

Chapter 5. Policy Implications

This chapter offers a summary of the policy implications that emerge from this report. The discussion is intended to provide a set of high level policy principles rather than specific guidance for individual business models. Thus, the factors that serve to hinder the general adoption of circular business models are identified, and the set of policy approaches that could address them discussed. Developing more specific policy guidance would require more detailed analysis of a particular business model within individual sectors: this could be considered for future work.

5.1. The findings of this report

Circular business models – those that serve to reduce the extraction and use of natural resources and the generation of industrial and consumer wastes – operate in a number of economic sectors. Because these business models use already existing materials and products as inputs, their environmental footprint tends to be considerably smaller than that for traditional business models. This idea is supported by the life cycle analysis literature, where it has been demonstrated that secondary raw materials, repaired and remanufactured products, and shared assets typically have relatively small global warming, acidification, and toxicity potential. As such, the continued adoption of circular modes of production, to the extent that it displaces production from traditional modes (and notwithstanding any associated rebound effects) could have important first order environmental benefits.

The market penetration of circular business models remains limited. The most successful circular mode of production – producing secondary raw materials from waste – only accounts for 30 to 40% of the physical output of the sectors that it is best established in (pulp and paper and steel). Other forms of circular production – refurbishment and remanufacturing, the sharing of spare capacity, and the provision of services rather than products – continue to represent a small fraction of overall output (either in physical or economic terms). Although it is clear that some of these business models have experienced rapid recent growth, much of this has been confined to a handful of economic niches. Sharing models in the accommodation sector or product service systems in the transport sector are frequently cited examples. Transitioning to a more circular and resource efficient economy – one where the environmental impacts associated with economic production and consumption are significantly reduced – will require much more widespread penetration of these business models. Policy can play an important role in this respect.

5.2. The role of policy

5.2.1. General considerations

This section offers an initial discussion on how policy can help to promote the broader adoption of circular business models. The discussion is intended to provide a set of high level policy principles rather than specific guidance for individual business models. The reason is twofold. First, not all circular business models are created equal; it is not entirely clear which have the greatest scalability and environmental potential. As such, it may be prudent to avoid targeting policies at specific business models, and instead focus on implementing a policy framework that provides coherent incentives for closing and slowing resource loops, and narrowing resource flows throughout the economy.

Second, the barriers that hinder the emergence of these business models vary widely according to the business model considered and the sectors they are applied in. It is beyond the scope of this report to consider all possible permutations; developing more operational policy guidance would require deeper analysis for specific business models and sectors. The application of PSS models in two contrasting sectors (urban mobility and chemicals) serves to illustrate this. In the former case, the majority of transactions are of a B2C nature; the continued adoption of urban car sharing will be driven largely by the convenience of sharing and by underlying consumer attitudes towards car ownership. Urban transport policy will be a key factor for both. In the case of chemical leasing, where the majority of transactions are of a B2B nature, more widespread uptake will

largely depend on underlying commercial considerations. The stringency of chemicals policy is therefore likely to be a key driver (OECD, 2017^[1]).

5.2.2. Common barriers to circular business model adoption and potential policy responses

There are various reasons why the market share of circular business models may be sub-optimal. One shared characteristic of these business models is that they use virgin resources and environmental goods less intensively than the traditional businesses that they compete against. These inputs are cheaper than they would be if the externalities – the environmental damages – resulting from their use were addressed. This probably serves to provide traditional business models with a competitive advantage. *Policy can help to ensure that the full environmental costs of production and consumption activities are reflected in market prices.*

Another characteristic of many circular business models, particularly the circular supply, resource recovery and product life extension business models, is the need for collaboration within and across value chains. Externalities resulting from design decisions made by traditional manufacturing firms have implications for the feasibility of material recovery and product life extension activities further downstream. Similarly, the existence of search and transaction costs can make it difficult for industrial symbiosis to emerge across sectors. *Policy can help to improve collaboration within and across sectoral value chains. Fostering industrial symbiosis clusters, promoting online material marketplaces, establishing secondary raw material certification schemes, and, more generally, facilitation of cooperation within and across value chains may be worthwhile initial steps.*

