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September 2014

Online at <https://mpra.ub.uni-muenchen.de/60875/>

MPRA Paper No. 60875, posted 26 Dec 2014 16:21 UTC

WOMEN AND HAPPINESS

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ABSTRACT

We survey the Happiness and Economics field to systematize the explanations of the happiness gender gap, whose puzzling evidence stands out both synchronically and diachronically. Further, this analysis is completed by an interdisciplinary review of competing perspectives, mostly from psychology and medical sciences. Beside disciplinary specificities and differences, results and explanations also reveal some intriguing commonalities. Psychology and medical sciences (also assisted by cutting-edge medical technologies) lead in the static (time-invariant) explanation of happiness and its gender gap, while economic works are better equipped to detect external factors and the role of time-varying objective life conditions. In particular, the Happiness and Economics field has provided original evidence on the country and time variant nature of the happiness gender gap. Finally, different disciplines uncovered the common stylized fact that women are increasingly worse off during their life, by aging, with respect to men: its full explanation still remains at the center of the research agenda.

1. Introduction

The Happiness and Economics stream of literature is interested in studying subjective well-being (henceforth, SWB) and, to operationalise empirically this enquiry, employs the constructs¹ of happiness and life satisfaction. The latter, beside being two different concepts, are often treated as synonymous by its scholars - reciprocally and with respect to SWB; instead, in psychology, life satisfaction is typically only a component of SWB², together with other measures and conceptualizations targeting emotional well-being³.

A crucial point involved in examining the “technology of happiness” (in the sense of Bruni, 2004) is to ascertain whether or not gender plays a discriminating effect in shaping patterns of SWB. This point is motivated by several considerations. First, men and women are commonly perceived as being, beside biologically, also psychologically and culturally different, so that this presumption may lead to expect that two genders also differ in the way they perceive, emotively react and cognitively assign meanings to external conditions and events, and socially interact, thereby shaping gender-specific patterns of happiness. Second, contemporary times (at least since the early twentieth century) saw a remarkable progress in women’s life conditions, starting from Western (developed) countries: conquest of political rights (electorate), new economic rights (increasing female labour force participation), attainment of a more egalitarian social status and improved consideration for women’s role in society are examples which prove uncontrovertibly how conditions for higher quality of life were progressively set for women. Now, it turns out crucial to examine whether and how these large improvements in what are commonly considered objective conditions of quality of

¹ We define construct as a *ex post* rationalization of empirical evidence. A construct is not necessarily supported by a general aprioristic definition (as in the case of a concept).

² In the psychological literature, happiness is frequently assimilated to emotional well-being.

³ In turn, subjective well-being can be conceptualised as a “broad category of phenomena that include people’s emotional responses, domain satisfactions and global judgements of life satisfaction” (see Diener et al. 1999; p.277).

life⁴ translated into a higher level of women's happiness. Finally, one of the most important epistemic acquisitions of a large body of heterodox thinking in economics (among all, feminist economics) is the awareness of the severe shortcomings affecting the metaphor of the perfectly rational *homo oeconomicus*, and its assumption of representative (masculine) agent.

Hence, in this chapter we focus on the differential paths to happiness that the two genders may exhibit, starting from specific characteristics distinctively displayed by men and women (from emotions and biological correlates to rational preferences, passing through a comprehensive list of other physical and psychical attributes). While discussing the potential gender determinants of SWB, we consider both traditions studying it - the hedonic and the eudemonic approach - and we include into our analysis other constructs and correlates, specifically analysed by fellow disciplines. A main example is the multifaceted and evolving construct of psychological well-being (henceforth, PWB), which has long been the main research target of psychology.

In section 2 we first review the disciplinary delimitations of the field, concentrating on psychological explanations of the happiness gender gap. In fact, we believe that such a “non-imperialistic” economic approach will help us to select the most robust trans-disciplinary findings. Section 3 introduces the main approaches of the economic discipline, and goes on to present the main explanations; together, it also underlines a few debated issues on gender inequality and social justice – also from a normative point of view. Section 4 concludes, summarising the main findings and underlining a few points for the future research agenda.

2. Happiness and gender diversity: comparative disciplinary insights

2.1. Introduction

Research on SWB is inherently complex and interdisciplinary, as its ultimate targets - mind and human behaviour - are. A similar consideration holds even stronger when studying the role of any potential gender specificity influencing well-being. In accordance with their methodological statuses, different disciplines have tackled these gender themes with a variety of methods and results. Some, like psychology, have yet accumulated more than a century of empirical research (mostly through laboratory experiments and clinical practice), while others have entirely focused on the topic since foundation (gender and sexuality studies); economics, instead, is relatively newer on the field, and its interest varies among sub-disciplines (a main example being feminist economics).

Indeed, a growing consensus has emerged on the fact that economics, because of the epistemic reductionism characterizing its dominant paradigm, accumulated a comparative disadvantage in the study of important determinants of human behaviour and SWB, narrowly restricted to the metaphoric analysis of utility maximization performed by the *homo oeconomicus*⁵.

⁴ We understand this construct as a more objective and non-mediated instance, mostly expressed by external circumstances, such as pollution, criminality, human rights, standard of law or prevailing health (care) conditions. Hence our definition of quality of life, typical of economics and some sociologists, and closely related to that employed by hedonic psychology (Kahneman et al. 1999), is stricter and diverges from subjective and hybrid views, that also include individual conditions and personal beliefs.

⁵ In this respect, we believe that a very insightful long-run perspective on the economics' heuristic impasse is that offered by Bruni and Sudgen, (2007), according to which a main watershed for the discipline was the “Paretian turn”, when the would-be mainstream approach neatly removed from its disciplinary foundations very promising insights stemming from the then-contemporary research on the psychology of sensation.

While psychology has used both constructs, SWB and PWB, (for a review, see Ryan and Deci, 2001), economic contributions have mainly focused on the first, directly surveyed without giving any *a priori* theoretical definition. However, economists' SWB and surveys inevitably bring a prevalent flavour of cognitive assessment of life conditions (overall, like happiness, and by life domain), while the constructs and methods used by psychologists were specifically designed to register ill-being statuses, pathological conditions and emotional components⁶.

The differences between the two disciplinary approaches to SWB extend to the type of determinants investigated, with economists mostly assuming that SWB depends on actual life conditions (objectively observable), and psychologists paying more attention at cognitive processes by which people match aspirations and actual attainments (or conditions) (Lewin, 1996). Typically, such a matching involves dynamics of hedonic adaptation⁷. As we will see below, acknowledgement of the aspiration-attainment hypothesis is a crucial step made in the latest literature addressing the explanation of the life cycle trends of happiness between women and men.

A main result of the psychological approach to SWB is that individual happiness would tend to a set point level determined by personality and genes, while life conditions and occurrences would only explain momentary deviations from this individual fixed level; for instance, the detection of the serotonin-transporter 5-HTT gene is now influencing a surge of many similar papers. Diener (2000; p.37) synthesises this point observing that objective life conditions, as also verified by economists, do explain only a minor part of the inter-individual differences in happiness, as small as 15%, or so. This dynamic and adaptive view of happiness is not shared by most economists. Easterlin (2006), for example, argue that, while the psychologists' view may hold with respect to the determinants of individual differences in happiness at a given point in time, it does not apply to the explanation of the happiness movements over the life cycle, where personality and genetic factors are likely to remain invariant, while objective life conditions do evolve greatly.

