

Circular Economy – How to Assess Risk Associated with Financing Circular Economy Projects

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The circular economy presents a multi-trillion-dollar economic opportunity. Shifting towards a circular economy model will not only deliver climate and other environmental and social benefits, but also provide significant new and better growth opportunities. For instance, adopting circular economy principles in Europe, in mobility, built environment, and food could offer annual benefits of EUR 1.8 trillion. Research suggests that if a circular approach were adopted in just five sectors (steel, aluminium, cement, plastic, and food), annual GHG emissions would fall by 9.3 billion tonnes of CO₂e in 2050, equivalent to the reduction that could be achieved by eliminating all transport emissions globally. Now is the time for finance to capitalise on this momentum and help accelerate the circular economy transition. While the recent growth in financing is promising, far more capital and activity will be needed to scale the circular economy and fully seize its opportunity. The ongoing program being implemented by CSO Georgian Society of Nature Explorers “Orchis” within the framework of “Keep Georgia Tidy” Project and supported by the Government of Sweden is likely to result in projects which will require financing to develop and implement them. All aspects of finance will play an important role in bringing forward the transition to a circular economy. Investors, banks, and other financial services firms have the scale, reach, and expertise to stimulate and support businesses to make the shift. So, what are we waiting for? Well, there are few problems but there are also solutions.

What is the problem?

Circular economy business models and projects face a wide range of risks ranging from market/value chain risks, (e.g. supply of feedstock, volume and price, demand for products such as secondary raw materials) to technological risk (e.g. unproven technologies), operational risks, cash flow risks (e.g. delayed cash flows as a result of pay-per-use models), legal risks (e.g. maintenance and/or take back obligations, responsibilities in case of damage) and client risks (e.g. change in client base and behaviour).

A first step when deciding whether to finance a circular project or business is to assess the associated risks, which will be reflected in a higher required rate of return or risk premium. In view of the particularities of the circular economy, this is not straightforward. Assessing the risks of a circular project or business should be related to the assessment of its counterfactual, a linear economy project or business. Investors become increasingly aware of the linear risks as a result of the ‘take, make, use, discard’ model. Circular economy refers to the exposure to linear risks like market risk as a result of resource scarcity or price volatility, operational risks like supply chain failures, or even reputational risks as a result of negative publicity and lower credit ratings.

The financial industry’s tools to assess credit risk are often less sensitive to the specific nature of the risks posed by the circular component of projects or entire projects. This also applies to the assessment of the linear risks, especially for long-term financing. Existing models insufficiently capture the specific financial profile (e.g. asset ownership, cash flow dynamics, depreciation) of circular economy business models and projects. Also, for the linear industry, they do not always identify the risks of remaining in the linear model (e.g. climate, societal, regulatory, tax, etc.), while for the circular industry, they fail to value the benefits/risk mitigants of circularity, often resulting in penalising effects.

What are the potential solutions?

In response to the problems described above, we need to assess the existing (linear) credit risk assessment methodologies in order to identify which linear financial metrics are most affected by circular projects and businesses. Subsequently, develop alternative measures and/or suggest necessary adjustments to improve the comparability between linear and circular models in the different sectors (i.e. ensuring comparability of the financial metrics of circular and linear projects). We also need to recalibrate the risk measurement methodologies of linear projects and companies to take into account linear risk. Recalibrating should aim to identify, standardise and introduce in the methodologies a set of measurable and relevant parameters measuring linear risk (e.g. regulatory risk, raw material or component-related risk, environmental and social risks and liabilities, etc.) (i.e. accounting for linear risk).

Are there other factors which influence the bankability of circular economy projects or businesses?

Due to the presumed associated risks, circular economy projects or businesses, especially small and medium size enterprises (SMEs), face the challenge of having access to finance. The available financial instruments offered by commercial and non-commercial lenders are not always recognised by the market as being able to finance circular economy projects. Also, often, project promoters, in particular SMEs, lack knowledge about what funding and financial instruments are available and fit for circular economy projects/businesses.

What are the potential financial implications?

