gamestop or microfoundations vs microstructure

apologies if this is a little undercooked, i was having fun riffing

Alex

Jan 26 · 20 · 2

Everyone is talking about GameStop, and everyone is talking about everyone talking about Gamestop, and even our collective dad in the land of finance-writing, Matt Levine, has ascended to the realm of apophatic theology in accounting for Price. So, naturally, I'm going to use this as an opportunity to hawk some weird theses I've had laying around. Ideally this post is halfway between an actual yard sale, and yelling "YARD SALE!" when you ski past someone who has crashed so completely that it's a fifteen-minute walk between their left ski and right pole. I've joked about a "Return to Marshall" in the manner of Lacan's claimed "Return to Freud" as a hyper-Keynesian before. But I think the choice of Walrasian microfoundations over Marshall's "well-informed dealers" has led to a lot of problems in macroeconomics that can be much more productively posed in a broadly Marshallian frame. Plus it solves some "making windows into men's souls" problems that microfoundations pose.

So, first, since I don't know who all subscribes to this newsletter or what their familiarity with the basic outlines of the GameStop Situation is, I'm going to give a quick stylized rundown. If you want actual detail, you should read Matt Levine, and if you want terrifying granular detail on the operations side, you should read Benn Eifert. If you know better than me – a situation which would not surprise me in the slightest – just skip to the next section.

Now, narratively, what happened and why do I get to hawk these theses:

There's a subreddit called Wall Street Bets that's famous for messing around with gamma and short squeezes to get big runs out of stocks that it would be funny to get big runs out of.

First, they find a stock that a lot of folks think is an absolute dog, an unprofitable company that everyone expects to go down in price, as the rest of the market realizes that the company is bad. Then, you make sure that everyone who thinks that company is bad and will go down is actually cashing in on that belief, by taking a short position. In layman's terms, you make sure that a lot of people have borrowed the stock and sold it, anticipating to buy it back when the price goes down and pocket the difference.

Now, the classic story about how to make money on the stock market is that you have to not only be right, but be idiosyncratically right – the only one who's right, and right when it matters. Naturally, this produces some horrible personality types, but it also means that a consensus view that hasn't paid off yet can still be risky. This is what WSB folks capitalize on: if the stock goes up when there's a lot of short interest, everyone who is short has to buy the stock in order to cover the short and satisfy their dealers. Remember that idea, that dealers have interests in the market, because we'll come back to it.

Now, just buying stocks that have a lot of short interest can be enough to cause a short squeeze, but what if you could do it faster? This is where the gamma squeeze comes in. Other folks have talked more effectively about WSB's love of options, and you can hear about it here and here. The basic idea is that options dealers want to remain market neutral so as to make money whether the stock goes up or down. If a lot of people start buying call options – a call option gives the holder the right to buy a stock at a pre-specified price on a pre-specified date – then dealers will start buying that same stock to cover their position on the call. They don't want to take on the risk of buying the stock the day the option expires, so they buy a certain amount when they sell the options and just keep the premium. This creates upward pressure on prices, which, if you can get enough to start meaningfully squeezing peoples' short positions, creates even more upward price pressure. Also, if there is enough upward price pressure, the dealers who sold the options will have to buy more of the underlying stock in order to stay neutral. Obviously, there is a bunch more going on under the hood here, and different kinds of hedging work in different ways, but these are the dynamics as quickly as possible in readable form.

So, the gamma squeeze reinforces the short squeeze, and both use aspects of the market landscape to mechanically create a bunch of buying in a single stock. If you're long that stock, or long calls, mechanically creating a bunch of buyers means what you own is worth more, so you cash out and leave.

People get upset though, because what's happening here has little "economic" meaning. It also doesn't line up with anything like what one would want to call "rational economic behaviour" in the folks participating. WSB types wind up successful by looking at the landscape of the market, and working out how to force a bunch of other participants to buy something, for mechanical or dealer-driven reasons. The flurry of buying that they want isn't based on a long thesis about the stock itself, but are just artifacts of either market making practices, or other folks' short theses. To the extent they have a long thesis, it's usually just a funny meme and a sense that the landscape means the meme might pay off.

