Income growth is unlikely to help, but we can learn from international comparisons

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Abstract: The paper by Paul Frijters, Andrew E. Clark, Christian Krekel and Richard Layard is a timely attempt to move subjective wellbeing (SWB) to the center of policy attention. I am essentially making three points. First of all, for this enterprise to be successful, one needs to have very solid evidence on what improves SWB and what does not. If policies are proposed that turn out not to improve SWB (or do so far less than expected), then the enterprise of making SWB the centerpiece of policy may be discredited before it has begun in earnest. As an example of this concern, my second point is that raising the incomes of all may have very disappointing effects on measured SWB. My third point is that at the current state of knowledge, the most fertile ground for learning about what works is to exploit international comparisons of policies and how these affect a nation’s SWB.

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... that razor which we borrowed from old Occam to slit the throat of cardinal utility has had to be turned into a sickle to reap a very formidable harvest of difficulties ...

(Robertson, 1951, p. 22)

I am very sympathetic toward the goal of the Frijters et al. paper. It is hard not to be, in view of the authors’ citation from one of my old articles with Tom Wansbeek (Wansbeek & Kapteyn, 1983). There are of course more quotations the authors could have chosen. I have started these comments with a quotation that I used for my PhD thesis (Kapteyn, 1977). Indeed, applying Occam’s razor leads one to only require an ordinal utility function (or equivalently a preference ordering) in a static setting without uncertainty to derive demand

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functions from the hypothesis of utility maximization. However, this astoundingly morphed into a belief that utility could not possibly be measured on a cardinal scale. Of course, this is related to the idea that people’s words cannot be trusted. Only their choices are supposed to tell us what they really want.

Thus, respondents are assumed to choose between bundle A (or situation A) and bundle B (or situation B), but they are not supposed to be able to assign a cardinal number (say on a scale from 0 to 10) to either A or B, or at least we are not supposed to trust what they would be telling us. In the spirit of Robertson’s quote above, I have discussed elsewhere (in my inaugural address at Tilburg University, also a long time ago) how this unwillingness to consider direct elicitation of utility has hampered our understanding of economic behavior (Kapteyn, 1985).¹

Over the last several decades, the tide has turned² due to the pioneering work of many. In economics, more than anyone else, Richard Easterlin, whose 1974 article (Easterlin, 1974) famously led to what has become known as the Easterlin Paradox, has spawned more than a cottage industry in exploring the economic determinants of happiness or life satisfaction. The endeavor undertaken by the authors of the Frijters et al. paper is a natural and important consequence of the increased prominence of subjective wellbeing (SWB) as a measure of the human condition.

The authors recognize that there is still much to be learnt about how policy affects SWB. They propose a ‘learning by doing policy development’ approach. Although this may be realistic, it also entails the risk of early failures and the possibility that such failures might discredit the whole enterprise. It is important, therefore, to start with policies for which the evidence of their effects is most robust and where the case for causality is strongest. The examples given in their paper do not always satisfy these requirements, as I will argue in more detail below.

For policies to be accepted, public support is indispensable. The literature on determinants of SWB has produced some counterintuitive results. The most striking one is undoubtedly the strong adaptation of SWB to new situations and the relativity of assessments of one’s own situation. One manifestation of this is that raising the incomes of everyone may be a very ineffective approach to raising SWB in a society. Nevertheless, there is a strong intuition that higher incomes are going to make us all happier, so proposing policies that

¹ For the purpose of these comments, I am using ‘utility’, ‘life satisfaction’, ‘subjective wellbeing’ and ‘happiness’ interchangeably.

² Though not completely. For example, Bond and Lang (2019) assume that life satisfaction answers only reflect orderings, and then show that comparisons of average happiness across groups lead to arbitrary results – not a great surprise.
move away from economic growth as the primary policy goal may encounter strong resistance, as it will be felt as robbing citizens of their rightful piece of the growing economic pie. Adaptation also raises difficult moral questions. If we know that people adapt to negative shocks, does that mean there is no reason to soften the blow, as SWB will recover without help in any case?

