

# Driven by the Invisible: The economics of the unseen

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## Abstract

In this short paper, I review some recent work by myself and other economists – including the authors of the ensuing papers in this Special Issue – that takes seriously the proposal that the sources of human motivation seen as valid targets of investigation for the economist include not only visible and material sources, but unseen and intangible sources as well. Unseen motivations like love, loyalty, identity, and religious belief heavily drive resource allocation all over the world and have done so for thousands of years, and in this paper I review some recent evidence of what they produce in terms of particular economic choices and outcomes. With this paper and this Special Issue, I want to encourage young economists to take up the gauntlet of examining the unseen motivations of economic actors in more detail, abandoning the “as-if” defence of exclusively materialist models of humanity, and thereby pushing the discipline to engage more deeply with its core subject: real human beings.

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## Keywords

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## Introduction

A primary task of the economist who wishes to be socially useful is to guide the development of institutions and society such that human thriving is best nurtured, given the realities of human nature. This task is assisted by an unfettered and nonjudgmental examination of what motivates people, since such an examination can lead to a better understanding of human nature. Is this sort of examination practiced regularly, and encouraged, in our discipline? Arguably not. Students of economics are taught mainly models that feature materialistic individuals: economic actors who are motivated exclusively by targets that are material, universally desirable, and usually visible – such as money, leisure, and social standing. Yet any degree of introspection or historical observation reveals to the honest scientist that these are but a small fraction of the true goals that people aim for with their choices.

In most strands of mainstream economics, allowance is made in theory for an infinite potential set of motivations (“there is no accounting for taste”). This means that people in principle can desire anything, so being motivated by (say) love, identity, or ideology is not incompatible with mainstream approaches. However, this stance of “anything goes” as far as human motivation is concerned is not helpful in making the real-world resource allocation decisions that lead society forward. In fact, non-materialistic motivations do not usually appear at all in the standard models that practicing economists use of almost anything, from externalities to inter-

national trade to labour market participation decisions. While perhaps mainly a consequence of the practical uselessness of the “anything goes” approach, this omission carries the strong implication that economists believe that non-material motivations are simply not as important as materialistic motivations.

In this paper, in addition to briefly commenting on the remaining papers presented in this Special Issue, I argue for an enhanced and more conscious focus by economists on identifying and studying the effects of specific unseen drivers of human motivation. These drivers are just as important if not more important than the standard materialistic wealth- and consumption-related drivers that economists traditionally allow for in their models. While a “minimum set” of plausible unseen drivers has yet to be agreed upon by the discipline,<sup>1</sup> this set plausibly encompasses love and loyalty, group identity, ideology, self-image, and morality.

## Alien inhabitation?

In the episode of *Star Trek Voyager* entitled *Cathexis*,<sup>2</sup> an alien jumps from person to person, inhabiting them and directing their actions for a period of time. No one knows who the

<sup>1</sup>My co-author Paul Frijters and I have implicitly suggested such a minimum set in our 2013 book, *An Economic Theory of Greed, Love, Groups, and Networks* – but other contenders for this minimum set are also fair game for consideration, debate, and testing.

<sup>2</sup>An illustrative excerpt of this episode is available here: [youtube.com/watch?v=IWD7Clhuwcc](https://www.youtube.com/watch?v=IWD7Clhuwcc)

alien is infecting at any given time, and the person inhabited at any given time is at least somewhat unaware of the inhabitation. With exposure to the human culture, the alien learns over time what speech and behaviours to select that advance its agenda while still “blending in” with the human culture. This fantasy depiction provides a useful mental model in understanding the group of phenomena that comprise humans’ unseen motivations.

A large chunk of behavioural economics teaches that humans are not so-called “economic rationalists” in the sense of always behaving in strict accordance with our short-run, or even long-run, best material interests. This claim is supported by empirical evidence, such as our tendency to conform unreflectively to others’ behaviour, to follow our own prior habits, and to use heuristics to make decisions and move forward in complex situations. However, mindless conformity, habit-following, and the regular application of heuristics are reasonably benign explanations for deviations from so-called “rationality”, insofar as you might interpret them as “in-built defects in the machine”, where the machine still wants what economists think it wants, but it sometimes falters in aligning its behaviours with its objectives. Maybe, the logic would go, some defects like these are the inevitable result of design constraints – for example, nerve signals that can only travel so fast, or the constraint on available brain space given the need for human babies to get through the birth canal and for adults to walk upright.

