THE SOVEREIGN TRANSITION TO SUSTAINABILITY
UNDERSTANDING THE DEPENDENCE OF SOVEREIGN BONDS ON NATURE

THE CASE OF ARGENTINA
Discussion Paper | July 2019

Planet Tracker
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ABOUT PLANET TRACKER

Planet Tracker is a non-profit financial think tank aligning capital markets with planetary limits. It was launched in 2018 by the Investor Watch Group whose founders, Mark Campanale and Nick Robins, created the Carbon Tracker Initiative.

Planet Tracker was created to investigate market failure related to ecological limits. This investigation is for the investor community where, in contrast to climate change, the limits are poorly understood and even more poorly communicated, and not aligned with investor capital.

Planet Tracker Sovereign Bonds Programme

Planet Tracker is launching a new programme of thought leadership that explores the relationship between sovereign bonds, natural capital and environmental risks, and the macroeconomics - sovereign health – of a country and its key soft commodities.

Our first focus is on key Latin American countries, specifically Brazil and Argentina, where we will explain how natural capital intersects with sovereign bond risk.

Over time, we will expand the programme to analyse sovereign health applying similar quantitative and qualitative models to additional countries in Latin America as well as globally.

Our research focuses on how changes in environmental health, such as soil degradation, deforestation and variability in extreme weather impact the underlying public treasury balances of these countries and their subsequent ability to service sovereign bond liabilities.

Acknowledgments

Planet Tracker would like to thank Nick Robins, Professor in Practice - Sustainable Finance, Grantham Research Institute, London School of Economics, for his expert contributions to this report.
EXECUTIVE SUMMARY

Argentina's governance strength in managing the country's exposure, sensitivity and adaptation ability to natural capital sustainability is a growing factor for domestic and international sovereign bond investors currently holding $283 billion in sovereign debt, maturing 2019–38.

Planet Tracker hypothesises in this discussion paper that a ‘chain of impact’ exists between natural capital sustainability and macroeconomic health.

If left unmanaged Argentina's deteriorating natural capital sustainability, a contributing factor to soft commodity production efficiency, is set to affect the economy where from 2008–17, nature dependent soft commodity exports made up 59% overall of Argentina's exports generating $400 billion.

Indicators measuring this ‘chain of impact’ include balance of payment volatility, USD trade receipts, employment and social security payment contributions, and corporate tax receipts.

Nature Dependent Soft Commodities Exports

Of all the countries in the G20, Argentina's exports are most dependent on natural capital. Soft commodities that rely on natural capital in their production – nature dependent soft commodity exports - account for six out of ten export dollars, half of which are soybeans.

These exports are threatened by diminishing production due to climate and nature based factors coupled with a global trend away from type 1 biodiesel fuel, produced from raw soft commodities, towards sustainable alternatives.

G20 countries' nature dependant soft commodity exports were $10.4 trillion, 10.3% of total G20 exports in 2008–17.

By contrast, from 2008–17, Argentina's reliance on these exports was the highest amongst its G20 peers at almost 60% (Figure 1).

Figure 1: G20 Nature Dependent Soft Commodity Exports, 2008–17.

![Figure 1: G20 Nature Dependent Soft Commodity Exports, 2008–17.](image-url)
Natural Capital is an Environmental and Economic Asset

Capital markets are not systematically measuring in their sovereign assessments the relationship between natural capital sustainability and Argentina’s reliance on nature dependent soft commodity exports.

Soybeans are Argentina’s top export. From 2008-17, Argentina exported $181 billion from upstream and midstream soybean products – equalling 27% of the country’s total exports.

Furthermore, the European Union (EU) is the largest consumer and producer of biodiesel in the world. In 2017, approx. 67% of the EU’s biodiesel import in 2017 was comprised of Argentinian soybean biodiesel (90% of all Argentinian soybean biodiesel exports).