Policy misalignments are sometimes also hindering the emergence of circular business models. One example concerns the provision of subsidies to extractive and material processing sectors, which can extend into the billions of dollars for fossil fuels (OECD, 2015^[2]), metals (OECD, 2017^[3]), fisheries (OECD, 2018^[4]), and agriculture (OECD, 2016^[5]). Another example concerns the tendency to tax labour inputs at significantly higher rates than capital and natural resource inputs. A recent Club of Rome report on the circular economy (Wijkman, Skånberg and Berglund, 2016^[6]) states that, “modern tax systems in the EU apply high rates to employment while leaving the use of natural resources tax-free or even subsidized”. For the same reason as that outlined above, these policies probably serve to favour traditional modes of economic production. *Policy makers could therefore consider what objectives existing fiscal policy is serving, and whether a fiscal realignment could lead to improved environmental and equity outcomes.*

There are also a variety of status quo biases that effectively lend inertia to current patterns of economic development, often at the expense of the emergence of circular business models. One example concerns the elevated price volatility that is present in secondary materials markets. This volatility – which is itself a product of limited market development – probably dis-incentivises investment in new secondary production capacity. Another example concerns the various trade regulations that serve to limit cross border flows of secondary materials and used products (OECD, 2018^[7]). While many of these restrictions serve a clear purpose within a linear economic system, they may hinder the development of the reverse logistics that are central to some circular business models. A final example relates to the regulatory exceptions that are often granted to heavily polluting or incumbent firms, thereby hindering the entry of firms with more circular business models.¹ *Policy could therefore aim to ensure that existing regulatory*

frameworks are coherent and fit for purpose, and not serving to preserve an existing status quo.

Another major challenge concerning status quo bias relates to consumer behaviour. In some cases, the development of markets for circular products and services appears to be held back by a lack of consumer interest. For example, in most consumer goods sectors, there are only a small number of manufacturers that attempt to differentiate themselves by marketing long lived, but relatively expensive products (the clothing manufacturer Patagonia is one such example). Despite the fact that higher quality products may be cost competitive when considered over their useful life, many consumers prefer to opt for low quality substitutes.² *Policy makers could therefore consider how existing educational and information programs can be improved to provide individuals with a better understanding of the unintended consequences of their consumption choices. The use of behavioural insights and nudges, such as through labelling requirements, may be a promising way forward.*

Policy makers interested in promoting the more widespread adoption of circular business models could, in addition to addressing the issues highlighted above, implement a range of additional enabling policy measures. These policies will clearly differ according to the business model concerned, but can be thought of generally as promoting either the supply of circular products (“supply-push measures”) or demand for them (“demand-pull measures”). *Examples of the former include eco-design standards, strengthened EPR schemes, and the provision of targeted R&D funding. Examples of the latter include differentiated VAT rates, recycled content mandates, product labelling standards, and green public procurement.*

Finally, one issue highlighted in this review is the importance of rebound effects, whereby initial reductions in resource extraction and use are partially offset via various indirect economic feedbacks. Any future transition to a more resource efficient and circular economy will be at least partially driven by the diffusion of material efficient production technologies and the emergence of more cost competitive circular business models. The resulting reduction in price levels is likely to trigger a rebound effect as consumers allocate the associated savings to additional consumption, and manufacturers substitute towards inputs that have become relatively cheap (probably including natural resources). There is little that policy makers can or should do to influence the magnitude of these effects; they are a natural consequence of using material and other production inputs more efficiently. That said, *policy can influence the composition (and therefore the environmental footprint) of the rebound effect by ensuring that the full social costs of production and consumption are reflected in market prices.*

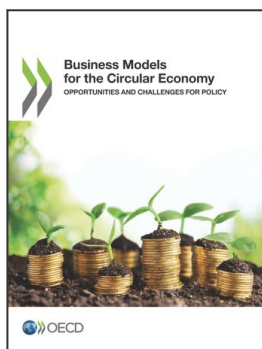
Notes

¹ Consider the exemptions that large carbon emitting sectors – steel and agriculture for example – receive in some emissions trading schemes

² This issue is aggravated in certain sectors – apparel and clothing for example – by fast moving consumer trends. Research undertaken in the United Kingdom indicates that the average consumer spends GBP 1 700 on clothes annually, but that around 30% of the clothes that are already owned have not been used for one year (WRAP, 2017_[125]).

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