2018 Project Finance Outlook Entering the Liquidity Deterioration Phase



The world economy is fast entering the liquidity deterioration phase of the credit cycle, a period when crises generally start to take root. The performance of project finance will continue to be strong in 2018, but not always because of sound fundamentals.

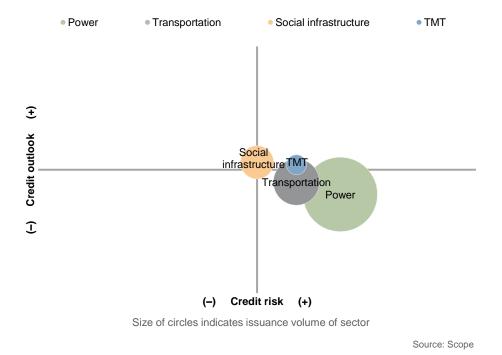
With this project finance outlook, Scope Ratings (Scope) takes a long-term credit perspective for the benefit of investors. Actions by central banks are shaping a credit cycle which will likely be shorter than the previous one (which was unusually long). The excesses of today (mainly through capital misallocation and incorrect pricing of risk) will be the losses of tomorrow, when deflationary corrections after the next crisis crystallise.

Our credit outlook on European project finance is stable for 2018, but reflects the mixed fundamentals and trends in the context of tightening coverage ratios and rising leverage. Scope emphasises that sound economic fundamentals, supported by rigorous credit analysis, will be key to protecting investors from losses from defaults in the next economic downturn.

Demand for project finance assets will continue to grow in 2018, buoyed by ultra-low interest rates and ample liquidity. Nevertheless, the primary-market pipeline in most European project finance markets will remain sluggish, despite government efforts to tackle the widely acknowledged deficiencies.

This document looks at current topics and trends in key project finance sectors, interpreted from the perspective of credit risk.

Figure 1: Credit outlook for European project finance



Analysts

Aaron Konrad +49 30 27891 132 a.konrad@scoperatings.com

Carlos Terré +49 30 27891 242 c.terre@scoperatings.com

Investor Outreach

Michael Pinkus +49 30 27891 146 m.pinkus@scoperatings.com

Business Development

Mike MacKenzie +44 782 333 8061 m.mackenzie@scoperatings.com

Related Research

General Project Finance Rating Methodology November 2017

General Project Finance: Analytical Considerations May 2017

Scope Ratings AG

Lennéstraße 5 10785 Berlin

Phone +49 30 27891 0 Fax +49 30 27891 100

info@scoperatings.com www.scoperatings.com



8 December 2017 1/7



Entering the Liquidity Deterioration Phase

Renewables exposure to merchant risks on the rise

Transportation assets benefit from economic growth

Positive fundamentals support TMT but challenges remain

Sector fundamentals show a mixed picture

In this report, Scope provides its credit outlook on the largest European project finance sectors and highlights the key challenges that will hinder long-term credit performance.

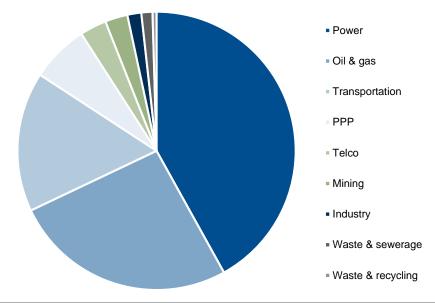
For the power sector, particularly renewable energy, changing regulations and falling subsidies will factor negatively into credit performance and increase revenue risks. This reflects the changing government mantra: away from expanding low-carbon capacity 'at all costs', to ensuring a balanced energy system which favours market competition and usage-based funding in the long term.

Transportation infrastructure, such as road, rail, airports, and sea ports, will benefit from the ongoing economic recovery in Europe next year. New projects will tend towards concessionary forms with shorter lives and higher traffic exposure, rather than traditional availability-based models; this will increase revenue risks. While the higher risk will not cause problems in the short term as the European economy continues to strengthen, projects' fundamental vulnerabilities will be tested in the next cyclical downturn. Projects at particular risk of default will be those relying on decades-spanning traffic projections and less resilient economic fundamentals.