I argue for a more radical explanation, for which behavioural economists have been laying groundwork for decades, but that is rarely spoken of publicly by mainstream economists. This is an explanation that invokes a model of the human decision-maker far broader than what economics textbooks set out. In this model, humans are motivated by unseen factors that drive their resource allocation decisions and that, moreover, they themselves are sometimes unaware of. These motivations can be at odds with what our culture implies is proper, but because it is usually important to be accepted by the group in order to get things done – we are a social species after all – people often defend the behaviours driven by these unseen motivations using language that signals conformity with what is deemed proper. Like the Star Trek crewman inhabited by an alien, the human motivated by an unseen factor must play along in order not to get found out, and the better he plays along, the more likely he is to find himself eventually in a position of power, and thus able to get more of what he wants.

The analogue of the Star Trek alien is somewhat misleading, in that not all unseen factors motivating humans are what most people would view as negative. Most parents are motivated very strongly by a love for their children, for example, though this love is not immediately evident from visible indicators of the parent’s economic position, such as his choice of superannuation portfolio, his earnings, or whether he owns his own home. However, parental love is also not something that many people feel the need to hide in most circumstances,

because society accepts it as normal. In fact for a parent not to carry this unseen love would be considered pathological in our culture, as in most cultures. Cultures differ though as regards the types of unseen motivators that are deemed proper, which we can easily see if we consider less extreme examples. Is it acceptable in every country for a man to be deeply devoted to a particular supernatural entity? Is it acceptable for him to carry a fervent love of the country he lives in? It is acceptable in every country for him to believe that equal pay for men and women is a desirable goal? What about not adhering to these ideals: is it acceptable to be an atheist? To hate one’s country? To not be committed to the goal of gender pay equity?

These issues are not just cultural nuisances, akin to mosquitoes on the arm of economic stewardship. The unseen ideals we collectively hold to be proper in our society – while they are not fashionable inputs to economic models – are of direct relevance to economics, because they influence our institutions, our policy settings, and the behaviour of the man on the street.

The situation in Australia, my home country, as regards Covid-19 policy is particularly illustrative of the power of an unseen motivator to drive economic policy. From the middle of March 2020 until the time of writing, the accepted wisdom in Australia has been that Covid-19 is a grievous health threat that has justified, at various stages, locking down the economy, closing international borders (which are still closed to the vast majority of would-be travellers) and domestic borders, and quarantining travellers who do cross borders. People who have questioned these extreme responses to Covid-19 or suggested that other approaches might be preferable from a social-welfare-maximising perspective have been by turns socially shamed, defamed, and subjected to extreme mischaracterisations.<sup>3</sup> Why has our society been unable to discuss openly and objectively the available options for dealing with Covid-19? Whatever the reasons, our failure to question the draconian responses by Australia’s Commonwealth and state-level governmental officials has produced the country’s worst recession in over a generation, hundreds of billions of dollars in national debt, and staggering human welfare costs paid by our people – not to mention the humanitarian catastrophe that our choices have helped to precipitate in the developing world.

I have argued elsewhere in this journal (Foster, 2020) and elsewhere (Foster forthcoming) that the reasons for Australia’s disgraceful policies in the first year of Covid lie mainly in unseen factors with which behavioural economists will be familiar. Fear, present bias, reference dependence, and salience were and still are major players in how people view this issue and how different options are weighed (a point also made by Graso et al., 2021). The unseen motivator of group power and associated loyalty signalling was and is also a major factor, with hundreds of professional economists prepared to sign a letter in April essentially claiming that trade-offs do not exist

<sup>3</sup>For example: <https://www.abc.net.au/news/2020-07-28/gigi-foster-accused-advocating-for-covid-19-deaths-q+a/12497442>

([covid19openletter.net/](https://covid19openletter.net/)), when approached by someone in the profession with sufficient powers of persuasion. This letter would not have existed but for instigation by its four core “heavyweight” authors, and the 200+ signatories would likely not have written it themselves. It is the clearest visible demonstration of the unseen travesty of the mass abandonment of the “normal” ideology of economists – i.e., that we should weigh objectively all trade-offs involved in any policy scenario and select that which carries the least harm to human well-being – in favour of signalling to other seemingly powerful people that one is prepared to toe the party line. This letter and the affiliated activities of its authors are likely to have significantly damaged Australia’s economy.