A third aspect to be considered is what policies one should start with if the goal is to improve SWB in society. Table 1 in the Frijters et al. paper suggests a number of candidates to start with in the areas of work, income, education, relationships, health, crime, environment and diet. The paper elaborates on one of the domains: income. The discussion is based on the findings by Lindqvist et al. (2018), who followed lottery winners over time and concluded that a 10% increase in income increased life satisfaction by 0.04. It seems to me that this implication does not carry over to a policy that would aim at raising the incomes of everyone. In the lottery study, winners experienced a permanent improvement of their position in the income distribution. Such an effect is absent if the incomes of everyone are raised.

I would argue that there might be other policies where one is on safer grounds. Related to this, one of the greatest sources of information about what works and what does not is the comparison of policies across countries. Such comparisons avoid fallacies of composition, as in the example of inferring the effect of general income increases from the effect of income increases for some. Nowadays, a number of very large internationally comparable datasets are available that can be exploited to learn how policies affect the wellbeing of citizens. These include the Gallup World Poll, the World Values Surveys (WVS) and several regional ‘barometers’, such as the Eurobarometer.

What do we know about the determinants of SWB?

The paper cites several examples from the literature purporting to quantify factors that influence SWB. Not all of these examples are well chosen. The examples in their ‘Wellbeing policy priorities’ section are cases in point. Their figure 2 shows a number of factors that ‘explain’ variation in SWB based on the British Household Panel Survey. Several of these factors are plausibly endogenous: happier people may find it easier to find a partner (Stutzer & Frey, 2006) or may be more successful in employment (Walsh et al., 2018) and they may be less inclined to commit a crime. Diagnosed depression/anxiety explains 46% of the variance, which leads to the question of whether this causally affects life satisfaction or whether it is simply a component of life satisfaction by another name (it certainly is a component of experienced wellbeing).

Their figure 3 suffers from similar problems. Social support is based on self-reports of respondents in a country. Since response styles are likely to differ...
between countries (Kapteyn et al., 2007, 2009), it is easy to imagine that in a country where respondents are more likely to respond positively to the question ‘If you were in trouble, do you have friends and relatives you can count on to help you whenever you need them, or not?’, they are also more likely to respond positively to a question about life satisfaction. In addition, the macro-level regressions are likely to suffer from omitted variable bias. It shows, for instance, that income differences across countries explain half of the variation that can be explained by these factors (the factors jointly explain 76% of the total variation in life satisfaction). However, average income in a country is strongly correlated with other characteristics of a country, such as life expectancy, environmental health, government quality and public safety (Helliwell & Huang, 2008; Diener et al., 2010; Kapteyn et al., 2017). This omitted variable bias is likely to induce substantial overestimation of the effect of income. In addition, the estimates are based on a static cross-country regression that does not take into account adaptation effects. Were one to take an image like their figure 3 as a basis for policy, then: (1) a number of potentially important policy variables would be ignored; and (2) the effect of income would be overestimated.

Policy, science and common sense

In cases where scientific research into the causes of high life satisfaction agrees with common sense, it is likely easy to implement policies that improve SWB. One might argue even that in such cases scientific research is not very important for policy-making, as the public and policy-makers are likely to agree on the best course of action. The value of scientific research for policy-making increases in cases where research yields results that are not intuitive. At the same time, these are the cases where it will be more difficult to convince policy-makers and the general public of the right course of action. The correlations listed in their ‘Wellbeing scores match our common-sense predictions’ section are good examples. Most policy-makers will agree that full employment and good health care are worthy goals, and the public is likely to agree.

Most will also agree that having a higher income will improve life satisfaction. But that is where the trouble starts. There is a fierce debate in the scientific world about the role of income in determining life satisfaction. Those in the Easterlin camp (to which I probably belong) would argue that the intuition that higher incomes buy happiness is an illusion, or at least is severely biased. At any given moment, people with higher incomes tend to be happier than those with lower incomes. However, if we raise everyone’s income, then the relative position does not change and no long-term SWB gain may be had. People do not just compare themselves with others, but also with
themselves in the past. From that angle, a higher income does raise satisfaction, at least temporarily. However, if norms adapt, then after a certain period SWB may return back to where it was before (e.g., Clark et al., 2008). This notion has been around for a long time and goes under names such as the ‘hedonic treadmill’ (Brickman & Campbell, 1971) and ‘preference drift’ (Van Praag, 1971). The point here is that these mechanisms are not intuitive. One simply observes that having more income is better, but this is likely to ignore the hedonic treadmill.