In 2018 we expect stable credit performance to continue for social infrastructure PFI/PPPs and regulated utilities such as water and waste management facilities. This sector's critical importance and non-cyclical nature will protect investors from large losses in the event of an economic downturn. Negative credit implications of Brexit for UK PFIs will be contained, in our view, and will focus on projects exposed to the economic cycle, interest rates, and fluctuations in the Sterling rate.

The growth of structural demand for high-speed data will support the credit performance of core technology, media, and telecommunications (TMT) assets, including cable and fibre transmission networks, wireless towers, and data warehouses. We view the short technology cycles and the sector's prevalent risk of obsolescence as key challenges of credit performance going forward.

Figure 2: Project financing issuance year-to-date by Q3 2017 (EUR 52.3m)



Source: Thomson Reuters Project Finance International and Scope

8 December 2017 2/7



Entering the Liquidity Deterioration Phase

Negative credit outlook for power in 2018

Renewables become more exposed to merchant risks

Long-term system costs increase regulatory risks

Efficiency gains and cost savings are credit-positive

Conventional generation still weak but revenues to stabilise

Storage will remain a niche technology in 2018

New clean generation and transmission investments

Power

Our credit outlook on the power sector is negative for 2018. Potential regulatory action will be a key source of credit risk for new and existing energy assets next year, such as the price caps on household energy bills considered by UK regulators. While we believe price caps would be borne directly by utility companies, they are likely to still put pressure on independent producers seeking to either negotiate new power purchase agreements or amend existing ones.

European renewable energy producers will become more exposed to merchant risks in 2018, particularly in the greenfield space. We anticipate that governments, in a bid to meet EU emissions targets, will pay closer attention to the steeply rising system costs from the rapid renewables roll-out of the past decade. In the case of Spain in 2013/2014, the need to balance ballooning electricity system costs forced the government into implementing retroactive subsidy cuts and an extensive overhaul of its renewables subsidy scheme. Today, most Spanish renewables producers must sell electricity into the pool at spot prices and operate on an almost full merchant basis. We believe Spain will continue to be a pioneer in renewable energy, with increasingly more countries following suit by cutting subsidies and pushing renewables to compete in the market.

Government aims of meeting emissions targets by awarding new capacity to the lowest bidder is raising regulatory risks by pushing up long-term system costs. Tender processes often lack system planning components and bidders are typically chosen solely on price.

These risks will be offset partially by continued efficiency gains and cost savings. The risk of adverse regulatory intervention will be lower in markets where governments have already balanced their systems. In the example of Spain, the rebalancing of its electricity system following regulatory reform decreased projects' exposure to regulatory risks, which in our view makes future interventions less likely.

In the short term, conventional generation projects will continue to be positioned unfavourably in the merit order system, though this will somewhat be offset by supplemental revenues from capacity markets and system-balancing services. However, we anticipate that generators will benefit from a gradual rise in wholesale electricity prices in core European markets over the next years.

We consider energy storage a nascent area with competing and untested technology. While we predict a handful of transactions will come to market in 2018, our credit view remains constrained by the sector's untested technologies and lack of stable and predictable revenue streams. We view as positive the growing system and intermittency costs which make energy storage fundamentally attractive.

We expect most European greenfield transactions to occur in power next year. The structural shift to low-carbon generation technologies as mandated by binding EU 2020 emission targets will continue to spur the addition of clean generation capacity. Gas and electricity transmission and distribution assets will continue to bolster the project pipeline. Examples include greenfield assets as part of the European Commission's TEN-E initiative, privatisations of existing assets, and spin-offs from utility portfolios.

8 December 2017 3/7



Entering the Liquidity Deterioration Phase

Stable credit outlook for transportation in 2018

Weak fundamentals make projects vulnerable to default

Demand-supply balance and competitive position are key

Shorter concession lives will have mixed credit implications

Less risk of structural changes and intermodal competition

Shorter exploitation period lowers collateral value

Refinancings expected in 2018

Limited visibility on greenfield pipeline

Transportation

Our credit outlook for transportation assets in 2018 is stable. We note a distinctive trend towards concession models in which investors assume the risk of traffic volume or usage fluctuations; away from more traditional availability-based or hybrid models, which leave these risks with the concession grantor. We do not expect these risks to crystallise in 2018 amid improving economic conditions across Europe, which should protect projects exposed to traffic risk owing to significant contractions in volume.

