

**Comment no. 1:**

“...neither a clear-cut objective...”

**Reply to comment no. 1:**

The objective of this article is clearly stated in the introduction. Accordingly, the aim of the paper is to define the conceptual foundation of nudging and to reclassify nudges as a policy tool in the context of the existing policy toolkit (“...*focus on a conceptualization of nudging and consider its potential for becoming a component of the policy toolkit...*”).

Therefore, we start with introducing some basic concepts from cognitive and social psychology relating to Dual Process theories (*see section 2*), as the insights from Dual Process theories are underlying the basic idea behind nudging. This allows us to determine the clear boundaries of the definitional and functional scope of nudges. Our paper presents the variety of definitional approaches toward nudging and reveals the ambiguity of the prevailing definitions of the concept as an instrument of public policy. By using the insights from the cognitive and social psychology (i.e., the Dual Process Models), we mark a clear difference between nudges and other policy instruments (*see for example pages 7-8 of the manuscript as well as Figure 1 and Table 1*). These have been missing so far in the literature so that policy measures such as pure information provision and moral suasion have been often falsely associated with the nudging paradigm. Hence, such a clear distinction has tangible benefits to policymakers and researchers.

Furthermore, the paper elaborates the effectiveness of nudges, and we discuss the applicability of nudges in a policy mix. These two topics also are helpful for policy design and researchers as they provide a deeper understanding of nudges and highlight aspects that have to be considered when using nudges in practice. For example, we discuss the interaction between “traditional” policy instruments (e.g. bans, monetary incentives) and nudges by bringing together insights from cognitive processing and human decision making with the mode of operation of these traditional tools in order to develop an analytical framework for policy analysis. Hence, we provide a starting point in order to assess effects of nudges in a mixed use which was one of the objectives mentioned in the introduction (*see above*).

**Comment no. 2:**

“...nor a comprehensive classification of the literature at stake...”

**Reply to comment no. 2:**

The selection of the literature for this survey is done according to the individual topics dealt with in the specific sections. For every section, the literature is explicitly focused on a specific subject and the most important to our knowledge in this subject area.

In the second section, for example, we deepen the understanding of the literature on Dual Process theories by not only focusing on the intuitive thinking process but also highlighting the duality of both, intuitive and deliberate thinking processes. In section 3, we apply the findings from section 2 in order to sharpen the definition of nudges. Here, the starting point is the definition given by Thaler and Sunstein (2008) who describe important characteristics of a nudge but lack a crucial reference to the Dual Process theory of thinking, which is fundamental to nudges and distinguishes them from other policy interventions. Hence, the literature in this section is strictly focused on papers that deal with the definitional scope of nudges (e.g., Ölander and Thøgersen 2014; Grüne-Yanoff and Hertwig 2015; Hansen and Jespersen 2013). In the end, this section provides a sharp definition which serves as a starting point for the categorization of nudges in the context of the existing policy toolkit in the next section.

This listing could be continued with examples from the other sections where there is also always a superordinate topic (e.g., effectivity of nudges, nudges in the policy mix) and a focused analysis of the topic with recourse to related literature.

**Comment no. 3:**

“...nor a systematic assessment of the outcome of case studies can be found in the paper...”

**Reply to comment no. 3:**

First of all, one should keep in mind the objective of this article. The superordinate aim was to sharply define the notion of nudging and to reclassify nudges as a policy tool. Hence, we explicitly avoided to follow a casuistic approach often seen in the nudge literature where a number of case studies are presented as a rationale for the effectivity of nudges. In contrast, we build our assessment up on the insights of Dual Process theories. Accordingly, we do not focus on case studies but start with an analysis of literature from psychology and afterwards apply the findings from psychology in order to classify nudges.

Second, we provide a summary of the outcome of the literature in the specific sections (e.g., in section three, page 8: “...that nudging interventions always aim at influencing cognitive process 1 and that this can evoke a behavioral change, both directly (type 1 nudge) and indirectly, through cognitive process 2 (type 2 nudge)...”). Hence, the reader obtains in every

section an overview on the findings and afterwards is informed on how these findings will be relevant for the further course of the paper.

**Conclusion:**

As the reviewer states, researchers and policymakers “*face an almost exponentially increasing literature*” about nudges. However, most of the literature includes empirical or experimental work analyzing the effectivity of specific nudge in a specific context. Our approach is different as we start our investigation with a profound analysis of insights from psychology underlying to nudges. This helps the reader to assess the way nudges work and the way they can be used in a policy mix. In addition, the insights from psychology underlying to nudges can also contribute to inform readers and researchers that are discussing nudges from a normative perspective.

To conclude, it might sometimes feel that there are many articles on the same topic which might be annoying and therefore lead to a superficial and unsubstantial assessment. However, at a second glance, this paper provides important insights for the examination of nudges. The presented approach through Dual Process theories is crucial as the missing definitional link of nudges to underlying principles from cognitive sciences has blurred the definitional clarity and scope of the nudging concept in the literature, and led to the emergence of different interpretations depending on the research question and/ or area of application concerned. Here, we put things right. In addition, we also provide a basis for the assessment of effects in the policy mix.