Collating widely available time/money trades

by **RyanCarey** 19th Nov 2012

Time (value of) Personal Blog

In the xkcd comic *Working*, a man is seen filling up his gas tank. "Why are you going here", says the observer, "Gas is ten cents a gallon cheaper at the station five minutes that way". He responds "Because a penny saved is a penny earned". Randal's pragmatically spirited caption says "If you spend nine minutes of your time to save a dollar, you're working for less than the minimum wage."

Our opportunities to convert time into money and vice versa, though not unlimited°, are numerous.

We work (sell our free time) when we...

- Seek overtime shifts
- Subscribe to a mailing list for local discounts e.g. GroupOn
- Bargain with one more car dealer or travel agent, in search of a better deal

We buy free time when we...

- Employ cleaners, chefs, babysitters, secretaries and others.
- Buy productivity software
- Buy a medication that improves our sleep

How can we evaluate these trades? It seems like we ought to only purchase free time when it comes cheaper than a certain figure, \$x/hr, and ought to only work if we can sell our free time for more than \$x/hr. Indeed, comparing trades to this *time/money exchange rate* is the only unexploitable way to behave.

Most of the time, when we share our estimates of the value of these trades, our comments are too vague to be helpful. If my father, a doctor tells me, a student, that "subscribing to discount mailing lists is a waste of time", what does he mean? He might mean that these mailing lists are poor value for me, he might mean the much stronger statement that they are poor value for everyone, or the much weaker statement, that they are poor value just for him (his time is obviously worth the most). I have to try to get him to disentangle his estimation from his jugement. I have to ask him "What low value would a person have to place on their time for discount mailing lists to be worthwhile?"

The easiest way for all individuals with different time/money exchange rates to share their estimates will be to quantify them. e.g. being on a discount mailing lists only saves \$x per hour spent. Out of my father and I, this might represent value to none, one or both of us.

When we share these quantitative estimates, it would be silly to discuss deals that are only available privately like job offers, that are so dependent on our particular skills and qualification. Instead, we will gain the most by listing time-money trades that are likely to apply across domains, such as repairing a car on the one hand or catching a cab on the other.

By doing so, we stand to learn that many of the trades we have been carrying out have represented poor value, and we should learn of new trades[°] that we had not previously considered. Of course, there are associated costs, like the time spent gathering this information, and the risk of becoming unduly preocuppied[°] with these decisions, but it still seems worth doing.

A last point of order is that it will be best to indicate how far we can expect each estimate to generalise. For example, the cost of something like melatonin will differ between states or between countries, and that is worth mentioning.

So in this thread, please share your estimates in \$/hr for potential ways to work or buy free time.

Time (value of) 2 Personal Blog

Mentioned in

13 Notes on Frugality

45 comments, sorted by top scoring

[-] **RyanCarey** 10y @ < 12 >

Collating the reccommendations:

\$2/hr: buy an automatic dishwasher, assuming the dishwasher breaks down as soon as the warantee expires, and saves 30mins/day

\$4/hr: buy a smartphone, assuming it costs \$1/day and gives you 15 mins of useful time per day

\$7/hr: getting laundry done professionally

\$10/hr: eating dinner out

That cost rating is optimistic for a smartphone I think (in the USA) although not too bad for upgrade of smartphone from dumbphone.

Does laundry really take that long? It always seems pretty quick to me.

[-] Alexei 10y @ < 6 >

The alternative to eating out is to hire a personal chef. There are multiple services for that in big cities. You can get something like 20 meals for \$300. You save money on cooking (cost of groceries is often not included), as well as spending time to buy groceries or going out and waiting in line and for the food to be cooked. This options is also a lot healthier.

[-] roryokane 10y 🖉 < 6 >

A link to the xkcd comic *Working* that was mentioned. Note that the comic also has bonus text in the image's tooltip.

[-] **RyanCarey** 10y @ < 5 >

More suggestions here: http://80000hours.org/blog/128-save-time-through-smart-buying

[-] Pat 10y @ < 5 >

If you drink coffee, you could buy a fully automatic coffee maker (\$800). Or if you do it just for the stimulation, you could use caffeine tablets instead.

