

Circularity Incentivizing Tax Reduction: Making the Paradigm Shift a Win-Win

Benedikt Mrázek, Flavio Mastroberti, Michal Kováč, Alexander Troesch,

INTRODUCTION

For a long time, in fact as long as capitalism has been leading European economics, companies are functioning “linearly”: they are led by an implicit dictum *take-make-disuse*. As recent years show, however, this thought pattern is not fully consistent with the way nature actually functions and for this reason, a new paradigm seems to be required. Linear economy (LE) is to be replaced by another economy, viz. circular economy (CE).¹

This brings a problem, nevertheless, since “linearity” is deeply rooted in current economic systems and it is not easily replaced by circularity. Furthermore, various barriers inhibit a rapid transition, including positive externalities from innovation distorting the market or short-sighted, bottom-line oriented business models. These problems are not removable without strong policy measures. Our task in the present paper is to provide a solution to the challenge at hand and to show how companies can be incentivized to adapt the circular way of thinking.

Our methodology was oriented at the “double-diamond” approach, i.e. a concept focused on the interplay of divergent and convergent thinking, providing a framework to approach complex problems step-by-step.² During the first part of our paper, a list of definitions of the key terms we use is included. Our solution to the problem in the second part of our exploration is supported empirically by the comparison of two e-scooter rental companies, Lime and Bolt, the former of which works consistently with CE standards,³ while the latter does not.

PROBLEM STATEMENT

The straight-forward way to solve our problem would be the establishment of law regulations that prohibit companies to operate with business models based on the LE; for instance, it could be established that the companies must not exceed defined amount of waste production etc. This solution, however, is not compatible with the natural requirement of every democratic system, viz. that people are free to self-determine their fate, including their business activities. The problem is how to abide by both the requirements of sustainable

¹ Cf., for example, European Commission. “A New Circular Economy Action Plan for a Cleaner and More Competitive Europe.” https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF; Esposito, Mark – Tse, Terence – Khaled Soufani. “Is the Circular Economy a New Fast-Expanding Market?” *Thunderbird International Business Review* 59, no. 1 (2017): 9-14; Stahel, Walter R. “The Circular Economy.” *Nature* 531 (2016): 435-438; Bocken, Nancy M. P. “Product Design and Business Model Strategies for a Circular Economy.” *Journal of Industrial and Production Engineering* 33, no. 5 (2016): 308-320.

² Cf. Bromley, Steve. “How To Run The Right Kind Of Research Study With The Double-Diamond Model.” Smashing Magazine. February 10, 2023. <https://www.smashingmagazine.com/2020/05/research-study-double-diamond-model/>.

³ These standards are formulated in note ii to connected with the **Problem statement** in the next section.

economy and democracy. This question defines the implicit framework we are working in or, to put it differently, when attempting to find some ways of resolving the problem, we respect these two requirements.

Now, building on this, an operable and concrete problem statement can be derived:

Problem statement: How can consumer technology product companiesⁱ be incentivized towards circular business modelsⁱⁱ through economic policy measures?

ⁱ *Consumer technology product company* stands for a business that designs, develops, and sells technology products and services for consumers.

ⁱⁱ *Circular business models* signify the business models following these two requirements: (a) *increasing resource efficiency by using fewer resources per output*, (b) *slowing down resource cycles by extending product lifetimes*, and (c) *closing resource cycles through recycling and especially reuse* (closing the loop).⁴

IDEAS AND SOLUTIONS

This section provides a threefold solution to the problem(s) formulated in the previous section. We suggest the development of an economic policy measure named *Circularity Incentivizing Tax Reduction* (CITR).

The core idea is based on conditional tax reductions since we assume that monetary gain is the strongest motivational factor for companies. Annually, companies are given the opportunity to submit a CE related project proposal that requires additional funding with their tax files. According to the extent to which the given proposal fosters circularity, by improving the mandatory Material Circularity Indicator (MCI) the respective company may be granted a tax reduction, through a pre-instated government entity. The company commits itself to re-invest the respective amount into the circularity project. The maximal tax reduction would be 5% and companies, that can prove they operate at maximum circularity would get the 5% reduction immediately. Furthermore, to ensure the right usage of money, the companies submit a report the following year.

An additional benefit of our solution includes the invitation to a yearly *educational forum designed to provide the participants with relevant information concerning the topic* and enabled to share their own incentives here. The general idea is that participation in this forum creates a network, connecting interested companies and helping them to make a progress in developing their projects. Furthermore, selected participants from the general public, such as students or journalists and non-circular companies, take part, with the goal to generate more traffic about the subject and facilitate the exchange of knowledge.

⁴ Taken from the abstract to Challenge 4, ISTF 23, section Background. These requirements are well expressed and developed by the well-known butterfly diagram. For this, see Ellen MacArthur Foundation. "The biological cycle of the butterfly diagram." February 10 2023. <https://ellenmacarthurfoundation.org/articles/the-biological-cycle-of-the-butterfly-diagram>.

Moreover, we introduce a *tier-based label* given to companies whose proposals were accepted. There is a broad literature evidence that this strategy is generally very successful and helps to increase systematization of the underlying concept.⁵

The general concept has been validated by estimating the lost tax income weighted against the potential circularity gain. With a 5% cut in tax the government loses about 300b USD per year⁶. However, the potential gain through a circular economy exceeds 600b USD per year leading to an ROI of 100%.⁷ Additionally, an experienced professional from the Lab for Innovative Minds and Entrepreneurship, as well as the empirical data from both Lime and Bolt we have collected, have proven the validity.

An interviewee from Lime has both confirmed the general idea and expressed interest to consider participation. He highlighted that already their current circular practices have positively influenced the bottom line.

CONCLUSION

We have dealt with the problem of how to drive companies to be engaged more in CE and at the same time considered the basic political principles of democracy. We were implicitly assuming that the strongest motivational factor for all the companies has financial character, and that is why we have suggested a solution that creates tax incentives to facilitate circularity and making the paradigm shift a win-win.

ABSTRACT

There is a great dispute among scholars about how to make companies work in a more circular way and this paper intends to join this discussions. We provide a threefold solution named *Circularity Incentivizing Tax Reduction* (CITR); the core of this solution lies in the idea of conditional tax reductions based on proposals that are submitted by companies. The money saved benefits exclusively the submitted proposal targeted at increasing the circularity of the respective company. If the proposal is accepted, the company receives the opportunity to participate in a forum facilitating knowledge exchange and access to an international network. In addition, the company is awarded a label for their commitment to circularity.

⁵ Laubinger, Frithjof – Börkey, Peter. "Labelling and Information Schemes for the Circular Economy." *OECD Environment Working Papers* 183 (2021): 4-58.

⁶Cf. Eurostat. "Tax revenue statistics." https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tax_revenue_statistics.

⁷ Bowles, Ruthie – Abbott, Laura – Mclvor, Elissa. "The Circular Economy, Your Business, and Your Future." February 10 2023. <https://globisinsights.com/purpose/sustainability/circular-economy/>.