There could be numerous but let's name just a few. They can include default of payback due to longer payback periods for the required working capital; illiquidity and costly collection of collateral due to assets being located at customer sites; decreasing value of collateral over time due to depreciation; and unknown residual value of many products, due to small market of circular output companies.

Are there reliable mitigating measures?

Mitigation strategies are important to convince internal or external financiers, depending on the individual funding requirements. They can include: shortening payback period by changing pricing model to get higher cash flows in beginning; showing benefit of higher and more stable profit margins based on additional lifecycles and reduced dependence to volatile commodity prices; leveraging supply chain for securities i.e. supply chain finance/ reversed factoring; collecting deposit do reduce risks connected to bankruptcy; checking credit worthiness of customers; and Introducing risk premiums in pricing scheme.

We also need to be more specific in defining funding needs of Circular Models such as model expected net cash flow through estimating price or monthly fee appropriate for product or service (depending on e.g. asset handling, insurance, services, operating costs); modelling growth scenario taking into account the cyclic back-flow of assets in different conditions; and calculating expected net cash flow based on fees and scenario to name just a few.

To offer circular business models companies need to define their financing needs such as finance for upfront investments and working capital during operations. Capital requirements to be flexibly available as new products need to be financed as soon as new contracts are signed. There is also a need to assess risks and offer securities: The most relevant aspects include client quality, strength of portfolio, asset quality such as a high resell price which reduces risk as it gives high collateral. And finally, the contract robustness which can reduce risk of high fluctuation of customers and deposits reducing risks of default in payback in case of bankruptcy.

What can financial community do to facilitate financing circular economy projects?

The 'newness' of circular business models does not necessarily imply that financial implications are specific to circularity. For instance, in the case of Circular Innovation Models (CIM) financing of innovation carries a certain amount of risk, but this would have been the case for any innovation. Therefore, this is not a financing issue that is specific for circular business models. Financial issues are particularly manifest in circular use models (CUM). These models aim to keep control over assets and retain added value. The change from selling assets to providing them as a service (PSS models) has consequences for a company's balance sheet, working capital, and cash flows. Combined with the uncertainties concerning the residual value of the assets, uncertain consumer demand and the absence of legal structures, the risks of PSS models are currently high. This means that financial institutions are unable to price these risks adequately, which can result in high interest rates or a refusal to grant a loan at all.

Financial institutions determined to stimulate the transition to a circular economy can start by redefining risk. It is not only the risks of the new circular model that need to be assessed, but also the risks posed by the existing linear model. Moreover, it needs to be realised that circular risk is mainly due to the newness of the circular economy concept. Since circular business models are sustainable by design (i.e. excluding any linear risks), investing in circular businesses will lower the risk.

There is both a responsibility and an opportunity for financial institutions not to wait for this to happen, but to actively assess the companies in which they invest, evaluating their societal and environmental purpose and their resilience to meet the challenges that the future will bring. In that sense linear risk can be mitigated by coming to terms with 1) the unsustainability of the current situation, 2) the financial implications in the form of stranded assets, and 3) a proactive attitude in stimulating circular business activities.

It is essential that shareholders, customers, suppliers and third-party finance providers, including banks and asset lenders, understand the longer-term objectives and the benefits that will arise from investment in circular businesses. This will provide the businesses the support they require to make the transition to a more circular model and lock in those future benefits. In helping circular supply chains to align incentives, financial institutions could invest time in creating the appropriate financial and legal structures to 1) invest in circular supply chains and 2) place ownership of assets/receivables within supply chains.

The traditional way of financing a company can be a barrier for businesses adopting a circular model. In particular, the perceived residual value of a product needs further attention; we do not know yet how residual value contributes to the business model, but it plays an important role in the attractiveness of going circular. The current mindset of consumers is a challenge to some circular business models. Consumers need to become used to not throwing away products, instead keeping them in the loop; and move towards using products rather than owning products (decoupling use from ownership).

