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When Does Economic Growth Improve Life Satisfaction? Multilevel Analysis of the Roles of Social Trust and Income Inequality in 46 Countries, 1981–2012

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Summary. — Governments across the world seek to promote a better life for their citizens, but thus far scholars have provided contradictory advice. While some argue that economic growth leads to higher subjective well-being, and others argue that it does not, we are the first to specify two conditions that make economic growth compatible with subjective well-being over time: increasing social trust and declining income inequality. Our methodological contribution is to combine micro- and macro-level data from a large sample of developing, transition, and developed countries and to explicitly distinguish the cross-country differences from the changes over time. We perform a multilevel analysis of harmonized data composed of the World Values Survey, the European Values Study, and macro-level indicators of economic growth and income inequality for 46 countries, observed from 1981 to 2012. Our results show that in the long run economic growth improves subjective well-being when social trust does not decline and, in richer countries, when income inequality reduces. These results are compatible with the recommendation that, to pursue durable improvements in people's subjective well-being, policy-makers should adopt a "promote, protect and reduce" policy agenda: promote economic growth, protect and promote social trust, and reduce income inequality.

Key words — economic growth, subjective well-being, social trust, income inequality, Easterlin paradox, sustainability

1. INTRODUCTION

As governments worldwide adopt policies designed to improve subjective well-being via economic growth, scholars provide mixed advice: some argue that economic growth improves people's subjective well-being, and others argue that it does not. The debate about the relationship between economic growth and subjective well-being has been recently revived thanks to the availability of internationally comparable and long-term time-series data on people's own evaluations of their well-being. Despite considerable efforts, the literature remains divided.

We argue that theoretical and methodological shortcomings created this divide. In terms of theory, scholars have been focusing on the wrong question. Instead of asking whether economic growth is compatible with subjective well-being, we need to hone in on the conditions under which it does so. Some scholars argue that contemporary societies should not expect significant improvement of subjective well-being from economic growth (Bartolini & Sarracino, 2015; Easterlin, 1974; Easterlin, McVey, Switek, Sawangfa, & Zweig, 2010; Layard, 2005); others contend that economic growth and increasing subjective well-being are associated over time (see e.g., Deaton, 2008; Inglehart, Foa, Peterson, & Welzel, 2008; Sacks, Stevenson, & Wolfers, 2012; Veenhoven & Vergunst, 2014). Country selection matters: some show that the relationship between growth and subjective well-being depends on whether they are developed, developing, or in transition (Bartolini, Mikucka, & Sarracino, 2015; Easterlin, 2009). Others argue that time span is a crucial factor: economic growth and the trends of subjective well-being are associated in the short run, but this correlation vanishes in the long run (Clark, Flèche, & Senik, 2014; Bartolini & Sarracino, 2014; Easterlin *et al.*, 2010). None of these focus on the specific conditions that influence the relationship between growth and well-being.

To specify these conditions, we draw from the literature on the relationship between social capital and subjective well-being, on inequality and subjective well-being, and on economic growth, inequality and social capital (Bartolini & Sarracino, 2014; Bartolini, Bilancini, & Pugno, 2013; Bartolini, Bilancini, & Sarracino, 2013; Brady, Kaya, & Beckfield, 2007; Cleaver, 2005; Frank, 2007; Gould & Hijzen, 2016; Josten, 2004; Ono & Lee, 2013; Rözer & Kraaykamp, 2013; Zagorski, Evans, Kelley, & Piotrowska, 2014). Building on previous literature, we expect that the positive relationship between economic growth and changes of subjective well-being is conditional on increasing social trust

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and declining income inequality. We test this relationship in a sample of developing, transition, and developed countries.

Methodologically, we overcome some limitations of previous studies, which can be summarized as the following: analysis of small samples of, predominantly developed, countries; failure to explicitly distinguish between levels of macro-variables and their changes over time; limited number of control variables; and analysis of individual variables (such as life satisfaction) at aggregate level. We combine micro- and macro-level data to explicitly distinguish cross-country differences from the changes over time in analyzing a large sample of countries.

In sum, our theoretical and methodological contribution is to re-assess, with a more appropriate method, the relationship between economic growth and subjective well-being by specifying the conditions that make economic growth compatible with increasing subjective well-being over time. We extend previous literature by taking into account not only developed countries, but also a large sample of transition and developing countries. We employ a multilevel analysis of a harmonized dataset composed of the World Values Survey, the European Values Study, and macro-level indicators of economic growth and inequality from the 1980s to the 2000s. We find that economic growth improves subjective well-being when social trust increases and, in rich countries, when income inequality decreases.