Achievements of the economic contributions were primarily gained at the level of the life conditions (such as income, employment status, education, and other socio-demographic and institutional factors), while progresses have been slower at the individual and personality level of analysis, for a series of reasons. For example, individual-level variables and personality traits are inherently endogenous to the single unit of analysis, and this may introduce a bias into the econometric analysis when individual-level observations lack the longitudinal dimension (for a review, Ferrel and Carbonel 2004). Moreover, the original sin of the *homo oeconomicus* metaphor has long prevented the discipline from developing a fully fledged theory of choice under uncertainty, bounded rationality and emotional perturbances, based on systematic experimental evidence. The usage of this metaphor also dampened the maturation of adequate knowledge on actual behavioural gender differences, which developed with substantial delay (a review will be presented in sub-section 3.1).

⁶ With the advent of positive psychology, the research programme and ambitions of psychology were extended to actively promote human well-being, and not merely to treat pathologies. As a consequence, the meaning and scope of the SWB and PWB constructs have evolved.

⁷ Kahneman and Deaton (2010) find out that the two SWB components have different correlates: life evaluation is closely related to income and education, while emotional well-being to health, care-giving and loneliness. In particular, income would determine life satisfaction with continuity, while is positively associated with emotional well-being only until a certain threshold; moreover, low income would aggravate the emotional ill-being connected to bad life occurrences (divorce, loneliness, etc.).

2.2. Gender diversity: insights from psychology and medical sciences

Due to its more ancient and developed research agenda, a meaningful review does need to start with methods and results achieved by psychology. This was later complemented by the acquisitions of biology and medical sciences - a main example being the fast-expanding progresses of neuroscience.

Hyde (2005) traces back the first signs of the debate on gender diversity to the early steps of formalised psychology, during the 1870's. Yet before the I World War period, the debate had already unfolded and two distinct positions had emerged, one emphasising gender diversity and another, on the opposite, believing that within-gender variations are more sizable and important than between-gender differences. This debate is also interesting for its patent synchrony with the contemporary developments of society at the dawn of the XX century, when important gender egalitarian movements emerged in Western countries: a main example is the suffragette movement in UK. Since the 1960's - again in apparent conjunction with the broad socio-economic evolution and cultural transition unfolding in Western industrialised countries - gender issues have progressively revived the interest of social sciences. Eagly (1995), among others, provides one of the first most comprehensive and debated literature reviews, spanning a quarter of a century and specifically addressing the issue of psychological gender differences in personal and social behaviour.

We believe that, after more than a century of psychological research on gender differences, several old questions evolved while remaining open, and newer findings often do not represent generalizations of previous results, but rather better contextualizations or delimitations. In other words, new findings detecting gender differences mostly hold by domain and frequently introduce new interdisciplinary elements that enrich the causal framework: psychological experiments on gender behaviour may call up differential biological influences (for eg., hormones), while neurological correlates of gender differences (for example, as provided by brain scan imaging technologies) cannot rule out the influence of diverging education and social conditioning mechanisms.

Despite these epistemological qualifications, it is undoubted that the so-called "difference model" between the two sexes in psychology still represents the received wisdom, having being popularised worldwide by bestseller books. Moreover, over time it has seemed to receive scattered confirmations from medical sciences. For example, the existence of biological and brain differences and the role of hormones underpinning gender-specific illnesses, disorders or behaviours have been recognised in neuroscience (see Kimura, 1996; Cosgrove et al. 2007). In particular, the conditioning effects of experimental exposure to gonad steroids on moods and gender-related behaviour was seldom documented, although further research is considered to be needed to strengthen the heuristic basis of the neurobiology of mood and mood disorders – for example controlling for experimental contextual factors and genes (Rubinow et al. 2002).

New revolutionary advances are also expected in the knowledge of the causes of gender behaviours (both physiologic and pathologic), as long as the application of neuron-imaging techniques to the study of brain differences across the two genders advances. Actually, instruments such as the Functional Magnetic Resonance Imaging (fMRI) feature not only as a powerful research tool for neuroscience, but even as a disruptive knowledge counterfactual for the long autarchic research programmes of various social sciences. However, some psychology scholars continue to challenge the supremacy of the difference model, pointing to its uncertain empirical grounds. Hyde (2005),

for example, upgrades existing collections of evidence elaborating 46 major meta-analyses⁸, and finds that gender differences vary substantially in magnitude according to age⁹ and depend on the social context of measurement (framing of the experiment, gender roles in the research setting, socio-cultural level, etc.). On overall, Hyde finds support for an opposite “gender similarities” hypothesis, while stressing how over-emphasised findings on gender differences so far have adversely impacted on women’s well-being and gender justice in domains such as the labour market and social relationships. Finally, it is also likely that the literature itself brings a bias in favour of the difference model, being journals more likely to publish papers that report a gender difference than the contrary (for a similar view in experimental economics, see Croson and Gneezy, 2009).

Other survey works from psychology emphasize the domain-specificity of gender differences, while looking at their well-being correlates. Nolen-Hoeksema and Rusting (1999)’s comprehensive review targets PWB, including in the latter both major psychopathologies (or disorders) and everyday moods and behaviours¹⁰. A main gender difference detected by Nolen-Hoeksema and Rusting concerns negative internalizing phenomena, with women suffering from a higher incidence of depressive and anxiety disorders than men; these differences tend to persist during the entire life. Also with everyday moods and behaviours, women register more accentuated experiences of criticality (such as guilt, sadness and anxiety), and express them more vividly; moreover, they seem to better than men in communicating these moods, and in recognising the same feelings in others. Second, the picture seems to overturn when one considers externalizing phenomena, mostly resulting in severe aggressive behaviour. Here, men register a higher incidence than women of negative externalizing disorders (such as those stemming from antisocial personality and substance use): these differences emerge very early in life, and remain stable across cultures. Instead, in everyday externalizing moods and behaviours (for eg. anger), gender differences are less marked and often depend on specific domains and circumstances, with women feeling more inhibited and self-contained than men in expressing aggressive reactions. Third, concerning positive moods, it seems that women do report experiencing more happiness and more intense positive emotions than men. The most interesting part of Nolen-Hoeksema and Rusting’ work is the review of the explanations of these gender differences – mostly available for negative moods and behaviours. Three main classes of explanations emerge: biological, personality and social context explanations.

- a) Biological explanations traditionally distinguish between hormones and genes, with the first being the oldest theme and featuring the majority of contributions. Women’s behaviour is commonly considered to be heavily influenced by hormones - for example during the premenstrual period of the fertility cycle, or during puberty and menopause - that appear to accentuate anxiety and depression moods. Despite the received wisdom, according to Nolen-Hoeksema and Rusting (1999) there is little sound empirical evidence to validate this conjecture, with many supporting studies being biased by methodological aspects (retrospective reporting, dubious causality, omission of environmental factors, etc.); in many cases, omitted “hard” variables (financial conditions, relational and social dynamics) could instead account for the major part of the perceived emotional female distress, together with unfavourable cultural factors (aesthetic stereotypes from fashion and mass media,

⁸ A meta-analysis is a quantitative review that, by pooling many studies featuring the same question, aggregates their findings by calculating an average normalized effect size.

⁹ The finding on the age variability of gender characteristics introduces into the analysis a formidable element of complexity, since it requires the availability of longitudinal samples and the control for cohort effects. We will extensively explore this point below while discussing contributions from the Happiness and Economics literature.