Since soybeans and its products are Argentina’s number one export, Planet Tracker suggests that capital markets and sovereign fixed income analysts produce focused analysis on supply-side and demand-side risks to soybean product exports (see Section 3).

Planet Tracker has found that sovereign bond investors and the Government of Argentina have not explicitly accounted for these risks despite the IMF’s 2018 $50 billion Stand-By Agreement (SBA) – since increased to $56.3 billion.

Research for this paper indicates that further natural capital declines could impact balance of payment volatility together with domestic and international treasury receipts generating credit risks not widely accounted for by capital markets.

Credit risk is a fundamental investor factor in determining future sovereign debt rollovers. In the case of Argentina this dynamic extends to the IMF SBA.

Unless effectively governed and managed, Argentina’s natural capital sustainability as a result of supply-side and demand-side risks as assessed in this discussion paper may lead to future macroeconomic volatility.

Emerging Insights Towards a High Road Scenario

This discussion paper seeks to explore how Argentina is at a crossroad at the nexus between natural capital sustainability and macroeconomic health.

We believe that sovereign bond investors can better support Argentina’s government to improve natural capital resilience, thus protecting nature dependent soft-commodity exports. Transferring the emerging insights in this paper into actions supporting this assessment include:

**IMF Article IV Consultations:**
Planet Tracker suggests incorporating explicit reporting on natural capital health which is explored in this report to be materially important for sovereign bond investors.

**Investor Support for a Green Economy:**
Investor engagement on governance execution by the Government of Argentina and specifically senior parties at the Banco Central de la República Argentina supporting policies addressing Argentina’s natural capital exposure, resilience and adaptation ability can offer support towards managing balance of payment volatility.
Green Bonds:
Investors and Banco Central de la República Argentina could collaborate to issue a sovereign green bond expanding on previous municipal green bond issuances. Proceeds from a sovereign green bond could be used to finance measures designed to create natural capital resilience.

Ask the IMF to Apply Natural Capital Sustainability Measures to Future SBAs:
The IMF can support high road scenario transitions globally by actioning binding covenants to future SBA agreements enabling governments to enact policies mitigating natural capital sustainability risks and supporting natural capital resilience.

Certify All Soybean Production as Sustainable:
The Government of Argentina should aim to certify its soybean production as sustainable applying globally accepted independent, reputable third-party certification standards so as to directly mitigate natural capital supply side and product exclusion demand side risks.

Expand and Strengthen Land Use Production and Exports Policies:
Having served as President of the 2018 G20 summit, the Government of Argentina can continue to demonstrate its global leadership by actively and publicly supporting design of new governing standards and targets for sustainable land use. The Government of Argentina can provide leadership at upcoming seminal land use events setting environmental, land use, climate and sustainable development goals agendas post-2020 including:

- 2020 the Convention on Biological Diversity: Post 2020 Aichi Targets;
- Conference of the Parties to the Convention on Biological Diversity (COP 15): Beijing 2020 towards a new global pact between people and nature;
- Species Survival Commission Post-2020 Biodiversity Targets Task Force;
- UN Convention on Biological Diversity, Nature Action Agenda presented at COP 15;
- IPCC’s special report on Climate Change and Land: An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems that will be released in 2019.
SECTION 1
SOVEREIGN SUSTAINABILITY TRANSITION

Nature is the Foundation of Business Prosperity

Planet Tracker has found that investors are increasingly recognising the importance of healthy and stable natural capital in order to provide energy, food and fresh water to meet the requirements of a global population expected to reach 9.8 billion by 2050.8

In 2019 the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a global report in part assessing how economies and industrial sectors have used nature to generate economic value whilst at the same time highlighting environmental costs and externalities arising from this value creation.

With more than a third of the world’s land surface and nearly 75% of freshwater resources devoted to crop or livestock production, agriculture is one industrial sector closely examined by IPBES.