Consider the following simple example. Let the utility function be:

\[ U(y_t, h_t) = y_t - h_t \]

where \( y_t \) is log income at time \( t \) and \( h_t \) is a ‘consumption standard’ in the same period: the higher \( h_t \) is, the higher income needs to be to attain a certain utility level. I am assuming that the consumption standard is influenced by both past consumption (habit formation) and the income of others (relativity). The following simple specification captures both of these effects. Define an instantaneous consumption standard:

\[ m_t = \lambda y_{t-1} + (1 - \lambda) \bar{y}_{t-1}, \lambda \in [0, 1] \]

where \( y_t \) is log income in period \( t \) and \( \bar{y}_t \) is the mean of log incomes in the agent’s reference group (however defined; one possibility is that the reference group is the whole population in a country). I next specify \( h_t \) as follows:

\[ h_t = (1 - a) \sum_{\tau = -\infty}^{t} a^{t-\tau} m_{\tau}, 0 \leq a \leq 1. \]

So the effects of past income levels (both own income levels and income levels in the reference group) decay geometrically. We can rewrite this memory specification in the usual partial adjustment form:

\[ h_t - h_{t-1} = (1 - a)(m_t - h_{t-1}). \]

To illustrate the effects of this specification on the acceptance of certain policies, consider two cases. The first case is where incomes have not changed in a long time. In this static equilibrium, in period 0 we have \( h_0 = m_0 \) and utility

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3 The example given here is a special case of a theory of preference formation I have developed in my PhD thesis (Kapteyn, 1977), which postulates that the utility of income is just the ranking in a perceived income distribution, where the perceived income distribution is a convex memory-weighted combination of the various income distributions one has observed over time. One’s own income is part of the perceived income distribution. The variable \( h_t \) would be the log mean of the perceived income distribution.
is equal to \( y_0 - h_0 \). Now assume that both the individual under consideration and everyone in his or her reference group experience a one-time increase in log income by a factor \( \alpha \). It is easy to see that utility in subsequent periods will be equal to:

\[
U(y_t, h_t) = y_0 - h_0 + \alpha'.
\]

Thus, life satisfaction is higher than in period 0, but the difference decays over time and ultimately returns to the original equilibrium level.

A second case of interest is stationary income growth at a rate \( \alpha \). In that case, it is straightforward to show that utility equals:

\[
U(y_t, h_t) = y_0 - h_0 \frac{a}{1 - a}.
\]

In this case, life satisfaction is structurally higher than in the case without income growth, but it is not the case that life satisfaction increases with increasing income. It remains constant.

The point of this exercise is to show how this may affect public acceptance of policy choices that trade off income growth for other goals (e.g., stronger safety nets, more investments in health care or the environment). I am assuming that citizens are naïve (i.e., they do not account for the change in their consumption standard when considering the effect of a higher future income in comparison to other goals). This trivially biases policy goals towards income growth, since the utility benefit is systematically overestimated.4

This example took the Easterlin hypothesis for granted. If, on the other hand, life satisfaction is a function of absolute income, as argued by Stevenson and Wolfers (2008), Sacks et al. (2012) and Stevenson and Wolfers (2013), then no such bias would arise. But this raises a different problem. If scientific research produces such strikingly different results, how can one then base a policy recommendation on it? It seems paramount to start with findings that are robust and not subject to fierce scientific controversies. I would argue that a place to look for such findings is in the international comparison of policies and outcomes.

4 The possibility that satisfaction in certain domains is fully adaptive has been taken as an argument against the use of subjective measures on the grounds that measures are not sufficiently sensitive to changes in circumstances. This would put the cart before the horse: rather than investigating why SWB may not always respond to changes in circumstances, it disqualifies measures because they do not fit common preconceptions.
Macro-policies and international comparisons

Since SWB appears to vary systematically across countries, a natural (and important) question is to what extent these differences are the result of differences in policies and institutions. Countries with a higher gross domestic product (GDP) per capita tend to exhibit higher average SWB. Yet, such a correlation does not necessarily imply that money buys happiness. Several papers suggest that the positive correlation between GDP per capita and average SWB comes about because a higher GDP ‘buys’ factors that improve life in non-monetary spheres, such as longer and healthier lives. Here are some examples of studies that try to explain differences in average SWB as a result of differences in policies.