¹⁰ Hence, PWB here matches the most traditional acceptation employed in clinical psychology, differently from the more rational assessments of life or other recent conceptualizations of PWB (see also Roothman et al. 2003; p.212). Consequently, also taking into account the review character of Nolen-Hoeksema and Rusting’s work, caution should be exercised in assimilating its PWB concept to the happiness construct used by most economic approaches reviewed in section 3.

unbalanced education to self-esteem and sexuality¹¹). All in all, the hormonal hypothesis *per se* seems to require far more robust empirical validation - at least for women¹². Conversely, concerning the influence of genes on gender-specific paths of moods, Nolen-Hoeksema and Rusting point out that (at that time) supportive evidence is scanty and very preliminary¹³, and better studies should be framed. In the most recent literature, this prudent perspective has been upgraded by new discoveries, from various disciplines. For example, medicine scholars increasingly point to direct genetic effects, rather than hormones *per se*, as drivers of differential gender behaviour, thereby depicting a trend towards gender-based biology and medicine (Ngun et al. 2011). In some cases, biological determinants (such as genes and hormones) are found to jointly interact to determine gender-specific paths of well-being. For example, in a recent study (Chen et al. 2013) focused on a US-representative cohort of New York residents, happiness questions were administered controlling for a large set of economic, socio-demographic, psychical and physical health covariates – including individual genomic DNA. Findings suggest that the presence of MAOA-L (the low expression allele of the MAOA gene¹⁴) predicts higher self-reported happiness, but only in females; in men, the male hormone testosterone (already associated with antisocial behaviour) would play an antagonist effect. This study is representative of the future research agenda, where the progress of the human genome map can enable a new generation of studies targeting the conditional (mediated) influence of genes on well-being and gender dimorphism¹⁵.

- b) The most encompassing personality-based gender diversity explanation is the “affect intensity” theory, and it is concerned with one’s intensity of response to emotional stimulation; works by Ed Diener and others affirm that women experience both positive and negative emotions with higher intensity than men. Together, there are other evidences that depict women as more reactive to others’ emotional experiences, and claim that their copying strategies with negative moods are likely to prolong depression and anxiety (like with rumination), differently from men. A related and unsolved question, however, remains that of explaining the ultimate origins of personality traits, their gender differences and the varying size of the latter across countries and cultures, that probably requires a mix of concurrent causes. For instance, Schmitt et al. (2008) investigate a wide set of 55 countries (including Africa, Middle East and Asia, beside Europe) and surprisingly find that larger sex differences in personality traits are positively associated with higher level of human development (long and healthy life, equal access to education, economic wealth): this apparently counter-intuitive evidence¹⁶ might be explained by a mixture of environmental pressures and more speculative biological factors. This paper also points to the uncertain origin of personality, and its dubious capacity – when taken alone – to explain related psychological phenomena such as PWB.
- c) Social context explanations are a rich and interdisciplinary field of factors potentially accounting for gender diversity. As a main example, physical and sexual abuses come first in terms of disruptive potential on women’s PWB: to date, women continue to be highly

¹¹ We will come back to the social and mass-media conditioning issue in sub-section 3.3, when discussing sociological and economic approaches to the gender gap in a life-long perspective.

¹² A certain positive firm evidence is found for testosterone’s impact on aggressive behavior in men.

¹³ The only case mentioned is genetic causation of men’s higher vulnerability to alcoholism.

¹⁴ The monoamine oxidase A (MAOA) is a gene involved in mood regulation, being a catabolic enzyme of serotonin, noradrenalin and dopamine neurotransmitters.

¹⁵ This approach also questions the validity of many previous experimental findings based on animals or simpler “reaction-type” laboratory tests, as not being capable of reproducing the full complexity of human physiology and mood modulation.

¹⁶ In fact, according to the “social role” model, in a given society greater gender equality should promote smaller personality differences between sexes.

exposed to violence and the long-lasting consequences of abuses. Concerning inequities of power in heterosexual relationships, evidences are mixed. Nolen-Hoeksema and Rusting (1999), for example, do not find that the “role-overload” (accumulation of more working roles by women) is associated with depressive symptoms: rather at the opposite, they uncover an association with emotional well-being. We will come back on this in sub-section 3.2, while discussing the equally complex and ambiguous test of the “double shift” theory within economics. Finally, the psychological literature detected a positive influence of culturally-embedded gender roles with respect to experiencing and expressing emotions (with women being expected to be more emotionally unstable and expressive), and that early parent-child interactions do foster learning and adoption of these gender diverging emotional behaviours. Potentially, these factors could bias the actual measurement of the happiness gender gap.

Social gerontology offers another valuable contribution by concentrating on SWB correlates in older age groups and across birth cohorts. This literature is also more directly comparable with the “life cycle approach” to the happiness gender gap (Plagnol and Easterlin, 2008), reviewed in sub-section 3.3. Pinquart and Sörensen (2001) provide a systematic meta-analysis of 300 empirical studies on gender differences, contemplating a large set of well-being measures. A few important results stand out. First, older men and women do differ with respect to SWB and aspects of self-concept (subjective age perception, self-esteem), with men being better off than women; however, the size of these differences is generally small. Second, these differences in SWB and self-concept seem to depend on women disadvantages (such as higher risk of being widowed, higher morbidity rate, and lower socio-economic status and daily competence), although more research is needed on the possible bias caused by differential propensities to report negative feelings. Third, gender differences in life satisfaction (always favoring men) appear more accentuated in later studies, probably reflecting real birth cohort effects: hence, according to the authors, considering that among all SWB indicators life satisfaction is the most sensitive to the aspiration-attainment balance, the previous evidence may be a first sign that, despite the recent progresses in attainments, higher aspirations may engender trade-mill dynamics and accentuate the older women’s disadvantage in this specific measure of SWB. We will see in sub-section 3.3 that a similar phenomenon is also detected by recent socio-economic contributions.

All in all, it is possible to summarise the above literature review saying that psychological evidences support both biological (innate) and behavioural (learned or environmentally provoked) causes of gender diversity in PWB, SWB and related measures; further, the most realistic picture is that both types of causes are at work and interact to reinforce each other, concurring to the explanation of the happiness gender gap. Concerning the effects, women do appear to be the most vulnerable gender, being adversely impacted by internal and external dynamics, with respect to what happens to men. Finally, social gerontology provides a significant evidence that at later ages women’s well-being deteriorate more than men’s one, for a complex set of causes that go beyond physical and psychical determinants, to include socio-economic and environmental factors.

3. The happiness gender gap in economics

3.1. Introduction

After a long period of neglect, gender issues have progressively entered economics, both extensively and intensively; several streams of literature can be detected, with a surge of contributions dating back to the 1970's; again, contemporary socio-cultural evolution seems to have heavily stimulated and guided the emersion of new sub-disciplinary research agendas. By and large, a first sizable body of systematic contributions is that of feminist economics, that has put out a main challenge to the neoclassical mainstream approach - in particular with its criticism towards the metaphor of the *homo oeconomicus*, a masculine, autarchic, emotionally-blind, relations-free and hyper-rational stereotype of human behaviour, whose constituting elements have been gradually falsified (in the true Karl Popper's meaning) first by experiments of behavioural economics (for a leading systematization, see Kahneman and Twersky 1979), and more recently by laboratory findings of neuroscience (Nelson, 2010). Early feminist economics could be somehow interpreted as a defensive response to the prevailing orthodoxy aiming at reconsider women's role in society and economic development (Boserup, 1970), or to tackle long neglected gender issues (such as women labour market and societal discrimination) for informing a gender-aware public policy discourse. More recently this sub-discipline has converged with other approaches (including Happiness and Economics) towards the constitution of a new systematic theoretical paradigm of gender-friendly human behaviour – both positive and normative - rooted on cutting-edge interdisciplinary advances and able to frame a more realistic explanation of human well-being.