By 2018 the $2.6 trillion annual economic value of agricultural crop production was threefold greater than in 1970. Soft commodities, such as coffee, cocoa, wheat, sugar, soybean and livestock, are fundamental to feeding society, employing 28% of the global workforce, and creating the backbone for many economies including within the G20 (see below).9 For many countries overall macroeconomic health depends on soft commodity production and trade. Agriculture is however simultaneously the major driver of global natural capital depletion as:10

- Global food crop production has increased 300% since 1970 and 50% of global agricultural expansion has occurred at the expense of forests contributing towards 60% loss of terrestrial biodiversity;
- 33% of degraded soils result from agriculture production which also discharges up to 30% of greenhouse gas (GHG) emissions;11
- Land degradation has reduced productivity in 23% of the global terrestrial area, and between $235 billion and $577 billion in annual global crop output is at risk as a result of pollinator loss.12

As natural capital declines, Planet Tracker is working with capital markets to measure the extent to which macroeconomic health, also referred to as sovereign health, depends on the sustainable management of natural capital.

Sovereign health is measured for example by Credit Rating Agency (CRA) indicators including, but not limited to, GDP, trade balance of payments (BoP), exports, public finances and expenditure, currency and employment. Going forward CRAs are showing positive signs of directly incorporating natural capital measures into their analysis – for example via Moody’s ‘external vulnerability’ assessments.
Capital Markets are Waking Up to Sovereign Health Risks

Planet Tracker is assessing how declines in natural capital transition increase credit risks to sovereign investors. In agriculture-based economies, declines in natural capital can decrease production impacting on industry revenue, tax contributions, employment and soft commodity exports resulting in falling treasury receipts.

Since 2015 capital markets have increasingly recognised that ESG risks may be material, which is why this report is focusing on the E (environmental risks). For example:

- **The UN Principles for Responsible Investment (PRI):** Globally by 2019, 146 investors collectively managing $29 trillion of assets including sovereign bonds have signed the *UNPRI ESG in Credit Ratings Statement*, including Fitch Ratings, Moody’s, and Standard & Poor’s (S&P).¹³
- **S&P Risk Atlas:** Created by S&P Global Ratings, the ESG Risk Atlas provides a country level appraisal and outlook of ESG factors.¹⁴
- **Stock Exchange Engagement:** By June 2019, 14 global stock exchanges including London, Shanghai, Luxembourg, Borsa Italiana, Japan Exchange Group, and Frankfurt had launched a dedicated green bonds section.¹⁵
- **Mainstreaming ESG Analysis into Sovereign Credit Ratings:** Fitch Ratings, Moody’s, and S&P, the three major global credit rating agencies which cover 95% of the sovereign credit ratings’ market, have all adopted ESG sovereign rating frameworks.¹⁶,¹⁷,¹⁸,¹⁹

It is incumbent on sovereign states and their investors to ensure that sustainable management of natural capital is a government and investor priority. Capital markets place a high value on governance strength in their economic assessments. Strong governance commitment and demonstrated ability to deliver on climate and nature sustainability is a crucial starting point in determining a country’s exposure, sensitivity and adaptation ability to natural capital volatility.

In an era of greater capital market engagement on climate and nature for example the Task Force on Climate-related Financial Disclosures (TCFD), sovereign credit issuers should also have a duty to disclose, at the least, climate and nature related aspects of land use change.
SECTION 2
NATURE DEPENDENCY OF EXPORTS

Capital markets use balance of payment volatility as one measure to gauge sovereign bond investments and macroeconomic health. BoP record economic transactions including the trade of goods between a country and the rest of the world.

Many export and import trade products calculated towards BoP rely on ‘dead’ natural capital (fossil fuels and non-renewable hard commodities) and ‘living’ natural capital (renewable soft commodities) in their production. These are ‘nature dependent exports’.

Focusing on ‘living’ nature dependent exports, of all the countries in the G20 six out of ten dollars of Argentina’s total exports are dependent on soft commodities, half of which are soybeans. From 2008–17, Argentina’s reliance on ‘nature dependent soft commodity exports’ was the highest amongst its G20 peers at almost 60% (Figure 1).