Leaving your computer on or in standby mode is often better than turning it on and off. Laptops use about one watt in sleep mode, and desktops typically use no more than five (source). Even if you left your computer in sleep mode for 24 hours a day, the yearly electric bill would be pretty small. If your computer uses

- 1 watt: 4.3 kWh, \$1.05
- 5 watts: well, it would be five times that, or \$5.25

(with an electricity price of \$0.12/kWh)

On the other hand, leaving your computer on all the time might shorten its lifespan.

[-] Daniel_Burfoot 10y @ < 5 >

I get my laundry washed and folded, and my shirts cleaned and pressed, by professional cleaners. I think this allows me to buy time at a rate of about \$7/hr - this is so efficient that I can't understand why everyone doesn't do it.

I think that eating out allows me to buy time at a rate of \$10 or maybe \$12/hr, by saving time on cooking, grocery shopping, and doing dishes. I also think more people should purchase time in this way, but I accept that in this case there might be good reasons to be reluctant.

[-] Dorikka 10y @ < 4 >

I'd be interested in the details and math behind your \$7/hr figure for laundry.

[-] Daniel_Burfoot 10y @ < 12 >

Let's say a week's worth of laundry costs me \$14 at the cleaners - that is about right on average. So my claim is that paying this saves me at least 2 hours of time.

So the question then is how long does it take to wash, dry and fold a week's worth of laundry? Well I live in a shared house with one washer and one dryer. So even if I get lucky and both are free when I want to do laundry, which is rare, it still takes me multiple iterations, because there is only one of each machine.

Now maybe other people have mastered the art of laundry, but whenever I try it, my clothes are never sufficiently dry after the first round of drying. So then I have to put the clothes back in the dryer and try again, moving back my whole schedule. And then maybe someone else wants a turn. And then maybe I want to go meet my friend for lunch, but I can't because my laundry is in the dryer, and somebody else is waiting. Then after the whole process is done, I have to fold the clothes. And also I've probably spent \$7 worth of quarters to pay the machines.

I've lost whole half-days to my struggle with laundry. Paying \$14 a week to my cleaners is the best money I've ever spent.

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[-] CronoDAS 10y @ < 7 >
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If you're using coin-operated machines, then, yeah, that changes the math quite a bit.

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[-] Alejandro1 10y @ < 4 >
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It seems like the most time-consuming part is the drying, so another option for you would be to keep using the washing machine and get a cloth drying rack, like this one. It takes about 10 minutes to hang the clothes, you wait till they are dry and then fold them whenever you have the time, maybe days later. Relative to the coin-operated drying machine you save both time and money, reduce energy consumption, and also have no chances of destroying your clothes with a wrong machine setting (as I have done in the past). Of course if \$14 a week are insignificant for you then you are taking the best option, but anyone else in a similar situation not willing to spend that amount should consider this option.

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[-] Metus 10y 🖉 🔨 1 🔪
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I would like to see your calculation for the eating out figure, if you do not mind.

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[-] Pat 10y @ < 4 >
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You could get laser hair removal instead of shaving. Calculations assume a discount rate of 10%.

Financial cost of hair removal

- \$1,500 to \$4,000 for initial treatment
- \$300 a year for a touch-up treatment (PV ~ \$3,000)

Total financial cost: \$4,500 to \$7,000

Time cost of hair removal

• six treatments at 1.5 hours per treatment (.5 hours for the treatment itself, plus commuting, scheduling, waiting, etc.): 9 hours

• annual touch-up treatments: 1.5 hours/year

Total time cost: 21 hours

Time cost of shaving

• .25 hours/week = 13 hours/year (PV ~ 130 hours)

Cost per hour: \$41 to \$64

[-] John_Maxwell 9y @ < 5 >

Does laser hair removal make it hard to grow a beard ever again even if you want to?

[-] [anonymous] 10y 🖉 < 4 >

It seems like we ought to only purchase free time when it comes cheaper than a certain figure, \$x/hr, and ought to only work if we can sell our free time for more than \$x/hr.

Time is not fungible (it's not like most people could decide to work 80 hours one week and 0 hours the following week -- they'd get burned out the first week and bored the second week; also, it's not like it's easy to find people to socialize with at 5 a.m.), so the value of x would depend on the time of the day, day of the week, how much stamina you have, and how bored you are, among other things. In certain cases it can even become negative (i.e. people willing to pay money for anything to keep them entertained while they're waiting for something and have nothing else to do).