More generally, a main heterodox message is that practicing economics without a sharp gender focus can result to be highly misleading, since women' and men' behavioural experiences and outcomes show up very different in various socio-economic domains (Sen, 1990). Hence, even a research programme focused on gender-related issues, such as fertility and family decisions, like that pioneered by Gary Becker, may not be sufficient to reveal distinct socio-economic dynamics¹⁷. Also in labour economics, scholars explaining gender gaps (both in wages and employment opportunities) comprehensively tested many datasets and carried out hundreds of experiments for decades (for recent meta-analysis about the wage gap, see Weichselbaumer and Winter-Ebmer, 2007; on gender gaps in unemployment rates, see Azmat et al., 2006): however, they rarely questioned the basic assumptions of the mainstream approach. This heuristic approach, when considering that women frequently hold “adaptive preferences” (*id est*, adjusted to their discriminated status – see Sen, 1990), can be methodologically flawed.

The investigation of gender inequality and its impact on women's well-being features particularly at the centre of the eudemonic approach to happiness. In particular, economists such as Amartya Sen and philosophers such as Martha Nussbaum formulated a competing view of human well-being centred on the process of Aristotelian flourishing (now mirrored by positive psychologists such as Martin Seligman), based on the enhancement of basic functional “capabilities” (henceforth known as the “capability approach”). Ensuring these capabilities, rather than utility or access to material resources¹⁸, should be the primary goal of both public policy and the individual. These capabilities are defined as substantive freedoms individuals have, above and beyond any formal right or even personal awareness of their existence; in fact, ignorance or false consciousness could hinder

¹⁷ For the feminist critique of the Becker's model of the “household utility” function and leisure time allocation, and an empirical test of time inequality within marriage, see Phipps et al. (2001).

¹⁸ This does not mean that Sen, for example, excludes as unimportant mental states such as happiness; rather, he rejects the utilitarian exclusive reliance on them, and the omission of non-utility information from moral judgments popularised by welfarist theories. For a review of the capability approach, see Robeyns (2005).

individuals from their appreciation. In detail, capabilities are the consequence of the freedom to achieve valuable “functionings” (the latter consisting in “beings” and “doings”).

In the perspective of social and gender justice, human rights are certainly related to capabilities, but their ontological status and operative potential, according to Nussbaum (2003), are less precise and not self-enacting and provide, on overall, inferior policy guidance with respect to capabilities. For example, Nussbaum notices that while in theory women in many countries hold formal political rights, or that of participating to the labour market outside their own house, in practice in several cases the corresponding capability is not effectively possessed, due to social stigma and beliefs or to explicit family prohibitions interfering with women’s desire for emancipation. These phenomena of subtle gender inequality, capable of impacting on well-being, are not always registered in statistics on human rights.

Recently, the expanding field of experimental economics has brought a new wealth of laboratory evidence capable of highlighting differences between men’s and women’s preferences, mirroring earlier psychological studies. Croson and Gneezy (2009) offer a very illustrative review of these gender differences, which span three main domains:

- a) Preferences about risk/uncertainty. A first robust finding arising from laboratories and field studies is that women are more risk-adverse than men, in a large majority of tasks and contexts. Interestingly, some findings mainly hold among white racial samples, but not in other ethnic groups. Consequently, this is a first sign of cultural determination, together with the fact that gender differences tend to vanish in professional samples (managers and entrepreneurs)¹⁹.
- b) Presence and shape of social preferences (others-regarding behaviour). Results are generally mixed and contradictory; instead, a main empirical regularity arising from games is that women appear more sensitive to cues from the experimental setting than men, while the latter tend to play in a less context-specific way. In other words, women’s strategic actions exhibit more interdependence with the rules of the game (information, other players’ actions, pay-offs).
- c) Preferences about competitive interactions (tournaments, bargaining, and auctions). Definitely, women appear less competitive than men. In this case, diverging explanations compete. Some approaches point to the presence of a socio-cultural dynamics of gender discrimination and “backlash”, according to which it would be rational for women to avoid competitive behaviour, due to their perceived disadvantaged conditions. Other studies based on cross-ethnic evidence underline the presence of socio-cultural determinants shaping the competitive attitude, with women behaving more competitive than men in matrilineal societies. On the opposite side, competing explanations propose species evolution and genetic determinants as a main cause, arguing that men and women developed strategies for survival, to maximize the environmental fitness of their genetic endowments: accordingly, psychological characteristics and gender behaviours would be inherited, and genes or hormones would play a dominant role in explaining competitive behaviour²⁰. This explanation has received several confirmations, being matched by numerous studies which find a positive effects of male hormones (principally, testosterone), and an antagonist effect

¹⁹ Self selection (together with learning) is frequently believed to account for the disappearance of preferences gender differences in professional samples. For an econometric test of female self-selection effects in managerial positions in relation to SWB outcomes, see Trzcinski and Holst (2012).

²⁰ Despite biological differences, both women and men seem to abide by hormonal influences, competing aggressively with their pairs for higher chance of reproduction, genes transmission and quality of offspring: a main difference would be that women behave more aggressive only during the ovulation phase.

of progesterone²¹, on aggressive and competitive behaviour. More generally, biological determinants feature at the centre of new expanding fields within economics, such as neuroeconomics or, in this specific case, endocrinological economics (Pearson and Schipper, 2013). We also notice that these evidences tend to match some of the psychological literature evidences reviewed in sub-section 2.2.

On overall, taking stock of the state of the art of the experimental economics literature, we think that, while some regularities are promising and deserve further research, caution should be exerted at inferring univocal biological mono-factor explanations for differential gender preferences. A main reason is that the setting of the experiments reviewed above is frequently less than perfect, and the uncovered causality links might be affected by self-selection or other biases (endogeneity, unrepresentative sample, etc.). Further, experimental economics so far did not provide evidences directly connectable to the happiness gender gap: consequently, since performing transitivity analogies between their findings on preferences and hypothetical patterns of SWB or PSW would be very tentative, focused experiments are in need. However, this heuristic strategy may not be very promising, due to the static nature of experiments face to the longitudinal variability of the happiness gender gap.

3.2. The happiness gender gap: measurement and explanations

In the empirical literature of Happiness and Economics, gender issues initially did not awake any major interest among researchers. For a sizable period, gender was only considered as a socio-demographic covariate and its role was confined to control for possible gender specificities, exogenous to individual choice. The estimated differences between female and male happiness scores were generally small, favouring either women or men depending on the sample studied, in such a way that gender seemed not to deserve further investigations²².

A first exception is Clark (1997), who tackles gender issues while focusing on a domain satisfaction, namely, job satisfaction. Using the first wave (1991) of the British Household Panel Survey, the author finds that women have higher job satisfaction than men, even if their jobs are usually worse than male's. The author interprets this evidence with a sort of relative utility explanation: women may have lower expectations about their jobs given their worse working history, so that on average their aspiration-attainment balance is more favourable with respect to the men's case. In fact, as a control, he also finds that for those (men and women) who have higher expectations, this gender difference disappears. Around thirty years after the beginning of the field, Blanchflower and Oswald (2004a) point out an interesting fact concerning gender. In an investigation of the differences among Britons and Americans' SWB, they find a negative trend on happiness for the American population. In detail, it is women who have been experiencing a decline in happiness. Stevenson and Wolfers (2009) explore what they called "the paradox of declining female happiness". Despite the title could seem to allude to a worldwide phenomenon, it refers specifically to the American case, jointly with other 12 European countries: here, the female and male SWB trends over nearly 35 years (from the early 1970s to early 2000s) are explored in detail. Again, the paper's main point is that, despite over that period the lives of American women had substantially improved by many "objective" measures, this was not accompanied by an increase in female happiness. Rather, they document for US that a declining trend of women happiness occurs, both in absolute terms and relatively to men; for the European countries, the female declining trend is verified mainly in relative terms.

