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(i) *The fact that physicians charge less to poor patients is good evidence that physicians have market power.*

Uncertain. The question is implying that physicians price discriminate, and therefore have market power. A counter point could be that the physicians are instead selling different goods to different people. A visit to the doctor isn't necessarily a uniform good, as it can consist of everything from a bare-bones check-up to a battery of expensive tests checking for every disease known to man. In this scenario we can think of the doctors both selling "high-quality" visits and "low quality" visits, giving them some market power. Alternatively, we could think of these differences as simply being a difference in the *amount* of health goods the patients buy from the physicians. The poor patients are then simply buying less health goods, and are therefore charged less. In this case it's not clear that the physicians have market power. (EIH)

Uncertain For simplicity, suppose there are two groups of patients: the rich and the poor. Suppose that, apart from their income levels, they are identical. Then, if the same services are being offered to two to different prices, this would be an example of price discrimination, which cannot be done if the market is competitive; i.e. physicians have market power.

However, if the quality of services being offered differs, then it is not necessarily the case that the poor patients being charged less is an indication of price discrimination/market power. It might reflect the fact that the rich is able to afford better, more expensive services (e.g. more sophisticated diagnostic tests) than the poor.

Whether this *fact* is a good evidence that physicians have market power then depends on the extent to which the services that are being offered are the same between the two groups of patients.

Physicians may also have altruistic tendency and may be subsiding such desire by charging the rich patients more than the cost and passing this onto the poor patients. But this would require all physicians to have such tendency as, otherwise, a less altruistic physician would undercut the pricing of a more altruistic physician. (Tak)

False. Physicians could be charging different prices for services that are actually different. It is possible that physicians provide appointments that are shorter, in less convenient times or locations, or with longer waiting time to poor people. In these cases the service has lower quality considering all the possible attributes, then a lower price could just be reflecting that and not necessarily be evidence of price discrimination. (EJ)

(ii) *The long-run supply of capital cannot slope down versus the capital rental rate.*

False. The question indicates that when we map long-run supply against the rental rate, the relationship should not be downward sloping. If it was downward sloping, this would mean that a higher rental rate gave a lower long run supply of capital. Intuitively, one would think that as the rental rate increases, the monetary incentive to invest in capital (to then rent it out for the rental rate) would increase, leading to an increasing relationship.

On the other hand, it's possible that the long-run capital supply is driven not just by monetary incentives, but also by, for example, precautionary savings. Note that an increase in the rental rate could be due to an increased risk from loss of capital during the rental process. If this is the case, there is no monetary incentive to invest more when the rental rate increases, as the rental rate is just increasing enough to make the investors agree to carry the extra risk. Suppose this increased riskiness is coinciding with reduced expected payoff, then we would also expect the worlds with higher rental rates to have lower long run capital supply, and the supply curve is downward sloping. [EIH, somewhat handwavy but whatever]

[http://caseymulligan.blogspot.com/2017/10/public-policy-suffers-when-price-theory.html]
[http://www.jstor.org/stable/2951254]

(iii) *The demand for assembled toys is less price elastic than the demand for toys that customers have to assemble.*

Uncertain. Toys that customers have to assemble themselves can be thought of us having two components to their price, the monetary cost and the time-spent-assembling-the-fucking-thing cost. The latter part will be constant even if the monetary cost increases, indicating that a percentage change in the monetary price is a less than one percent change in the full price. So the price increase for the assembled toys is therefore perceived to be higher percentage wise, indicating that the percentage change in price should be higher for the assembled toys (assuming the toys are otherwise equal), giving a higher price elasticity for assembled toys, contradicting the claim.

However the people who buy assembled toys are likely to be a completely different group than the people who buy non-assembled toys, as the latter group may buy the toys because they enjoy assembling them. In this case the price elasticities of the two groups could be fully unrelated, indicating that the truth value of the statement is uncertain. (EIH)

Uncertain. Suppose that the toys are equivalent except that one requires assembly and the other one does not. Then, the only difference between the two types of toys is the time and effort required to assemble the toy. Of course, the time required for assembly has an opportunity cost associated with it without the need to assemble, perhaps consumers could be working longer earning wages, or learning and building human capital. In this way, the cost of consuming a toy that requires assembly—i.e. the total price—is greater than for a pre-built toy. Then, any price change represents a smaller proportion for a toy that requires assembly so that we might expect the demand to be less elastic for toys that require assembly.