Nature dependent soft commodity exports across the G20 generated $10.4 trillion of BoP receipts and formed 10.3% of total G20 exports in 2008–17.

Argentina’s soft commodity exports are however threatened by both diminishing production due to natural disasters and the global trend away from biodiesel fuel towards sustainable alternatives.

Whilst market analysis generally focuses on the governance strength of Argentina, this discussion paper offers emerging environmental insights relevant to assessing Argentina’s sovereign health.

Argentina’s Nature Dependent Soft Commodity Exports

From 2008–17, nature dependent soft commodity exports made up 59% overall of Argentina’s exports generating $400 billion. These included products directly produced at the intersection of natural capital and sovereign health unimpeded by natural capital supply-side or demand-side constraints (Table 1).

<table>
<thead>
<tr>
<th>Soft Commodity Embedded Exports</th>
<th>Value ($ millions)</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foodstuffs</td>
<td>140,700</td>
<td>20.6%</td>
</tr>
<tr>
<td>Vegetable Products</td>
<td>137,230</td>
<td>20.1%</td>
</tr>
<tr>
<td>Animal and Vegetable By-Products</td>
<td>56,870</td>
<td>8.3%</td>
</tr>
<tr>
<td>Animal Products</td>
<td>47,030</td>
<td>6.9%</td>
</tr>
<tr>
<td>Animal Hides</td>
<td>10,146</td>
<td>1.5%</td>
</tr>
<tr>
<td>Paper Goods</td>
<td>5,392</td>
<td>0.8%</td>
</tr>
<tr>
<td>Wood Products</td>
<td>2,148</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total Soft Commodity Embedded Exports</td>
<td>399,516</td>
<td>58.6%</td>
</tr>
<tr>
<td>Total Other Exports</td>
<td>282,084</td>
<td>41.4%</td>
</tr>
<tr>
<td>Total Exports</td>
<td>681,600</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Soft Commodity Embedded Exports Dominate Argentina’s Total Exports 2008–17.20
Soybeans and Soybean Products are Argentina’s Number One Export

As shown in Figure 2, soybeans dominate Argentina’s agriculture economy, which has grown rapidly since the 1990s through planned public sector intervention. From 2008–17, Argentina’s nature dependent soft commodity exports’ concentration risk was the highest amongst its G20 peers. And, from 2008–17, $181 billion\(^{21}\) – 27% – of Argentina’s total exports were from soybean products alone.

![Soy Percentage of Agricultural Area (%) by Category](image)

**Figure 2: Soybean Production in Argentina as a Percent of Total Agricultural Area (black line in hectares) and Soybean Production (green bars in million tonnes), 1990–2016.\(^{22}\)**

Recently from 2015–18, as shown in Table 2, midstream soybean products were 81% of overall soybean-related exports. During this period, soybean biodiesel exports were about $4 billion.

<table>
<thead>
<tr>
<th>Exports ($ millions)</th>
<th>2015</th>
<th>2016</th>
<th>2017*</th>
<th>2018*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Exports</td>
<td>56,784</td>
<td>57,909</td>
<td>58,621</td>
<td>61,559</td>
</tr>
<tr>
<td>All Soybean Products</td>
<td>18,615</td>
<td>18,911</td>
<td>17,170</td>
<td>15,050</td>
</tr>
<tr>
<td>Upstream</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>4,270</td>
<td>3,235</td>
<td>2,733</td>
<td>1,454</td>
</tr>
<tr>
<td>Midstream</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybean Meal</td>
<td>9,673</td>
<td>9,972</td>
<td>9,081</td>
<td>9,192</td>
</tr>
<tr>
<td>Soybean Oil</td>
<td>3,815</td>
<td>4,106</td>
<td>3,726</td>
<td>2,961</td>
</tr>
<tr>
<td>Soybeans</td>
<td>4,270</td>
<td>3,235</td>
<td>2,733</td>
<td>1,454</td>
</tr>
<tr>
<td>Soybean Biodiesel</td>
<td>506</td>
<td>1,240</td>
<td>1,224</td>
<td>971</td>
</tr>
</tbody>
</table>