²¹ This hormone is high during the non fertile phase of the menstrual cycle, where the competitive behaviour is not observed in women.

²² Dolan et al. (2008; p. 99) is a recent literature review which briefly mentions the effect of gender.

Two are the questions that arise at this point. First, if the decline of women's happiness is a worldwide phenomenon. Second, what is possibly causing this relative decline of happiness in women or, put differently, which are the specific drivers of female happiness. We will follow this sequence while trying to present what has been concluded so far.

The first question can be tackled examining the worldwide-aggregated evidences elaborated by Vieira Lima (2013), while investigating the happiness gender gap in SWB for a wide selection of countries (85), spanning the period 1981 to 2009. Her heuristic strategy was to privilege a wider global perspective, so that she worked on individual data offered by the combination of the World Values Survey (WVS) and the European Values Study (EVS). The resulting dataset does not have a panel structure, but offers repeated cross-sections, totalling 5 surveys collected at country-variant years. Hence, although data do not support a diachronic analysis²³, they do enable an extremely valuable static snapshot of the worldwide happiness gender gap, including countries featuring a variety of stages of development.

[table 1 about here]

Table 1 presents the coefficients²⁴ of the gender dummy estimated from a large set of individual-level regressions: basically, they represent the estimated happiness gender gaps across countries and years, after having controlled for a large set of individual socio-economic and demographic controls. Interestingly, the gap assumes both positive and negative values, although the global picture reveals that it favours women in the majority of cases: in fact, around 71% present a positive value (meaning a pro-women happiness gap), and only 29% a negative one (favouring men). Moreover, nations with different development statuses appear at both sides of the distribution represented in table 1, to further confirm the country-variant roots and complexity of the investigated phenomenon²⁵.

All in all, after controlling for individual factors and extending the analysis to a large set of heterogeneous countries, Vieira Lima does not uncover any sign of a generalized happiness gap against women, but rather the opposite – at least in a static perspective²⁶. This is a fairly original confirmation for the fact that there shouldn't exist any strict 'iron law' governing the happiness gender gap around the world, and that women's happiness destinies also respond to various country-based circumstances.

To set the stage for answering the (previous) second question is more complex. From a socio-economic point of view, women's life could be richer to analyze once compared to men, since the first seems to involve a wider and more heterogeneous set of "functionings" and tasks: for instance, women may get a formal job on the labour market (full or part time) as men, but at the same time also work at home (as housewives); normally, they raise the children and frequently take care of the elder relatives; in addition to that, women also take part of the community, social and political lives. Moreover, their presence in these different domains is expected to have grown in parallel with their process of emancipation, compared to the early decades of XX century²⁷. As subtle as this evidence can be, it does suggest that both women's aspirations (preferences) and

²³ Only 14 of the initial 85 countries offer more than two annual observations: Brazil, Bulgaria, Finland, Germany, Mexico, Moldova, Romania, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom.

²⁴ They come from country-based ordered probit estimates (136 country-year runs), due to the ordinal nature of the depend variable (life satisfaction). The gender dummy assumes value 1 for women, so that the estimated coefficient favors women when positive.

²⁵ Further results show that mean differences of the gender gap are diverging in a statistically significant way with respect to development stages; in developed countries the gap is nearly the double with respect to that of developing countries.

²⁶ Moreover, out of the 14 countries providing more annual observations, a proper negative trend of the gap over time is only observed for Romania (indicating declining female relative happiness).

²⁷ Stevenson and Wolfers (2009) present evidence that young girls now give high importance to many different domains with respect to the past, and relatively to young boys.

achievements may have greatly changed over time, together with their net balance. Hence, a comprehensive investigation of female happiness' determinants cannot avoid exploring specific domains, starting from labour issues.

Employment and participation to the labour force

Implementing the conditions and policies that enable women to flourish (*id est*, to use their full capabilities) in the work domain is not only a matter of gender justice; plenty are the evidences on the economic benefits of women's inclusion both in the labor market (with benefits for the economy and society) and in the single organization (by the female personality characteristics promoting mediation, adaptation to changing circumstances, innovation – hence profitability)²⁸.

The female well-being is deeply connected with the family-job trade-off, that really constitutes an everyday dilemma for many women. Further decomposition of women's employment status shows the heterogeneity of women's preferences, constraints and choices. Employed women are of two types, full-time and part-time workers; and the category out of the labour force is also not homogeneous: there are those women who have preference for home caring (therefore choosing to be out of the labour force) and those who would like to work but cannot due to family constraints (i.e. being constrained to be out of the labour force)²⁹.

The second-shift theory (Hochschild and Machung, 1989) emphasizes that women in general face two shifts of work: one at the workplace (on the market) and one at home, with the workload of domestic affairs. While this pattern may be changing – with men dedicating more time to domestic tasks (Blau, 1998), being more involved in child raising, and thanks to electrical automation of many homemaking activities – in most of the world it is still women who are responsible for taking care of the house and the family members, totalling a higher amount of working hours. How this impacts on their well-being? Following the double-shift reasoning, one should expect that women would prefer and therefore be happier to work less hours at the workplace, or prefer part-time employment instead of full-time, for instance. However, evidences diverge on the perceived benefits of reduced hours or part-time employment on women's life satisfaction (see, for example, the works of Clark, 1997; Booth and Van Ours, 2008; Gash et al., 2012; Berger, 2013).

It is plausible that full-time jobs, or at least higher working hours, constitute the prevalent preference for working women – and also working mothers³⁰; surely men are happier in full-time jobs. On the other side, the literature so far shows that much of this divergence depends on the lack of family-supportive institutions, summed up with the intrinsically lower quality characteristics of part-time employment, which prevent professional fulfilment; these two factors are uncovered as the two main obstacles of women's life satisfaction correlated to the employment status.

In detail, poor availability of childcare centres is one of the most significant constraints women (and a family) face when managing to find and maintain a formal job³¹. While many children do attend childcare centres, most of these institutions provide only half-day service: this severely conditions women's choice for part-time, even though, in an unconstrained world, one

²⁸ For a discussion, see Trzcinski and Holst (2012).

²⁹ The subject of unemployment by gender is less studied and we do not tackle it in this chapter. Nonetheless, Winkelmann (2009) confirms previous results (for representative German samples) that unemployment has a stronger negative effect on male SWB, with respect to the female one.

³⁰ In fact, usually women without children (being freer to choose) opt for full-time jobs – which are better paid and more intellectually appealing, as we will discuss below.

³¹ For a wider list of policies impeding women to participate to the workforce, see Gash (2009).

would have a preference for full-time employment or entrepreneurship. In the same manner, most childcare centres have limited flexibility of service hours, so to reduce their helping potential³².

Part-time jobs, typically feature a very different type of job, with respect to full-time. Usually via two paths. The first is pecuniary: women's part-time hourly pay tends to be inferior to the corresponding full-time one, and sometimes inferior to part-time male's pay. The second, non-pecuniary, is that part-time jobs tend to be more menial and less intellectual, or considered of inferior worth. In fact, when moving from full-time to part-time jobs, women tend to experience occupational downgrading, as shown by Connolly and Gregory (2008)³³. Besides, Gash et al. (2012) find evidence that only those women who maintain the same job are happy with reducing working hours. Indeed this feature further exacerbates the difficulty of reaching professional fulfilment with part-time positions.