With a variety of co-authors, I have produced other indicative evidence of the economic implications of other unseen motivators, including patriotism, social norms, and love. Below I briefly review some examples of this recent work.

### Gone bananas

In Ko et al. (2019), my coauthors and I combine theory, data from New Zealand and Australia on prices and quantities of bananas traded, and empirical estimation to yield estimates of the welfare loss to Australia of restrictions on the importation of fresh bananas from overseas. Inspired by our observations at the shops of high domestic banana prices directly following cyclones, we wrote down a stylised model of banana production featuring a production lag (one cannot store fresh bananas for long) and known figures for the periodicity of cyclones and the typical severity of cyclones that affect Australia’s core banana-growing region. We collected the data required to estimate the price elasticity of domestic demand for bananas, and then estimated the welfare losses on the supply side and the demand side of not allowing competition with domestic growers. This lack of competition leads Australia’s domestic banana prices to far exceed world banana prices in most years, and especially in cyclone years.

In the paper’s introduction, we note that Australia’s restrictions on the import of fresh bananas from overseas are often defended on the basis that these restrictions protect Australia. For example, it is claimed that were we to allow entry into Australia of foreign bananas, these foreign bananas might carry foreign pests or diseases that would infect our home soil. Some people argue that it is a desirable goal to ensure Australia can produce all its own food (known as “domestic food security”) and that not producing bananas would contravene that principle. Some people also focus on the struggles of banana farmers. My co-authors and I interpret these defences of a policy that we estimate to have deleterious consequences for Australia as a whole to be examples of dressing up what is good for a particular subgroup in language that is acceptable to the whole group – just as the alien bouncing from person to person on the Star Trek ship gradually learns to blend in with the ship’s culture rather than just shooting people left and right. After all, we are all supposed to love the country and our fellow Australians, so appealing to the protection of

Australia and Australians will be viewed favourably at the first post by one’s fellow Australians.

Let me more closely examine these arguments that appear on their face to be upholding an unseen ideal – “the welfare of Australia” – of which our society approves.

First, the disease argument. Were we to allow imports of overseas-grown bananas into Australia – as New Zealand does, and as we do with some other fresh fruits – it is indeed possible they might have diseases. The banana diseases that get the most attention, banana freckle and Panama disease, have already been found on Australian soil and control measures have been adopted, presumably as they have been adopted in other banana-growing countries. Fruit imports can also be subject to fumigation. There are ways of fighting agricultural diseases and pests; humans have been doing it for years, and other banana-growing countries today seem somehow to still do it successfully enough to produce bananas. It is silly to imagine that were we to discover an infestation on our home soil of any significance, we would just roll over and let diseases infect all Australian farms. History teaches us to expect quite the opposite. Moreover, if we allowed imported bananas and eventually our own domestic industry were found to be uncompetitive in banana production, which the analysis in our paper suggests is likely to be the case, then we would no longer have a domestic industry to protect from these diseases.

Second, let me consider the argument of ensuring “domestic food security”. To start with, according to Australian government data, the country already produces over 90% of its own fresh produce, meat, milk and eggs domestically.<sup>4</sup> Were Australia not to import any foods, but instead to rely on domestic production of all its food, we would be forcing Australian consumers to give even more of their business to oligopolies. Many if not most Australian products, including many food products, are supplied by a small number of producers, which is a consequence of the reasonably small market size of Australia and our relative isolation from the rest of the world. The standard economic advice for maximising consumer welfare is to increase competition, not to voluntarily restrict it even further by preventing overseas food suppliers from offering their goods to Australian consumers. Hence to hold up as a good thing the image of a world in which Australia restricts food imports while producing all of its own food is actually the opposite of what basic welfare economics would suggest we should do to caretake Australians. Not only that, but putting all of one’s eggs in one basket – or in this case, taking them all from one basket – is also perilous by the common-sense laws of investing. Diversification of our supplies of food would in fact make our society more food-secure, and this is even truer in a world of uncertain climatic change that is likely, as the years pass, to affect different food-producing regions of the world differently.