* Provisional

**Table 2: Argentina’s Soybean Exports Including Biodiesel 2015–18.\(^{23}\)**
SECTION 3
UNDERSTANDING SUPPLY AND DEMAND DRIVERS

As shown in Figure 3, Planet Tracker utilises a natural capital supply and demand model to measure how nature dependent exports related to sovereign health.

Figure 3: Planet Tracker Supply-Side, Demand-Side, and Sovereign Health Model.

These generic risks can be broken down into the following categories with those highlighted in bold addressed in this discussion paper:

- Climate change
- Land-use related carbon management
- Water
- Biodiversity
- Soil quality
Generic demand-side risks include policy and regulation, capital markets, technological innovation and consumption trends. The risks discussed in this report are highlighted in **bold**:

- Policies and regulations
- Capital market alignment with natural capital
- Technological innovation
- Consumer behaviour change, trends, and forecasts

Planet Tracker’s research hypothesises that a ‘chain of impact’ exists between nature and sovereign health at the intersection between these supply-side and demand-side risks.

### Supply Drivers

**Climate Change:**
Increases the frequency of extreme weather events. Argentina’s soft commodity production has been badly hit by the growing frequency and intensity of floods and drought.

Of the more than $9 billion lost to natural disasters in Argentina from 2008–Q1 2019, about 75% occurred during 2017 through Q1 2019. The recent floods and drought caused $7.1 billion in losses. Coupled with deforestation and tree cover loss, the costs from the increasing frequency, intensity and variability of flood and drought events in Argentina highlights how natural capital costs can impact sovereign health. In 2018, these risks resulted in Argentina importing soybeans as feedstock for its soybean processors from the United States for the first time in decades.

![Figure 4: Argentina flood and drought frequency 1958–2018](image)

**Floods:**
Q3 2017 floods caused a $1.7 billion economic loss, equal to 0.25% of Argentina’s GDP. This single event equalled almost all the costs of similar events from 2008–16. These floods caused the Government of Argentina to lose $241 million in government revenues from income, export and value-added taxes. The floods destroyed 1.2 million hectares of crops impacting both soybean harvest and the beef and cattle sectors. This disastrous flood was followed by another disastrous flood two years later.
According to multiple news outlets quoting CONINAGRO, the Argentinian agriculture co-operative that supports 20% of Argentina’s oilseeds and cereal producers (about 120,000 different co-operatives), Q1 2019 floods in the Dry Gran Chaco region are forecast to decrease Argentinian GDP by $2 billion with 2.4 million hectares of soybean fields flooded in January alone.\(^27\) As a result, floods are increasingly financially material to impacting Argentina’s sovereign health.

**Drought:**
The inherent links between natural capital and financial risk to investors were illustrated by the 2018 drought which caused directly related economic losses estimated at $3.4 billion – or 0.5% of GDP.\(^28\)

Q2 2018 drought conditions in part reduced the soybean harvest forecast by 37%, equivalent to 19 million tonnes, against a forecast of 37 million tonnes. Because of the drought, the national average soybean yield fell from 2.78 to 2.12 tonnes per hectare,\(^29\) while reduced water depth at the port of Rosario made shipping more expensive as loading capacity per vessel was decreased. This in turn made exports more expensive on a per tonne basis. As a result, the Government of Argentina announced a series of fiscal policies to support farmers. These included debt relief to drought-hit farmers by delaying maturities on agricultural loans and new lines of credit with longer grace periods. These policies put pressure on government revenues as they may not result in tax positive revenue.\(^30\)