To sum up, concerning the final effect of full-time or part-time employment on female SWB, there is no clearly definite answer, *ex ante*. It will depend on the net effect of the pros and cons of each of the two working schemes, which change from country to country, family to family. More generally, this discussion reminds that preferences are not always revealed by outcomes, and recalls the Sen (1990)'s idea that women frequently hold "adaptive preferences", being influenced by their differential social status.

Concerning women who are out of the labour force, in theory there are two main subgroups: those who prefer not to work (having a preference for homemaking and raising children), and those who are not able to work (substantially due to family constraints). Unfortunately, most of the datasets are unable to distinguish the two subgroups, only identifying housewife. Consequently, the results are mixed, although the majority of the works show a positive effect (with varying significance) of being housewife on SWB. Berger (2013), using the German SOEP panel manages to disentangle these two subgroups. This decomposition is of great value, and reveals that being constrained to be housewife is an issue even more relevant than unemployment. The calculated impact (applied to her sample) of enabling the "not able to work" subgroup to take up employment would be equivalent to the increase in SWB brought by the reduction of 10.5 percentage points on the unemployment rate.

Fertility, marriage and divorce

Also fertility decisions play an ambivalent influence on well-being and the gender gap. Having children is one of the most significant events in life, promoting parents' human flourishing. A quick look at the European Values Study (Family Statistics, 2014), for example, shows that a large part of the (European) population considers that men and women need to have children in order to reach a fulfilling life; in particular, in terms of frequency, such a social norm is stronger for women's life. A predominant thinking is also that, in order to grow up happy, a child needs a home with both the father and the mother; in a related way, the vast majority believes that parents should do the best for their children, at the cost of their own well-being. Indeed, the latter popular belief seems to match many findings from the literature on parenthood and SWB, that uncovers a insignificant or negative effect of children on parents' well-being (for a concise review, see Stanca, 2012; sect. 2). In a sentence, it seems that the eudemonic goal of having children may come at a high hedonic cost, in terms of parents' SWB.

³² While the necessity for sorts of informal childcare help had always existed in the humanity (usually women helping each others in their communities, or making usage of the grandmother's and other family members' help), the demand for formal childcare institutions typically grew in more developed countries, where the childcare supply is frequently publicly funded. Instead, in less developed countries, other policy priorities (eradication of analphabetism and primary education) reduce the budget available – if any.

³³ This, besides being a matter of gender discrimination, also determines economic inefficiency given that the skills and human capital of many women are underutilized in part-time jobs.

This somehow counterintuitive result needs further investigation. First, it seems that also life stages play a role in determining the effects of parenthood on SWB. Kohler et al (2005), for instance, using Danish data on twins, find evidence that for both genders at ages between 25-45 the first-born child has an important role in promoting the parents' SWB - but not additional children, which instead reduce the SWB of mothers (but not of fathers). For a first child born before or at the age of 21, a long-term negative effect is observed for the women's well-being, but again not for the male's, while it was not found any significant effect of parenthood on SWB of those between 50-70 years old. They conclude that, given that the gains in SWB are essentially related to a first-born child, the choice or preference for a bigger number of children might be more strongly connected to socioeconomic conditions, social norm or other policies and contexts. In fact, Stanca (2012) confirms that children have a negative effect on overall life satisfaction (being the negative effect of the parent dummy greater for women than for men) but also that, very interestingly, the possible positive effect of children on SWB is suppressed by the large cost the put on the parents' financial satisfaction. Once analyzing individual non-financial satisfaction, not only children are positively and significant related to SWB, but this relation also strengthens in their number.

Concerning partnership and marital status, while their effects on SWB has been comprehensively studied in general (for eg., Stutzer and Frey, 2006), their disaggregation by gender is more rare. An exception is Kohler et al. (2005), that show that both men and women in partnership experience substantially greater SWB than those who aren't, with men being the ones who profit most; a related interesting point is that this relation is not found for the number of previous partnerships. In a similar vein, with US pooled cross-sectional data Blanchflower and Oswald (2004b) provide evidence that having frequent sex activity (weekly and more) is significantly promoting SWB – especially for women; a positive effect is also detected for having it within the same partnership (depicting a sort of premium for marital fidelity). These two evidences together indicate that a single regular and caring relationship is more rewarding in terms of SWB than having different sexual partners, or than the number of partners one had in the past³⁴. All in all, evidence of sexual activity as a committed dialogic act is uncovered.

It seems, though, that a caring relationship is a necessary but not a sufficient condition to guarantee the bond of marriage: inequality of SWB within a couple matters, and the transfer of “utility” among partners should be actively searched by both. Further, Powdhavee (2009) shows that there is a positive and statistically significant spillover effect of SWB from one partner to the other, but once it fails to happen, divorce is more likely to happen: partnership dissolution in a given year is negatively correlated with partner's SWB in the previous year. This is also found by Guven et al. (2012), which also shows that a wider gap in SWB between spouses increases the probability of divorce, and that this probability is higher when it is the wife who presents lower level of SWB with respect to the husband (being the divorce usually initiated by women³⁵). Intuitively, these evidences seem to confirm that the secret to one's own well-being is to search for the other's happiness; after all, this is also the received wisdom (also called life “golden rule”) stemming from most world religions and cultures.

Rights, Achievements and Social Norms

We finally come to a last challenging topic of analysis for the explanation of the happiness gender gap. From the second half of last century, women have started to close the inequality gap in many domains - especially with second generation rights (economic and social ones). Bjornskov et al.

³⁴ For women, the latter can even be harmful. In fact, women of 50-70 years of age are less happy with more partnerships, since they decrease the likelihood of being in a partnership (at the time of the survey).

³⁵ This evidence is found for an Australian sample.

(2007) and Vieira Lima (2013) analyze the role of non-discriminatory gender practices and rights, in the economic, political and social domains. With different methodologies and data³⁶, they initially find similar disappointing results: the effect of rights on SWB is non-significant (although generally positive)³⁷. Face to this counter-intuitive result, Vieira Lima (2013) goes further and perform a test of the main propositions of the capability approach, which postulates that formal rights should be complemented by other relevant conditions, both internal and external to the single person, to unleash their full potential for human flourishing. In particular, rights might not lead to achievements in contexts where the personal or the surrounding social beliefs and norms are not conducive; or where the individual's fight for gender equality involves costs that outpace the short-term benefits. Indeed, with a two-step methodology Vieira Lima finds that, while stronger female economic rights and political achievements (as the number of women seated in Parliament) taken alone do not translate into higher female SWB, their positive contribution do materialize when they are complemented by the conditions such as the women's feeling of control over their lives, and pro-women social beliefs (social norm). In detail, the economic rights' positive contribution to the gender gap occurs only when accompanied by female's feeling of control, or by pro-women beliefs in the economic sphere³⁸. Then, women's political achievements were proxied by their number of Parliamentary seats; this indicator, though, only captures small élites enjoying this privileged position. Interestingly, regressions show that these elitist achievements exert a small but significant positive effect on the gender happiness gap, but only when they are interacted with a widespread sense of female's control over their own lives, which is typically correlated with conditions of gender equality. On overall, these and other findings confirm the catalytic effect played by pro-women individual and social beliefs in activating the full potential of (formal) women's rights; at the same time, although being framed within a hedonic setting, these results provide a intriguing support for the capability approach.