However, the next downturn will likely affect credit performance and lead to defaults. Projects that rely heavily on traffic projections, less-than-solid economic fundamentals, and tight coverage ratios are particularly vulnerable. Higher revenue risk associated with exposure to traffic fluctuations may be mitigated by strong economic fundamentals and a resilient financial structure.

Scope considers a project's demand and supply characteristics as well as the strength of its competitive position to be key elements in the credit risk of transportation assets. In some cases, a project may rely on usage payments but can benefit from predictable and resilient long-term demand, exhibiting quasi availability-based characteristics without being exposed to any single revenue counterparty. Strong and easily comprehensible fundamentals could also partially delink a project's credit risk from political or sovereign risks that often drive credit performance of traditional availability-based projects.

Going forward we predict public authorities will increasingly consider shorter concession lives for newly tendered projects (for example, for the next wave of Dutch road projects). While such changes could increase governments' flexibility and support pipeline visibility, we believe credit implications for investors are mixed.

A shorter concession period reduces certain risks associated with long asset lives (30 years or more) such as structural changes in passenger and goods transportation routes and intermodal competition. Moreover, a shorter project life can potentially reduce an investor's risk horizon if the rated instrument is structured accordingly.

On the other hand, a shorter period is also likely to decrease collateral value (or revenue tail), a credit-negative in our view. This is because a user is only willing to pay for a service up to a certain point, for example, a shorter revenue tail would lower investors' flexibility to restructure a non-performing asset to protect their investment in an event of default. This can constrain revenue over the concession's comparably shorter life. These challenges may be addressed in new concession models by aligning a concessionaire's obligations and expenditure requirements with the shorter concession life; however, Scope could remain cautious until we consider changes to key concession elements time-tested.

In 2018 transportation will continue to be a mainstay of project finance activity in Europe, albeit involving mostly the refinancing of existing assets rather than greenfield projects.

We expect a slowdown in new tenders in France and the UK, among other major markets, but anticipate some road projects to come to market in the Netherlands and Ireland in 2018. The Dutch Rijkswaterstaat has been a beacon of predictability in recent years, but its current PPP programme will soon be exhausted, with limited visibility on future projects. The Spanish government announced this summer that it intends to mobilise up to EUR 5bn in road investments. To this end, the government is likely to use project finance as a key instrument to crowd in private capital. However, we believe the Spanish road initiative is unlikely to affect next year's pipeline and would, if enacted, start to materialise closer to 2020.

8 December 2017 4/7



Entering the Liquidity Deterioration Phase

Stable credit outlook for social infrastructure in 2018

PFI model under question

UK regulatory regime continues to be stable and predictable

Social infrastructure broadly insulated from Brexit shocks

Pipeline driven by small-scale, local projects

Social infrastructure and regulated utilities

For 2018 we expect stable credit performance to continue for social infrastructure PFI/PPPs and regulated assets such as distribution networks. The critical importance of this sector and its non-cyclical nature often protects investors from large losses during an economic downturn.

In recent UK political discourse, the role of private infrastructure and the PFI model have been called into question. Certain government figures and the Labour shadow cabinet are arguing against PFI, saying it is 'bad value for tax payers' money' and that projects saddle the public sector with too many risks without adequate compensation. They are calling for the nationalisation of private key infrastructure.

Despite the UK's current political climate, we believe its regulatory regime remains one of the most stable and predictable globally. Private infrastructure in the UK has a uniquely long history, private ownership comprises a sizeable share in the country's infrastructure stock today, and private capital will be a key source of much-needed new infrastructure investments going forward.

We expect Brexit to have only a muted impact on UK social infrastructure, as these projects are usually less exposed to the economic activity or trade flows with continental Europe. This is because social infrastructure often serves a critical purpose, and its fundamentals tend to rely on local demand and supply. Such projects include the construction of hospitals, nursing homes, schools, prisons, and government buildings.

Tight public-sector budgets and favourable demographic trends will continue to spur demand for the financing of new social infrastructure projects in 2018. We do not anticipate many new large-scale projects in the coming year, and most activity will centre on new small-scale projects or refinancing operations. Locally or regionally focused companies will play a larger role than in other sectors, as the very local characteristics and limited size of these projects tend to constrain economies of scale for large institutions. PFI projects in the UK, with their comparatively large and homogenous asset pools, represent a notable exception.

