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COMMENT

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Google should beware the 'Winner's Curse'

It's official: Google will run its eagerly-anticipated initial public offering by auction, abandoning the traditional process. The timing of the announcement last Thursday was impeccable, coinciding with Frank Quattrone's testimony about dotcom-era IPO misdeeds when he was flying high at CSFB.

Auctions could transform the troubled IPO market. They are more transparent and fairer to investors, while raising more money for the issuer. In the dotcom era, getting shares depended less on your valuation of the company than on being a "Friend of Frank", and the issuing companies left $70bn "on the table" in 1997-2000.

But auction design is not one-size-fits-all, and Google is a very special case. The danger of its "Dutch" auction design can be illustrated with a simple classroom game. The professor puts a large jar of pennies in front of the class and asks students to write down: How many pennies are in this jar? What is your bid for it?

Most students fall prey to what auction theorists call the "Winner's Curse". Say you guessed 1,000 pennies, and bid slightly less to try to make a profit. You might be spot on; you might have underestimated (it's really 1,500), or overestimated (really 500). While the *average* of people's guesses is often fairly accurate, the curse is that the winning bidder is usually whoever has the *highest* guess. Somebody else probably bid more if the real answer is 1,500, but if the real answer is 500, you're a likely winner – and likely to regret your bid. So you should bid cautiously.

Google is a lot like a very large jar of pennies. If over-optimistic bidders buy all the shares at auction and do not account for the Winner's Curse, they will lose money.

A less idealistic company might welcome the inflated bids: auctioning jars of pennies to naive students has long been a good way for impecunious economics professors to supplement their incomes. But if Sergey Brin and Larry Page, Google's founders, are sincere when they write in the prospectus that they want a broad, fairly priced placement of shares, they need to be careful with their auction.

First, the auction price should primarily be determined by institutional investors, whose full-time job is to size up penny jars. The Winner's Curse poses no problem for experts, who know to base their bids not on their initial estimate, but on a lower view which allows for the fact that winning estimates are often too high. An auction could be held for institutions, and small investors given the option of small allocations at the same price. Or an ascending auction format, similar to one at Sotheby's or on eBay, could allow individuals to observe and mimic more sophisticated bidders.

> Providing better information is the search engine company's basic competence. It should 'Googlify' its own auction

Because all bidders pay a uniform price in Google's auction, overpricing arises only if over-optimistic bidders win all the shares. But since Google is so well known, and its auction may therefore attract a lot of unsophisticated bidders, this is possible. So the company needs to specify just how it plans to counteract this risk. It may be able to use its flexibility to repeatedly adjust the offer range to signal information. It also says it may lower the final auction price based on its own views and information, by selling additional shares or simply rationing bidders. But a small fix may not be enough, and the possibility of it could even encourage more aggressive bidding and exacerbate the problem.

Second, non-experts – many of whom form Google's current user base and future business – need proper warnings about the risks of bidding. Requiring all bidders to open an account with, and be vetted by, the investment bankers will weed out complete naifs, but others need more than the legalistic hints of risks in the 768-page prospectus. Google should, for example, create a practice auction on its website: most investors will never have bid in a Dutch auction before.

Finally, better information helps fight the curse – imagine bidding for the jar of pennies after the person who filled it has given you his own estimate. Transaction prices for mergers and acquisitions are analysed in exquisite detail in banks' fairness opinions, and banks are legally liable for faulty analysis. IPO pricing should be just as transparent. Current practice is merely to offer indicative price ranges which have neither legal standing, nor any clear analytical support.

If anything Google seems to be offering even less financial disclosure than the traditional process. Rather than abandon the traditional 'roadshow' meetings to inform investors, as Google apparently might, Mr Brin and Mr Page should conduct webcasts explaining the business to smaller bidders. Providing better information is Google's basic competence. It should "Googlify" its own auction.

Google the website is the world's most powerful information tool, but Google the stock is just a jar of pennies: investors cannot 'google' Google's real financial value. Google is right to use an auction for its IPO, and this will also set a valuable precedent. But it should take steps to protect its user base against the risk of the Winner's Curse.

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The economics of auctions

Cursed

In the design of successful auctions, the devil is in the details

BY DECIDING to stage an auction in order to help establish the price for its shares, Google has caused a stir. The company plans to allow investors to bid for shares in a "Dutch" auction. In such an auction, bids are accepted starting with the highest and moving down until all available shares are sold. All winning bidders then pay the lowest successful bid price.

The result, hopes Google, will be an initial public offering (IPO) that is fairer and more transparent than the norm. Moreover, by balancing supply and demand, an auction could reduce the "pop"—a sharp rise in price once trading starts—seen after the issue of many sought-after shares in the late 1990s, and cut out the accompanying shenanigans by investment banks.

Over the centuries, auctions have been used to sell all sorts of goods, from fine art to slaves. They have flourished anew in the past decade thanks partly to the spread of liberal economic thinking and partly to the rise of the internet. Governments have used them to privatise state companies and to sell mining and broadcast rights. EBay, which serves as a giant, online auction house, has become one of the world's most successful dotcoms. Priceline, another dotcom, lets travellers bid for airline tickets and hotel rooms.

Google's effort is not the first attempt to use an auction in an IPO. For years WR Hambrecht, a Californian investment bank, has been trying to float companies via its "OpenIPO" system. However, with a few exceptions—small companies such as a winery and Salon.com, an online magazine—the idea has not been adopted. It seems that investors like the pop from the usual IPO process. And although companies are likely to raise more money from auctioning shares, investment banks are keen to keep control.

More generally, auctions have turned out to be anything but the panacea some economists once suggested. European countries auctioned licences for 3G mobile telephony in 2000 and 2001. The prices paid by telecoms firms turned out to be so high that many of them have struggled to survive under a mountain of debt. Government coffers, however, were filled.