The US Department of Agriculture (USDA) estimated that a total of 4 million tonnes of soybeans were imported by Argentina in 2017–18 from Paraguay, Brazil and the US in response to the 2018 drought.\(^31\) The Argentinian statistical agency Instituto Nacional de Estadística y Censos concurred, stated that oilseed imports, of which soybeans are the primary constituent, were $2.6 billion in 2018 as compared to $791 million in 2017, $400 million in 2016, and $77 million in 2015.\(^32\)

**Land-use Related Carbon Management - Tree Cover Loss:**
From 2008–17, Argentina suffered 3,049,297 hectares of tree cover loss in the Dry Gran Chaco region,\(^33\) equivalent to an area the size of Belgium. This loss was driven by soybean expansion. Table 3 shows tree cover loss by province in the Dry Gran Chaco region in the period 2008–17. This tree cover loss is concentrated in four provinces that suffered 92% of all tree cover loss during this period.

Tree cover loss exacerbates for example soil erosion, surface water run-off, soil water retention as well as biodiversity loss and climate related factors.

<table>
<thead>
<tr>
<th>Provinces</th>
<th>Dry Gran Chaco Tree Loss (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santiago del Estero</td>
<td>1,003,043</td>
<td>33%</td>
</tr>
<tr>
<td>Salta</td>
<td>871,749</td>
<td>29%</td>
</tr>
<tr>
<td>Chaco</td>
<td>498,465</td>
<td>16%</td>
</tr>
<tr>
<td>Formosa</td>
<td>437,109</td>
<td>14%</td>
</tr>
<tr>
<td>Sum of Top Four Provinces</td>
<td>2,810,366</td>
<td>92%</td>
</tr>
<tr>
<td>Sum of Bottom Nine Provinces</td>
<td>238,931</td>
<td>8%</td>
</tr>
<tr>
<td>Total Tree Loss</td>
<td>3,049,297</td>
<td></td>
</tr>
</tbody>
</table>

*Table 3: Top Four Provinces Total Tree Loss in Dry Gran Chaco, Argentina, 2008–17.*\(^34\)
Demand Drivers

Policies and Regulations - European Union Renewable Energy Directive II:
While soybean production (supply side) is under pressure exports are also threatened by international regulations designed to encourage sustainability. Argentina exports 90% of its soybean biodiesel to the EU, but the bloc's new Renewable Energy Directive II will gradually exclude imports of biodiesel from areas which have suffered high deforestation and degradation.

The Renewable Energy Directive II could decrease Argentinian soybean biodiesel exports to the EU from 2023–30 by $3 billion based on annual average soybean exports from 2008–17 from the Dry Gran Chaco region. The Directive, which entered into force on 24 December 2018, gradually excludes high indirect land-use change biodiesel feedstocks from entering the EU between 2023 and 2030. These feedstocks are defined in the Directive as those for which a significant amount of expansion is observed into high carbon stock/primary dense vegetation and high soil carbon stock areas, for example, Dry Gran Chaco forests and grasslands. The Directive will determine in the short-term the exact percentages year-by-year for the ramping down of soybean biodiesel exports into the EU 2023–30.

This matters to investors because in 2018, 62% of the EU's imported soybean biodiesel was from Argentina. This represented 90% of all Argentinian soybean biodiesel exports, underlining the importance of the EU market to Argentinian soybean biofuel producers. But the EU is also a major producer of rapeseed oil which can easily replace soybean biodiesel, making the Argentinian dependency on the EU fragile.

Capital market alignment with natural capital - European Union Imported Deforestation Regulation:
The EU is currently drafting a policy called the EU Action on Deforestation and Forest Degradation. This draft policy states that soybeans, palm oil, beef, coffee and cocoa production are responsible for 80% of deforestation in tropical countries and the EU intends to determine if these deforestation-linked products might face import exclusions or sustainability criteria. Similar to the Directive above, this creates further short-term export uncertainty for the Argentinian economy. The draft policy, under review during Q2 2019, presents clear risks to Argentinian soybean-related exports.
SECTION 4
INVESTOR CAPITAL CONSIDERATIONS

Argentina’s underlying natural capital sustainability will determine future soybean production over agricultural land areas. In turn, this production will contribute towards public finances in the form of BoP and tax receipts.