However, it may also be true that the time required for assembly is a "good" for the consumer. For example, in the case of LEGO, the process of building is part of using the blocks of LEGO. If this is the case, then this would represent a reduction in the total price of toys that require assembly and imply that its price elasticity might be greater. (Tak)

(iv) *A durable goods market adjusts more rapidly to changes in demand when the durable good has a high depreciation rate.*

True. In a "saturated" durable good market where everyone who needs the good already has it, the demanded amount of a durable good is the amount required to replace the goods that have depreciated away. One could imagine therefore that the production capacities of a durable good with low depreciation are small relative to the size of the market. If we assume that it takes time to scale up production, this market would then be slow to react to increases in demand relative to markets with higher depreciation rates, where they produce larger quantities regularly. Similarly, if demand falls in a durable goods market with very low depreciation rates, it will take a long time before the consumers stop holding the good, as it's not depreciating that much. The amount of the good in the market will therefore remain high for a long time compared to a market where the depreciation rate is high, where adjustment could pass quickly as the goods depreciate away. (EIH)

True. Consider the extreme case in which the depreciation rate is almost 1. Then, there is little distinction between stock and flow so that changes in demand leads to an immediate jump to the steady state. If, instead, depreciation is almost zero, then stock of capital will be greater than flow and so it takes time to move to the new steady state. Recall also that

$$\dot{K} = -\delta K + I$$

Hence, it is clear that change in capital $\dot{K}$ will be greater if δ was higher.

(v) *The individual-level and market-wide price elasticity of demand for Microsoft Excel are essentially the same because market demand is the sum of individual demands.*

False. Note that owning excel is, unless you're a big firm, mostly a binary relation. You either own excel or you don't. Remembering the formula for price elasticities we realize this is a big problem as individual price elasticities are therefore unlikely to be continuous. Instead they will likely be largely be zero except for when they want it and then infinite/ undefined at the exact point they buy a copy. Conversely the market-wide price elasticity is likely to be more well behaved as it avoids these problems, and it's clearly not equal the mess that is the individual elasticities. (EIH)

False. In general, summing (heterogeneous) individual demand will lead to more elastic demand. [diagram] Therefore, it is generally not true that individual-level and market-wide price elasticities are the same because the market demand is the sum of individual demands.

In the case of product such as Excel, which has a strong network effect (i.e. if everyone uses Excel, then you would also use Excel), one would expect individual demand to be quite inelastic. However, the market-level demand would be more elastic because the network effects do not operate at this level—i.e. there are substitutes for Excel (e.g. OpenOffice) that means that price changes could make the whole market switch to another product. (Tak)

Adding to the previous answer: Even if individual demands are inelastic, the aggregate demand could be quite elastic if we consider the presence of cascade effects. If a few individuals leave the network due to an increase in price, the value of the network is reduced for all those who remain. This could induce more individuals to leave the network, and so the aggregate elasticity is much higher than the individual elasticity. (EJ)

(vi) *Reductions in the quantity index for the consumption of cigarette products indicate that the population is smoking less over time.*

False. It's not clear what the quantity index for the consumption of cigarette products is, but considering that it is over cigarette *products* and not just cigarettes, it could be that consumption of cigarette related products like lighters, pipes, cigarette themed hats, and other accessories that are measured by the index has fallen while the amount of actual cigarettes stay the same. Even if the index only covers actual packages of cigarettes, the packages may have gotten larger, leading to fewer packs being sold while the actual amount of cigarettes smoked remains the same. False (EIH)

Uncertain. The quantity index given by the ratio of expenditures on a particular good in period $t+1$ and t while keeping fixed the price of the good (either using the price t or $t+1$) (This is a first-order approximation of the indifference curve using the budget line.) Thus, a reduction in the quantity index means that the population is consuming less cigarette products in total. This would suggest that the population is smoking less over time. However, this may not necessarily hold.

For example, suppose consumption of cigarette products were measured as the number of packs purchased by the population in a given time period. It could be the case that number of cigarettes in a pack had increased between the periods, which means that smokers needed to purchase fewer packs to smoke a given number of cigarettes.

There is also an issue as to whether we are measuring consumption of cigarette products per capita or simply the absolute level. In the case of the latter, declining population might be the reason for the apparent reduction in the quantity index even though, perhaps, the same or greater proportion of the population are smoking.

Finally, it is unclear from the statement as to the meaning of the phrase: "the population is smoking less". In any case, there is also a possibility that although the total consumption

of cigarette products might indeed be lower, those who smoke might be smoking more than before (e.g. consuming greater number of cigarettes per day). (Tak)