Finally, on the argument of protecting Australian farmers, it is surely true that banana growers would experience costs in the short run and possibly the medium run from facing foreign

<sup>4</sup>[agriculture.gov.au/ag-farm-food/food](https://agriculture.gov.au/ag-farm-food/food)

competition. Farmers are not the only group that would like to be favoured in our policy settings, however: plenty of groups in Australia would like to receive protection, and they lobby for favours constantly. It is the job of the economist not to indulge all of these requests for favours (an impossible task anyway, given the scarcity of resources) but to balance everyone's needs and suggest the policy direction most suited to maximising total well-being. Quoting Henry Hazlitt, "The art of economics... consists in tracing the consequences of that policy not merely for one group but for all groups" (Hazlitt, 1946).

In the case of bananas, the result of the ideological approach rather than a real welfare-based accounting is the perpetuation of an effective subsidy from the entire country to a tiny subset of Australians (i.e., banana growers), leading to the use of Australian land for an inefficient purpose. If you consult data on our exports, the fruits in whose production Australia appears to have a comparative advantage are generally those that grow in Mediterranean climates, like oranges and grapes. This makes sense if you consider the scarcity of that type of climate in our region of the world. Our paper suggests that the resources presently used to produce bananas should, for reasons of increasing Australian welfare, be used to do something else (sugarcane, eco-tourism, or whatever the market discovers to be a competitive use of resources).

Although we demonstrated that Australia's welfare was being harmed by the restriction on banana imports, and hence offered implementable policy advice, our conclusion was not received fondly in all Australian circles. Indeed, when publicising this paper I quickly found myself to be thought of as "the alien" by many members of the public: someone with a malevolent hidden agenda that was, *voilà*, not so hidden anymore. I might say in response that the aliens inside many blog-readers, voters, and people on the street – aliens that many of them are not even fully aware exist – led them to be blind to the facts uncovered in this paper, as they also have been in regard to Covid policy, and to support policies that may not be as bad as firing a phaser on the Prime Minister, but nevertheless are not in our collective best interests.

## Norms and gender roles

Let me now turn to another example of an invisible motivation: social norms. I have written about this importance of this unseen motivator theoretically (Frijters and Foster, 2013) and explored it experimentally (Bose et al., 2021), and with Leslie Stratton at Virginia Commonwealth University I have published a suite of papers using Australian data in which we aim to estimate the economic importance of adherence to social norms in real-life society.

In one paper (Foster and Stratton, 2019), the analysis centres on the production of what can be seen as common pool resources (a clean house, warm meals, clean clothes, and so on) from which the exclusion of household members is costly, but not impossible. Efforts by household members to continually regenerate this common pool resource by cleaning the house,

cooking, doing the laundry, and so on is supported by the unseen commitment of the partners to the ideal of creating what might be called for ease of exposition a "comfortable home". Observational data on who actually does the housework in Australian homes to produce these common pool resources would be consistent with the conjecture that men and women have different average levels of unseen commitment to the ideal of creating a "comfortable home": specifically, even in dual-earner households and even when she earns more than he does, women in mixed-gender partnerships do much more housework than men do, on average.

What we wanted to know in this paper is the extent to which people's satisfaction overall or with different aspects of their lives responds to deviations from social norms about how much housework one is expected to do. Specifically, if norms about housework are not met – either by one's partner, or by oneself – does this have consequences in terms of satisfaction or happiness, which is arguably what ultimately matters?

To address this question, we use data from the Household Income and Labour Dynamics in Australia (HILDA) longitudinal survey on mixed-gender partnerships, including weekly housework performed and a variety of dimensions of satisfaction for men and women. In the first stage of our approach, we model the hours spent on housework by men and women separately as functions of observable characteristics of the household, yielding a predicted (or "expected") level of housework hours for each gender, and a residual component that captures the deviation of any particular person away from that expected gender-specific norm. Then, in the second stage of our approach, we model how satisfaction changes when he, or she, does more or less housework than expected – as captured in the residual of the first stage. We find, broadly, that men's satisfaction is unrelated to the deviation from norms of housework performed by either gender, whereas women's satisfaction is affected, and differently depending on the domain of satisfaction that we examine.

We interpret these results to indicate that women care more than men do about the domain of housework – they really "feel" it, whereas men do not, when the expectation of what should be contributed is not met. Women (invisibly) caring more about creating a "comfortable home" would be consistent with the large difference in hours of housework by gender that I mentioned earlier: women perform about 16 hours a week of housework, compared to men's 6 hours a week, in our sample. Our result that women's overall life satisfaction responds negatively when their men over-perform housework is particularly interesting if one interprets it as signalling what women actually want in a broader sense – i.e., to have a man who doesn't do "too much" housework.

One line of logic suggests that if women had something else drawing on their attention other than the creation of a "comfortable home", then that might lower their unseen commitment to the ideal of creating a comfortable home. In fact, if women's economic power in the labour force were to rise, then perhaps they and their partners too would start to change

their expectations of how much housework they should do.

In a second paper with Leslie (Foster and Stratton 2018), this question is tackled by examining how housework hours respond to the changing economic power of women. We proxy for the changing economic power of women by looking at female versus male promotions and terminations, controlling for paid work hours, and find that the only one of these four intra-household economic power shifters that also shifts housework allocations is female promotion. In particular, when their female partners are promoted, men do somewhere between 3% and 6% more housework and the promoted women do about the same fraction less (which yields a reduction in total housework hours, since her base level of housework hours is much higher than his). However, interestingly, men do not adjust their housework time upward when their female partners are promoted in less-educated partnerships, which tend to hold more conservative gender role attitudes. Gender role attitudes are usually unseen, but are measured in HILDA, fortunately for us.

In the third paper in this series (Foster and Stratton, 2021), Leslie and I look at what happens to marital satisfaction when women out-earn their male partners. We were inspired partly by a paper published in the *Quarterly Journal of Economics* by Marianne Bertrand and co-authors, using data from the NLSY79 and other surveys from the same era, that found robust evidence of lower marital satisfaction and a higher risk of divorce for married couples in the US in which wives out-earned their husbands. Leslie and I use more recent data for both the US and Australia and find the strength of the male breadwinning norm, if one believes that is what is responsible for these effects, to be much weaker than in the past. We find partnership dissolution and satisfaction within partnerships to respond to female breadwinning mainly in younger, co-habiting couples without children, and interpret this as the plausible result of standard economic forces – rather than unseen ideologies – operating upon women’s behaviour in the market for partners.

### Love, loyalty, identity and ideology

The final vein of work I will mention to illustrate how economists can explore unseen motivators focusses directly on that strongest of unseen commitments, and what I mentioned briefly at the start of this paper: love. My co-author Paul Frijters and I wanted to develop a theoretical framework, using mathematics, to capture the notion that our own identity at a point in time – which we may struggle even to articulate comprehensively – is a combination of many influences. We are members of different groups that hold different ideals over time (for example, one can be simultaneously an economist, a man, a soccer player, a musician, a husband, a father, a brother, an Australian, and so on). These multiple identities, which come along with unseen loyalties to multiple ideals, give rise to all manner of unseen motivations. Paul and I present a framework for understanding this nature of humans as mentally multiple (Frijters and Foster, 2017). We suggest a

way of re-defining what rationality is based on our model of a multiple, and fluid, self, whose nature may or may not be within the conscious awareness of the individual.

With my coauthors Mark Pingle and Jingjing Yang, I present a defence of love as a target worthy of direct interrogation using mathematical tools (Foster et al., 2019). We model the unseen power of love using a framework in which individuals can choose to invest in it or in productive activities, showing that love can play a major role in resource allocation decisions – if only we economists would let it.

Each identity we hold, every ideology we adhere to, and every love we cherish comes together with unseen habits of mind and a set of unseen heuristics and strategies for dealing with situations. When a decision-maker with multiple unseen loyalties encounters a decision, he may make a different choice depending on which mental framework he applies to the decision-making scenario. Loyalties are abstractions, and do not perfectly prescribe exactly what one should do; rather, they point to principles or ideals that one should uphold. This leaves open some space between abstract commitment and coal-face behaviour, which is why it is not immediately clear from the outward behaviour of an economic agent whether or not he has a particular “alien” inside him – and he cannot immediately tell from observing outward behaviour whether someone else has the same alien inside her, or a different alien. This is one of the reasons why ideology is so powerful in driving behaviour: ideals can be twisted by our smart brains into supporting all manner of actual choices, some of which – unbeknownst to the conscious mind of the actor – in fact violate the very ideal used to defend a choice. We see this for example in the case of Australia’s banana import ban.

The triggering of unseen loyalty to a particular ideal within the mind is like the nomination of an algorithm for solving a problem, or like selecting a heuristic to use in making a choice. Triggering of our unseen loyalties is how much of marketing works, not to mention political lobbying. The government too can trigger the appropriate loyalties when wishing to motivate pro-social behaviour: for example, to minimise littering, or to increase compliance with taxation.

The limits of monitoring describe the limits of direct control, and early indoctrination of children with ideals that promote behaviour in the interests of the common good – essentially, building a set of unseen motivators into developing humans – is a stunningly powerful tool. By injecting into children different combinations of unseen altruism, self-esteem, patriotism, shame, commitment to doing what is seen as “proper”, and so on, one creates adults who behave in very different ways. The big question that economists can answer in regard to this indoctrination and the society-shaping that it delivers is “what are the optimal unseen motivators that a benevolent social dictator would select and embed into people, if he wished to maximise human welfare?” In other words, which aliens should we implant? I would argue that the answer to that question should at least be a bit player in the construction of our educational curricula.

## The task ahead

The crowning ideal of the discipline of economics is welfare maximisation, and good economists are motivated by their unseen commitment to this ideal. In the world of economic models as they stand today, preferences are the ultimate unseen motivator, but thankfully (from a policy standpoint) there is more structure in that mysterious black-boxed error term than we admit. The authors of the remaining papers in this Special Issue have joined me in interrogating this black box further, and in ways that are relevant both for improving our understanding of human motivation and for developing better policy.

In “Guilt, Love, and the Behavioral Enrichment of Public Choice Theory,” Mark Pingle and Jason Lim investigate how the addition of guilt and love as unseen motivators underpinning people’s mental models of a social dilemma game can change the expected results of the game, and the optimal intervention by a benevolent government. Their mathematical exposition illustrates how, far from being beyond the reach of economic analysis, intangible commitments to ideals like fair play or commitment to the welfare of other people can be incorporated into economists’ depictions of the games played by humans in a way that delivers policy implications.

In “Effects of tax payment systems on tax compliance: Comparing the withholding system with the tax declaration system,” Mariko Shimizu compares both theoretically and experimentally two standard ways of collecting tax: via the withholding system, or via the tax-declaration system. For reasons that have nothing to do with actual wealth maximisation, she finds that compliance is far higher in a tax-withholding system. This is despite the fact that from a strictly wealth-maximising perspective, individuals should prefer the tax declaration system, as that system allows them to be wealthier for longer, hence potentially earning interest on the money that will eventually be paid in tax. This cannot be done in a tax-withholding system: it is the tax authority in such a system that benefits from holding the tax liability during the period of economic activity that is to be taxed. This simple paper demonstrates that unseen factors, apart from strict wealth maximisation, are at play in people’s financial decisions.

Finally, in “Strength of Social Ties: How Non-Monetary Bonds Affect East Germans’ Decision to Stay after German Reunification,” Alison Macintyre, Tony Beaton, Ho Fai Chan, and Benno Torgler examine the decisions of East German residents to move to West Germany. They demonstrate that these decisions at least partly depend on individuals’ previous cultural and social activities, themselves likely to proxy for unseen ties to other people and groups.

Our loves, our group loyalties, our ideologies, and the mental heuristics arising from all of these are irrepressible unseen human characteristics that colour the decisions in any economy. Future research into these traits and their impact in motivating economic decisions and outcomes holds huge potential both intellectually, and in terms of aligning our policy-making with the needs of real humans.

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