Paul Klemperer, an economics professor at Oxford University and a designer of Britain's 3G auction, explains in a new book* that the details of auctions can make all the difference. In essence, auctions can fail in two main ways: by setting a price that is too high, or one that is too low. The latter failure has been more common recently. Collusion between bidders can reduce the price paid, as happened in one American auction of radio spectrum in the 1990s. Alternatively, the costs of entering an auction can be prohibitive, as with one British television franchise. The government had imposed such high costs by requiring detailed programming plans that only one bidder bothered.

Given the large number of expected bidders and the relatively low costs, Google's IPO runs a bigger risk of setting a price that is unsustainably high. That would be the result of what economists call the "winner's curse": high bidding by naive punters that allows them to win an auction, but only by overpaying.

Mr Klemperer says that Google needs to do more to save its auction from this fate. Ensuring that small investors have the same information provided to big investors would help. So would simply explaining to unsophisticated bidders how the Google auction will work.

One concrete idea proposed by Mr Klemperer is to start by auctioning a small fraction, say 10%, of the shares to institutions. This would allow more sophisticated investors to give their view of the fair price, before unsophisticated individuals place their bets. Another option is to hold an "English" (ascending-bid) auction in which institutional shareholders' bids can be observed. Again, inexperienced investors could keep a close eye on what the smart money is doing, and adjust their bets accordingly. This could diminish the risk that over-eager punters bid up the price too high, which would put a damper on the use of such auctions in the future.

Whatever happens, Google's IPO will not be the last attempt to use auctions in a new way. Nevertheless, if the firm is careful enough to avoid a debacle, it will do a great favour to those who want to follow in its footsteps. ■

* "Auctions: Theory and Practice". Princeton University Press, May 2004

Postscript on Google: what happened?
Paul Klemperer, September, 2004

Google did some good things to mitigate the winners' curse – it rewrote its SEC (S1) filing to say more about the problem, it initially set a 3-digit stock price to deter the most naïve investors, and its brokers' rules for opening accounts to bid made it quite hard for unsophisticated investors to compete.

But Google then badly botched the auction mechanics, and seems to have created the opposite problem of deterring serious investors: its possible violations of SEC rules, including its infamous *Playboy* interview[1] and an apparent failure to register several million employee shares (or to report this failure),[2] its poor "roadshow" and general lack of transparency,[3] its difficulties with the systems development[4] and delay in filing the prospectus,[5] and the fact that different brokers offered very different rules and bidding conditions, all deterred investors.[6] So did the very stringent requirements on who was permitted to bid – some experienced, sophisticated, and liquid investors were rejected by more than one broker.

Perhaps most damaging, neither private investors nor institutions who had stayed out of the auction process at Google's original price range of $108 to $135 could rejoin the bidding when the range was cut to $85 to $95.[7] Almost as many shares changed hands the day after the IPO, when prices were between $97 and $104, as were sold in the IPO at the $85 IPO price. So lack of attention to detail meant the auction raised less than it could have.

However, we shouldn't be too critical: even after all its mistakes, and though not as successful as it should have been, Google has done no worse than a typical Wall Street IPO, and for lower fees.[8] Hopefully it will encourage more auction IPOs in the future.

For more articles on Google, and on auctions, see www.paulklemperer.org. © Paul Klemperer, 2004

P.S. A beautiful example of how the traditional Wall Street method can produce a *really* bad outcome came just under a year later when the "Chinese Google", Internet search engine Baidu, was offered at $27 and quickly rose to $154 before closing at $123 at the end of the first day (4 Aug, 2005).

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[1] After a company files its S-1document to go public, it enters a "quiet period" during which it can only release information relevant to investors through a further formal filing. Although Google's founders gave their *Playboy* interview prior to filing their initial S-1, the interview was actually published (and thus the information released) during the quiet period. (Google resolved the SEC's concerns by adding the full text of the interview as an appendix to its S-1 to ensure that any material information was conveyed via the appropriate medium.)

[2] If these issues also meant Google was so afraid of a law suit (in the contingency that the price fell after trading began) that it felt it had to ration to ensure a first-day price rise, then these issues were very costly to Google. The decision to ration bidders to only 74.2% of their bids, at a price equal to the very bottom of the price range was surprising (though it might possibly have been forced on Google if a large volume was bid for at 85).

[3] Information is key not just to preventing the winner's curse, but also to allaying the fears of those who are concerned about the winner's curse. If people are aware of the curse (after all the publicity!), and are afraid of falling victim to it, then revealing more information alleviates their concerns and generally both raises demand (and the final auction price) and reduces the randomness of the final price. Some described the road show as unprofessional. Certainly, Google's "just trust us" attitude was not helpful to people trying to work out how to bid in an auction.

[4] New systems had to be put in place, and coordinated across firms – initial indications were that the systems would be ready by early July but there was then a nearly two-week delay.

[5] Investors complained that the initial filings lacked key information. Instead of the usual 60-90 days, it took 111 days from the initial S-1 filing (April 30) to the IPO (Aug 19).

[6] The intellectual property settlement with Yahoo also generated bad publicity.

[7] Google required all bidders to obtain a unique ID# from Google's IPO website, but the deadline for obtaining an ID was Fri Aug 13, when the indicated price range was still $108-135. The range was cut to $85-95 only on Wed Aug 18 – and there are stories of institutional investors who weren't able to get bidder IDs after the price range got cut. So there may have been significant institutional demand in the $85-108 range that did not get to participate in the auction.

[8] The fees were reported as just 2.8%, versus fees of approximately 4% for similarly-sized recent deals, for savings of approximately $20mm based on the $1.67bn IPO. (For smaller IPOs, fees are typically 7%.)