Sovereign bond investors account for BoP volatility, duration and convexity factors in relation to natural capital sensitivity and resilience.

Shorter term maturity bond investors record USD BoP receipts to measure Argentina’s ability to service USD denominated sovereign debt. Soft commodities generate six out of ten USD export dollars for the economy and are therefore financially material for investors in assessing currency liquidity and volatility.

On June 20, 2018, Argentina received a $50 billion Stand-By Agreement (SBA) from the IMF to reduce its risk of sovereign credit default. The IMF then increased its SBA to $56.3 billion in October 2018. It is interesting to note that despite six out of ten dollars of Argentinian exports linked to nature dependent soft commodity exports, IMF does not transparently monitor natural capital as a component of the SBA. The Government of Argentina defaulted in 2001, so sovereign credit risk in Argentina is both real and material.

After the IMF’s action, in August 2018, S&P upgraded Argentina’s sovereign debt rating to ‘negative watch’ B+. As of November 2018, S&P rated Argentina’s sovereign debt as ‘stable’ B as market fears of a sovereign default decreased because of the IMF’s SBA. But, as shown in Figure 5, $283 billion of the Government of Argentina’s sovereign debt matures 2019–38, with 66% – $186 billion – maturing after the 36-month IMF SBA expires.

The April 2019 SBA review repeatedly points towards economic and policy actions aimed at lowering roll over risk of the SBA. Such factors include growing tax revenues, supply side reforms, and increasing export revenues. The report goes so far as to reference higher agricultural productivity in the wake of a less intensive drought period. It does not however suggest how all of these indicators and measures relate to natural capital health which has been shown by this report to have a direct impact on the economy and soft commodity production.
The Government of Argentina, and specifically leading policy authorities with responsibilities towards environmental and economic resilience in the Banco Central de la República Argentina (BCRA) and its sovereign investors, should factor and price natural capital risks.

Planet Tracker suggests further analysis is required to assess governance strength in relation to natural capital sustainability and fundamental issues such as deforestation, water availability and soil health.

At domestic and international level actions can be taken to support a sustainability transition or ‘high road scenario’ versus the business-as-usual ‘low road scenario’. In a high-road scenario Argentina mitigates soft commodity embedded exports and soybean supply-side and demand-side risks to reinforce its sovereign health.

In a low-road scenario, Argentina’s nature dependent soft commodity exports and soybean supply-side and demand-side risks surge, resulting in increases in both the cost of capital, as investors price in declining health of natural capital, and trade regulation which restricts importing Argentinian products related to tree cover loss and deforestation.

Planet Tracker has identified the following actions for further assessment supporting a transition towards a high road scenario:

**IMF Article IV Consultations:**
Planet Tracker suggests incorporating explicit reporting on natural capital health which is explored in this report to be materially important for sovereign bond investors. The latest IMF Article IV consultation on Argentina labels global soybean prices as a material component contributing to Argentina’s current account deficit and worsening trade deficit in 2017.\(^\text{42}\) The report does not, however, transparently measure natural capital health and its related impact on soybean production and trade balances.

**Investor Support for a Green Economy:**
With the Government of Argentina and the IMF working to stabilize Argentina's economy, Planet Tracker suggests investors directly engage the Government of Argentina and specifically senior parties at the BCRA to support governance and policies aimed at addressing Argentina’s exposure, resilience and adaptation ability to natural capital sustainability.

**Green Bonds:**
Investors and BCRA could collaborate to issue a sovereign green bond expanding on previous municipal green bond issuances. Proceeds from a sovereign green bond could be used to finance measures designed to create natural capital resilience.

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The Government of Argentina should aim to certify its soybean production as sustainable applying globally accepted independent reputable third-party certification standards so as to directly mitigate natural capital supply side and product exclusions demand side risks.