8 December 2017 5/7



Entering the Liquidity Deterioration Phase

Stable credit outlook for technology in 2018

Growing demand poses operational challenges

Ongoing funding needs

Data centres: limited revenue visibility and O&M challenges

TMT will benefit from growing demand over the next years

Technology, media, and telecommunications

Our 2018 credit outlook on the TMT sector is stable. We project favourable economic fundamentals and demand growth to underpin project cash flows in the medium to long term. Our credit view is constrained, however, by the short technology cycles which expose investors to technological obsolescence, potentially limiting the assets' expected exploitation period.

While we anticipate long-term demand growth for TMT services will continue to benefit revenues in the long term, the maintenance of high availability levels during peak periods will pose operational challenges. Operational risks increase as new users are added because speed and quality requirements will increase in parallel.

Scope also highlights that many TMT projects will continue to need funding to protect their competitiveness and ensure high availability levels. Due to the nature of demand for instant and fast services, projects may require additional capital expenditure during their lifecycle to maintain adequate capacity slack and meet peak demand. Baseline and peak-availability needs are typically very high in saturated TMT markets, while a significant rise in users necessitates the addition of capacity in less developed markets.

Data centres are a fast-growing area in project finance, and we expect these to increase further in significance. Revenue predictability is a key credit risk driver, in our view, particularly as contract tenors are currently much shorter than the 15-20 years seen in other sectors. Moreover, while data centres often use tested technology, the need for high and reliable availability levels can pose challenges and require a strong operation and maintenance (O&M) setup.

In the long term, economic fundamentals for TMT infrastructure will continue to benefit from growing demand for high-speed data capacity, availability, and digitalisation. This will spur further investment in fibre and frequencies, particularly in urban areas.

8 December 2017 6/7



Entering the Liquidity Deterioration Phase

Scope Ratings AG

Headquarters Berlin

Lennéstraße 5 D-10785 Berlin

Phone +49 30 27891 0

London

Suite 301 2 Angel Square London EC1V 1NY

Phone +44 203-457 0 4444

Oslo

Haakon VII's gate 6 N-0161 Oslo

Phone +47 21 62 31 42

info@scoperatings.com www.scoperatings.com

Frankfurt am Main

Neue Mainzer Straße 66-68 D-60311 Frankfurt am Main

Phone +49 69 66 77 389-0

Madrid

Paseo de la Castellana 95 Edificio Torre Europa E-28046 Madrid

Phone +34 914 186 973

Paris

33 rue La Fayette F-75009 Paris

Phone +33 1 82 88 55 57

Milan

Via Paleocapa 7 IT-20121 Milan

Phone +39 02 30315 814

Disclaimer

© 2017 Scope SE & Co. KGaA and all its subsidiaries including Scope Ratings AG, Scope Analysis GmbH, Scope Investor Services GmbH and Scope Risk Solutions GmbH (collectively, Scope). All rights reserved. The information and data supporting Scope's ratings, rating reports, rating opinions and related research and credit opinions originate from sources Scope considers to be reliable and accurate. Scope cannot however independently verify the reliability and accuracy of the information and data. Scope's ratings, rating reports, rating opinions, or related research and credit opinions are provided "as is" without any representation or warranty of any kind. In no circumstance shall Scope or its directors, officers, employees and other representatives be liable to any party for any direct, indirect, incidental or otherwise damages, expenses of any kind, or losses arising from any use of Scope's ratings, rating reports, rating opinions, related research or credit opinions. Ratings and other related credit opinions issued by Scope are, and have to be viewed by any party, as opinions on relative credit risk and not as a statement of fact or recommendation to purchase, hold or sell securities. Past performance does not necessarily predict future results. Any report issued by Scope is not a prospectus or similar document related to a debt security or issuing entity. Scope issues credit ratings and related research and opinions with the understanding and expectation that parties using them will assess independently the suitability of each security for investment or transaction purposes. Scope's credit ratings address relative credit risk, they do not address other risks such as market, liquidity, legal, or volatility. The information and data included herein is protected by copyright and other laws. To reproduce, transmit, transfer, disseminate, translate, resell, or store for subsequent use for any such purpose the information and data contained herein, contact Scope Ratings AG at Lennéstraße 5 D-10785 Berlin.

8 December 2017 7/7