This upsets a lot of people, because the main thing that happens is a huge runup in the price of a likely soon-to-be moribund company's stock. This conjures up all kinds of irritation about "zombie firms" and leads to a lot of people doing terrible posts that conflate the normative and descriptive sense of the word "efficient" in Eugene Fama's "Efficient Markets Hypothesis," and vague bellyaching about "financialization." It seems morally inadmissible to use easter eggs in the mechanical infrastructure of the market to make money, rather than by trying to make money by making the economy better. There's a whole widely-quoted line in Keynes' *General Theory* about this, that "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation." Whether some folks online running up dying companies at random because of the scale of short interest qualifies as turning the market as a whole into a "whirlpool of speculation" is really, I think, up for debate.

Awhile ago, Emmanuel Derman put out a slide deck complaining that doing this constituted "postmodernism," because people were trading parameters of models for pricing things, instead of trading the things themselves. Joe Weisenthal has also pointed out that a lot of the cultural flavor of this process is very anti-establishment ("these folks don't recognize they've created a sclerotic environment that makes them vulnerable to non-modeled events which we can create"), while at the same time participating in the same basically Minskyan market ecology that's always happened. It really, is very much what we talked about on the very first newsletter here, about deterritorialization. The familiar map that shows large short interest to be a sign that the company is going to fail is erased for some folks, who draw overtop of it a map that shows large short interest positions as a sign that there's some money to be made from messing with peoples' capital structure. It's all just very weird to people affectively.

Also, and here's where things start to get fun, people have started to use this whole thing as an excuse to trot out a bunch of boring old dunks on the Efficient Markets Hypothesis. These criticisms are mostly old hat, provided one discounts the EMH the right way. On its own, it just means that, if you knew ahead of time that a bunch of people were going to pile into GameStop when they did, you could have made a whole bunch of money by incorporating that information into the market. If everyone knew beforehand that a bunch of people were going to pile in when they did, the market would have moved earlier, and there would have been nothing special price-movement-wise about everyone piling in, because it would have already been incorporated. It would have been weird, frankly, but that's information for you.

The thing is, people on both the pro and con side of the EMH like to conflate "efficient" in the narrow sense of "you can't beat the market" with "efficient" in the macroeconomic sense of an efficient allocation which is one that allocates every resource in the economy optimally. If you're outside of economics, it's especially easy to do this, because it's literally the same word.

In modern economics, an "efficient allocation" is a concept that is more or less downstream from Leon Walras, the first economist to put forward an in-principle-solvable general equilibrium theory from the marginalist perspective. The idea is that every economic agent has a set of preferences before they come to market, that translate every good they could possibly buy into an amount of "utility." They then decide what to buy by looking at relative prices and relative utilities on every good. The problem is, the number of buyers change the price, and changes in price change production. So ultimately, in modern macro, an "efficient" allocation is one in which the production side of the economy produces the most utility, using relative prices as a transform between the two. Granted, this model of the economy is obviously gibberish. However, the way that Walras makes price action happen in this model is actually really important.

In Walras' model, what makes it possible for the economy to be "fully efficient" is the fact that there's a single price per good per day. There's one vector of prices that correctly maps "production" onto "utility." No trades are executed until this price is found, and after this price is found, no further trades are executed, because they would already have entered into the original price formation. All the trades happen at once, at one correct price, and that makes the system "solvable" mathematically. If this sounds unrealistic, that's because it is. If this also sounds like "money" or "moneyness" doesn't play a role in this model, that's because it doesn't. It's ultimately a pure barter model that gets crammed through a price vector.

The problem is, that definition of efficiency makes financial markets completely inscrutable, because the kind of mechanical drives that something like a short or gamma squeeze identify don't connect with either the system of production, or the preferences of economic agents. Instead it just gets called "irrationality" and waved away. But if it happens all the time, and one is conflating the two senses of "efficient," then WSB traders pose an outsized problem to one's theoretical edifice. The usual way of resolving this, model-wise is to introduce something goofy into preference sets, or into the way those preference sets are acted upon by economic agents who remain steadfastly rational about the "irrational" content of their beliefs.