Anyway...

An example that springs to mind is whether to drive, walk, cycle, or use public transportation (though how much money and time you need for each depends on where you are, you're trading off safety as well as time and money, and being able to comfortably study and/or sleep on buses/trains (not everybody can do that) can reduce the effective time cost of public transportation for long routes). Another one is whether to rent an expensive apartment near your workplace or a cheap one far away from it.

[-] ponkaloupe 9mo 🖉 < 1 >

adding to this: fold related tasks together. let your commute be your workout (i.e. jog or bike home from work). if you want to cook a good meal some evening, but also leave time open for socializing, then invite your friends over to cook *with* you. if you want to learn woodworking and don't like the furniture in your home, then learn by building new furniture.

that last bit is where the "trade money for time" scheme risks being derailed. in the end, you're never strictly exchanging money for time — outside of life-extension efforts. you're identifying an opportunity to replace your time spent doing A with time spent doing B, at a cost of C. the more you *dislike* A (doing the dishes), probably the more you should be willing to pay for replacing it with B (reading a book while the dishwasher runs). but if A isn't a chore... if it's a hobby you enjoy for its own sake (woodworking), then it might not *ever* make sense to outsource it.

because most of us specialize in only one form of production, we think of these trades as me *giving* money and *receiving* a preferable use of time. once you're dealing in productive hobbies, it'll make sense to treat this as an exchange that can go in either direction. if your hobby is to woodwork, but you live next to Ikea, in might be a reasonable course of action to spend \$200 on lumber, a few evenings turning that into a table, and then selling the table for \$150. it looks dumb on the surface but each

trade individually could make sense (my enjoyment from this hobby is >= \$200; my benefit from this table is <= \$150).

then you get to the point where it's worth considering nonfungible intangibles — like sentimentality. that table from above might be worth \$150 to a buyer off the street, but your grandma might consider the thing "priceless". she would never *buy* it from you for what it's actually worth to her, because doing so destroys some of the sentiment she attaches to the table. so gift the table to her. she'll be inclined to pay it back in other forms (hosting dinners, etc — chances are she's more than covered the cost of the table by raising you though so arguably you're paying back a > \$150 debt with the gift).

[-] Jabberslythe 10y @ < 2 >

Modafinil is a highly regarded money for time exchange.

Audiobooks really effective money for time exchange (if you aren't pirating them).

[-] [anonymous] 10y @ < 5 >

Audiobooks really effective money for time exchange (if you aren't pirating them).

Not sure it would work for me -- I can read much faster than people speak, I can skim written text whereas I can't do anything like that with audio (and text that is too information-dense to be skimmed iss also too information-dense to be listened to it spoken while doing something else), if I don't understand a sentence on the first go I can just read it again but it's non-trivial to rewind a recording by the exact right amount, it's hard to understand spoken text in a loud environment unless spoken very clearly or in a very familiar accent, etc.

[-] Jabberslythe 10y @ < 1 >

I can read much faster than people speak, I can skim written text whereas I can't do anything like that with audio

You can speed listen to things and use pitch correction so that it is understandable I listen at 450WPM. I can kind of skim texts by listening to at higher speeds than I normally listen at, but it's not the same as skimming a text because you are still listening to every word.

(and text that is too information-dense to be skimmed iss also too information-dense to be listened to it spoken while doing something else)

Not if that thing uses a different part of the brain (e.g spatial/motor). I also find I can listen to audiobooks while doing something that involve planning, deciding or thinking about something else, just like I can read a book while worrying or thinking about something else (as always happens). I can't do something that requires language comprehension of course.

if I don't understand a sentence on the first go I can just read it again but it's non-trivial to rewind a recording by the exact right amount

Yeah, it's hard to do even with a good audiobook player if you are multi-tasking. I usually just try to brute force it and keep listening through.

it's hard to understand spoken text in a loud environment unless spoken very clearly or in a very familiar accent

Yeah, I don't spend a tonne of time in noisy environments, but your mileage may vary.

[-] [anonymous] 10y @ < 1 >

You can speed listen to things and use pitch correction so that it is understandable

Yes, I did that a few times with my iPod touch.

