for which she is willing to pay, she clicks on that flag. The bike owner – who has specifically said they are contactable with the bike available this afternoon – is sent a text message with details of the transaction. Meanwhile, the system deducts the appropriate sum from the buyer's account. It will be held in escrow until 24 hours after the hire ends. If neither side marks the transaction as having caused a problem, the money will then be released to the owner's account minus the fractional charge deducted to fund the marketplace. With these clicks, the hirer is given details of where to pick up her bike from its owner.

Chain transactions

A truly useful marketplace would extend beyond cycle hire to offer multiple supporting forums. For example, it could include a market for cycle deliveries. Anyone could offer their services to ferry bikes around their neighbourhood on whatever terms they wished. That would mean the buyer could have the bike she wishes to hire delivered to her at the time required. In a typical transaction, the system may have identified cycles that were available, and had contactable owners, in the area surrounding the buyer. It would then have priced each offering by applying the seller's personal rules to this buyer and this transaction. After that it could use data on the buyer's pick-up point and each bike's location to find the cheapest available local deliverer who had attained a track record of honesty acceptable to both buyer and seller. The process is reversed for return of the bike. The deliverer's charges for the relevant mileage could be built into the overall cost displayed to the buyer.

Other supporting marketplaces would help to increase market usage. The example described so far pre-supposes multiple bike owners available at home waiting for a booking. In reality many people would want to realise the value of their asset while out doing other things. So, there could be an interlocking market for 'holders'; householders, or owners of commercial premises, who choose to sign in neighbours' cycles then sign them out to hirers through the marketplace. Again, their charges could be seamlessly built into the cost of hire. The system disperses fees appropriately after each transaction.

A rational market

Unlike listings websites, the marketplace being discussed here can capture the full parameters of each transaction. Rather than transposing classified adverts to a website and leaving users to conclude purchases in e-mails or phone calls, this marketplace manages transactions through to completion. That gives it a deep pool of data which could be made to work for users.

For example, someone looking to increase their economic activity and pondering whether to rent out their bike might call up a screen allowing them to input a query such as: '*Show data from the cycle hire market within 5 miles of my home postcode over the last 6 weeks*.' They would instantly see graphs of hour-by-hour patterns of demand, supply and pricing. Other graphs might display breakdowns on periods-of-notice for bookings, length of bookings and geographic clusters of demand or supply.

This output would allow individual sellers to constantly re-align with buyers' demands. They could price intelligently and may even want to structure their own use of a bike around times when it would command less value in the hire market. They may choose to explore their likely income in supporting markets; branching into cycle delivery, for example, or holding bikes on behalf of other people. Particularly, entrepreneurial users may choose to purchase perhaps 20 bikes specifically for release into the market. These machines could be constantly in use, moving from holder to holder as buyers choose their drop-off points within a geographic zone defined by the owner. If entry costs were minimal, the market should constantly find equilibrium between supply and demand.

This imaginary marketplace would compare favourably with the government bike scheme for which so much of the transaction cost has been borne by taxpayers. The marketplace would allow anybody to build a track record of reliability as a buyer or seller or both. The value of that record is a key factor in lowering transaction costs. A user who has worked their way up to a high ranking can charge more and may choose to be selective in the buyers they will service, mandating their bike(s) are only to be displayed to equally reliable buyers for example. In a thick, very low overhead market both buyers and sellers have much to lose by imperilling a good record. Alternative marketplaces or starting again with a new identity are likely to offer far less opportunity.

eBay, the global website for trading collectables, is often cited as an example of how a dominant e-market can drive good behaviour thereby cutting transaction costs. Because eBay is the one-stop-shop for so many goods, a track record of trustworthy behaviour has value. Less often cited is the one-off nature of eBay's dominance. The site emerged in 1994 and caught other players unawares as its trajectory conclusively demonstrated that e-markets could unlock new resources and were capable of enormous profitability once a winner-takes-all scenario had emerged. Since 1994 there have been countless attempts to launch 'the eBay of . . .'. These websites have focused on particular sectors or geographies. Many have attracted substantial investment. None have achieved the enduring breakthrough of their pathfinder outside of a few tight niches. Established firms and entrepreneurs have woken up to the extraordinary potential of online marketplaces. After eBay's off-the-graph returns became clear, no one player is likely to ever catch the others sleeping again. Marketplaces for services, rather than sale of goods, have particular problems that can further deter investment. They are more technologically demanding, significantly harder to launch because of the localised nature of trades and operate in much more regulated sectors. Tellingly, eBay has not initiated a services marketplace beyond displaying a few categories within their main system.

Our hypothetical bike hire marketplace is going to have to crack this problem and find some distinctive way of standing apart from the herd without incurring unrealistic marketing or development costs. If it can do this, it would of course be instantly scaleable. The government bike scheme has probably killed short-term private sector bike hire in London for the foreseeable future. The same deadening effect is likely to be felt elsewhere. Which firm would invest in the infrastructure for urban bike hire given the trumpeted success of the government scheme in London and the likelihood of other councils creating their own market-killing schemes?[4] So, hopeful cyclists in, say, Manchester, Liverpool or other parts of the UK, will probably have to wait for their local authorities to find the funds to replicate London's clunky, costly and uniform bicycles. By contrast, a properly constructed marketplace could expand nationally as soon as enterprising Mancunians or Liverpudlians woke up to the demand that was being demonstrated anywhere else in the UK. The marketplace system simply reads the postcodes of buyers and sellers and matches accordingly. It will launch anywhere that locals want to start trading.

