Iain Murray's remarks as delivered at the Kohelet Policy Forum in Jerusalem, Israel, April 19, 2016

Good evening. My colleagues and I have heard a lot over the past couple of days about the start up nation. So trying to give insights on entrepreneurship to the start up nation is a bit like taking coals to Newcastle. However, as I come form Newcastle, I think I'm entitled to do so.

What I'd like to do this evening is talk a bit about a couple of free market economic concepts behind the sharing economy, before going on to illustrate how these concepts apply in practice, and finish with a warning about how laws from a different era are being used to crack down on sharing economy firms in the USA.

I live about thirty miles south of Washington DC. Because of the ludicrous traffic I get a bus in to work so I can work on the bus. American buses only run during peak commuter times, so if I have to work late, I used to be stuck with getting a taxi home. Including tip, this would normally cost over $100, so I didn't do it very often. Then Uber launched in DC, and I could get a black limo home, riding in style for $20 less than the grimy cab would cost me. Today, with UberX, where ordinary people share their cars with people who need rides, I can get home for $40 on average. Unfortunately, this means my boss asks me to work late more often now, so it's not all good news.

What's happening here? It's all about an economic concept called transaction costs.

In his 1937 essay, The Nature of the Firm, Nobel laureate economist Ronald Coase noted that firms only exist because of the costs associated with market transactions. Whereas the natural

arrangement for any transaction is to use the market, costs in finding a party willing to provide the goods or service may prove prohibitive. Therefore the transaction may not take place, or, as Coase observed, a party might hire a servant or employee to do the work directly instead. The market inefficiencies of transaction costs therefore dictated the existence of firms rather than individuals trading with each other on the basis of their differing skill sets (which Adam Smith called "the system of natural liberty.") For simplicity's sake we will call the costs of using market transactions "transaction costs" and the costs of employing people "organizing costs."

Transaction costs come in many forms. If I want to find a carpenter to make a table leg, I will need to research the local market of carpenters, find one, research her enough to make sure that she is reputable, negotiate a price with her, arrange a suitable timeframe for delivery, arrange for delivery, arrange for payment, and (potentially) incur legal costs if the job isn't up to snuff or the job is never done at all. That's a lot of considerations that go into one transaction. Each of them represents a cost, and the carpenter has to go through a similar set of considerations on her end of the transaction. If the table leg wasn't important enough to you, you'd let you table continue to wobble. If you needed to mend a bunch of different table legs repeatedly, you might take the organizing costs and hire the carpenter full-time.

So, using the example I started with, many people would think that Uber is a taxi firm with lower organizing costs. It is not. Uber does not employ people. What Uber does through its app is three changes in transaction costs. First, it creates a marketplace. It brings you, the person who wants a ride, together with the person who can provide one. Transaction costs are lowered on both sides. You don't have to waste time standing on a street corner in the rain to hail a cab, and the driver is

directed to you by the app rather than driving around looking for people with their arm out. You also both have a measure of the other person's reliability in the rating system Uber uses, and neither of you have to worry about payment, as the app takes care of that. It's no wonder that taxi firms, which still have high organizing and higher transaction costs, are losing out.

Now, there are much wider implications for the economy if transaction costs can be lowered like this.

We in the west live in an economy whose market structure has been largely unchanged since the end of the industrial revolution, which significantly advantaged organizing costs over transaction costs. The result was the creation of large corporations. During the progressive era those corporations came under assault as exploitative of workers and consumers. The result was regulation (labor and antitrust regulation being two prominent examples) that increased organizing costs.

In response to this regulation, companies developed new organizing models. In certain cases, they found that transaction costs were lower than organizing costs. For example, many firms realized that having full-time cleaners on staff was wasteful. Others found that high turnover in reception staff meant that the costs of constantly hiring employees for the position were too high. The growth of contracting out such positions was a new business model where the transaction costs of contracting out were lower than the organizing costs. Similarly, franchising grew up as a hybrid method of sending certain costs to the franchisee as a separate business while retaining control over franchise-wide costs such as branding.

What we are now seeing develop in the economy potentially represents a much more radical change. New technologies are allowing for significant reductions in transaction costs. For example:

- First, new platforms create new two-sided markets where none existed before. The obvious example is Uber, but AirBnB does a similar job for unused capital in the room hire business, turning that spare room into an income stream, and apps like Handy put cleaners and handymen in touch with people where previously they advanced their business largely by word of mouth.
- Secondly, feedback mechanisms lower a big element of transaction costs – the cost of trust or "opportunism." As we have mentioned, assuring oneself that a supplier of a good or service is reputable is a cost in itself, as is the potential for legal action for unsatisfactory service. The development of crowdsourcing allows for feedback mechanisms that aggregate other people's experiences with the supplier and allow for a low-cost degree of assurance that the customer and supplier can trust each other. Many apps that create two-sided markets like Uber or Handy provide for two-sided feedback, so that the supplier can reduce their costs to a customer on the basis of their reputation. A side effect of this is that it is likely that the value of a good reputation will increase.

