An activity choice approach towards pricing of 1:1 personal services – on the omnipresence of interpersonal utility comparisons

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Abstract

Currently, microeconomic theory is only of very limited use to understand price levels in the service sector. After a brief review of the literature on service pricing, this paper claims that price levels in the service sector are not only dependent on qualification levels, but also on the difference between the levels of non-monetary utility which customers on the one hand and providers on the other experience. An activity choice model shows why the ratio between utility differentials and prices should converge within a service segment. Theoretically, the approach finds a pragmatic alternative to the alleged impossibility of interpersonal utility comparisons in economic mainstream theory. Practically, it is able to explain the high price level for sex services compared with other service segments.

Key Words: activity choice; utility of work; service sector

JEL: D46; J22; J31

1. Introduction

Today’s microeconomic framework has largely been created in the phase of society’s industrialization. For developed economies with a share of the service sector between 70 (EU) and 80 (US) per cent of GDP, it leaves a number of questions unanswered. This claim concerns pricing, for example. “In neoclassical theory, prices are determined by marginal productivities of inputs.” (Elsner et al., 2015; 146). This statement is useful for industrial products where employed labor and commodities like oil and iron are used to manufacture goods. It is much less useful for self-employed violin teachers or translators. The productivity of their input can only be estimated by observing customer’s willingness-to-pay, so that the statement becomes tautological.

This paper suggests an alternative theoretical approach for pricing labor by applying the ‘activity choice’ framework which lately has been used for explaining workaholism (Mann, 2013) and the effect of minimum wages (Mann, 2015). While the service sector in general is apt to such an approach, we use 1:1 personal services as a case in point, i.e. services in which one service provider and one service recipient spend equally much time with each other, as often the case in above examples of violin teachers or translators. However, this approach in incompatible with neoclassical theory insofar as it involves interpersonal utility comparisons, a taboo at least since Pareto (1891).

Before doing so, it appears useful to summarize the state of knowledge about service pricing, which will be done in the following Section. Section 3 will then contain a brief introduction of the activity choice framework and its application to 1:1 services. Section 4 is looking for supportive arguments for the approach and Section 5 draws conclusions with respect to interpersonal utility comparisons before general conclusions are drawn in Section 6.
2. Literature on Service Pricing

In general, thoughts on appropriate pricing come from microeconomic thinkers and marketing experts, two relatively separated schools of thinking which are interlinked only in few exceptions (eg. Penning, 1998). The microeconomic approaches are usually not sector-dependent, although their application, as denoted above, is usually more helpful in sectors which use both capital and employed labor. Marketing scholars, on the other hand, are often very concrete in their field of application as “marketing theory grew out of – and away from – the old perfect competition assumption” (Blenker, 2001). They consider pricing as a strategic task in which competition and demand structure have to be taken into account closely (Desiraju and Shugan, 1999; Essegaier et al., 2002).

A subject that repeatedly appears when talking about service pricing is the strong link to service quality. Services are price sensitive and one of the most frequent reasons to change the supplier (Keaveney, 1995). However, in spite of a “lack of objective measures for evaluating service quality” (Gwinner et al., 1998; 101), a high quality of services, customers’ need of fulfillment and satisfaction, is repeatedly mentioned as being more important than keeping prices low (eg. Groth, 1995). This applies particularly in high-end businesses like the market for consulting services (Richter and Niewim, 2004).

Among the many segments of the service sector, prostitution is probably the field with most empirical and theoretical studies. One reason for this may be that many other service markets (health, education etc.) are often governed through price and access regulations whereas the prostitution market is shaped by market forces to a rather strong degree. Another reason for the high degree of attention may be the fact that very high returns can be earned in this market even on the base of low educational standards, a phenomenon that Edlund and Korn (2002) explain by the high opportunity costs (in terms of foregone marriage chances) of the profession. A number of empirical contributions (Moffatt and Peters, 2004; Cunningham and Kendall, 2011; Adriaenssens and Hendrickx, 2012), however, also show the dependency of prostitution prices from the service level provided. Sex without penetration, for example, generates considerable discounts, whereas penetration without condoms leads to additional revenues. This confirms the strong relation between pricing and perceived quality of the service.

3. An application of the Activity Choice Model

Few people would deny that the process of working can generate individual utility. For a long time, however, this utility could not be reflected in the framework of welfare economics, leading to the following critical statement by Pagano (1985; 173):

“Conservative priests used to prescribe the status quo by saying that life itself was a means to a superior end existing somewhere in the sky; economists would assume a similar role by maintaining that working life is simply a means to a superior end, existing somewhere on earth, called consumption goods and leisure. But our working life affects our welfare as much as our non-working life and the availability of consumption goods.”