2. BACKGROUND AND HYPOTHESES

(a) *Economic growth and well-being*

Previous research in the economic and sociological literatures operationalized well-being—sometimes referred to as quality of life—with people's ability to fulfill their basic needs. Some operationalized quality of life with composite indicators, such as the Physical Quality of Life Index, and achieved mixed results (Bradshaw & Huang, 1991; Dixon, 1984; London & Williams, 1988; London & Williams, 1990; Stokes & Anderson, 1990). Other scholars concentrated on single dimensions of basic needs, such as nutrition, health, or education. This second stream of the literature analyzed large numbers of countries (mainly developing ones) with aggregated-level variables; the results are mixed evidence about the effectiveness of economic growth for the quality of life. Some argue that economic growth (often measured as levels of GDP) is beneficial to well-being as it improves food intake, infant survival, and life expectancy (Firebaugh, 1992; Firebaugh & Beck, 1994; Firebaugh & Goesling, 2004). Yet, as Firebaugh and Beck (1994) conclude: "until there is credible cross-national evidence that economic growth is irrelevant to welfare, development specialists will remain skeptical of results from sociological analyses of national welfare that fail to consider fully the effects of economic growth".

Subsequent studies answered the call by looking at the effects of economic growth—both in levels and in changes over time—for quality of life, as measured by life expectancy and mortality (e.g., Brady *et al.*, 2007; Shen & Williamson, 1997; Wimberley, 1990), nutrition and food consumption (e.g., Jenkins & Scanlan, 2001; Wimberley & Bello, 1992), and social well-being (e.g., El-Ghannam, 2002). While the literature differs in terms of variables, the number of countries and of years considered, and the methods adopted, it reaches similar results: economic growth is of secondary importance for the satisfaction of basic needs (Wimberley & Bello, 1992). Economic growth can matter for development, but these findings prompt us to specify the conditions under which economic growth can improve well-being.

We draw on another literature stream developed around the relationship between wealth and health, the so-called "Preston curve." In 1975, Preston provided the first evidence of a curvilinear relationship between national income per capita (in 1963 USD) and the level of life expectancy in the 1900s, 1930s, and 1960s (Preston, 1975). Preston documented that, cross-sectionally and within countries, richer people enjoy a higher life expectancy. This relationship, though, flattens beyond a threshold of about 500 USD per capita, implying that poorer people, more so than richer people, can expect higher returns to their life expectancy from an increase in their income. Preston was the first one to make the point that, during the 20th century, life expectancy increased independently of changes in income. This suggested that income explains only a small part of the overall variation of life expectancy. Subsequent research ascribed gains in life expectancy to education, fertility, urbanization, and low income inequality (Bloom & Canning, 2007; Brady *et al.*, 2007; Galea, 2007). Thus, at least in richer countries, economic growth seems to play a minor role in the relationship between economic development and physical well-being (Pritchett & Summers, 1996).

We build on this literature using life satisfaction, a proxy for subjective well-being, to assess the conditions under which economic growth is compatible with well-being. We posit two conditions: social trust and income inequality.

(b) *Social capital, economic growth, and subjective well-being*

Many argue that social capital, and trust in others in particular, enhances economic growth. They refer to Arrow's dictum that economic backwardness in the world is rooted—at least in part—in the lack of interpersonal trust (Arrow, 1972). Theoretically, trust in others bolsters economic growth: with high levels of trust, formal institutions limit their expenditures on the enforcement of the daily and multitudinous economic agreements that comprise routine market activity. Meanwhile, businesses can operate in a safer, more efficient way. Under these conditions, governments and business can spend their resources on attracting new business and other activities that promote economic growth (Guiso, Sapienza, & Zingales, 2004; Knack & Keefer, 1997). Many empirical works found evidence of a positive cross-sectional correlation between proxies of social capital and economic growth (Beugelsdijk, De Groot, & Van Schaik, 2004; Helliwell & Putnam, 1995; Knack & Keefer, 1997; La Porta, Lopez-de Silanes, Shleifer, & Vishny, 1999; Narayan & Pritchett, 1999; Whiteley, 2000; Zak & Knack, 2001).

Alternative views argue that economic growth is actually detrimental to social capital (see Antoci, Sabatini, & Sodini, 2013; Bartolini & Bonatti, 2008; Hirsch, 1976; Hirschman, 1973; Olson, 1982; Polanyi, 1968). Economic growth erodes social capital because it extends market relationships—with their emphasis on selfish behavior—to an increasing share of the noneconomic sphere of people's life, and as a result it crowds out social capital (Hirsch, 1976; Polanyi, 1968). Moreover, economic growth reduces the time available for social activity, introduces a trade-off between time spent working and time spent in social relationships, and contributes to an environment characterized by poorer quality of intimate and social relationships. Indeed, scholars provided evidence of a negative relationship between trust in others and productivity growth from 1960 to 1992 in the USA (Helliwell, 1996), and a continued erosion of social capital despite the growing prosperity in the USA (Putnam, 2000). Cross-country time-series