I listen at 450WPM.

I don't think I could listen *that* fast and understand everything I hear unless I was paying lots of attention or they are speaking about something I already know. (This is 300 words, if this transcript is accurate, and I think that if I hadn't already watched the previous seven seasons of the series I would have been like, 'Wait... what?')

you are still listening to every word

I hear them, all right, but they don't actually register unless I'm paying attention (or they are in my native language (Italian)).

Not if that thing uses a different part of the brain (e.g spatial/motor).

I find that I'm very bad at multitasking whenever one of the tasks involves language comprehension at faster than normal speaking rate and the other is anything non-trivial. I guess that's because I tend to think in words much more than in images.

I can read a book while worrying or thinking about something else (as always happens).

Me too, but if I'm reading too fast and on a topic I'm not already familiar with, when I get distracted I often find that the last couple paragraphs I read didn't actually register and I have to read them again. Again, that's probably because I usually tend to think in words.

Yeah, I don't spend a tonne of time in noisy environments, but your mileage may vary.

Me neither, but I mentioned it because one of the advantages I've heard about audiobooks is that you can listen to them while commuting.

[-] JoachimSchipper 10y 🖉 < 2 >

Automatic dishwashers are really cheap per hour saved. The actual costs will vary widely (esp. in the US, where the cost of electricity is much lower than where I live), but our best estimate at the time of buying was \$2/hour saved (based on halving the 30 minutes we need to do the dishes, and assuming it breaks the moment it's out of warranty - not entirely unreasonable, since we pretty much bought the cheapest option.) Locally, about half is depreciation of the dishwasher and half is electricity/washing powder/water (negligible).

(I've brought this up before: http://lesswrong.com/lw/9pk/rationality_quotes_february_2012/5tsb°.)

A smartphone plan can vary in costs, but 1-2 dollars a day over the cost of a feature phone plan seems like a fair range of prices. For instance, my carrier's base data plan is 30 dollars a month, which is about 1 dollar a day, but this does vary depending on country. (Speed can also vary between country, with differences like 3G and 4G coverage.) If your time is worth 4 dollars an hour, and a smartphone can give you back even 15-30 minutes of time during a day, on average, then it is an approximately even trade. If your time is worth more, than a smart phone will need to give you back proportionately less time.

I find that my smartphone easily feels like it gives me back an average of 30 minutes a day, and baseline smartphones of the previous model, which from reviews is still quite good, appear to be available in my area(Maryland) at a cost of 1 dollar if you sign a two year contract. So it seems like unless you value your time very little, or live in an area with horrible data coverage, or live in an area with extortionate cell phone providers, it is worth it to get a smartphone. This was particularly notable to me because a large portion of the people who I knew had a smartphone and I had a very low grade feature phone, so I have some evidence this may be late adopter advice which a lot of other people have already taken.

But if for some reason you have a steady job, and have a phone upgrade/phone purchase coming up, and are planning on NOT getting a smartphone, I feel I should urge you to reconsider. They really do have a great deal of potential at a relatively low cost.

I also strongly recommend doing the following three things when you get home, to help keep costs low: Turn off In-app purchasing immediately. Installing some sort of data watching app immediately. Setting up your smartphone to use your Home Wifi (also set it for your Work Wifi, if your work has Wifi)

If you don't, you may have gotten rid of the surplus value in either data overages or in app purchases you did not fully consider. I thankfully avoided this. (Although it was close. I delayed somewhat on setting up Home Wifi for my wife, only to find out she had used two thirds of her data on her second day of having it, thinking "Oh look, a large assortment of free apps I can download.")

I really do feel a bit silly suggesting this since I feel I was a relatively late adopter to the technology, but I do still know some people who do not yet have smart phones, so I recommend doing this, keeping in mind the caveats above.

[-] JoshuaFox 10y @ < 2 >

How does a smartphone save you time?

[-] moreright 10y @ <1>

First and foremost, it saves me time and mental energy by allowing me to leave the house without worrying about making sure I have all of the information I need. I often get in the car with just an idea of where I am going, and then find the address while driving and use the phone as a nav system. I use voice recognition so it generally only takes a few seconds and minimal distraction. Along the same lines, if I am out driving and I suddenly think of something I need to do, I can find the place I'm trying to go without having to return home. Finally, if I'm idle at any time I can use the phone to write and send e-mails (or other basic tasks) that I would have otherwise had to do at another time.