What an old paper by my beloved advisor Jan Kregel points out, is that it doesn't have to be this way. He points out that the goofy market structure in the Walrasian model – the auctioneer who incorporates all this different information into a single price vector before anyone trades – is really just a generalization of the microstructure of the Paris Bourse at the time that Walras was familiar with. Everyone bid prices up and down without money or goods changing hands until they reached a fixed point, and at that fixed point, everything changed hands at once. You had direct node-to-node exchange in a manner that fully prevented arbitrage, because ultimately one trade happened per day. In this, it's easy to see why preferences would be fundamental to decisionmaking: if there's only one trade, you can decide what you like at what prices, and be safe from arbitrage and FOMO.

In contrast to the Walrasian model, Jan argues, is the Marshallian model of "well-informed dealers," who act like today's market makers. Rather than trading with one another, market participants of Marshall's era often transacted through dealers who made markets in particular commodities or financial instruments, buying and selling and clipping spreads. The thing is though, those dealers built up internal sense of where they thought things were going directionally, and adjusted spreads to hedge accordingly. Price action was happening in continuous time, rather than once per day. More importantly, these dealers themselves had to manage not only prices, but their own balance sheets. It was a lot easier for market makers to get burned when there weren't smooth-ish repo markets, and when the Bank of England was more worried about gold outflows than economic outcomes.

So rather than surveying their preferences every day, and aligning everything through one price vector, prices are constantly changing, and preferences don't matter as much as read on the market. In this model, price happens through active and constant arbitrage by all participants with reference to a few central market makers. These market makers price based on their expectations and balance sheet concerns. Everything is monetary rather than barter, because money is being translated into money at every point. And here we see the germ of the Keynesian model of monetary production.

What's important about this, is that balance sheets – rather than preferences – become the point on which micro and macro outcomes relate to one another. The actual beliefs of the balance sheet constructors are somewhat immaterial, especially when one can make if-then statements about the capital structure of different market participants. What Michael Pettis calls a "capital structure trap" in *The Volatility Machine*, and what Minsky calls "selling position to make position" in a bunch of places represent the downward version of mechanical market reactions, rather than a kind of irrationality. The short and gamma squeezes that WSB types pull off represent the upward version of the same. Nowhere in any of this do preferences matter.

And so, we get to my gripe, which is that behavioural econ accounts of how better to think about preference sets aren't as good as taking a thoroughgoing balance sheet view of everything in the economy. Balance sheets are measurable, and these squeezes are understandable. Subjectivity, by contrast, is much harder to understand. That the economy can work mechanically isn't evidence of its irrationality, but fundamentally evidence that it is possible to actually study what is going on. Is preying on weird capital structure features efficient or not? Who's to say, it's kind of a garbage concept.

So maybe this is a letdown ending, but what if we measured the measurable when we did econ instead of trying to make windows into folks' souls? The tools are already out there, and the first step to solving a problem (the dang economy) is understanding it.

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who_cares Jan 28 Liked by Alex

I think this is quite an amount of hogwash. The WSB-types have now started doing on real financial markets the thing which they have done with impunity in crypto-land, i.e. market manipulation. None of those economists/thinkers have incorporated this into their models. So let me cut to the chase: you can't make gold out of shit. But you can certainly sell a lot of shit as gold to stupid people. And you can obviously write articles about it.

A word to the wise. Since the crazy-crowd cannot be reined in by regulators, but the traders can, guess which one's gonna be it.

1 Reply

Brendan Jan 28

In order to have predictive power, though, wouldn't any model that accounts for recent events involving Gamestop have to include information about preferences? I don't think it's enough to simply say that market participants will naturally seek exploitable features of the market; that alone doesn't explain why *this* feature of the market is being exploited at *this* particular time, when the same feature of the market wasn't exploited in the same way at previous times, and other features of the market (presumably) continue not to be exploited by the same cohort that is responsible for these events. A "window into men's souls", in this context, is really just a pejorative way of saying "a model that can correctly infer the existence of at least two distinct classes of market participants, each of which has distinct motivations and capabilities". By simply asserting that this kind of event can happen and should be anticipated, we're really just fitting a model that involves preferences in our minds and then using the fitted parameters as a given set of priors later on.

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