A community transaction engine

Cycle hire is one example of a market where private resources, and therefore economic opportunity, are currently stifled by transaction costs. There are hundreds of others. Broadly they cover what can be termed 'community transactions': localised hire of people or their possessions for relatively short periods of time. Other sectors include: babysitting, very small-scale cash loans, odd hours of work for local employers, home hairdressing, overnight stays in private homes, housecleaning, hire of toys or sporting equipment, tuition, localised services for tourists and so on.

Multiple websites are attempting to make these sectors more efficient.[5] They have widely varying business models, standards of probity, categories of services offered, geographical focus, likely longevity and degrees of market liquidity. The sheer number of these marketplaces is a huge transaction cost: consider, for example, the time taken to find the best babysitting market for your particular needs among the 62,000 sites claiming relevance for Londoners seeking short-term childcare. No one of these sites can deliver the commanding liquidity, authority and universal awareness that allows it to lower total transaction costs to the floor of which e-markets technology is capable. Anything one of these markets can do to increase its usefulness can instantly be emulated by the others. Out-advertising other marketplaces as a route to lasting dominance? Budgets for promotion of a particular marketplace must be recouped in user charges. This allows rival markets to undercut the high-profile player while benefiting from the awareness raised. Technology, users and investment in consumer e-marketplaces are so fluid there is minimal opportunity to break out of the pack.

There are features that could durably lower transaction costs in these low level e-markets. But they involve publicly owned facilities and are currently either not yet in existence or not engaged with the technology. For example: relevant public spending, currently dissipated across multiple channels, could be routed towards individual workers through a system of markets for childcare, cleaning and multiple other services delivered by local people. That enduring liquidity could be a catalyst that attracts snowballing sellers and buyers to a particular system of interlocking markets. Publicly owned mechanisms for verifying individuals, resolving disputes, interacting with official bodies and promoting opportunities to the public could likewise underpin a particular market system. This is the thinking behind the concept of 'National E-Markets' (NEMs).

The NEMs concept, developed at the Demos think tank in the 1990s, is explained most recently in a paper published in 2010 by the Joseph Rowntree Foundation, *Could Online Marketplaces Tackle Poverty?*[6] (the paper was written by the present author). It envisages a system of interlocking e-markets specifically for low-value transactions that is conceived as a public utility. Although funded, designed and run by private sector operators, these markets would draw on a package of publicly owned facilities that lower transaction costs in these highly complex and currently inefficient markets.

Transaction costs and public policy

NEMs require that policy-makers understand the importance of lowering transaction costs and see the facilities they command as having new relevance in the digital age. A means to release the facilities to the private sector must be found. This is analogous to previous technology developments that made other aspects of the public realm suddenly valuable. The invention of aircraft created an imperative for regulated airspace so the skies could be safely opened to multiple airlines. Broadcasting made parts of the electromagnetic spectrum commercially desirable, but required some enforceable, perpetual, means of allocating the spectrum among competing stations. More recently, the advent of mobile phones called for policy-makers to legally apportion newly valuable airwaves so each operator had a secure foundation for their services.

Policy-makers could simply sell access to the publicly owned mechanisms that would slash transaction costs. More intelligently, they could transparently focus on ensuring the cheapest overheads and highest levels of safety in the intended marketplaces. While multiple bodies would be free to launch part of NEMs, they may have to adhere to light-touch regulations to ensure competition, low usage costs, universal service and protection for the taxpayer. A system of interlocking NEMs should cost the taxpayer nothing but could cut transaction costs for millions of citizens who wish to trade their assets on a small scale. These new markets would be available equally to any citizen or legal organisation in the country as one more choice among thousands of evolving online marketplaces.

Must government do anything? Yes, officialdom is the gatekeeper to a range of facilities and an accompanying legal framework that could add a new level of usefulness to the emerging technology of advanced e-markets. No private sector player can unlock these features. Could a range of firms get together and emulate the facilities? Possibly, but it would be at extortionate cost and any results would lack the official status and existing data of well-established mechanisms.

We are in a new era of marketplaces. Governments' first response to issues like economic exclusion, public service inefficiencies, transformation of social care, tackling worklessness and national competitiveness should now be to ask 'do we have the most efficient marketplaces possible within our economy?' Only when the answer is yes should government intervention in any area be considered. It is probably better that politicians release publicly held facilities to allow creation of one more type of modern marketplace than they shape entire sectors to overcome transaction costs.

1. See http://www.tfl.gov.uk/roadusers/cycling/14808.aspx.
2. The scheme was announced in February 2008: http://www.independent.co.uk/news/uk/home-news/livingstone-plan-for-streetcorner-cycle-hire-stands-781025.html.
3. See http://www.guardian.co.uk/money/2010/jul/24/london-bike-rental-revolution.
4. See http://www.24dash.com/news/local_government/2010-08-25-Boris-Johnson-hails-success-of-London-Cycle-Hire-scheme.
5. These services are most established in the USA. They include www.snapgoods.com, www.sharesomesugar.com, www.neighborgoods.com and www.airbnb.com.
6. The paper can be downloaded from http://www.jrf.org.uk/publications/online-marketplaces-poverty.

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