3.3. Life-cycle happiness gender gap

In the most recent years, some scholars have shifted their attention to the factors accounting for the life cycle variations in happiness; this is not only traceable within economic approaches, but also in sociology and other social and human sciences. Obviously, this shift marks a corresponding passage of the focus of the analysis from individual-specific determinants (biology and personality), largely invariant across time, to changing objective life conditions and their mental mediation³⁹.

This shift has also concerned works on happiness and gender. Here, a promising heuristic strategy is to work on longitudinal datasets, accounting for the entire life cycle of the surveyed individuals, and controlling for birth cohort effects. In fact, it is reasonable to observe that, not only men and women display differences in objective life conditions and their mental appraisal at any given point in time, but that some of these differences are likely to evolve and change by age classes. As an example, in Western industrialised countries women typically marry at a younger age, have a different labour participation rate and, due to different survival rates, die at a later age, mostly widows; the reverse happens for men. Further, birth rates and life expectancy indexes at birth may significantly differ between sexes across countries – seldom in a very gender-skewed way⁴⁰. Also in Western societies,

³⁶ Vieira Lima (2013) extends the number of countries and years studied and the use of additional dataset for further complementary analysis as will be discussed in the sequence.

³⁷ An exception is the political domain in Bjornskov et al (2007), where women equality to men appears to benefit both genders' SWB.

³⁸ The proxy used intended to capture the population's belief that women has the same right to work as men.

³⁹ The latter process refers to cognitive acts of the single individual, bearing the socio-cultural influence of a historically-given society.

⁴⁰ Unfortunately, gendercide (selective abortion of baby girls) still remains a crude reality in various developing

the early population cohorts of the XX century – especially those living in rural and agricultural areas, where the optimal labour force had to be male - were born in a society embedding a cultural stigma against women; only with the later structural transformation of the economy, this cultural gender bias largely attenuated.

Unfortunately, longitudinal representative datasets are scarce in availability and limited to a few developed countries. Plagnol and Easterlin (2008) match surveys on aspirations and attainments and on domains satisfaction and overall happiness; this yields a synthetic panel⁴¹ featuring a representative sample of US citizens for the period 1973-1994. Concentrating on two main life domains, such as family life and finances, together with overall happiness, and working on gender-aggregated cohort trends, the two authors find that early in adult life women experience a smaller gap between aspirations and attainments in both material goods and family life; thereby, their domain and overall life satisfactions are higher than men's ones. However, later in life these gender differences flip over, with men better fulfilling their aspirations, becoming relatively more satisfied with life domains (in particular, with finances) and eventually standing as the happier gender (with the turnaround point estimated to occur at age 48). As noticed by the authors, here the model aspirations-attainments, which is particularly familiar to the psychologists' view of life satisfaction causation, seems particularly apt to fit the evidence on material wealth: while men enjoy more material wealth than women during the overall life cycle, they experience a shortage of attainments relative to aspirations in the early stages of their life, and this feeds back on their lower financial satisfaction. Moreover, as intuitive and expectable, despite their objectively higher material affluence, more recent birth cohorts are globally less satisfied with finances, due to the trade-mill effect generated by their greater aspirations. Finally, other works further deepen this causal framework, uncovering gender differences in the constructs of quality of life, which would evolve over the life cycle in response to major life events, such as the birth of a first children and retirement; further, the latter would be perceived differently by men and women (Plagnol and Scott, 2008).

Is the above gender-inverted happiness path valid only for US, or is extensible to other countries – possibly at different stages of development? Lack of similar empirical evidence prevents a strict and rigorous comparison of methods and results; for example, most findings reviewed in the sub-section 3.2 are structurally different, arising from longitudinal datasets exploited at the individual-level dimension, and supplying different covariates. Moreover, the usage of different measurement techniques is believed to affect the gender happiness gap, over and above the differences explained by the higher women's capacity and propensity to experiment and report emotions, uncovered by the psychological literature but also acknowledged by economists (see Frey and Stutzer, 2002).

Interestingly, irrespectively on who is the happiest at a given point in time (a question whose answer, according to the empirical test of Vieira Lima, 2013, remains inevitably country- and time-variant), evidences about a trend of declining women's happiness similar to the one later epitomized by Stevenson and Wolfers (2009) were earlier discovered in fellow disciplines. Inglehart (2002) uses a pooled sample of individuals responding to the World Values Surveys, spanning the 1981-1999 period and gathering 65 countries from the six continents. Comparing the SWB (happiness

countries. More generally, the social stigma connected to being female often prevents women in underdeveloped areas of the world to get the same food, nurture and health care allowances traditionally reserved to baby boys, thereby explaining the former's inferior life expectancy at birth.

⁴¹ Such a panel provides a random sample of persons from the same birth cohort, for each year. Biases of sample selectivity and attrition are avoided, but this panel cannot support the exam of the variability in individual life cycle patterns, thereby providing only cohort-average trends.

and life satisfaction) sample scores of men and women across various age groups⁴², Inglehart finds out a cross-sectional trend evidencing that women's SWB declines with age, while men's one is stable or slightly rising (with life satisfaction). Then, further dissecting this aggregate cross-sectional evidence, Inglehart uncovers that the size and the sign of the (raw) SWB gender gap does vary by country, thereby dismissing any universal iron law on gender happiness. When it comes to interpreting the gender gap country-variability, regression analyses suggests that, among those under 45 years old, a positive gender gap is positively associated with recent fast growth in GNP per capita and, even more, with a dummy of Protestant historical tradition – hence both are believed to foster gender equality and, indirectly, women's SWB. Instead, the predominantly negative gender gap registered among the older women age groups (over 54 years old) is mainly explained by the higher levels of GNP per capita and the temporal length of the Communist rule.

According to Inglehart (2002), this picture is compatible with the following interpretation. In new developed and developing nations, recent economic progresses have benefited younger women – probably enhancing gender equality and rebalancing aspirations and attainments. Instead, in more affluent Western societies, as well as in former Communist countries, a similar SWB-enhancing effect should have yet vanished⁴³ for older women: in this case, an antagonist (SWB-reducing) phenomenon of cultural devaluation of older women's social worth, as reinforced by the subtle conditioning power of dominant aesthetic models, emphasising eternal physical beauty and raising older women aspirations, is postulated. Although the latter hypothesis needs further and specific data to be corroborated, it certainly points to a domain deserving more investigation, due to the increasing conditioning effects on aspirations played by life-styles and values transmitted by mainstream social communication media in increasingly globalised Western societies; in this respect, we believe that the literature on sex-role stereotyping in television commercials is very illustrative.

For the future research agenda, new longitudinal and cross-sectional data could hopefully help to disentangle the single effects played by improved aspirations and attainments, together with the powerful conditioning role of mass media (that continuously dictate new life-styles and values), on the final SWB balance. For the moment being, provisional evidences seem to depict that various types of trade-mill dynamics are at work, and that older women are the game losers, with respect to older men.