- Third, new payments systems significantly reduce the costs of paying for and receiving payment for a good or service. The development of Square, for example, allows every supplier to accept a card payment if he or she has a smartphone. Customers who would be deterred by the need for a cash-only payment can now pay the supplier (and perhaps use credit from a third party via a credit card rather than the supplier having to provide credit of their own). The supplier, in turn, is protected from fraud via the card networks' guarantees. Newer payment technologies, such as cryptocurrencies, can make the transaction even simpler and more secure, although they have yet to gain significant market acceptance. Increasingly, platform apps include these payment systems to reduce the opportunity cost of having to make a separate payment.
- Next, raising the funds to start a business has historically been difficult, and is now more so. Local reputation used to provide one avenue with a local bank but even this avenue has now been closed off by regulation in the US. Financial Technology or "FinTech" has combined reputational analysis with crowdsourcing to provide for crowdfunding of businesses. This lowers the barriers to entry to the market for newer, smaller enterprises.
- Furthermore, information systems can enable other systems to know things without need for human input. This is at the heart of the "internet of things" concept. Thus a store shelf can tell a distribution system when it needs restocking or a fridge can order delivery of butter when it is out of it. The store no longer needs a stock checker, but the fridge owner may no longer need a local store, perhaps contracting with the local dairy directly instead (whom she trusts because of a high feedback rating from other customers).

- Going a bit further into the future, systems of proof significantly reduce legal liability. Related to the trust and opportunism issues we have discussed, potential legal costs for verification and resolution of disputes form part of transaction costs. New technologies such as the blockchain and smart contracts can provide mutually agreed-upon automation of contract enforcement. It should also be noted that for many issues of verification, central ledgers are maintained by government. Blockchain technology reduces this need.
- Finally, a combination of these technologies can result in the creation of a Distributed Autonomous Organization, essentially a robotic corporation where organizing costs are reduced to near zero, such that it employs no-one, and therefore should be thought of as radically different from a corporation. For instance, a DAO could theoretically perform the same job as Uber, without the need for coordinating employees, allowing much more (or even all) of the proceeds of the ride to go to the driver. Moreover, it would constantly search for the best ride-matching algorithm, allowing it to improve continuously. At some point, it will do away with drivers, and use smart cars instead. In fact, if you installed a sufficiently advanced AI in your fridge, you might find it becoming a robotic entrepreneur, with a fleet of driverless delivery vehicles serving your neighbors' fridges.

So we can see a wonderful future ahead if we let it develop. But many of these developments are under threat. The threats come from regulators who are using laws designed in the corporate era of the 1930s and misapplying them to today's start ups.

One example is the arcane process of worker classification. In the US, we have two classes of worker – an employee, and an independent contractor. Under the traditional definitions, Uber

uses independent contractors – its drivers are not employees. But the Department of Labor recently changed its definition, perhaps precisely in order to reclassify Uber as an employer. This would mean that Uber would have to abide by the Fair Labor Standards Act from the 1930s and submit to unionization elections under the National Labor Relations Act, another Depression-era law. Uber's advantage to both it and you would be significantly reduced by these requirements. Its organizing costs would rise rapidly. It would probably still have an advantage over taxi firms, but that would probably be reduced. I'd pay more for my rides home, so at least I probably wouldn't have to work late as often.

Other Depression-era laws are being used against other new economy firms. AirBnB businesses are finding themselves subject to bed-and-breakfast and zoning rules. Crowdfunding sites are finding themselves constrained by 1930s Blue Sky laws designed to protect elderly, low-information investors. Bitcoin is coming under attack from more recent money-laundering rules. The list goes on, but in every case, the law was written for a different economy. The regulators are banging the square pegs of the sharing economy into the round holes of a different era.

Overall, however, we should be optimistic. Uber has shown that entrepreneurs tend to innovate faster than regulators can regulate. If the sharing economy can cut transaction costs the way and at the speed I think it can, even the most recalcitrant regulator will need to think again. If Israel can be the leader in that innovative process, you are well placed for the future. L'chaim.