There is currently a vast array of financial offerings that can help to provide companies with financial flexibility in their strategic, operational, and financial decisions. A change to a circular business model may however include a need for new offerings, or a different view on the elements of existing offerings. The evaluation of the 'risk' of a company will need to change if the transition is to be successful because a circular business model has a different risk perspective to that of a linear business model. This is partly due to innovations, such as replacing product sales with PSS models. This has implications for both the cash flow profile and balance sheet of a company. On the other hand, financial institutions may need to take a different approach in assessing the risks of a traditional linear company. These risks may be higher than currently perceived, for instance because externalities may need to be included in pricing in the future.

Another new approach will be the analysis of supply chains instead of individual companies. As companies move towards a circular business, collaboration within chains becomes more important. This can also have implications for a financial view, where one can envisage financing chains instead of companies. The total risk of a supply chain can be significantly lower than the risk of one company within that chain. This may also drive a need for specific 'vehicles' to be used in the actual financing of a chain. The legal framework used in financing companies will need to be adapted to enable and support these changes.

Financing the adjustment to a circular supply chain will require extensive analysis not only of the borrower but also of the supply chain. Loan pricing is currently based on the creditworthiness of the borrower rather than on the solidity of the supply chain it belongs to. Once entered into a collaborative model, the borrower's creditworthiness will be strongly correlated with the solidity and reliability of the supply chain. Circular supply chains entail longer relationships between business partners, and the legal framework to support such relationships. One is to expect longer-term intake/off-take agreements needed to mitigate the downsides of specialisation, and various other legal arrangements destined to add more certainty to longer-term cooperation between the various partners.

As companies' incentives and economic realities change, these longer-term agreements add a significant number of variables that need to be factored in when assessing credit risks. It is important to consider that collaborative models between actors within or across supply chains will be instrumental in the move from a product to a service business model. The main uncertainty will be whether the relationship with the supply chain partner(s) will last long enough to pay off, and whether it is legal under competition law. This will likely lead to an increased cost of capital unless appropriate purchase/supply commitments can be put in place to mitigate the supply chain risk.

Given that products flow in cycles through the supply chain, it may be desirable to finance this supply chain mechanism rather than a single company. This means the borrower would become a collective of companies, gathered around a specific product (or range of products). This would result in incentive alignment, since all chain partners are responsible for the risks taken and share the gains when the project is successful. Another aspect closely linked to this idea is to transfer ownership from a single company to the supply chain. This would again have certain effects on the balance sheet etc. However, in this situation it would become the shared balance sheet of the supply chain. When financing the entire supply chain, it would make sense that the collateral (assets and receivables) is owned by the same entity as the one granted the loan/investment.

Notwithstanding the positive impact of circular economic business models, the approach to the appraisal and assessment of investment opportunities to support circular economic business models has to be no less rigorous and robust than that undertaken in relation to more traditional linear businesses. Indeed, the risks and challenges require very careful evaluation as part of the overall investment decision-making process. Central to this assessment are: management strength and track record of the level of strategic and operational support required to complement this; the underlying growth opportunity and the impact on this of external market factors; the extent of the changes required to the existing business model (if any) and the associated implementation risk; for businesses in the earlier stages of the life cycle, the development and commercialisation challenge, risk and roadmap; and the alignment of strategy and stakeholder objectives.

Is there an opportunity for equity investors?

Over and above the provision of risk capital, equity investors are uniquely positioned to support and positively influence the development of the underlying business strategy. In the case of 'private' capital this influence is possible, through active participation at investee company board level, and perhaps with certain specialist equity providers, additional support covering, for example, operational best practice and market development opportunities.

In the listed equity arena there are two primary mechanisms that could support the financing of the circular economy. Firstly, through investment policy, i.e. using the lens of the circular economy to identify and select businesses that will benefit from the adoption of the circular economy within their own business and/or enable the development of the circular economy in other businesses. Secondly through the active engagement of shareholders to exert influence on the strategy of businesses, encouraging the adoption of circular economy principles. Recent evidence of the power of shareholder lobbying (e.g. the influencing of major oil and gas companies investment strategies) suggests that this is effective. The availability of the right combination of equity risk capital and positive strategic and operational influence will not only support the businesses at the core of the transition to the circular economy, but will also help de-risk the proposition for other funders.