4. Conclusions

We endeavoured to bridge different disciplines to address the complex explanation of the happiness gender gap, whose scattered evidence can now be detected both synchronically and diachronically. Several strong commonalities emerge: in particular, concordance between psychology and economics is high on the identification of the domains where women and men are found to differ. Differences concern preferences, emotions, rational styles and behaviours, and inevitably impact on the happiness gender gap, considered across its various constructs and appreciations (SWB, PWB, life satisfaction, etc.). At the same time, disciplines continue to differ more on heuristic strategies and relative mix of explanations. Psychology, for example, still retains a leadership in the static (time-invariant) explanation of happiness and its gender gap, together with medical sciences, while economic works are better equipped to detect external factors and the role of time-varying objective life conditions (as showed by the recent life-cycle approaches). In particular, personality and

⁴² Differently from Plagnol and Easterlin (2008), who use regression-fitted values of the dependent variable thereby controlling for covariates, Inglehart (2002) works with raw sample mean scores, thereby finding a closer resemblance with the traditional descriptive evidence of a conventional aggregate U-shaped happiness trend by age.

⁴³ This perspective accommodates the aspirations-adjustments model, which postulates that at the country-level the gap should be reasonable and vanish with time.

biological explanations (hormones and genes) do represent the bulk of non-economic contributions, also helped by contemporary findings of neuroscience, building on powerful research tools (brain scan imaging technologies) able to detect the neural correlates of happiness gender differences; moreover, these two hypotheses are now converging and somehow merging. Economics came later to investigate these issues, and is catching up. Feminist economics first challenged the gender-indifferent approach of mainstream economic theory, amending the masculine, hyper-rational and relationship-ignorant metaphor of the *homo oeconomicus*, and paving the way for those contributions - like the capability approach and the eudemonic tradition of well-being - that concentrate on gender inequality as a main source of the happiness gap. Recently, the Happiness and Economics field has developed a specific focus on the gender gap, and a certain awareness that the latter is inevitably country- and time-variant has unfolded. Finally, an interesting convergence of interpretations and results between different disciplines (economics, sociology and social gerontology) is unfolding; they uncover the common stylised fact that women are increasingly worse off during their life, by aging, with respect to men. A complex set of causes contributes to explain this evidence: while the aspiration-attainment model of psychology is a main part of the story, other factors are increasingly credited as relevant. Among these, while asymmetric adverse financial, family and health conditions for older women have been already positively tested, other promising avenues for further research are inquires into socio-cultural processes and hyper-hedonic lifestyles promoting older women's devaluation, greatly spurred by hegemonic mass-media.

Table 1: Gender Gap (Female-Male) in Life Satisfaction

Rank	Country	Year	Coef.	Rank	Country	Year	Coef.
1	Finland	1996	0.424	35	Denmark	1999	0.104
2	Algeria	2002	0.326	36	Spain	1999	0.102
3	Iraq	2006	0.307	37	Turkey	1990	0.100
4	Tanzania	2001	0.274	38	United States	1995	0.099
5	Zimbabwe	2001	0.259	39	Sweden	2006	0.098
6	Jordan	2001	0.242	40	Iran	2000	0.098
7	France	2006	0.204	41	Japan	2000	0.087
8	United Kingdom	2006	0.193	42	Iceland	1999	0.086
9	Finland	2005	0.186	43	Philippines	2001	0.082
10	Ireland	1999	0.185	44	Canada	2000	0.080
11	Macedonia	2001	0.181	45	South Korea	2001	0.079
12	Malaysia	2006	0.173	46	Belgium	1999	0.077
13	Mexico	2000	0.166	47	Poland	2005	0.075
14	South Africa	2007	0.163	48	Spain	2000	0.072
15	Japan	2005	0.158	49	Czech Republic	1999	0.071
16	Czech Republic	1998	0.151	50	Uruguay	1996	0.067
17	Netherlands	1999	0.148	51	Latvia	1999	0.067
18	Australia	1995	0.140	52	Germany	1999	0.067
19	Guatemala	2005	0.138	53	Spain	2007	0.066
20	Switzerland	1989	0.138	54	Sweden	1996	0.065
21	Slovenia	1999	0.138	55	Saudi Arabia	2003	0.063
22	Morocco	2001	0.137	56	Moldova	2006	0.062
23	New Zealand	1998	0.128	57	South Africa	1996	0.061
24	Turkey	2001	0.123	58	Latvia	1996	0.060
25	Romania	1998	0.123	59	France	1999	0.060
26	Iran	2007	0.120	60	Norway	1996	0.057
27	Romania	1999	0.119	61	Nigeria	2000	0.055
28	Poland	1999	0.115	62	Bulgaria	2006	0.055
29	Croatia	1999	0.114	63	Spain	1995	0.052
30	Switzerland	2007	0.113	64	Ghana	2007	0.051
31	Estonia	1999	0.109	65	Estonia	1996	0.050
32	Slovakia	1999	0.106	66	Netherlands	2006	0.049
33	Ethiopia	2007	0.106	67	Peru	2001	0.045
34	Canada	2006	0.105	68	South Africa	2001	0.045

Continues in the next page.

Legend: Ordered probit estimated coefficients, by country-year cells.

Source: Vieira Lima (2013)

Table 1: Gender Gap (Female-Male) in Life Satisfaction (continued)

Rank	Country	Year	Coef.	Rank	Country	Year	Coef.
69	South Korea	2005	0.043	103	Belarus	2000	-0.020
70	Pakistan	2001	0.043	104	Ukraine	1996	-0.020
71	Zambia	2007	0.043	105	China	2007	-0.023
72	Lithuania	1999	0.042	106	Moldova	2002	-0.025
73	Finland	2000	0.042	107	Italy	2005	-0.027
74	Australia	2005	0.040	108	Burkina Faso	2007	-0.031
75	Germany	1997	0.039	109	Lithuania	1997	-0.031
76	Switzerland	1996	0.038	110	Germany	2006	-0.033
77	Albania	1998	0.036	111	Colombia	1998	-0.042
78	Slovakia	1998	0.034	112	Moldova	1996	-0.046
79	Sweden	1999	0.034	113	Hungary	1999	-0.046
80	Morocco	2007	0.033	114	El Salvador	1999	-0.047
81	India	2006	0.033	115	Andorra	2005	-0.052
82	Turkey	1996	0.030	116	Bulgaria	1999	-0.052
83	Venezuela	2000	0.029	117	Greece	1999	-0.053
84	Albania	2002	0.026	118	Mexico	2005	-0.053
85	Venezuela	1996	0.024	119	Italy	1999	-0.055
86	Mexico	1996	0.024	120	Serbia	2006	-0.057
87	Bosnia and Herzegovina	2001	0.021	121	Thailand	2007	-0.059
88	Mali	2007	0.021	122	Rwanda	2007	-0.062
89	United Kingdom	1998	0.018	123	Cyprus	2006	-0.065
90	India	2001	0.017	124	Macedonia	1998	-0.067
91	Indonesia	2006	0.014	125	Luxembourg	1999	-0.072
92	China	2001	0.010	126	Indonesia	2001	-0.074
93	Armenia	1997	0.008	127	Slovenia	2005	-0.076
94	Bulgaria	1997	0.008	128	Turkey	2007	-0.096
95	United States	1999	0.007	129	Ukraine	2006	-0.097
96	Kyrgyz Republic	2003	0.001	130	United Kingdom	1999	-0.111
97	Peru	1996	-0.002	131	Azerbaijan	1997	-0.115
98	Singapore	2002	-0.006	132	Trinidad and Tobago	2006	-0.123
99	Bangladesh	2002	-0.010	133	Belarus	1996	-0.148
100	Brazil	2006	-0.011	134	Brazil	1991	-0.150
101	Ukraine	1999	-0.012	135	Uruguay	2006	-0.188
102	Romania	2005	-0.013	136	Brazil	1997	-0.226

Legend: Ordered probit estimated coefficients, by country-year cells

Source: Vieira Lima (2013)

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