The Activity Choice Model is an attempt to integrate the utility as derived through working into the microeconomic calculus. It does so through a two-dimensional perspective in which each activity has
a non-monetary utility and a financial consequence (positive in the case of paid activities \((Y>0)\), zero in the non-market sphere \((Y=0)\) and negative in the case of consumption \((Y<0)\)). Usually, one can choose between a limited set of options in the three spheres. Which activity maximizes utility and is ultimately chosen can be answered with the help of indifference curves. For details we refer to Mann (2013).

Figure 1 makes a suggestion what this may have to do with the market for services. For each service there is one provider and a customer. Take a massage as a case in point. Usually, the masseur is taking the role of the provider and receives money, whereas the one massaged takes the role of the customer and pays. That this is the case — or so the model suggests - is simply due to differences in non-monetary utility. If the masseur would enjoy carrying out the massage as much as the customer enjoys being massaged, then neither of them would get the idea to charge the other.

An anecdotal illustration from another (not 1:1) segment of the service market may help: In the small Swiss town in which I live, there are two English conversation groups. One is run by a group of mostly American expatriates coming together on a regular base to have a chat in their native language. The other group is run by an American lady, but all other participants are Swiss (or non-English foreigners) who want to improve their English. Readers will have guessed by now that the first group is not based on monetary exchanges, while the American lady charges the other group members.

Possible counterexamples may pop up in the reader’s mind, such as a visit at the dentist who will, in many instances, have a higher level of utility during his work than the customer enduring pain and inconvenience. For this case, it is almost sufficient to refer back to Kahneman et al.’s (1997) important distinction between ‘decision utility’ and ‘experienced utility’. Taking the long-term consequences of not seeing the dentist into account, attending the surgery generates a lot more decision utility than the alternative – and apparently also more than the dentist experiences while fixing the teeth.

At this stage, the economic axiom of the impossibility of comparing utility interpersonally should be taken into account. It has been shown before that many bricks of economic research can only prevail by implicitly allowing for interpersonal utility comparisons (Mann, 2007). The example of the two conversation groups shows as well that utility comparisons are carried out on a regular base in practice, albeit only in a proximate way. It is unlikely that the utility derived by members from the first group (the native speakers) is exactly the same for everybody. However, differences are not clear and large enough to move these activities out of the unpaid sphere. In the case of the second group, it is obvious that correcting false phrases and listen to bad pronunciations is less enjoyable for a native speaker than it is for a Swiss to steadily improve her English. This justifies a certain fee to be paid from the Swiss to the American. And only if some Swiss and the American agree on this fact, the group will be working. These proximate estimations are part of everyday life and made explicit by the framework suggested, even if contradicting theoretical mainstream concepts.

Coming back to Figure 1, we abstract from taxes that a service may incur and assume that the price paid by the customer \(C\) equals the price received by the provider \(P\) \((p_1)\). The slope of the line between \(P\) and \(C\) shows the implicit price for the utility difference.

Consider now the possibility that the service is extended. What has been a massage now starts to include sexual service or the only American of the conversation group starts to distribute and correct homework. According to the empirical evidence cited above, such an extension of the original service
usually leads to an increased price. In Figure 2, this situation is described by $p_2$, caused and justified by an increased difference in non-monetary utility levels.

![Diagram](image)

Figure 1: A framework for understanding prices in the 1:1 personal service market

The paradigm of utility differences leading to paid services has its limits. One is the possibility of rents. It could well be that the masseur enjoys his job extremely and would do it for free, but does not mind that his customers pay him the usual price for a massage. Likewise, there may be customers who enjoy being massaged to a degree that they would pay much more if necessary. However, it is well known that willingnesses-to-pay often exceed prices and some willingnesses-to-accept are much lower than market prices, leading to positive rents of participants. Therefore, we should think of minimum utility levels which are depicted in the diagram below.

It is also clear that not only utility differences, but also qualification forms the price of a service. The difference of utilities may be larger when I undergo a cosmetic treatment than when I receive psychological counselling. However, trained psychologists are scarcer and becoming a psychologist requires more ex-ante investment than for talented beauticians. These differences dominate differences in $u$ and lead to higher hourly reimbursements.

The last limit concerns the non-market sphere. A mother changing her baby’s napkin is probably often enjoying this process less than her baby. The fact that the baby will not pay for the napkins being changed just refers to the fact that valuable services (and products) are interchanged without financial reimbursements in certain spheres of society, a fact that has been well described, for example, by Williams (2004); Himmelweit (2007) and Faria and Abdalla (2014). The activity choice
model is helpful to understand prices in the service market, not voluntary exchanges outside the market.