This is just one subset of time-savers, but I would say that it saves me about 15 minutes of time a day by itself.

[-] JoshuaFox 10y @ < 3 >

Doesn't it tempt you to waste more time than it saves? E.g., websurfing and gameplaying?

[-] [anonymous] 10y @ < 2 >

A lot of the time you waste doing those things was already wasted. For instance I am posting this while waiting in a drive through for breakfast, but this is exactly when I would be playing random game if I was not posting here.

Edit: And well designed smartphone games (which is not all of them) load shockingly fast. I have actually played smartphone games while waiting for other slower games to load on my computer.

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[-] ikrase 10y @ < 2 >
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Also, since smartphone internet browsing is a bit uncomfortable, it might prevent you from booting up your computer as often and ending up spending an hour.

[-] **Pat** 10y @ < 0 >

You could install a bidet on your toilet. Disclosure: I've never used a bidet.

Cost

- Bidet: \$750
- Installation: \$250 (a guess)

Total: \$1,000

Time savings (assuming 1.5 bowel movements/day)

- Hand washing: 60s per day (40s/BM)
- Read a book or use your phone instead of wiping: 45s/day (30s/BM)
- Reduced need to clean backside when showering: 10s/day

Total: 6 hours/year (PV ~ 37 hours, assuming a 10% discount rate and a bidet lifetime of 10 years)

Cost per hour: \$27

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[-] gwern 10y @ < 0 >
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It really takes you half a minute per bathroom visit to wipe your bottom, and saves you any time in the shower?

(It occurs to me that questioning your time estimates as high sends bad signals about my personal characteristics...)

[-] **Pat** 10y @ < 0 >

If you wear glasses, you could get LASIK surgery. (I haven't done this.) According to these speculative calculations, the cost per hour of time saved is somewhere between less than zero (not having to get new glasses saves you money) and \$55. But you can get the benefits only once, unfortunately.

Discount rate: 10%

Financial cost of glasses

• cost of a pair of glasses each year: \$15-\$400

• addional cost for updating prescription yearly: \$50 (?)

total: \$65-\$450/year (PV ~ \$650-\$4500)

Time cost of glasses

- putting on and taking off glasses: 20s/day
- cleaning glasses: 20s/day
- looking for misplaced glasses: 20s/day
- updating prescription, shopping for glasses, ordering: 3 hours/year

total: 9 hours/year (PV ~ 90 hours)

Financial cost of LASIK

• cost of LASIK surgery and follow-up appointments: \$2,000-\$5,000

Time cost of LASIK

- scheduling, filling out paperwork, counseling, travel, etc. (pre-surgery): 3 hours
- surgery: .5 hours
- four checkups at 1.5 hours/checkup (including transit time)

total: 9.5 hours (PV ~ 9.5 hours)

total: \$2,000-\$5,000

net financial cost: -\$2,500 to \$4,350

net time savings: ~80 hours

per-hour cost: negative to ~\$55/hour

[-] jefftk 10y @ < 0 >

It seems like we ought to only purchase free time when it comes cheaper than a certain figure, \$x/hr, and ought to only work if we can sell our free time for more than \$x/hr

Even for a specific person at a specific point in their life, x isn't constant. Some days I might have more time than things I need to do, others less. Being able to easily convert between money and time as days required would be really handy.

[-] [anonymous] 10y 🖉 🔨 🔿 🔪

Randall Munroe takes this idea and runs with it.

[-] [anonymous] 10y 🖉 🔨 🔿 🔪

Here are some free options that I sometime practise:

• Preparing large quantities of food when I prepare food so that I can eat for a while without cooking or buying food that does not require much preparation.

- Buying many groceries at the same time so that I will save time by not taking more trips to the store.
- Audiobooks save me incredible amounts of time.

Also, Modafinil is a great money for time exchange. I hear.

[This comment is no longer endorsed by its author]

[-] faul_sname 10y @ < 0 >

I generally value my time between \$10 and \$30 per hour, depending on how much work I have and at what rate I have it.

[-] shminux 10y 🖉 < 0 >

estimates in \$/hr for potential ways to work or buy free time

I've wondered about such an estimate for modafinil (yes, I blame gwern). Seems like only cents per hour of free/productive time bought.

[-] diegocaleiro 10y @ < -4 >

Having an assistant might cost really little, and you can assign nearly anything that is boring to that person. I tried for a month, and had a great experience, planning on starting more seriously in february, when things get faster in the southern hemisphere, and lack of time becomes a more evil issue than it now is. For those of you living in a rich country that speaks english, get an indian VA. for those like me living in countries with a lot of people, get someone beggining a second college degree in secretariat who lived in New Zeland for \$500,00 month, or find a similar deal. Also, ask friends to read papers of topics they like or understand better than you. Assign smart people to write essays you know they could. Redirect potential partners (job partners, romance partners, friend partners) to other friends when you know they want that, because they will be happy (utilons hurray!) and will give you they geophysics expertise when you need it.

Also, there is this thing, they just found out. It's called the sex-tax. Every time you have sex, you pay a dollar to sex-tax. Then you get 7 points of counterfactual happiness on a 10-100 scale (Layard2005) twice, one instantly, and one after two years, total 14 points. (For comparison, divorce kills 12, death of a close one 8) You get reimbursed about a 2 thousand dollars per month after the second year (you still have to pay the dollar per sex though), and the happiness and money remain for 20 years, though the happiness fades along the way. Anyway, I was talking about the money part. what are you trading this money (dollar per sex) for? Well, you trade it for about 30-60 hours weekly in which you'd otherwise be doing something as boring as cleaning the house, for something as interesting as having an intelligent chat over lemonade with friends. It's a good deal..... I hope you have guessed by now that the name of the sex-tax is condom, and may your days always be fulfilled. As a final note, consider polyphasic sleep if you are crazy and if it works with your schedule. saves 1000 hours a year. Anything else is negligible compared to those three.. Sex-tax, assistant, polyphasic. Let us hope we come up with other great ones here!

Edit: Hilarious interpretations ensued. I was talking about a hipothetical person who used condoms instead of havin two children separated by two years between their births. The cleaning the house thing is one of the beeping happiness experiments. Spending time with your children is sometimes really awesome, but on average, it is like cleaning the house.

I am so confused by that second paragraph.

Then you get 7 points of counterfactual happiness on a 10-100 scale (Layard2005) twice, one instantly, and one after two years, total 14 points.

If the scale starts at 10, how to get to a 7? And where does the happiness come from? Does it come from having sex, or from not having a kid?

[-] diegocaleiro 10y @ < 0 >

not having a kid will avoid the loss of 7 points per child, I was assuming people would father 2 infants, with a two year separation, just to be a little more criptic.

[-] Dorikka 10y 🖉 < 3 🔪

I'm afraid that I'm entirely failing to grok what you mean with the "sex-tax" thing.

Also, I've heard enough stories about drawbacks to polyphasic sleep to conclude that it's probably not a good fit for everyone. Some[°] discussion[°] on[°] LW[°].

[-] [anonymous] 10y 🖉 🔨 🔿 🔪

Also, I've heard enough stories about drawbacks to polyphasic sleep to conclude that it's probably not a good fit for everyone. Some discussion on LW.

I think, at this point, the open question is if polyphasic sleep is a good fit for *anyone*. [This comment is no longer endorsed by its author]

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[-] [anonymous] 10y @ < -1 >
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I'm afraid that I'm entirely failing to grok what you mean with the "sex-tax" thing.

I *think* he's considering getting married or something, and having his wife do "boring" things "as cleaning the house" in exchange of sex -- though if I'm right, IMO that's an extremely bizarre way to put it.

[-] blashimov 10y @ < 2 >

No, he is saying by buying condoms you avoid the additional work children require. My understanding.

[-] [anonymous] 10y @ < 0 >

Yeah, that makes sense and explain the "counterfactual" part, which had eluded me.

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[-] diegocaleiro 10y @ < 0 >
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hahah, the papers on happiness which beep people asking how happy they feel durigna activities average the same amount of happiness for time spent with one's children and time spent cleaning the house. [-] diegocaleiro 10y @ < 0 >

Getting married actually increases happiness by an ammount I forgot. I was talking about children and beeps as you can see in a comment of mine below.

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