Helliwell and Huang (2008) use data from the WVS and the European Values Survey combined with data on indices of government quality (taken from Kaufmann et al., 2009). The ‘quality of delivery’ index is a combination of four indicators: governmental effectiveness, regulatory quality, rule of law and control of corruption. ‘Quality of the democratic process’ combines two indicators: voice and political stability. Quality of delivery appears to be particularly important for SWB in low-income countries, while quality of the democratic process gains in importance when countries get richer. The relationship between average SWB and log GDP per capita loses statistical significance in models with a sufficiently rich set of governance quality indicators. Although their paper focuses on the effect of overall government quality indicators, the authors do consider the effect of government policy on population health (measured by life expectancy and healthy life expectancy) as a channel through which government quality affects average SWB. The effect of health on SWB, in turn, is strong in poorer countries (defined as countries with per capita income of less than half the USA in 1995) and non-significant in rich countries.

Oishi et al. (2012) used data for 54 countries represented in the 2007 Gallup World Poll for which information is available about the progressivity of the income tax system. They found that, in countries with a more progressive tax system, residents are on average more satisfied with their lives. Moreover, in countries with more progressive taxation, residents are more satisfied with public goods. In countries with a less progressive tax system, there appears to be a stronger relationship between personal income and life satisfaction. This is consistent with the results from Kapteyn et al. (2013),

5 The indices are updated regularly. See http://info.worldbank.org/governance/wgi/#home.
6 The mean of seven satisfaction ratings (1 = satisfied, 0 = dissatisfied) of ‘public transportation system’, ‘the availability of quality health care’, ‘the availability of good affordable housing’, ‘educational system or the schools’, ‘roads and highways’, ‘quality of air’ and ‘quality of water’.
who found that satisfaction with income has a much stronger relationship with own income in the USA than in The Netherlands. One interpretation of this is that in a country with a less progressive tax system, marginal tax rates are lower and hence private consumption possibilities increase more sharply with income; an alternative interpretation is that if citizens derive more satisfaction from higher income, they are less willing to tolerate higher marginal tax rates.

Di Tella et al. (2003) used the Eurobarometer survey series and the US General Social Survey (GSS) to study the effects of macroeconomic changes on life satisfaction. The data represent cross-sections of 13 countries over several years (18 years for the Eurobarometer and 23 years for the GSS). Their regressions included several individual-level variables, including employment status and income (in quartiles), all of which had the expected sign (income had a positive effect and being unemployed had a negative effect on SWB). More strikingly, the national unemployment rate displayed a strong negative relationship with life satisfaction, while the benefit replacement rate was strongly positively related to life satisfaction. The authors interpreted this finding as a possible ‘fear of unemployment’ effect. When the national unemployment rate goes up, one’s personal unemployment risk rises. High benefit-replacement rates, however, mitigate this threat. Blanchflower et al. (2013) obtained similar results. Several other papers have also found a positive association between SWB and the existence and generosity of social protection programs (Di Tella et al., 2003; Helliwell & Huang, 2008; Pacek & Radcliff, 2008a, 2008b; Boarini et al., 2012; Boarini et al., 2013; Easterlin, 2013; Carr & Chung, 2014; Wulfgramm, 2014; Fonseca et al., 2015). Similarly, in an analysis of life satisfaction across the 50 US states, Alvarez-Diaz et al. (2010) found a strong positive effect of the size of transfer payments on life satisfaction in a state.

It appears, therefore, that policies that mitigate the consequences of adverse financial events, such as job loss or catastrophic health events, are likely to be SWB enhancing. There is indeed considerable evidence that this is the case (Morduch & Schneider, 2017). For instance, when asked whether it is more important to them to have financial stability or to move up the income ladder, 92% of Americans choose security (Trusts, 2015). Income volatility may negatively affect psychological wellbeing if one is uncertain about whether one will make enough to make ends meet. The psychology literature shows that uncertainty causes anxiety (Carleton et al., 2007), worry (MacLeod et al., 1991) and stress (De Berker et al., 2016). Although this is only meant as an example, it appears that a policy rooted in known psychological mechanisms, and with strong comparative macro-evidence, would be an attractive candidate for policy intervention.
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