4. The issue of constant trade-offs

By Figure 1, it has been proposed that the rate with which utility differences translate into payment levels is constant. This claim is now supported by taking a look at a disequilibrium as drawn in Figure 2.

Consider two providers P and two customers C, using again the market for massages as an illustration. The first couple (P1 and C1) has only a small difference in utility levels, although the customer pays a relative high price $p_1$ to the provider. The utility difference between P2 and C2 is much larger, but they have agreed that the lower price $p_2$ will be paid. In this example, we have integrated the indifference curves $I_1$ and $I_2$ into the diagram which, for reasons of graphical simplicity, have been assumed as identical for all four participants and where $u(I_2)>u(I_1)$.

![Figure 2: Disequilibrium in a 1:1 service market](image)

The arrows in Figure 2 indicate what will happen under the usually assumed conditions of product homogeneity, complete information and rational behavior. Customer 1 realizes that Provider 2 charges lower prices but that his massages are more enjoyable than the ones of P1. At the same time, Provider 2 realizes that Customer 1 pays better than his current C2 in spite of getting a worse
service. This means that C1 and P2 would both benefit from taking up relations, both with the perspective to shift their indifference curve upwards, which they will likely do.

The model is neither able to predict what price would P2 then finally charge C1 (except that it would be between \( p_1 \) and \( p_2 \)), nor what would happen with P1 and C2, but it is able to show that, in a homogeneous market, different rates of substitution between non-monetary utility and money are not sustainable.

5. Utility comparison vs. production functions

Today’s economic thinking has been developed during the phase of industrialization. The markets which economists have been describing over the last 200 years have been markets on which oil barrels, fridges or books have been traded – complex products made of different capital items and of labor with different levels of qualification. It was convenient to construct production functions to explain costs and, subsequently, prices. The prices for labor, by the way, were rarely equilibrium prices but rather the result of negotiations between unions and employers.

This, in general, is still applicable for the industrial world today, except for the fact that a lot of labor has gradually been replaced by capital. This process of substitution has led to a massive flow of labor from the secondary to the tertiary sector, where now the vast majority of labor takes place. Again, a part of this happens in larger units like banks or insurances, where still something like production functions for the outputs (like credits or insurance contracts) may be a useful abstraction to understand the economics behind it.

However, as documented by a lot of social scientists (Diewald, 2004; Westermayer, 2006) and occasionally termed as “post-industrial labor” (Troy, 1990; Carré, 2000), increasingly smaller entrepreneurial units carry out highly individualized tasks. It is reported from this labor-market segment that the boundaries between labor and leisure become blurred: Video-game programming, for example, moves from leisure networks towards professionalism (Postigo, 2003), whereas in many branches longer hours are defended by lifestyle choices (Lewis, 2003).

How does pricing work in these micro-units where economics often breaks down to personal interactions in which one person takes the role of the provider and the other as the customer? If two persons spend an hour together, and after this hour one gives money to the other, there are barely two possible explanations:

- One, a set of traditional rules creates the obligation for one person to pay the other
- Two, the recipient would not have spent this hour in this way without the payment, whereas the other person has a sufficient willingness-to-pay.

If we agree with Habermas’ (1981) theory of the rationalization of society, the first option, while it may play a role under certain circumstances, will have decreasing explanatory power. This leaves a lot of plausibility for the second answer. It indicates, however, that (at least tacit and implicit) assumptions about the difference of utility levels are necessary in order to define price levels and even the role distribution between provider and customer.
“Every mind is inscrutable to every other mind and no common denominator of feelings is possible” (Robbins, 1938; 636). Such and similar arguments have convinced the vast majority of economists to practice a “hands off” policy towards interpersonal utility comparisons. However, this inscrutability does not defer millions of people every day to compare utility levels and to then make decisions on offering money for services and services for money. Our estimations of interpersonally comparing utility levels are apparently good enough to create a growing and well-functioning market of 1:1 personal services.

6. Conclusions

Economists working in the realm of social choice have invested a lot of energy to develop utility orderings on the interpersonal level which allow for utility comparisons (Gevers, 1979; Roberts, 1980) with a high level of technicality, but with low benefits in terms of the operationalization of such comparisons. However, it may be only the possibility of approximate interpersonal utility comparisons leading to the fact that an hour spent with a prostitute is much more expensive than an hour spent with a language trainer, even though becoming a language trainer probably requires a higher degree of qualification. It is plausible to assume that prostitute is a profession with a lower-than-average non-monetary utility while being a john may generate particularly high utility levels.

Empirical research can clearly contribute to quantify the explanatory power to explain price differentials in difference service markets through different levels of utility differences between recipients and customers.

References:


