

TRANSHUMAN CAPITAL: LABOUR ECONOMICS AFTER THE FALL

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“Labour was the first price, the original purchase - money that was paid for all things. It was not by gold or by silver, but by labour, that all wealth of the world was originally purchased.”

Adam Smith

People typically want both leisure and to consume things. The less you work, the more time and freedom you have to do what you want. But typically, the less you work the less you earn. Different people make different tradeoffs, and then try to find jobs that fit them. People who can't get jobs close to their desired tradeoffs tend to become unhappy. People who can't find people to do their jobs for them also become unhappy. Hence the labour market.

WHY ARE THERE ANY TRANSHUMAN JOBS AT ALL?

Why use a person instead of AI for something? There are several reasons:

- People prefer people to do certain jobs, whether that is prostitution or being a priest.
- AIs cannot be trusted for certain jobs. Of course, there are some jobs that cannot be trusted to transhumans either.
- People can do some things AI are weak at. AI has fairly low active skills, cannot take much initiative, and often do not understand social relations.
- AI cannot be held legally responsible, and some contracts may require a transhuman as executor.
- Sometimes people are cheaper than AI.

Long before the Fall most economies were service economies where human capital was the cornerstone of productivity. People with rare skills – being a charming bartender, accordion player or insightful astrophysicist – have extra valuable human capital. But even a fairly mediocre engineer can solve problems it is hard for AI to solve.

AN ECONOMIC HISTORY OF THE LAST 10,000 YEARS

“The fact is, that civilisation requires slaves. The Greeks were quite right there. Unless there are slaves to do the ugly, horrible, uninteresting work, culture and contemplation become almost impossible. Human slavery is wrong, insecure, and demoralizing. On mechanical slavery, on the slavery of the machine, the future of the world depends.”

Oscar Wilde, The Soul of Man Under Socialism

Once upon a time practically all people were farmers. Someone suggesting that in the future many more people would be working in manufacturing in cities would have been met with incredulity: if they were not tilling the soil, what would they eat? But as the industrial revolution arrived, agriculture became much more effective. A single farmer with a field of potatoes, artificial fertilizer or a tractor could produce far more than his grandfather. Small farms were combined into giant farms. More and more people worked in industry, their food needs supplied by a smaller and smaller group of farmers.

As the industrial society matured into an information society the same thing occurred. More and more people were working in services rather than industry. An industrial worker might have wondered who would produce all the material things everybody needed? The answer was again a small but very efficient minority. First using ever more efficient factories, then using fabbing, robots and nanomanufacturing, an ever dwindling manufacturing industry could supply most needs. Similarly other areas such as construction could also be done by a few people.

As the information society matured services also began to be automated. Jobs that did not require creativity, skill and insight were slowly squeezed out by AI. Unskilled people increasingly moved into hard-to-automate service jobs or a sizeable class of jobless, while skilled people remained in a creative class living on their ability to be smart. Capital owners were typically doing great, of course, living off the returns of their investments in the growing economy.

Economic growth is fundamentally the combination of capital (someone invests money to get things produced and reaps a profit from it), labour (someone produces the things) and technology (how easy a worker or a team can make the things). Up until recently the only things that changed was how much capital was available and how good the technology was. The labour part was constrained by how many people there were around who had the right abilities (“human capital”) to do something – improving education and general smarts had an effect, but it was slow going.

A few decades before the Fall things began to change immensely. AI, which had always complemented people’s ability to do things, could increasingly substitute for transhuman workers. Instead of making a bureaucrat effective in handling cases, her admin AI could now do her job. Uplifts did the same, but to a far more limited extent. The reason was that once an AI was good at something it could be copied cheaply. The AI that could do the job of one low-level bureaucrat could be copied to do the job of all the low-level bureaucrats – at a lower price. Uplifts were just like extra workers, but still needed education and liveable salaries. AI embodied copyable “human” capital, and as always, when you can cheaply copy something it becomes cheap – no matter what content industries, unions or manufacturing companies would like.

The real boom began when uploads arrived. Not only could they compete by working faster in simspaces, they were copyable too. This gave transhumans an edge in competing for jobs against AI. However, most societies and individuals realized that churning out endless forks would profoundly upset their social order. Rules and customs against mass-forking and copyrations were strongly supported by most factions, fearing what would happen if they were let loose. Critics pointed out that this would likely not work to stem the tide: copyable is copyable.

Then the Fall occurred. The Fall did several things to the global economy. It killed off billions, making labour scarcer and hence pricier. It was also to some extent selective: people who were not plugged into the global economy and had no access to advanced technology rarely escaped Earth, while people with good human capital had (slightly) better chances of making it offworld. But their savings and bodies were usually wiped out in the massive economic crash.

The result was that there now was a labour pool that could be hired cheaply, had good human capital, and existed in software form while the demands for their services were high. Had the situation been a perfect market they would have gained high salaries. But with the breakdown of law and coordination, existing colonist indenture contracts, as well as the tempting vulnerability of software-form minds, a sizeable fraction was captured into unfair deals or outright slavery. To make the injustice even bitterer, for many their fate was completely random, depending on where their egocasts ended up.

ANARCHIST LABOUR

What about anarchist habitats? On the surface they have no labour market since everybody is free to do whatever they want and there is no money. But just because money does not change hands according to official contracts doesn't mean that there is no trade going on. You can only claim property for strictly personal use using your rep, everything else belongs to the collective. People gain rep and self-esteem by working, and others treat them based on this. Someone who merely enjoys the fruits of everybody else's labour will be seen as a parasite. They will not have any personal space, not be invited to parties, people will not do them services nor quickly come to their aid if they are in trouble. On Titan people deemed unproductive will be placed so far back in the queues for morphs and living space that they will never get them.

Anarchist groups also act as employers, with people taking defined roles within the group. That they are not formal does not mean they do not have structure and well-defined rewards for working for them.

THE WHITE MARKET: HIRING EMPLOYEES

"It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest."

Adam Smith

RECRUITMENT

People and organisations looking for employees typically use recruitment sites, employment agencies, headhunters and niche agencies. Of course, a large number of people are recruited through social networks or referral from other employees – this is why high Networking skills are useful both for employers and would-be employees.

Recruitment agencies maintain lists of candidates, and their consultants then match them with the open positions of their clients; the matches are sent to interviews. The agency gets a fee (typically 20-30% of the candidate's first year salary, but recruitment sites may be much cheaper). Niche recruiters handle staff with very narrow specialities, such as spaceship captains or XP actors. They often have more ongoing relationships with their candidates, sometimes acting as their agents. Depending on who they work for – employee, employer, or both – they will have different fee structures: agents get their fees from employees getting jobs, while brokers might get paid by both parts.

Headhunters are third-party recruiters that find candidates when the normal methods fail. They typically have experience and contacts in the industry they are recruiting from, often belonging to trade associations and maintaining extensive databases of people. They build relationships with candidates, investigating their suitability (sometimes covertly) and later attract them to work for their client (at this point they help prepare them for the interview and negotiate the salary). Typically they make more than 30% of the candidate's annual compensation if they succeed with the placement, making them too expensive for everyday recruitment. Typically they are used to find professionals, experts and executives, especially in fields where there are only a handful of potential candidates.

Employing somebody involves a legal contract. This can be as simple as running a standard contract past a notary AI or involve negotiating with government agencies for immigration and citizenship status, depending on habitat. Generally the Planetary Consortium and Extropians prefer lightweight hiring, where both parties are assumed to be trustworthy and free to make whatever deals they like. More statist polities like the LLA, the Morningstar Constellation, the Titanian Commonwealth and the Jovian Republic at least requires official filing of the contract for tax purposes. Especially Titan and Jupiter have further bureaucratic details.

Interviewing a candidate involves estimating their skill levels, suitability as a person and whether there are any other issues. If the GM is presenting candidates, this can be handled as a COGx3 test, a SAVx3 test and an INTx3 test, where or Profession: HR can substitute for any of the tests. A success gives useful information, critical success very exact information, a failure doesn't reveal anything beyond what is said and a critical failure provides an erroneous impression. Settling on the contract is an Opposed Persuasion

Test (Profession: HR is also applicable), similar to haggling over gear prices. Profession: Law can be used to formulate a more advanced contract. If any problems are found in the interview process they might give the employer a positive modification.

Firing employees is typically harder than hiring, but the difficulty is normally proportional to how complex it was to hire them. Depending on the contract the employee can get a more or less generous severance package, usually also including a severance agreement keeping them from working for competitors or suing the employer. Profession: HR also works when firing people, and in some cases it might be a resisted roll.

PAYING

Lifestyle costs per month range between Moderate for poor people, High for a nice middle class life, and of course, high-class lifestyles start at Expensive and then continue endlessly. People can survive on Low, but would then need to rough it. This cost is not just basic material needs like housing and nanofab access, but the intangible parts of modern life – transport, online services, entertainment, enhancement, education, and so on. These costs depend to some degree on location and lifestyle choices; it is possible to live a frugal life or to spend far too much by living in a pricey environment.

In most civilized societies people are not allowed to starve just because they do not work or cannot provide for themselves, but typically the conditions on living wage are deeply bad. Some polities regard life as an infomorph as good enough, repossessing any morph.

An employer will hence tend to pay High for an employed professional (1,500-10,000) and Moderate (500-1,500) for simple service labour. In some polities payroll taxes and social fees are added, bringing it up by between 10-60%. If course, in such polities there is always a certain amount of black market work.

On more disreputable habs, employers also need to pay protection fees, typically a few percent of the salaries or a constant stream of small rep services to the gangsters – buoying up the non-criminal rep of their front organisations, “gifts” of services or products, “hiring” one of their people. The larger and more formally incorporated the employer is, the more likely it is that it follows rules and pays taxes and less likely to pay protection rep, but in criminal circles protection is the only game in town and usually more expensive. On the plus-side, protection rackets *sometimes* protect their victims from other criminals.

WORKER POWER

“If you don't like your job you don't strike. You just go in every day and do it really half-assed. That's the American way.”
Homer Simpson

Unions are groups of workers who join together to achieve common goals. From an economic perspective they benefit by getting collective bargaining power against employers and by providing mutual support (which can range from physical protection to insurance to training).

The influence of unions and how they work varies widely across the solar system. Many of the hypercorps of the inner solar system are deeply set against them, leading to an antagonistic relationship. The Martian Infrastructure Worker's Association started as a benefits group but has become a de facto trade union. In the autonomist alliance it is often unclear whether there is a difference between a network (for example) maintaining a habitat and a habitat-worker union: they coordinate together, making sure other networks and individuals give them more rep collectively than they would get individually. Here the antagonism might be between unions instead, competing for social status. Titanian unions are much like trade associations, while the Jovian Republic prefers to have the unions as elements of state control.

Reputations matter. Employers that are stingy, maltreat their employees or have bad working conditions will lose reputation and have a high turnover among employees, while employers that pay well, have nice fringe benefits or just provide stimulating jobs will gain reputation and have the best and brightest knocking on their door. Individuals hiring others also put their c-rep on the line: disrespecting your employees can cost you when they lifelog about you.

People rate employers on JobRate, Bolimen, Examesh, Sunflower II or any other of the countless sites on the c-rep networks. Attempts to keep employees from spilling the beans tend to backfire spectacularly, and most hypercorps realize that it is better to try to memetically co-opt their employees to act as evangelists than to gag them. That still doesn't stop some of them (usually the ones in businesses where they do not need to worry about public opinion too much, like antimatter production companies like Omnicor) from making their employees zeros "for security reasons" or making sure everybody knows that those posts will come back and haunt them in their evaluations.

THE GREY MARKET: HIRING INDENTURES

“People would not call them transhuman resources if they were not meant to be strip mined!”

Indenture, or bonded labour, historically consisted of contracting for work for a fixed period of time in exchange for food, lodging, clothing, and other necessities. They were not paid, but were provided jobs and transportation. The form of indenture that appeared after the Fall is a form of unfree labour where payment to a large degree consists of cancellation of a debt for a morph (and other products often bought through the employer – overpriced company stores are common occurrences in isolated habitats). It does not descend to true slavery – indentures are paid, and they entered the contract voluntarily – but given the often low wages, the lock-in to the employer, the initial desperation to find a contract and the often exploitative deals it is not far from it. Not all indenture contracts are unfair, but when they are unfair the employer will often do their utmost to squeeze the most out of their indentures before they leave.

The modern indenture system emerged from the decay of nation states on Earth: as conditions became worse, people were willing to contract as bonded labour in the hypercorp colonies – it was a step upwards.

There are groups that do their best to hire indentures with the charitable aim at freeing them. However, they also have to compete with for-profit companies able to pay the brokers a bit more.

The best and brightest refugees have already been recruited: they could get good contracts fairly easily, and many have concluded them. For people in the creative professions making up the backbone of the economy indenture is rarely too harsh, since that would impair productivity. Hence a sizeable fraction of citizens do not see their past indenture as bad, just a regrettable necessity or a mildly bitter second chance.

The later refugees were less lucky: the second rate refugees competed for the same service jobs, driving down wages and hence making indenture contracts far longer. They are still stuck in indenture and will remain there for a long time. The people who remain refugees are those who are not easily placed for various reasons: they have low skills, mental problems, are viewed as security risks, have the wrong culture, criminal record or the wrong work ethic. By now the pool of potential indentures is getting appreciably shallower: there are still many, many desperate people, but it has become harder to find choice indentures.

INDENTURE RECRUITMENT

Indentures are typically recruited using infomorph or indenture broker firms. They act as recruitment agencies, interfacing with the firms or agencies keeping refugees in storage. The procedure is very similar to normal hiring, but the fees are somewhat lower. Once candidates have been selected an indenture contract is negotiated, often with the help of the broker firm. The key issue is the length of the contract. This can range from 1-2 years for valuable experts over 3-5 years for professionals to 5-20 years for unskilled services. Much depends on the morph or other perks offered: the better the morph the longer the contract. Some contracts involve morphs, therapy or training for family members – they are typically

several times longer. Conversely, indentures willing to do dangerous, isolated or nasty jobs can get significantly shorter contracts, down to one year to a splicer for surface workers on Venus.

The cost to someone of hiring an indenture is typically one level cheaper per month than a normal hire, with the extra cost of a morph (or other services). In the inner system there will be some degree of government oversight into working conditions.

Infomorph brokerage firms often work closely together with infomorph placement firms. The latter typically maintain their charges in some form of simspace, often giving them therapy, orientation and training to make them more employable (they are typically motivated since they get fees from the brokerage firms and often the government for every successful placement). Another variant is the infomorph temp agency, where the firm itself employs its charges and rents them out to clients.

ALTERNATIVES

It should be noted that there are autonomist groups who have conscription, especially for newcomers or people who owe the community a big service (like a new morph). They of course defend the practice as being in the social interest: citizens have an obligation to render services to their society. However, sometimes this is used as a way of getting labour out of low-rep individuals, who are given unpopular tasks or sent to do work for other groups that benefit the rep of the society. A particular case is criminals who are forced to pay off their debt to their victims or society by working for them.

In Extropian polities some people incorporate themselves, literally selling their stock. Buyers pay them to invest in their future profits, and get a say on the "board". This is commonly a way to fund expensive education or enhancement. Normally this is just partial: rational people of course never give up their controlling interest. But of course there have been cases where desperate or naïve people have managed to sell themselves completely, ending up as property. Most extropians prefer the far safer method of forming a one-person corporation employing themselves, of course. Typically corporate charters have clauses for unconscionable opt-outs, such as not being required to go against the rules of their law companies (which in any case tend to require such clauses if they are to enforce their contracts).

THE BLACK MARKET: BUYING SLAVES

“Slavery as an institution that degraded man to a thing has never died out. In some periods of history it has flourished: many civilizations have climbed to power and glory on the backs of slaves. In other times slaves have dwindled in number and economic importance. But never has slavery disappeared.”

Milton Meltzer, Slavery: A World History

The difference between a slave and an indenture is that slaves do not have any real legal recourse. A mistreated indenture is still a citizen and can bring a case to court; a slave is just a possession. The border can be blurry: some indentures are so strongly bound (for example by being limited to a habitat totally controlled by their employer) that they have no real chance to get justice, while some slaves could in principle escape or go to the authorities but for various reasons (such as the safety of their families) do not do it.

SLAVES AND THE LAW

Almost no polities officially countenance slavery, but the zeal with which they enforce the ban varies. Still, being found out to be involved in slave trading carries harsh penalties, ranging from involuntary indenture to ego deletion. Typically slave-owners take legal steps to muddy the waters for any investigators. It is especially hard to tell conditioned slaves apart from people in a normal submissive relationship to an employer, and some slavers merely pretend to sell long-term indenture contracts.

A slave may or may not be a citizen/recognized individual. If he or she is a citizen, their rep scores are effectively under the control of their master. This is frequently used by criminals to trade between g-rep and other rep networks.

Soul-traders are dangerous people by definition. They do not respect transhuman rights or laws, plus they often have large amounts of manpower to aim at opponents. A concerted harassment campaign or attack on one’s rep can be bad enough, but often they like to make examples of people who annoy them. This can include “escaped” slaves – even if their current owners are arrested and the slave given citizen rights, the syndicate might decide to return them to the fold or remove the risk of the slave blabbing too much.

CONDITIONING

“The moment the slave resolves that he will no longer be a slave, his fetters fall. Freedom and slavery are mental states.”

Gandhi

One of the main activities of Nine Lives and other soultrader syndicates is to examine and condition enslaved egos. They already have plenty of egos, the hard work is to figure out what they are good for and make them profitable. The price of a soul depends both on its skills, importance to others and how well it can fulfill what the new owner wants. To a large degree slavery is a mental state: slavers need to destroy the independence of their slaves.

The easiest way of using egos is to turn them into gamma forks, which are after all little more than AIs pretending to be the ego. They are easy to make perfectly loyal but they are also rather ineffectual. Beta forks of egos can be much more willful, but neural pruning can force them to behave. But again, they are not fully functional.

Real slave-owners use alphas that have been turned loyal. Psychosurgery is just one way of doing it: some people can be enslaved psychologically ("Tell me how much you like me to control you, slave 5"), through blackmail ("If you leave or disobey, I or my muse will activate the scorcher program inside your ego."), addiction ("Your pleasure system is keyed to my body odor. I am the only one who can make you happy.") or contracts ("Each time your forks fulfill a mission, your family gets 100 credits. You do want to keep them out of debt, right?")

An ego gains one level in price by being successfully "broken in" to do what it is told using one of the above methods. The price may increase two levels for a truly loyal slave - in this latter case a lot of psychological and social pressure needs to be skillfully applied to not just force them to obey but actually make them *want* to obey (without hurting their other abilities and traits). Such prime slaves are rare but also status symbols among nasty people. Like bonsai they take a lot of effort and skill to develop.

Unconditioned slaves can still be useful if they can be properly coerced. Keeping them as zeros in isolated environments or with puppet-socked morphs works. The main drawback is the extra cost of increased security, but this can be minor for many remote operations.

SLAVE PRICE LIST

- An ordinary person: Moderate
- An useful person (skills 60+, interesting experiences, or extant family): High
- A very useful person (Skills 70+, exceptional abilities, experiences or traits, family with larger ransom potential): Expensive and upwards
- Conditioning increases the price one level (achieved through psychosurgery, effective blackmail, addiction, working contract, or other means)
- True loyalty: +2 levels
- Mental traumas and other misfeatures decrease the price one level or more (psychological problems, neural damage, rebelliousness, exsurgent infection)
- Beta fork: one level cheaper.

- Gamma fork: two levels cheaper (includes loyalty)
- Widely copied ego: one level cheaper.
- Custom edit or designer slave (psychosurgery has altered personality, abilities or other traits in desired ways): one level higher