**Expand and Strengthen Land Use Production and Exports Policies:**
Having served as President of the 2018 G20 summit, the Government of Argentina can continue to demonstrate its global leadership by actively and publicly supporting design of new governing standards and targets for sustainable land use. The Government of Argentina can provide leadership at upcoming seminal land use events setting environmental, land use, climate and sustainable development goals agendas post-2020 including:

- 2020 the Convention on Biological Diversity: Post 2020 Aichi Targets;
- Conference of the Parties to the Convention on Biological Diversity (COP 15): Beijing 2020 towards a new global pact between people and nature;
- Species Survival Commission Post-2020 Biodiversity Targets Task Force;
- UN Convention on Biological Diversity, Nature Action Agenda presented at COP 15;
- IPCC's special report on *Climate Change and Land: An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* that will be released in 2019.

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In Q4 2019 Planet Tracker is launching a major report on *The Sovereign Transition to Sustainability: Understanding the Dependence of Sovereign Bonds*.

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**Biodiesel:** Biodiesel refers to a vegetable oil or animal fat-based diesel fuel consisting of long-chain alkyl (methyl, ethyl, or propyl) esters. Biodiesel can be used in standard diesel engines, and so is distinct from the vegetable and waste oils used to fuel converted diesel engines. Biodiesel can be used alone or blended with conventional diesel in any proportions.

**Credit rating agencies:** A credit rating agency (CRA) rates a debtor’s ability to pay back debt by assessing timely principal and interest payments, and likelihood of corporate or sovereign default.

**Crush capacity:** This is the volume of soybeans that can be processed by refineries annually.

**Deforestation:** The clearance, clearcutting, or removal of a forest or stand of trees from land. Deforestation can involve conversion of forest land to farms, ranches, or urban use. The removal of trees may result in habitat damage, biodiversity loss, erosion and aridity, and can have adverse impacts on the capture and storage of carbon dioxide and water by biological processes.

**Environmental, social and governance (ESG):** ESG refers to the three categories of factors used to measure the sustainability and ethical impact of an investment in a company.

**Gross domestic product (GDP):** GDP as an aggregate measure of production equal to the sum of the gross values added of all resident and institutional units engaged in production plus any taxes, and minus any subsidies, on products not included in the value of their outputs.

**Indirect land-use change:** Indirect land-use, defined in the EU Renewable Energy Directive II (RED II), occurs when the cultivation of crops for such products as biofuels, bioliquids and biomass fuels displaces traditional production of crops for food and feed purposes.

**Natural capital:** Natural capital is the stock of renewable and non-renewable natural resources (plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people. These benefits are commonly known as ecosystem services.

**Soft commodity embedded exports:** Soft commodity embedded exports are defined using the Harmonized Commodity Description and Coding System (HS). Soft commodity embedded exports have a direct reliance on soft commodities, which rely upon natural capital in their production. Soft commodities are commodities that are grown, rather than mined/extracted. They include coffee, cocoa, sugar, corn, wheat, soybean, fruit and livestock. On the other hand, commodities that are mined, such as oil, gas, minerals, and precious metals are known as hard commodities.

**Sovereign credit rating:** This gives investors insight into the level of risk, including economic and political risks, associated with investing in a country. High-quality ratings improve a country’s access to external debt markets and foreign direct investment. A sovereign credit rating highlights the potential for a government to be unable to meet its debt obligations. Investors review a country’s credit rating and its component parts, such as its debt service ratio, domestic money supply, import ratio and export revenue.

**Tree cover loss:** Tree cover is defined as all vegetation greater than 5 meters in height and may take the form of natural forests or plantations across a range of canopy densities. Loss indicates the removal or mortality of tree cover and can be due to a variety of factors, including mechanical harvesting, fire, disease, or storm damage. Please note: Tree cover loss does not equate to deforestation as defined above.
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THE CASE OF ARGENTINA

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